

Low- and middle-income countries face many common barriers to implementation of maternal health evidence products

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Abstract

Objectives: To explore similarities and differences in challenges to maternal health and evidence implementation in general across several low- and middle-income countries (LMICs) and to identify common and unique themes representing barriers to and facilitators of evidence implementation in LMIC health care settings.

Study Design: Secondary analysis of qualitative data.

Setting: Meeting reports and articles describing projects undertaken by the authors in five LMICs on three continents were analyzed. Projects focused on identifying barriers to and facilitators of implementation of evidence products: five World Health Organization maternal health guidelines, and a knowledge translation strategy to improve adherence to tuberculosis treatment. Data were analyzed using thematic content analysis.

Results: Among identified barriers to evidence implementation, a high degree of commonality was found across countries and clinical areas, with lack of financial, material, and human resources most prominent. In contrast, few facilitators were identified varied substantially across countries and evidence implementation products.

Conclusion: By identifying common barriers and areas requiring additional attention to ensure capture of unique barriers and facilitators, these findings provide a starting point for development of a framework to guide the assessment of barriers to and facilitators of maternal health and potentially to evidence implementation more generally in LMICs. © 2016 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Keywords: Evidence implementation; Guidelines; Barriers; Facilitators; Evidence tools; Knowledge products

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1. Introduction

Failure to effectively implement evidence-informed interventions represents a key obstacle in the progress of health systems in many low- and middle-income countries (LMICs) toward achieving the United Nations' Millennium Development Goals (MDG) [1]. Although LMICs share many of the challenges that high-income countries face in implementing evidence, several features unique to LMICs add another layer of complexity. In particular, the high burden of disease and the extreme human and material

What is new?

Key findings

- In contrast to the high degree of commonality among identified barriers to evidence implementation, the relatively few facilitators that were identified varied substantially across low- and middle-income countries and clinical areas.

What this adds to what was known?

- Identification of a list of common barriers and areas requiring specific attention provides a starting point for ensuring capture of unique barriers and facilitators to guide evidence implementation in low- and middle-income countries.

What is the implication and what should change now?

- Using the suggested approach could help to facilitate and expedite assessment of the determinants of evidence uptake and provide valuable information to inform mapping interventions to these factors in health care settings in low- and middle-income countries.

resource shortages facing LMIC health systems [2,3] compound the need for improved uptake of evidence into policy and practice, while also complicating implementation efforts.

Despite some success, improvements in maternal health remain significantly below MDG targets, with the vast majority of maternal deaths occurring from avoidable causes [4]. Evidence-based guidelines exist for common causes of maternal mortality including: postpartum hemorrhage, eclampsia, and peripartum infection but are frequently not optimally implemented [4,5]. Lack of antenatal care and presence of skilled birth attendants for deliveries have been identified as important barriers to improving evidence implementation and maternal health outcomes [4]. However, the root cause of these barriers, such as lack of trained health care workers, health system capacity and infrastructure, and community cultural beliefs, may vary substantially in their impact across countries and health care settings within a given country [6].

An essential first step in designing and tailoring strategies to improve evidence implementation is identifying barriers to and facilitators of such implementation [1]. Barriers and facilitators are mapped to potential intervention strategies, which are then adapted to the political, cultural, and organizational context in which they are to be applied [7,8], providing the basis for a context-appropriate implementation plan. Despite the importance of assessing barriers and facilitators, doing so can be a resource-intensive

process and may represent an obstacle if expertise in implementation is not already available in a particular location.

Many of the barriers to and facilitators of evidence implementation in a given LMIC are likely to be shared by similar settings. As such, lessons learned from the experience of LMICs that have explored the determinants of evidence uptake and potential strategies to address these factors may be of benefit to other similar settings. Several case studies of barrier assessment and implementation planning have been published [9–13], but to our knowledge, none have brought together the experience of evidence implementation across a number of LMICs and health conditions to generate a framework of considerations for intervention development and implementation planning. Such a framework might help to streamline the assessment of barriers and facilitators, thereby reducing the resources needed for this phase while encouraging its completion during the implementation planning stage.

