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UNDERSTANDING THE DYNAMICS OF SUCCESSFUL HEALTH SYSTEM STRENGTHENING INTERVENTIONS: STUDY DESIGN



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The Health Finance and Governance Project

USAID's Health Finance and Governance (HFG) project helps to improve health in developing countries by expanding people's access to health care. Led by Abt Associates, the project team works with partner countries to increase their domestic resources for health, manage those precious resources more effectively, and make wise purchasing decisions. The five-year, \$209 million global project is intended to increase the use of both primary and priority health services, including HIV/AIDS, tuberculosis, malaria, and reproductive health services. Designed to fundamentally strengthen health systems, HFG supports countries as they navigate the economic transitions needed to achieve universal health care.

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ACRONYMS

CFIR	Consolidated Framework for Implementation Research
HFG	Health Finance and Governance Project
HSS	Health system strengthening
REP	Replicating Effective Programs
TAG	Technical Advisory Group
USAID	United States Agency for International Development
WHO	World Health Organization



EXECUTIVE SUMMARY

Evidence is scarce, scattered, and not widely disseminated on how interventions to strengthen health system performance contribute to sustained improvements in health status, particularly toward ending preventable child and maternal deaths and fostering an AIDS-free generation. Without this evidence, decision-makers lack a sound basis for investing scarce health funds in health system strengthening (HSS) interventions in an environment of competing investment options. This evidence gap impedes support for HSS from numerous stakeholders, both within and outside of USAID.

This study will help address this evidence gap by exploring the **dynamics of successful HSS interventions in low-income countries**. The study seeks to address four key questions:

1. How were a range of successful HSS interventions implemented in different countries?
2. What factors facilitated and constrained the successful implementation and documented outcomes of the interventions?
3. What were important factors about implementation that emerged across the different cases?
4. What are the implications of this study for implementing future HSS interventions?

The study will comprise three main activities:

1. **Six qualitative, retrospective case studies** of successful USAID-supported HSS interventions to explore what factors contributed to successful implementation
2. Qualitative **cross-case analysis** to identify patterns of policy processes, circumstances, relationships, and characteristics that may be associated with successful HSS reforms
3. Develop and propose a set of strategic **recommendations** for introducing and sustaining HSS reforms in low-income countries

The study will be completed by the Health Finance and Governance Project from October 2015 through 2016.



I. BACKGROUND AND RATIONALE

The World Health Organization's (WHO) health system framework delineates six essential building blocks that are necessary for improved health outcomes – service delivery; health workforce; information; medical products; vaccines and technologies; financing; and leadership/governance (WHO 2007: 3). According to the WHO, health system strengthening (HSS) interventions are those that implement “changes in policy and practice in a country’s health system” and improve “one or more of the functions of the health system and that leads to better health through improvements in access, coverage, quality, or efficiency” (WHO 2011: 9). HSS came out of the health sector reform movement of the 1990s and became an important approach to achieving global health goals (GHI 2012: 5). HSS interventions are horizontal approaches that can address the root causes of health system constraints and impact multiple issues, rather than vertical service- or disease-specific interventions like health system support programs (Travis et al. 2004: 903). In practice, HSS interventions and reforms are difficult to implement given their complexity and broad scope.

Evidence is scarce, scattered, and not widely disseminated on how interventions to strengthen health system performance contribute to sustained improvements in health status, particularly toward ending preventable child and maternal deaths and fostering an AIDS-free generation. A recent literature review found that few evaluations of HSS interventions assessed impacts on more than one health system building block and none investigated system level impacts. As a result, many of the evaluations do not reflect the complexity of HSS interventions and do not explore the system effects of the interventions (Adam et al. 2012: 14). Another recent review of the HSS literature found that certain interventions have resulted in improved outcomes, but that the same intervention was not successful in every situation (Hatt et al. 2015). These two literature reviews point to the limited evidence and understanding of HSS impacts and how they vary.

There is both a knowledge gap and urgency in understanding the dynamics of successful HSS interventions or what is in the “black box” of successful HSS interventions, particularly in low-income countries. Without this evidence, decision makers lack a sound basis for investing scarce health funds in HSS interventions in an environment of competing investment options. This evidence gap impedes support for HSS from numerous stakeholders, both within and outside of USAID.

To address this evidence gap, USAID’s Office of Health Systems has adopted an integrated approach to marshalling the evidence on the impact of HSS on health outcomes. This initiative brings together a variety of existing and new activities that attempt to answer important technical, methodological, and strategic questions. Under this portfolio, the Health Finance and Governance (HFG) project is conducting a study of why and how successful USAID-supported HSS interventions achieved success.

This document presents the study design. In Section 2, we present the study objectives and research questions. In Section 3, we present the research approach and the research phases. Finally, in Section 4, we present the study team, timeline, deliverables, ethical considerations, and quality assurance.



2. OBJECTIVES

The goal of this study is to bring into better balance our focus on “what works” in HSS with “**how HSS works**” to **improve the performance of future HSS efforts**. We will pursue this goal by initially conducting a set of six qualitative, retrospective case studies of successful USAID supported HSS interventions and then producing a cross-case analysis to draw common patterns across cases.

The cases will be interventions from USAID’s 2014 Global Call for Health System Strengthening Cases that we will determine were successful (see Section **Error! Reference source not found.** for detail). We will examine the small sample of successful HSS initiatives in different places under different conditions and with different features in an attempt to tease out some of the policy setting, adoption, and implementation factors and processes that matter. While we will remain attentive to the range of complex factors that affect success, we will seek to distinguish those factors that decision-makers and implementers can control or influence. In so doing, we hope to develop and provide recommendations for adapting and sustaining HSS reforms in low-income countries.

The aim of this study is to address four key questions:

1. How were a range of successful HSS interventions implemented in different countries?
2. What factors facilitated and constrained the successful implementation and documented outcomes of the interventions?
3. What were important factors about implementation that emerged across the different cases?
4. What are the implications of this study for implementing future HSS interventions?

