Author's response to reviews

Title: Harmonizing community-based health worker programs for HIV: a narrative review and analytic framework

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Author’s response to reviews:

REVIEWER #1:

It would be valuable to expand more on how the 3 priority areas were arrived at in the methods section.

We have now expanded on the three priority areas in the Methods section:

“Analysis”

“First, we further defined the concept of harmonization and identified three priority areas for the harmonization of CHW programs based on two previous articles related to harmonization. Specifically, we built on a previous multi-country study on the sustainability of donor-supported health projects by Bossert [32], and on a GHWA report on the coordination, integration and sustainability of CHW programs [22]. These articles pioneered work on harmonization of donor-supported health programs and informed our identification and definition of priority areas for CHW harmonization.” (p.6, revised manuscript)

The methods section could also contain more information on how sources (articles, grey literature) were selected. There is a wide range of CHW literature, and the list of included studies appears as quite a random selection to me. I appreciate the fact that you do not intend to present a
systematic review, and you provide some information on inclusion criteria, however, the reader should be guided a bit more.

We have provided additional information on our search strategy in the Methods section:

“Documents”

“We conducted a narrative review of the existing published and grey literature. We conducted multiple rounds of literature searches in PubMed and Google Scholar. The search strategy was conducted iteratively using English search terms, beginning with broad search terms (e.g., “fragmentation”, “community health worker programs”) and progressively expanded based on findings (e.g., “coordination”, “integration”, “sustainability”). We supplemented search results with several relevant publications previously known to the study team, including previous literature reviews [28-30] and seminal works [20, 31, 32] on the harmonization of health projects and programs. The search strategy also included manual searches of bibliographies of previous literature on health program related harmonization. We searched articles regardless of date of publication. We first arbitrarily selected and reviewed full-text versions of several articles from diverse fields with our search terms in the title to get a sense of the range of definitions and conceptions of the term in the social sciences. We then reviewed the first 100 titles of articles which included our search terms anywhere in the text. We reviewed full-text versions of all articles whose primary focus was related to the harmonization of community health programs. In total, we reviewed full-text versions of approximately 50 articles, book chapters, and case studies. We prioritized articles for analysis that focused on issues related to harmonization of CHW programs and CHW-led HIV services in low-and middle-income settings. In our full-text review, we searched for and noted evidence on three categories: (i) definitions, models, and/or frameworks related to harmonization; (ii) theoretical arguments or hypotheses about the effects of CHW program fragmentation and/or harmonization; and (iii) empirical evidence.” (p.5, revised manuscript)

Could you explain more in detail why an existing framework related to integration was translated into a framework on harmonization (for CHW programs related to HIV), as integration is 1 of the 3 priority areas/constructs of harmonization (other than the explanation that “Each of these five elements of the analytic framework have applicability to harmonization activities ..”)? What is the exact added value of the "new" framework?

We have further clarified our analytical framework in the Methods and Results sections:

“Second, in the absence of a comprehensive framework for harmonization, we extended an existing framework for the integration of health services, previously suggested by Atun et al. [27], to our three priority areas of harmonization.” (p.7, revised manuscript)

“Atun et al. propose a framework to consider the diffusion of health sector initiatives into the broader health system [27]. First proposed as an approach to systematically consider the integration of health sector activities, expanding the lens to include other priority areas of
harmonization may allow us to better understand why interventions may fail to achieve full harmonization, even in the face of many facilitating factors. A key advantage of extending this framework to other priority areas of harmonization (beyond integration alone) is that it suggests a common language that can also be applied to assess harmonization more broadly. We thus do not suggest a new framework, but rather a ‘framework +’ that enables the systematic and holistic exploration of the extent to which different CHW interventions are harmonized in varied settings and the reasons for the variation. Specifically, in seeking to understand integration, Atun et al. argue for a broad approach, noting that “the extent to which [health sector interventions] are integrated…will be influenced by the nature of the problem being addressed, the intervention, the adoption system [stakeholders], the health system characteristics, and the broad context”.” (p.15, revised manuscript)

“Each of these five elements of the analytic framework have applicability to harmonization activities for CHW programs for HIV and can be described as they contribute towards a harmonized approach for specific CHW interventions (Figure 1). First, a health priority must be considered in light of other health priorities, and the urgency and scale of the issue, including the social narrative which surrounds it. More urgent issues, for instance, may initially necessitate a more targeted approach, with efforts for integration occurring further down the line. Second, less complex and better known CHW interventions may be easier to duplicate and likely to be more amenable to integration than newer or more complicated interventions which must be customized to specific target groups. CHW programs delivering HIV services, for instance, might not be considered as straightforward as childhood immunizations (i.e., an easily identifiable target group and schedule that makes it highly adaptable), but less complex than maternal and child health programs with multiple interrelated interventions rolled into one. Third, the perceptions and relative power of the various stakeholders involved with CHW programs is a critical question in the path to harmonization. The adoption and implementation of CHW programs often depends on a wide range of actors, including various government officials, community leaders, donors, and expert observers; and the presence of advocates can be a key determinant. Fourth, integration and sustainability further depend on the broader health system’s structural and financial capacity to absorb CHW programs. Finally, the broader context, including the “demographic, economic, political, legal, ecological, sociocultural...and technological factors in the environment” [27] can play a critical role in enabling or hindering CHW harmonization. Populations in wealthier settings, for instance, may be more hesitant to see CHWs as ‘appropriate’ health providers vis-à-vis more standard types of health workers.” (p.16, revised manuscript)

The title and methods focus on HIV, but the narratives in the results section seem to apply to CHW programs in general. What makes the findings specific for HIV programs, or if not, why are findings from other programs, for example on maternal health, also applicable for HIV?