The objective of this study was to explore the similarities and differences among perceived challenges to implementing World Health Organization (WHO) maternal health guidelines across several LMICs and to compare identified barriers and/or facilitators to maternal health evidence implementation to those in another clinical area, namely tuberculosis (TB) care, to examine the potential generalizability of the findings to other clinical areas. The over goal was to identify both common and unique themes representing perceived barriers to and facilitators of behavior change (related to guideline recommendations) and evidence implementation in LMICs.

2. Methods

2.1. Data sources

We conducted a secondary analysis of data from meeting reports and articles describing projects undertaken by the authors in five LMICs. Four of these projects were undertaken as part of the Guideline-driven, Research priorities, Evidence synthesis, Application of evidence, and Transfer of knowledge (GREAT) Network. The GREAT Network uses an evidence-based knowledge translation approach to support LMICs in implementing evidence-based guidelines focused on reducing maternal and perinatal morbidity and mortality. The data included here were taken from meeting reports and articles from GREAT Network projects conducted in Kosovo (in 2012) [14], Myanmar (in 2014) [15], Tanzania (in 2014) [16], and Uganda (in 2014) [17]. GREAT Network project activities within each country focused on implementing one or more of the following WHO guidelines to improve maternal care, identified as a priority for implementation by local stakeholders (see Table 1): augmentation of labor, induction of labor, prevention and treatment of postpartum hemorrhage, prevention and treatment of pre-eclampsia and eclampsia, and task shifting in maternal and newborn health.

Table 1. Barriers and facilitators to evidence implementation

	Kosovo	Myanmar	Uganda	Malawi	Tanzania
Guideline/evidence to be implemented	Postpartum hemorrhage	Task shifting	Multiple guidelines ^a	TB adherence	Multiple guidelines ^a
Health system level					
Barriers					
Material and financial resources					
Lack of equipment/supplies especially in small/rural centers	x	x	x	x	x
Lack of medications especially in small/rural centers	x	x	x	x	x
Lack of integration/collaboration of health care resources	x				x
Lack of ability to smoothly transfer patients/or coordinate care across health system levels	x	x			x
Inadequate funding of health care	x	x	x	x	
Lack of funding for supervision/other work-related travel		x		x	
Lack of mechanism to collect high-quality data for monitoring and evaluation	x	x	x		x
Lack of ability to document and monitor implementation and current practice	x	x			
Areas of conflict within country limit ability to implement/monitor nationally	x	x			
Human resources					
Human resource shortages/workload/high staff turnover		x	x	x	x
Unequal distribution of human resources rural/urban		x	x	x	
Lack of skill in supervision		x		x	
Lack of supervision/mentorship especially for new graduates and lower cadres		x		x	x
Communication/information sharing					
Lack of information sharing: new guidelines, trainings attended by others			x	x	x
Lack of awareness of guidelines: lead to not ordering or supplying meds/supplies		x		x	
Lack of feedback to providers on outcomes that are monitored		x		x	x
Lack of communication between providers and policy makers	x				
Lack of trust between clinicians and policy makers	x				
Policy issues					
Lack of clear policy on roles/responsibilities or conflict between policy and guideline		x	x	x	x
Fear of misuse of meds/meds not approved for use			x		x
Directly observed therapy (DOTS) guardian system itself seen as both a barrier and facilitator				x	
Facilitators					
Financial commitment to training (stipends, opportunities for refresher training)		x			
Pay unpaid volunteer midwives		x			
Improved monitoring and evaluation, such as use of delivery books		x	x		x
Political commitment		x			
Alignment of guideline with health priorities		x			
Punitive measures such as legal mandates; fear this could lead to gaming the system	x				
Inclusion of “aspirational” aspects of guideline: keep for rapid incorporation when able vs. concern inclusion now is confusing	x				
Provider level					
Barriers					
Training/knowledge/skills					
Poor quality of training/inadequate curriculum/lack of hands on/skill based training		x	x	x	x
Lack of training capacity/time to attend training, including training of trainers	x	x	x	x	x

(Continued)