3. APPROACH

The study, comprised of **six case studies and cross-case analysis**, will be conducted in four phases, each of which is briefly described in turn including the research methods and data sources. Details on case selection, case study narrative content, and interview guides are presented in Annexes.

3.1 Phase I: Design and implementation

The first phase of the study will involve finalizing the design for the study, as represented in this document, and the initial implementation of the design. The initial steps of implementation that we will discuss here are engaging USAID and selecting the case studies.

3.1.1 USAID engagement

To ensure optimal utility of these case studies, it is necessary to involve different stakeholders from the Bureau of Global Health during critical stages of the study (initiation, reporting and dissemination). To facilitate this, we will set up a Technical Advisory Group (TAG) composed of experts and representatives from inside and outside USAID. TAG members will be consulted to ensure that the study has access to expert views on HSS and can take into account contextual considerations within USAID that have bearing on how information from this study will be used. The TAG will also help the research team to develop and vet strategic recommendations from the research results (see Annex A).

3.1.2 Case selection

Our objective in the case selection was to purposively select 6 cases from the 143 cases submitted to USAID's 2014 Global Call for Health System Strengthening Cases that are successful, robust examples of health system strengthening interventions.

The reviewers engaged in a multi-stage sampling process consisting of four sequential selection rounds that excluded cases that did not meet the specified criteria in each round using the identified available data and the predetermined review method. The 4 selection rounds were as follows:

1. **Round 1:** Reviewers considered only those interventions that were fully implemented before the start of the selection process.
2. **Round 2:** Reviewers accepted the submitter's self-reported definition of health systems strengthening, labeled the intervention "provisional," and sought a determination of an "effective" intervention.
3. **Round 3:** Reviewers applied criteria to determine whether a provisional, effective health system strengthening intervention could be confirmed as health system strengthening.
4. **Round 4:** Reviewers applied criteria to determine whether a confirmed, effective health system strengthening intervention was robust.

To ensure impartiality when reviewing and selecting the cases, team members from implementing partners who submitted cases were not involved in scoring the cases implemented by their respective organizations either as primary reviewer or tiebreaker. In addition, we tried to keep the review of cases

blind in terms of the implementing partner throughout the process. When we made the final case selection, although it was primarily based on scores, we still did not label the cases with the implementing partner.

We describe each selection round in detail below.

Round 1: Criteria for a completed intervention

To be included in the study, the submission must have stated that the implementation period of the intervention ended before the beginning of the study, which was October 31, 2015. The purpose of this criterion was to ensure that the success of the intervention could be assessed and to increase the likelihood of maximum documentation of the intervention's effect.

Round 2: Criteria for determining whether a provisional HSS intervention was effective

The reviewers defined an “effective” provisional health system strengthening intervention as one that had a positive effect on health system outcomes *and* health impacts with the potential to sustain, at scale, the short- and medium-term gains of multiple programs (Travis et al. 2004). The reviewers applied 3 criteria to arrive at a judgement of “effectiveness.” The case had to satisfy all three criteria to pass to the next round. Those criteria were as follows:

1. The case describes implementation of at least one of thirteen types of interventions for which there are documented effects on health impacts and health system outcomes as determined by HFG's “Impact of Health Systems Strengthening on Health” systematic review (Hatt et al. 2015);
2. The case demonstrates achievement of one of five health impacts *and* health system outcome measures as identified by HFG's review (Hatt et al. 2015); **and**
3. The case referenced documented impact on health or health systems outcomes (e.g. a final M&E report or evaluation).

Round 3: Criteria for determining whether a provisional, effective HSS intervention was a confirmed HSS intervention

The reviewers classified an effective, provisional health system strengthening intervention as a confirmed health system strengthening intervention if it represented a broad architectural approach or strategy that aimed to address the underlying or root causes of sub-optimal performance of multiple disease control and health promotion programs. As identified in Chee et al. 2012, one of the criteria that qualifies an intervention to be system strengthening is that it has cross-cutting benefits beyond a single disease with the potential to create a “more cohesive and integrated health system” (Chee et al. 2012: 5). The case had to satisfy this single criterion to pass to the next round. The case must state that the activity targeted at least two diseases with equal importance.

Round 4: Criteria for determining whether an effective, confirmed HSS intervention was robust

In theory, a robust health system strengthening intervention is one that improves six health system functions,¹ addresses sub-system components within the broader functions (e.g. human resources within the financing system or financing within the pharmaceutical system), and manages “their interactions in

¹ According to WHO, the six health system functions or building blocks are governance, financing, human resources for health, information, medicines and commodities, and service delivery (WHO 2007: 3).

ways that achieve more equitable and sustained improvements across health services and health outcomes” (WHO 2007:4).

In practice, none of the cases from selection round 3 addressed all six functions of the health system, although many addressed more than one function. The reviewers ranked the cases from round 3 by the number of health system functions and sub-system functions that they addressed, assuming that the more complex the intervention at a high system level and sub-system level, the more “robust” the health systems intervention. To be considered “robust,” the case had to satisfy both of the following criteria:

1. The intervention addressed at least two health system functions; and
2. The intervention addressed at least three sub-system functions.

Results

The first selection round began with the 143 cases submitted to the Global Call and each subsequent selection round included the cases that met the criteria for the previous round. We sequenced the stages to prioritize the key factors of success and health systems strengthening while aiming to remain as inclusive as possible in each round until the final selection round. Note that team members did not review cases from their home institution in rounds 3 and 4 to ensure impartiality. Cases that were excluded from each round were double checked to verify exclusion. In rounds 1 and 2, a team member verified the initial automated exclusion. In rounds 3 and 4, a second team member verified the exclusion and a third broke a tie if necessary. Each stage was documented, including the reason for the inclusion and exclusion of each case. See the table below for detail on the review process, including the criteria, data sources, review method, and number of cases that fulfilled each criterion.

To summarize the selection results, we narrowed the pool of cases as shown below in Table 1.