Table 1. Continued

Guideline/evidence to be implemented	Kosovo Postpartum hemorrhage	Myanmar Task shifting	Uganda Multiple guidelines ^a	Malawi TB adherence	Tanzania Multiple guidelines ^a
Lack of baseline education among health care workers making training difficult		x			
Access/awareness					
Lack of awareness of the guidelines/evidence	x			x	x
Lack of understanding of how guidelines are developed (including who is involved): lead not to believe guideline is trustworthy	x		x		
Attitudes/beliefs					
Fear/concern for potential misuse of guidelines/medications		x	x		x
Physician lack of confidence in midwives/other health care worker cadres		x			x
Role confusion due to lack of clear definitions (even when national definitions available)		x		x	
Lack of accountability for adherence to guidelines			x		
lack of communication/interprofessional collaboration, ethnic/cultural differences, lack of cooperation/blaming	x	x	x		
Facilitators					
Suggested incorporate capacity building in the use and implementation of evidence into undergraduate and continuing medical education (CME) training	x				
Improved ongoing training and monitoring of competencies necessary for evidence implementation		x			
Interprofessional project meeting felt to help communication between provider groups, suggested continued engagement through educational initiatives	x				
Physician belief in need for training of other health care worker cadres		x			
Evidence that guideline strategies are effective		x			
Strong leadership/supervision					x
Incentives (praise, bonuses)					x
Patient/community level					
Barriers					
Financial resources					
Financial constraints at patient level leading to delays in health care seeking/missed appointments			x	x	x
Knowledge/beliefs					
Lack of knowledge/understanding of reasons for health advice given			x	x	
Lack of trust among patients/preference to be seen by higher-level health care worker		x		x	
Cultural practices/health seeking behavior/beliefs about cause of illness		x	x	x	x
Facilitators					
High degree of acceptability and support for trained volunteers in rural areas		x			
Community leader trust/support of lower cadres		x			

^a Multiple WHO guidelines maternal health guidelines including: prevention and treatment of postpartum hemorrhage; prevention and treatment of pre-eclampsia and eclampsia; induction of labor; augmentation of labor.

Perceived barriers to and facilitators of implementation of the guideline(s) were assessed through a preworkshop survey, and through an in-country workshop that used focus groups and small group discussions with relevant stakeholders, including clinicians, managers, and policy makers with responsibility for maternal health care. Potential implementation strategies were then discussed to target identified barriers to and facilitators of implementation of

prioritized recommendations within selected guideline(s). A fifth project was included to explore the similarities and difference between barriers and facilitators across different clinical areas and between implementation of guidelines and other evidence products. This project, which took place in Malawi (in 2010) [18], involved assessment of barriers to and facilitators of evidence implementation from the TB and general adherence literature to inform the

development of a knowledge translation strategy to improve care and outcomes among TB patients. The assessment of barriers to and facilitators of evidence implementation included field observations and meetings, focus groups, and interviews with key informants. All the projects specifically inquired about both barriers to and facilitators of evidence implementation, with focus groups in the GREAT Network projects specifically probing for barriers and facilitators at the health system, provider, and patient or community levels. For more details on these projects, see [Table 1](#) and reports published to date [[14–18](#)].

2.2. Data extraction and synthesis

Data were analyzed using thematic content analysis. We developed an initial coding framework based on the taxonomy of barriers to and facilitators of implementation by Gravel et al. (2006) [[19](#)] and our own experience in conducting these projects. Although some overlap across categories was evident, barriers and facilitators were categorized based on the level at which they primarily function and might be most appropriately addressed. For example, barriers at the health system level include challenges from the health unit to national level and may be addressed through system or policy level interventions. Provider-level interventions are those impacting on or occurring within providers that might be addressed by interventions targeting providers individually or in groups. Finally, patient- or community-level barriers include barriers stemming from issues related to patient/community health care knowledge, cultural practices, or resource constraints that might be addressed through interventions directly targeting patients or communities.

Two of the investigators reviewed the coding framework and applied it to data from the five projects. Specifically, they read meeting reports and articles looking for both pre-defined and emerging themes. After this initial review, the coding framework was extended and then used to organize and code the data into themes and subthemes.

3. Results

Of the barriers to evidence implementation identified across the participating countries, relatively few (4/35) were unique to a single country; instead, most barriers were common to at least two countries and/or clinical areas ([Table 1](#)). Facilitators varied substantially across countries and evidence implementation projects, with only one facilitator (improved monitoring and evaluation systems) identified in more than one project (see [Table 1](#)).

3.1. Common barriers

3.1.1. Health system level

Common barriers identified at the health system level were lack of material and human resources, problems with communication and information sharing, and policy issues.