Table 1 Summary of case selection results

Round	No. cases reviewed	No. cases met criteria	Criteria
1	143	108	Project completed by October 31, 2015
2	108	39	Implemented one of thirteen effective HSS interventions (as documented in Hatt et al. 2015), achieved one of five health impacts <i>and</i> health system outcomes (as defined in Hatt et al. 2015), and referenced documentation of the health outcome or impact
3	39	28	Confirmed an HSS intervention because addressed multiple disease control and health promotion programs
4	28	10 ²	Categorized as robust HSS interventions because intervention addressed at least two health system functions and at least three sub-system functions

² In this round, we consolidated five cases to one because multiple components of an intervention were submitted as five different cases in the Global Call.

We selected the final six cases for inclusion in the study by ranking the cases from round 4 by the number of health system functions and sub-system functions that they addressed.³ We reviewed the top six ranked cases to determine if each high-level health system function was represented at least once across the cases and that no country was represented more than once. To ensure diversity of cases, we selected the top ranked cases, replaced the lower ranked duplicate country case with the next in the ranking⁴, and replaced the lowest ranked case with the next in the ranking with the unrepresented health system function so all six were represented.⁵ Our final case selection is as follows:

1. Improving Health Outcomes through Clinical Pharmacy Services – Ethiopia, Management Sciences for Health
2. Maternal and Child Centers of Excellence – Dominican Republic, Abt Associates
3. Projet Kineya Ciwara – Mali, CARE
4. Twubakane Decentralization and Health Program – Rwanda, Intrahealth International
5. USAID Dialogue on HIV and TB Project (Central Asia) – Kazakhstan, Population Services International
6. Zambia Integrated Systems Strengthening Program – Zambia, Abt Associates

3.2 Phase 2: Case studies

Team members will conduct a case study about each case. We divided the case studies among our team members so that no one conducts research on a project that their organization implemented. We will develop detailed descriptive narratives for each case. We will develop a standardized template for the construction of each narrative to enable cross-narrative analysis (see Annex C for draft outline).

We will use an implementation framework to guide the case studies and later to guide the cross-case analysis. Our primary aim for applying the implementation framework is to determine which factors influence implementation that we need to collect data on and consider during analysis. Our secondary aim is to comment on the applicability of the framework for HSS interventions. As such, the outcomes of our analysis will be to confirm or build on the set of domains and factors that contribute to the successful implementation of HSS interventions and to comment on whether the factors that facilitate HSS interventions align with those that affect implementation of other types of health interventions.

We reviewed a number of health focused implementation theories and frameworks to find one that is both applicable for our purposes and is feasible to apply for retrospective case studies with our resources. We combined two implementation frameworks to apply in this study – the Consolidated Framework for Implementation Research (CFIR) (Damschroder et al. 2009) and the Replicating Effective Programs (REP) framework (Kilbourne et al. 2007). Both CFIR and REP are based on implementation theories and empirical evidence of what affects the successful implementation of health interventions. We use CFIR to more broadly frame the intervention and we use REP as a framework that focuses on project implementation process. We first mapped the links between both of the frameworks because

³ Prior to completing the review process, we decided that if at least 6 cases did not meet all of the criteria, then we would reexamine our case selection criteria and determine how to move forward. This was not an issue though, as 10 cases met all of the selection criteria.

⁴ One case was replaced in this way.

⁵ One case was selected in this way.

there were a number of areas of overlap and REP is one of the frameworks on which CFIR is based. Next, we determined which domains were either not applicable for our study or not feasible to investigate. These included some constructs with the outer setting domain and characteristics of individuals involved in CFIR. Then, we organized the framework according to the implementation phases in REP. After which we consolidated the remaining domains and factors to streamline the framework and make it more amenable to an exploratory application. We will use the framework to guide our data collection and analysis, but we will not apply the framework in a structured manner and test whether or not each factor was present or absent in the project. Finally, we differentiated the organizational factors of the implementing partners (e.g. prime and sub-contractors) from those of the target organizations in which the intervention is being implemented (e.g. Ministry of Health). REP and CFIR seem to assume that an organization is implementing the project within their own organization (e.g. hospital is implementing changes with own staff). This is not applicable in the projects we are investigating because they are funded by USAID which contracts with organizations to implement the project in the host country.

Figure 1 outlines the combined framework. Because our focus is on the implementation of projects, we organized the framework according to implementation phase. Within each phase, we identify the domain and associated factors that can influence each phase. We will gather data on each domain and factor, rather than all the elements of each factor as shown in the description column, to determine the influence of the domain/factor in the project implementation. Figure 1 also indicates the unit of analysis that we will look at for each factor.

Figure 1 Combined implementation framework

Phase	Domain	Factor	Description	Unit of analysis
I Pre-condition	Enabling environment	Wider environment	Economic, political, social, and health system context within which intervention ⁶ is implemented	National/regional context
		External policies and incentives	Strategies to spread intervention – policy, regulations (not directly implemented by project but (pre)existing) Policies that constrained implementation Other donor led initiatives that complement intervention	National/regional context
		Characteristics of organization	Structural characteristics of organization such as social architecture, age, maturity, and size of organization	Change target/larger host organization ⁷ (identify for each case; e.g. MOH)
	Implementation setting	Culture of organization such as norms, values, basic assumptions of organization		
		Implementation	Climate within organization, including	Change

⁶ The total package of activities that is implemented by the project.