Lack of material resources, including medications, medical supplies, and equipment, was a key barrier to evidence implementation in all five projects, particularly in rural and remote settings. Human resource shortages, involving both health care providers and skilled supervisors, were also identified as a key barrier to evidence implementation in most projects. Resource shortages were characterized as both actual and relative, with inappropriate distribution of available resources compounding true shortages, especially in rural and remote areas. Suboptimal integration and collaboration within individual health care facilities led to a scarcity of resources in some departments, although the necessary materials were available on site in other departments. Another commonly identified system-level barrier was the limited ability or resources to collect high-quality data to monitor current clinical practice and evidence implementation. Participants attributed this barrier to a lack of human and material resources for data monitoring. Data collection from areas of recent or ongoing conflict within a country represented a particular challenge.

Lack of health system funding was a commonly identified barrier to evidence implementation and was thought to exert its effect through various mechanisms. First, lack of funding directly affects the procurement of essential medications, supplies, and equipment, and the ability to adequately staff health care facilities and conduct important activities such as data collection and analysis for health system monitoring. For example, in Myanmar, implementation of WHO recommendations on task shifting in maternal and newborn health was explored, with the goal of shifting specific tasks from midwives to auxiliary midwives. However, the auxiliary midwives were unpaid volunteers who had inadequate resources to perform their duties. They often paid for medications, replacement equipment, and supplies by using their own resources, by charging small fees, or by borrowing from their own family members. Second, lack of funding for supervisory field visits of health care providers and other work-related travel further exacerbates human resource shortages. Third, lack of funding and infrastructure results in an inability to smoothly transfer patients to more specialized care settings, which leads to inadequate coordination of care.

Problems with communication and information sharing were identified as barriers to implementation in most countries. Failure to adequately distribute new guidelines to clinicians reportedly led to a lack of awareness of and poor implementation of guidelines. Failure to communicate with staff members responsible for ordering supplies contributed to inadequacy of resources to support guideline implementation. Participants reported that even when clinical outcomes data were available, they were not optimally disseminated to health care providers, who might thus be unaware that evidence implementation was inadequate and that change was required.

Policy issues were less frequent, with only one barrier common to most countries, namely, lack of a policy (or

conflict between guidelines and policy) regarding the scope of practice, roles, and responsibilities of various team members. For example, one group suggested that a policy to support task shifting the preparation of magnesium sulfate to physicians when midwives were not available could facilitate guideline implementation.

3.1.2. Provider level

At the provider level, common barriers to evidence implementation were inadequate training, knowledge, and skills; lack of access to or awareness of evidence; and attitudes and beliefs.

Inadequate preclinical service training and continuing education resulting in a lack of knowledge and skills was an important barrier to evidence implementation in all countries. In particular, participants commented on inadequate or out-of-date curricula, lack of “hands on” or skills-based training, and lack of time to attend training. Participants noted that lack of baseline education among lower-cadre health care workers made both preclinical and in-service training more difficult.

Lack of access to or awareness of evidence because of limited Internet access or inadequate distribution of paper-based evidence resources were identified barriers to implementation in most countries. Participants in two countries identified lack of understanding of how evidence products are developed, including how evidence is assessed for quality, as a barrier. Participants from these two countries also mentioned that limited understanding about who is involved in developing guidelines led to a lack of belief or trust in the evidence products.

Although somewhat less consistently, attitudes and beliefs of health care providers were identified as common barriers to evidence implementation. The most widespread of these was the belief that the evidence (such as medications or skills) would be misused. For example, concerns were raised about the use of oxytocin to augment labor without confirmation that labor was delayed, particularly by lower-cadre providers. This belief was associated with a reported lack of confidence in lower-cadre providers by physicians. Despite the availability of national definitions of health care providers’ scopes of practice, role confusion resulting from task shifting was identified as a barrier to evidence implementation in two countries.

Communication difficulties within and across cadres of health care workers and lack of interprofessional collaboration as a result of attitudes, ethnic, or work-cultural differences were identified as barriers to evidence implementation in two countries. In one country, this reportedly led to a lack of cooperation or to laying of blame among providers, with lower-cadre workers blamed for a patient’s poor condition after transfer to higher-level care. Such blame in turn led the lower-cadre health workers to transfer patients earlier, without taking the time to administer guideline-endorsed treatments, as a way to avoid criticism.

3.1.3. Patient and community level

Barriers to evidence implementation at the patient and community level fell into two categories: lack of financial resources and patients’ knowledge and beliefs.

Lack of financial resources was identified as a barrier to evidence implementation in most countries. Financial constraints led patients to miss appointments and delay seeking care. These constraints were relatively pervasive but were thought to be especially important in rural and remote regions.

Cultural beliefs about health care and the causes of illness, patients’ lack of understanding of the reasons for health advice they received, and patients’ lack of trust of lower-cadre health care workers or their preference to be seen by higher-cadre providers were all reported to negatively affect the implementation of evidence. These factors were perceived to contribute to patients’ delay in or avoidance of seeking appropriate health care.

3.2. Unique context-specific barriers

Three unique health system barriers were identified within the communication and policy themes. The first, identified in Kosovo only, was a lack of communication and resultant lack of trust between providers and policy makers. The second, identified in Uganda and Tanzania, arose in the context of a specific medication, misoprostol. The use of this drug is recommended in several WHO maternal health guidelines; however, as a result of fear that it might be misused for unsafe termination of pregnancy or for induction or augmentation of labor without appropriate patient assessment and dosing, the medication was not approved in those countries for some guideline indications, was not ordered, or was not available in the appropriate dosing formulation. The third, identified in the context of tuberculosis policy in Malawi, was identified as both a barrier to and facilitator of evidence implementation. Specifically, the requirement for guardian-supervised, directly observed therapy for outpatient TB care was thought to be a facilitator in cases where a committed guardian was available but a barrier when guardians were not committed or changed frequently. In this latter situation, the result was inadequate treatment support or conflicting advice to patients from guardians.

A fourth unique barrier, identified at the provider level in Uganda, was lack of accountability for evidence implementation among providers. This barrier was thought to stem in part from deficiencies in monitoring. No unique barriers to implementation were identified at the patient and community level.

3.3. Facilitators

As previously mentioned facilitators varied substantially across countries and evidence implementation projects, with only one facilitator (improved monitoring and

evaluation systems) identified in more than one project (see Table 1). This potential facilitator, identified in three countries, was felt important to promoting evidence implementation by providing data to inform local efforts to improve gaps in care and patient outcomes.

4. Discussion

A substantial degree of overlap was found among the barriers to evidence implementation identified in this analysis across a range of LMICs and clinical areas, with resource shortages identified as a key barrier to successful implementation in all projects. With the exception of policy issues, all the common barriers identified in the study have been previously reported as barriers to utilization of evidence in other LMICs [9–13]. For example, lack of equipment, supplies, and human resources were identified as important barriers to optimal malaria care in Tanzania and Kenya and to prevention of mother-to-child transmission of human immunodeficiency virus (PMTCT) in Malawi [9,12,13]. In their review of barriers to implementation of exclusive breast-feeding guidelines in sub-Saharan Africa, Eamer et al. [11] identified issues related to information sharing with evidence not reaching front line workers as barriers at both the system and provider levels and lack of provider knowledge, skills, and training, as key barriers to guideline implementation. Wasunna et al. [12] identified inconsistencies in training as a barrier to implementation of malaria treatment guidelines. Attitudes, beliefs, and social norms were identified as barriers to malaria care in Tanzania [9] and to PMTCT in Malawi [13] and other sub-Saharan countries [10]. Finally, patients' lack of financial resources, particularly funding for transportation to access care, was identified as an important barrier to PMTCT implementation in several LMICs [9,13]. Together, these findings suggest that numerous barriers to evidence implementation are common across a range of LMICs and clinical areas. To our knowledge, ours is the first study to identify common and unique barriers and facilitators across a number of countries and clinical areas. In combination with the findings of these other studies, our results may be useful in informing efforts to improve implementation of evidence in LMICs.

Although relatively few unique barriers were identified across the projects included in our study, all but one of them was related to policy or the interaction between policy makers and health care providers. In some cases, these represented critical barriers to evidence implementation, which suggests that specific attention to assessment of policy barriers, through direct engagement of policy makers and other key stakeholder groups, is warranted in implementation planning.