⁷ Institution within which activities are being implemented; may be MOH or other local organization (will focus on larger organization like MOH rather than individual hospitals); depending on the case this organization may be more or less involved in the actual implementation.

		climate	relative priority of project, readiness for implementation, learning climate, and policies, procedures, and reward systems that inhibit or facilitate implementation	target/larger host organization (identify for each case; e.g. MOH)	
		Intervention source	Stakeholder perception if intervention internally or externally developed	As applicable for each case (e.g. MOH, local partners, change target)	
	Project design	Identification of effective intervention	Process for deciding intervention approach and activities Stakeholder perception of quality and validity of evidence that intervention will have desired effects Perceived relative advantage and complexity/perceived difficulty of intervention	As applicable for each case (e.g. MOH, local partners, change target)	
		Adaptability	Degree to which intervention was adapted to local needs, including degree to which beneficiaries' needs were understood and design was adapted to meet their needs	Project implementers ⁸ (e.g. prime + subs)	
		Draft package	Perceived quality of how intervention is presented	As applicable for each case (e.g. MOH, local partners, change target)	
2 Pre-implementation		Implementation groundwork	Structural characteristics of implementing organization	Structural characteristics of implementing organization such as social architecture, age, maturity, and size of organization; culture of organization such as norms, values, basic assumptions of organization	Project implementers (e.g. prime + subs)
			Implementation climate	Climate within project including relative priority of project, readiness for implementation, learning climate, and policies, procedures, and reward systems that inhibit or facilitate implementation	Project implementers (e.g. prime + subs)
	Planning		Degree to which intervention is planned in advanced, quality of methods; refinement of draft package based on pilot testing, stakeholder feedback	Project activities	
	Orientation and		Quality of initial planning and execution	Project activities ⁹	

⁸ Prime contractor and sub-contractors (may include local subs) who implement the project. This does not include the change target organization.

		logistics	of the project, including needs assessment, pilot testing, leadership engagement	
3	Implementation	Executing	Fidelity of implementation	Project activities
		Engaging	How the project attracted and involved appropriate individuals throughout project: opinion leaders, formally-appointed internal implementation leaders, champions, external change agents	Project activities
		Feedback and refinement	Qualitative and quantitative feedback about progress and quality of implementation Refinement of activities based on feedback	Project activities
		Cost	Costs of total intervention - planned and actual	Intervention
4	Maintenance and evolution	Sustaining implementation	Organizational, financial changes Re-customize delivery as need arises	Changes made to sustain the intervention Adapting the intervention delivery as circumstances change
		Dissemination	National dissemination	Preparing refined package, training, and TA program for national dissemination; was project nationally disseminated

As we assess each implementation domain and factor, we will also explore:

1. Decision-making processes associated with design and adoption of the intervention;
2. How the intervention was implemented, including how potential challenges or obstacles were addressed;
3. Expected and unexpected outcomes of the intervention, both positive and negative; and
4. Prospects for sustainability of the intervention, such as the degree to which the project activities have been institutionalized in the country.

Our development of case study narratives will involve both primary and secondary data collection activities, to include both retrospective (features 1-3 above) and prospective (feature 4 above) data that

⁹ Specific activities directly implemented by the project implementers. These may or may not align with other activities in the change target organizations. These individual activities make up the intervention as a whole.



are described in more detail below. As applicable, we will collect primary and/or secondary data on each implementation factor and domain.

The format for primary data collection will be individual and/or group interviews of key informants who possess in-depth knowledge of the history and workings of the HSS intervention. Informants will include representatives of USAID's implementing partners who sponsored the intervention, relevant Ministry of Health officials, and USAID mission staff with knowledge of the intervention, as appropriate. Depending on the availability of the informants, interviews may be conducted in multiple sessions in a single day, or in multiple sessions over multiple days. Each interview will be led by a facilitator. We will develop common, semi-structured interview guides to address each of the five features that provide the structure for each case study narrative (see Annex D for draft interview guide). Each case team will tailor the interview guides and add additional case-specific or key informant specific questions as necessary.

The research team will record interviewee responses (through recordings and verbatim notes) and import them into NVivo 11, qualitative data analysis software package, for coding and analysis. Analysts will develop a single codebook prior to beginning the coding process so that the same set of codes are applied to all case studies for purposes of reliability, quality control, and comparison across interview respondents and eventually across case and country contexts. The analysts will develop the codebook structure using thematic/topical 'families' (e.g., families relating to each implementation phase) and codes within the families (e.g., codes related to each implementation domain and factor). The codes will be informed by a priori concepts that factor into the success and performance of HSS interventions, in addition to data collection instruments and desk research. To accommodate unexpected or context-bound themes and concepts emerging from the data, the codebook will include a 'family' for each case to allow for inductive coding as needed for each specific country or intervention. This dual codebook structure will enable structured comparison across the primary codes relating to HSS implementation, while allowing for country specific code development as necessary. We will evaluate the case-specific codes to determine if they should be later incorporated into the broader code families or remain in a case-specific family. Once coding is complete, the analysts will conduct iterative, exploratory analysis in NVivo using techniques from grounded theory (e.g., repetition, similarities and differences, word frequency, word co-occurrence, semantic network analysis, etc.) to explore themes, patterns, outliers, and trends, and conflicts between and among data sources. The analyst will use memos to document the emergent findings from this exploratory analysis.

The format for secondary data collection will be a guided review of documentation to capture different features of the intervention. This documentation will encompass all published and unpublished documents associated with the intervention that we are able to obtain. Research staff will first conduct a literature and document search for each case and ask key informants to help identify, gather, and place at the disposal of the researchers the most salient documentation. Based on secondary literature, we will write a short literature review for each case study narrative that identifies the key contextual factors (e.g. socio-cultural, political, economic, etc.) relevant to the case and existing evidence about barriers to and success of health system strengthening and reform in the country. To review the documentation on each case, we will fill out a common document abstraction form (in an Excel spreadsheet) to systematically review the documents and identify salient data. Team members will also use the literature and document review to identify additional, case-specific questions to explore during key informant interviews. We will use the literature and document reviews to verify the interview data where possible and applicable (bearing in mind that written documentation represents the official record). We will analyze the findings from the literature and document reviews in conjunction with analysis of the primary data. We will import the document abstraction forms into NVivo for coding and analysis in conjunction with the interview data.

The research team will ensure the reliability and validity (both external and internal) of our qualitative research in a several ways. We will revise our semi-structured interview guides and record review forms based on data collection for the first case before we begin data collection for the other five cases. We will use experienced researchers and ensure that all team members have a consistent and thorough understanding of the research goals and intent behind each question and probe. We will further use consistent data documentation procedures and structured, systematic analysis techniques using qualitative analysis software (e.g., NVivo) to ensure reliability, quality control, and cross case comparisons. Further, we will triangulate primary qualitative data with secondary data to improve the validity of findings from primary data. Finally, we will ask a few key informants to review and comment on the case narratives regarding coherence and validity. We also plan to have a TAG member review each case narrative to provide further expert review. We will finalize the case narratives based on this feedback.

3.3 Phase 3: Cross-case analysis

We will analyze the six descriptive narratives from Phase 2 to help generate explanations for successful HSS interventions. The cross-narrative analysis of Phase 3 will seek to build or strengthen the evidence base for the “how” and “why” of what works in HSS by determining which implementation domains and factors from the implementation framework influenced the success of the interventions. We will look for common and divergent factors that were present or absent across cases and contexts, and we will try to determine the relationships between the implementation factors and domains based on our findings. As an exploratory study, we hope these findings can provide some comment on the factors that may be associated with successful HSS implementation and inform future studies of HSS interventions.

A first step in the cross-narrative analysis will be exploratory: (1) to examine what the data in each narrative look like; and (2) to achieve a thorough understanding of the dynamics of each narrative before proceeding to cross-narrative explanations. We will use a variable-oriented strategy to analyze across the cases (Miles and Huberman 1994), such as unit-by-variable matrices to test the emergent findings (Bernard and Ryan 2010). This variable-oriented strategy will focus on the how the domains and factors within each of the four implementation phases that provide the structure for each narrative—pre-conditions, pre-implementation, implementation, and maintenance and evolution—are similar or divergent across the narratives. Studying variation among these features might indicate something about the nature and perhaps relative importance of different processes, or combination of processes, associated with successful interventions. It may also identify several paths to a similar outcome, or different paths to different outcomes. Further inductive thematic analysis may generate sub-variables of note within these features, and/or additional variables that contribute to a successful intervention, but which are not part of the implementation framework.

As was the case with the individual narratives, a key informant from each case will be asked to review the draft cross-narrative analysis and to provide comments to the researchers on its accuracy. Representative from the TAG will also provide comments on the cross-case narratives. The research team will finalize the analysis and narrative based on this feedback.

3.4 Phase 4: Policy recommendations

Translating new knowledge generated by the single narratives and the cross-narrative analysis can help policy makers make thoughtful decisions about how best to mount, support, and sustain HSS interventions. Phase 4 will focus on this translation of analysis findings for improved policy and practice by engaging experts in reviewing the findings, interpreting the implications, and proposing

recommendations. The type and strength of our recommendations will greatly depend on the nature of our findings.

The TAG will serve as a panel of experts during this Phase. Based on their reading of the cross-case analysis report, a presentation of the report and discussion with the researchers, and their professional experience and expert knowledge, (1) to judge the face validity of the analysis; (2) to identify the implications of the findings of the analysis for the practice of health system strengthening in resource-constrained settings; and (3) to propose key policy recommendations grounded in the analysis. The research team will use this feedback and their own synthesis of the key findings to draft a 2-page policy brief that summarizes these implications and includes recommendations for decision-makers in different settings. The TAG will review and approve the policy brief before dissemination.

4. IMPLEMENTATION

4.1 Research team

The research team will comprise staff of USAID and the Health Finance and Governance Project (HFG). Abigail Conrad (HFG) will be the principal investigator and will lead case study research with Daniela Rodriguez (JHSPH). Joe Naimoli (USAID/OHS) and Catherine Connor (HFG) will provide expertise and leadership to the project throughout. The data collection, analysis, and writing efforts will be further assisted by Sweta Saxena (USAID/OHS), Hannah Arem (USAID/OHS), Romana Haider (JHSPH), Edmund Keane (JHSPH), Cristina Sciuto (HFG), and Adam Koon (HFG).

4.2 Deliverables

The team will complete five deliverables during implementation period from October 2015 to September 2016:

5. Six descriptive case study narratives detailing the characteristics of successful interventions in different settings (based on both key informant interviews and document review);
6. One cross-case narrative, validated analytical paper that identifies patterns, processes, characteristics, and circumstances associated with successful HSS interventions across settings;
7. One set of recommendations for introducing and sustaining HSS interventions in low-resource countries, based on the cross-narrative analytical paper and formulated by a panel of experts;
8. One short policy brief, summarizing findings from the narratives and cross-case analysis to facilitate dissemination to a wider stakeholder audience;
9. Dissemination of findings, such as through a conference presentation.

4.3 Ethical considerations

To ensure that we collect data in an ethical and responsible way, the team will submit the study design and data collection instruments to Abt's Internal Review Board (IRB) and JHSPH's IRB for review and approval. We will adhere to Abt's IRB standards for data collection and use and Abt's procedures for secure data handling and storage. We will further ensure that Abt standards are compliant with USAID expectations and policies.

4.4 Quality Assurance

We will employ internal and external quality assurance policies and procedures to ensure that the study is conducted ethically and is of high quality. Abt employs both internal quality assurance through review of study design, data collection instruments, the study design, and all results by a methodological or subject matter expert. In addition, we will validate the results of each case study with a sample of key informants who we interviewed to ensure the accuracy of results. Finally, the TAG members will review case study and cross-case analysis results to ensure that study products are accurate, high quality, and provide useful recommendations.

ANNEX A: USAID TECHNICAL ADVISORY GROUP (TAG)

The purpose of the USAID TAG is to oversee and support the research, and help ensure that the findings can be used by USAID staff in their programming of HSS activities and projects. TAG members possess expertise and awareness of HSS interventions/approaches, subject-matter expertise on one or more health areas typically targeted by HSS efforts, and familiarity with the country context in which many of these interventions are implemented. The TAG will comprise representatives of USAID Regional Bureaus, OHS, OCS, HIDN, PRH, and OHA.