As expected from our experience working with LMICs to improve evidence implementation, far fewer facilitators

than barriers were identified, despite specific probing. However, the lack of commonality among identified facilitators across LMICs and clinical areas was unexpected, with only one facilitator (improved monitoring and evaluation systems) identified in more than one project. From our experience, several of the facilitators would appear to apply in more than one setting. A number of identified facilitators aligned with national campaigns underway at the time of the assessment, which may have overshadowed stakeholders' thoughts about other potential facilitators. In our literature review, we found few facilitators of evidence implementation in LMICs, which may reflect the specific focus of many studies on identifying barriers. However, in keeping with the findings reported here, facilitators reported in previous studies also lacked commonality [13,18]. We do not know why fewer facilitators than barriers were identified in the projects included in our analysis. One possibility is that facilitators are more difficult to identify in the early phase of developing an implementation plan (before specific targets and strategies have been established). Given the potential to leverage context-appropriate facilitators to support evidence implementation, it will be important for future researchers to focus on both barriers and facilitators and to work toward an improved understanding of the optimal process and timing for facilitator assessment, to better inform the development of interventions.

Several tools are available to guide the assessment of barriers to and facilitators of evidence implementation [20–22], but most are based on work conducted in high-income countries and may therefore be less applicable in LMIC settings. LMICs may wish to use the list of common barriers identified in this analysis as a starting point in assessing their own determinants of evidence uptake. In particular, given the prominence of policy-related issues among the unique barriers that were identified, it will be important to focus on policy-specific barriers and to engage policy makers early in the implementation planning process. In view of the high degree of variability among facilitators, open-ended questioning followed by specific probes within the facilitator subthemes identified may be appropriate. Beginning with the framework outlined here, may allow for more efficient assessment of barriers and facilitators and may encourage an understanding of the context of barriers and facilitators, as well as prioritization of barriers that can be addressed and facilitators that can be optimized by implementation strategies.

This approach, with careful attention to unique barriers and facilitators, may provide valuable information for mapping implementation strategies to identified barriers and facilitators [7]. For example, if a lack of trust in lower-cadre health care workers among patients is identified as a barrier, use of a local champion could be considered for evidence implementation. Alternatively, if lack of patient knowledge or understanding is identified as a barrier, use

of a patient education strategy delivered by community volunteers or endorsed by the community leader might be considered.

This study had several limitations. First, use of project meeting reports and articles as the units of analysis may have failed to capture some barriers and facilitators, particularly those identified as outliers in the primary studies or those noted by participants outside formal data collection processes. However, given that the authors of the present study contributed to both data collection and preparation of the reports for the primary studies, we believe it unlikely that any significant barriers or facilitators were overlooked. Second, although both barriers and facilitators were specifically elicited during the data collection, it is possible that the barriers facing resource-constrained LMIC health systems are more salient and the facilitators more difficult to conceive; more facilitators might be identified in the context of a specific implementation strategy. Third, because the assessments were conducted at a preimplementation planning stage for all of the projects, many of the barriers and facilitators represent perceived rather than demonstrated challenges and enablers; a somewhat different picture might emerge if barriers and facilitators were reassessed in the context of ongoing or completed implementation efforts. Fourth, although a broad range of stakeholders contributed to the findings of each individual project, rural and remote areas were generally less well represented, with patients and community representatives not included. As a result, important barriers and facilitators specific to rural contexts and the patient and community level might not have been captured. Fifth, although all studies collected data using multiple methods, the data for barriers and facilitators came predominantly from focus groups; greater emphasis on other methods might have revealed additional or conflicting data. However, it is also possible that additional assessment methods would have confirmed the focus group findings, as was the case for the Malawi project, experience, in which data from interviews, focus groups, and field observations were largely congruent. Finally, as four of the five included projects focused on barriers and facilitators to maternal health guidelines, it is possible that the results will be applicable only to maternal health guidelines. However, as seen in Table 1, implementation of evidence related to TB care in Malawi, shared many of the same perceived barriers as for the maternal health guideline projects included. Although further research is needed, this finding suggests that barrier and facilitator assessment may share important commonalities in other clinical areas and for evidence products other than guidelines in LMICs.

5. Conclusion

The findings presented here provide a starting point for developing a framework to guide assessment of barriers

to and facilitators of evidence implementation in LMIC health systems. It is hoped that as the framework is expanded and refined, time and resources may be saved and assessment of barriers and facilitators improved, with the provision, in turn, of quality data to guide the mapping of potential interventions to address identified barriers, optimize facilitators, and ultimately improve the implementation of evidence.

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