There are three TAG responsibilities:

1. Participate in 3 consultative meetings during 2015-2016
 - a. First meeting: Provide feedback and guidance on the research objectives and design, criteria for case selection, accessing documentation, and identifying key informants.
 - b. Second meeting: Provide feedback on researchers' preliminary impressions from document review and key informant interviews.
 - c. Third meeting: Offer comments on cross-narrative analysis findings and preliminary recommendations.
2. Review key products of the research, including individual case narratives and the cross-case analysis report, and provide feedback and guidance to researchers on improving the products.
3. Assist with promoting the dissemination and uptake of findings as appropriate.

ANNEX B: CASE STUDY SELECTION PROCESS

Round	Criteria	Data source	Inclusion criteria	Review method	No. remaining cases at end of round
1 (implementation period)	Submission states implementation period was completed by 10/2015	Global Call submission	Submission states implementation period was completed by 10/2015	Entry of implementation dates to excel from Global Call submission	108
	One of 13 identified types of interventions referenced ⁱ	Global Call submission	One of 13 identified types of interventions referenced ⁱ	Text search for interventions (and similar terms) using NVivo ¹⁰	106
2 (impact and evidence)	One of 4 health systems outcomes referenced ⁱⁱ	Global Call submission	One of 4 health systems outcomes referenced ⁱⁱ	Text search for outcomes (and similar terms) using NVivo ¹¹	62
	Health impact referenced ⁱⁱⁱ	Global Call submission	Health impact referenced ⁱⁱⁱ	Text search for outcomes (and similar terms) using NVivo ¹²	58
	At least one health system outcome and health impact referenced	Global Call submission	At least one health system outcome and health impact referenced	Results in excel from text search	42
	One type of documentation is referenced for at least one health impact or health	Global Call submission and documents submitted	One type of documentation is referenced for at least one health impact or health	Text search for impacts and outcomes (and similar terms) using NVivo ¹³	39

¹⁰ Cases that do not have matching search terms are reviewed to verify exclusion.

¹¹ Cases that do not have matching search terms are reviewed to verify exclusion.

¹² Cases that do not have matching search terms are reviewed to verify exclusion.

¹³ Cases that do not have matching search terms are reviewed to verify exclusion.

	system outcome ^{iv}		system outcome ^{iv}		
3 (HSS)	At least 2 diseases targeted referenced	Global Call submission	At least 2 diseases targeted referenced	Review submission and record number of diseases ¹⁴	28
4 (robust HSS)	At least 2 HSS WHO building blocks targeted and at least 2 sub-systems functions targeted	Global Call submission	At least 2 HSS WHO building blocks targeted and at least 2 sub-systems functions targeted	Review submission and record number of building blocks and sub-systems ¹⁵	10 ¹⁶
	Intervention had health system outcome, health impact and targeted multiple diseases and health system functions	Global Call submission	Intervention had health system outcome, health impact and targeted multiple diseases and health system functions	Review submission and verify case criteria by two team members and third to resolve discrepancies ¹⁷	10
	Based on typology of HSS we developed, ^v case addresses at least 2 health system functions and at least 3 sub-systems	R3 excel	Based on typology of HSS we developed, ^v case addresses at least 2 health system functions and at least 3 sub-systems	Review excel and categorize based on total numbers of health system functions and sub-systems addressed	3
	Based on typology of HSS we developed, case addresses at least 2 health system functions and at least 4 sub-systems	R3 excel	Based on typology of HSS we developed, case addresses at least 2 health system functions and at least 4 sub-systems	Review excel and categorize based on total numbers of health system functions and sub-systems addressed	7
5 (Final selection)	Out of cases, case addressed highest number of health	R4 excel	Out of cases, case addressed highest number of health	Select top 6 cases according to ranking	6

¹⁴ Team members did not review cases submitted by their institution.

¹⁵ Team members did not review cases submitted by their institution.

¹⁶ For this round, we consolidated five cases to one because multiple components of the intervention were submitted as different cases in the Global Call.

¹⁷ Team members did not review cases submitted by their institution.

system functions (3) and sub-systems (4-5)		system functions (3) and sub-systems (4-5)	
Inclusion of at least one of each of the 6 WHO building blocks as health system functions addressed	R4 excel	Inclusion of at least one of each of the 6 WHO building blocks as health system functions addressed	If each health system function is not represented in top 6 ranked cases, select next on the list that fulfills other unrepresented health system function. Exclude duplicate health system function cases by rank order.
Country is not represented by another case	R4 excel	Country is not represented by another case	If there are duplicate countries in the top 6 ranked cases, replace lower ranked duplicate country case and select the next case in ranking. Exclude duplicate country cases by rank order.

ⁱ13 identified types of interventions and similar terms for search in NVivo:

Primary types of interventions	Other terms referencing interventions
I. Accountability and engagement interventions	Community provider initiatives Women's groups Participatory governance Empowerment Patient perceived quality Patient provider dialogue Community monitoring Citizen voice Community scorecard (report card) Decentralization/centralization Local authority Stewardship Decision-making Ownership Consumer participation Stakeholder participation

2. Conditional cash transfers	Demand-side financing Household initiatives Social safety net Cash payment Cost sharing Targeted payments Behavior change support
3. Contracting out service provision	Performance-based contracting NGO Private sector contracting Private provider Purchasing Private services
4. Health insurance	Coverage Health savings accounts Cost-sharing Risk pooling Financial protection Benefit package Provider payment Community based health insurance Social insurance Social health insurance Micro insurance Premiums Co-payment Uninsured Private insurance Reimbursements Restrictions in coverage Caps on coverage Prior approvals
5. Health worker training to improve service delivery	Information provision Skills development Competency development In-service Pre-service Continuing education Job aids Provider/professional education Examinations Instruction Instructional design and delivery Skill mix Credentialing Licensure Training materials Audit and feedback
6. Information technology supports (m-health/e-health)	ICT (information, communication, technology) Electronic health record Mobile phone Text message SMS

	<ul style="list-style-type: none"> Reminders Prompts Notification LMIS (logistics management information system) Patient information system Lab and pharmacy information system Patient scheduling Patient tracking Clinical decision support tool Online database Interoperability ICT Quality monitoring Safety monitoring
7. Pharmaceutical systems strengthening initiatives	<ul style="list-style-type: none"> Access Affordability Use Safety Efficacy Supply chain management Procurement Distribution Pharmacovigilance Surveillance Pharmacist Accredit/ing drug outlet Availability Commodity security Regulatory capacity Stock management Supervisor Sales and dispensing
8. Supply-side performance-based financing programs	<ul style="list-style-type: none"> Performance-based initiatives Payment for performance Results-based financing Contracting-in Public sector financing Financial incentives Performance based payment Fee-for-service Capitation Salary Prospective payment Targeted payments
9. Service integration	<ul style="list-style-type: none"> Essential services Integrated package of care Service delivery Multiple service provision Referral Team work Expanding access to care One-stop shop Minimize duplication Improving availability of care

	<ul style="list-style-type: none"> Improving access to care Culturally appropriate care Case management Supply of care Continuity of care
10. Strengthening health services at the community level	<ul style="list-style-type: none"> Community health worker Care shifting to peripheral facilities Home visits Community-based care Care groups Community health education Community-based services Home-based delivery Traditional birth attendants Skilled attendance Community-based delivery Integrated community case management (ICCM) Community organized emergency referral Community-based interactions Outreach

ⁱⁱ⁴ health systems outcomes and similar terms for search in NVivo:

Primary health systems outcomes	Other terms referencing outcomes
1. Improved service provision/quality	<ul style="list-style-type: none"> Improved service provision Improved service quality Availability of care Culturally appropriate care Drug stock-outs Vaccination coverage Prescribing practices Vitamin A coverage Drug availability Hospital care Service quality Quality of care Quality improvement Patient retention Physician-led care Non-physician-led care Patient satisfaction Facility-based Skilled attendance Reduced wait time
2. Increased financial protection	<ul style="list-style-type: none"> Increased financial protection Financial protection Out-of-pocket payments Out-of-pocket expenditures Catastrophic health payments Poverty
3. Increased service utilization	<ul style="list-style-type: none"> Increased service utilization Timely access to care

	<ul style="list-style-type: none"> Timely attendance at clinics Increased demand Improved demand Patient satisfaction Care-seeking behavior Attendance
4. Uptake of healthy behaviors	<ul style="list-style-type: none"> Healthy behaviors Behavior change Energy intake Feeding frequency Treatment completion rates Treatment adherence rates Patient compliance Patient adherence Contraceptive use Self-care Home-based care Healthy practices Health promotion Disease prevention Adoption Accelerator behavior

iii | health impact similar terms for search in NVivo: Reduced morbidity and mortality

Primary health impacts	Other terms referencing impacts
I. Reduced morbidity and mortality	<ul style="list-style-type: none"> Reduced morbidity Reduced mortality Reduced morbidity and mortality Reduced mortality and morbidity Infant weight Child malnutrition Maternal malnutrition Low birth weight Self-reported illness Incidence Birth complications Pain Anxiety Depression Wasting Mental disorders Infection Prevalence Non-communicable Communicable All-cause mortality Under-five mortality Infant mortality Neonatal mortality Perinatal mortality Newborn mortality Maternal mortality

Cancer mortality Cardiac mortality

^{iv} Types of acceptable documentation or reference of evaluation of impact and similar terms for search in NVivo:

Primary term/criteria	Other terms referencing evaluation
1. External evaluation (impact, quantitative, performance) 2. M&E report	Survey DHS Evaluation Monitoring Results Assessment Increased Effects Quantitative evaluation Study Research Results Indicators Measure Impact Report RCT Experimental Quasi-experimental Randomized Counterfactual Control group
3. Manuscript	Article Chapter Book

^vWe developed typology of categories for HSS interventions based on the levels and scope of health systems addressed, which we equate with robustness. The more primary health system functions and sub-systems that an intervention addresses, the closer the intervention is to being the ideal and “robust” HSS intervention that addresses all components of the health system functions and sub-systems. The typology we developed is as follows:

HSS typology categories	No. diseases targeted	No. health system functions targeted (trumps no. sub-systems)	No. sub-systems targeted
Category A (HSS label but health system support)	1	1	≥1
Category B	≥2	1	1-2
Category C	≥2	1	3-6
Category D	≥2	2	≥3
Category E	≥2	2-6	≥4
Category F (ideal)	≥2	6	6

ANNEX C: DRAFT CASE STUDY NARRATIVE OUTLINE

- I. Introduction/overview of intervention
 - Dates of implementation
 - Where it was implemented
 - Roles of implementers and primary partners
 - Overall aim/objective
 - Brief summary of achieved outcomes
- II. Pre-conditions
 - Enabling environment
 - Implementation setting
 - Project design
- III. Pre-implementation
 - Implementation groundwork
- IV. Implementation
- V. Maintenance and evolution
 - Sustaining implementation
 - Dissemination
- VI. Outcomes
 - Primary and secondary outcomes/impacts the intervention achieved
 - Objectives that were not met and why
 - Evidence of impact
 - Degree of agreement among stakeholders that the intervention was successful
- VII. Analysis and assessment
 - Factors that most supported the intervention's implementation and success
 - Factors that most hindered intervention's implementation and success
 - Intervention activities or systems that are ongoing/remain in place
 - Primary risks to the sustainability of the successes that resulted from the intervention

ANNEX D: KEY INFORMANT INTERVIEW GUIDE

Ask as many of the primary questions as is feasible given the time constraints and as are appropriate for the respondent. Ask probe questions as applicable.

Respondent's role

1. Can you tell me about your involvement with [PROJECT]?
 - a. When were you involved with [PROJECT]?
2. Who were you working for during that time? (e.g. Implementing partner (specify); USAID Mission; USAID HQ; government counterpart; other—specify)
 - a. What was your position or title with [PROJECT]?
 - b. Did you change organizations or positions during your time on [PROJECT]?

Pre-condition

3. What problem(s) was the [PROJECT] trying to solve?
 - a. Who felt this was an issue of concern? (e.g. MOH, US Mission, other stakeholders?)
 - b. Why did they see it as a concern?

PROBE: What evidence was this based on?
 - c. Was there a country/government initiative or reform targeting this issue that the [PROJECT] was intended to support? Please describe briefly.
4. How did USAID decide to fund a project to address this problem? Who was involved in the decision?
 - a. What evidence was used to understand the issue?

PROBE: Evidence used by respondent or respondent's organization, other partners, local stakeholders, USG?
 - b. What approaches or activities did USAID specify in the RFA/RFP? (*Skip if can answer from documentation*)

PROBE: Did other stakeholders contribute to what was specified in the RFA/RFP?
 - c. How did USAID decide what to include in the RFA/RFP? Did other stakeholders contribute?
5. How was this [PROJECT] selected to address [ISSUE]?
 - a. Who was involved in the selection?
6. Can you briefly describe the [PROJECT's] approach and activities?

- a. Which do you think were the most important activities?
7. During the work planning process, how were the specific activities used in [PROJECT] selected?
 - a. Who contributed to these decisions?

PROBE: Prime or subcontractors, US Mission, MOH, hospitals, [PROJECT] participants, beneficiaries
 - b. What other information influenced the selection of the [PROJECT] interventions? (e.g. government priorities, new USAID/USG initiative, existing policies/regulations, new financing, etc.)
 - c. Were other interventions considered but not selected?
 - d. How much consensus was there between stakeholders about the design of the interventions?
 8. How were the intervention sites identified? (e.g. hospital, school of nursing, etc.)
 - a. Who contributed to these decisions?
 9. How were the activities designed to be appropriate for the local health system context?
 - a. How were planned activities piloted?
 - b. How were planned activities adapted to existing conditions during the [PROJECT]?

Pre-implementation

10. Were there any individuals or organizations who provided strong support for the [PROJECT]?
 - a. How did they promote [PROJECT] implementation?

PROBE: Did they promote implementation at individual sites or for particular activities?
 - b. What are the reasons they supported the [PROJECT]? (e.g. specific to [PROJECT] or supportive to larger country initiative?)
11. Were there any individuals or organizations who delayed or impeded implementation of [PROJECT]?
 - a. How did they impede [PROJECT] implementation?
 - b. What are the main reasons they impeded it?
12. Can you tell me about the dynamics of the individuals and organizations working on [PROJECT]?
 - a. How did these evolve over time?

Implementation

13. How were [PROJECT] activities implemented?
 - a. Were all the activities implemented in all of the project sites? (*Skip if can answer from documentation*)

- b. Were activities implemented in phases? (If yes) What were the phases? (Skip if can answer from documentation)
 - c. Did the [PROJECT] activities change over time? (If yes) Why? (Skip if can answer from documentation)
 - d. Were changes documented? (If yes) How? (Skip if can answer from documentation)
 - e. How did contextual factors affect implementation? (e.g. social, economic, political, technological, etc.)
14. Was there consensus among different partners and stakeholders about how the [PROJECT] was implemented?
15. Where did the resources for [PROJECT] implementation come from? (e.g. [PROJECT]/[PARTNER], USG, government, others) (Skip if can answer from documentation)
- a. Was there enough funding and other resources to support [PROJECT] implementation?

PROBE: financial, technical, human, technological.
 - b. (If there was a shortage of resources) How was the shortage addressed?
16. What challenges were faced during day-to-day [PROJECT] implementation?
- a. Were there any issues with policies or regulations?
 - b. How did [PROJECT] address these challenges?
17. How were [PROJECT] activities monitored and/or evaluated? (Skip if can answer from documentation)
- a. Who was responsible for monitoring implementation progress? Was this part of standard implementing practices?
 - b. Was an evaluation conducted? By whom? Who requested it? Who paid for it?
 - c. How were findings from M&E incorporated into implementation?
 - d. What was the response to M&E findings?
18. What dissemination activities were undertaken during [PROJECT]? (e.g. small-scale meetings at [PROJECT] sites, national workshops presenting findings, feedback sessions to USG, etc.) (Skip if can answer from documentation)
- a. How was feedback disseminated throughout [PROJECT]? (e.g. [PROJECT] participants, end-of-the-line beneficiaries and policymakers)

Maintenance and evolution

19. What was done during [PROJECT] to support continuation of activities after [PROJECT] ended?
- a. What role did [PARTNER] or others have in helping to sustain the activities?

- b. What role did others play in sustaining the activities? (e.g. US Mission, MOH, intervention sites, communities)
20. What is the current status of activities included in [PROJECT]?
- a. Who has taken responsibility for sustaining the interventions? (e.g. financial, organizational, technical responsibility)
 - b. What are the long-term prospects of the interventions?
 - c. What, if any, are the plans to scale-up/expand the interventions from [PROJECT]? (e.g. same country, other settings)

Reflections

21. What do you think were the impacts of [PROJECT]? (e.g. changes in health status, improved service delivery, increased quality of services.)
22. Were there any consequences from [PROJECT] that were unintended or unexpected?
23. What were some challenges to the overall implementation of [PROJECT]?
- a. How could have these been addressed during the implementation period?
 - b. Do these challenges remain an issue today? Why?
24. What were the key factors that led to the success of [PROJECT]?
25. What are some lessons learned from implementing this intervention that you would take forward on other projects of this nature?
26. Is there anything else we have not discussed that you would like to share about the implementation of [PROJECT]?
27. Do you have any questions for us?

ANNEX E: BIBLIOGRAPHY

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