We have now increased the focus of the Results section on HIV services as opposed to CHW programs in general. Additionally, we have further clarified our methodological approach:

“In our synthesis of reviewed documents, we then described major issues and relationships surrounding these priority areas for harmonization of CHW programs, including key advantages, disadvantages, facilitators and barriers for each of the three areas. We focused our synthesis on
CHW-led delivery of HIV services such as HIV education, HIV testing campaigns, ART adherence counselling and monitoring, home-based care delivery, and the community supply of ART. When evidence on HIV services specifically was scarce, we additionally aimed to describe evidence on CHW programs that offered related health services (such as sexual and reproductive health services [33]).” (p.6, revised manuscript)

“When evidence on CHWs delivering HIV services was scarce, however, we supplemented our review with evidence on CHW programs that offered related health services.” (p.19, revised manuscript)

Results - page 17, line 22: "There may also be overlap of issues across dimensions of the framework and areas of harmonization." I think there surely is overlap. Within Table 2, there are various factors applicable to more than 1 priority area. Related to this, the framework presented in figure 1 is quite general: there is a lot of overlap "within" the 5 components of the framework. Therefore, the questions raises how this framework could practically assist policy makers/researchers aiming for or looking into harmonization of CHW programs.

We have now provided additional discussion on overlap across the three priority areas of harmonization, as well as the elements listed in the analytical framework.

“We note that there is significant overlap of topics across areas of harmonization and elements of the analytic framework. The perception of a CHW’s program effectiveness among community members and policy-makers, for instance, appears both in the integration and sustainability columns in Table 1. Both coordination and integration into the wider health system are also oft-cited facilitators of sustainability (e.g., for their contribution to be sustained, CHW programs may need to be integrated into the wider health system [59]). Harmonization spans many levels of the health system and the three priority areas are deeply intertwined. Nevertheless, the various topics listed in Table 1 could be considered by policy-makers and researchers, and addressed for a more harmonized approach to community-based health worker programs for HIV.” (p.17, revised manuscript)

“This narrative review of the published and grey literature further defines the concept of harmonization, introduces three priority areas, provides an overview of factors thought to facilitate or hinder each, and integrates them into an analytic framework. While the three priority areas and elements of the analytic framework are interconnected and the overlapping drivers of these concepts complicate the establishment of concise definitions, each acts in a distinct way, and each faces its unique challenges. Factors facilitating and inhibiting harmonization are also highly context-specific and increased harmonization is likely to be a complex political process, with generally incremental steps toward improvement. In settings with decentralized government, for instance, minor steps may be required to achieve full harmonization of CHW programs for HIV. Conversely, countries with a stronger central government or a substantial existing national CHW program may be able to achieve effective harmonization rather quickly. The government of Rwanda, for instance, coordinated salary support to CHWs with a non-governmental organization [60], and Brazil and Ethiopia placed their CHWs entirely into an existing civil service structure [44], which considerably facilitated the harmonization process of their community programs. One advantage of the conceptual approach suggested in this study is
Could you better explain throughout the paper what are the constructs/ dimensions/ areas of harmonization? Table 3 partly seems to focus on factors hindering harmonization, and partly facilitating factors or more neutrally formulated concepts. This makes it difficult to read.

We thank the reviewer for this excellent suggestion. We have now clarified this throughout the paper in two ways. First, we have further focused the paper on the three priority areas for harmonization. For instance, we have better highlighted the definitions of the three priority areas for harmonization in the main text (such as in “Box 1: Three priority areas for harmonization of CHW programs”). Second, we have rephrased the topics listed in Table 3 to be more consistent across the paper (noting that Table 3 has now become Table 1).

“Box 1: Three priority areas for harmonization of CHW programs” (p.9, revised manuscript)

1. Coordination: Activities undertaken to ensure that inputs into the health sector enable the health system to function more effectively and in accordance with local priorities over time [37]. Among CHW programs, coordination efforts seek to reduce duplication, fragmentation, confusion created by competing models, and overlap of responsibilities of differently trained CHWs in the same geographic areas [27, 38].

2. Integration: Absorption of CHW programs into existing networks of larger health systems such as Ministries of Health or large private providers. Integration is defined as the extent, pattern, and rate of adoption and eventual assimilation of health interventions into each of the critical functions of the health system [27].

3. Sustainability: Continued use of program activities for the long term achievement of desirable program outcomes [18]. Sustainability is a key element of CHW-led HIV services which are transitioning out of vertically funded sources [34-36].

“Table 1: Mapping priority areas of CHW program harmonization to analytic framework” (p.27, revised manuscript)

In the second sentence of the background in the abstract, please delete "within countries" to avoid duplication.

We have now edited the sentence in the Abstract:

“In most of these countries, several national and non-governmental initiatives have been implemented raising questions of how well these different approaches address the health problems and use health resources in a compatible way.” (Abstract, revised manuscript)
Background - page 3, line 57: major donors scale back funding for CHW programs. Does this refer to CHW programs related to HIV or in general? I think it might be the first.

We have further clarified this sentence:

“In addition, heavy reliance on donor funding for many CHW cadres supporting HIV service delivery raises urgency for greater consideration of long-term sustainability [18-20].” (p.4, revised manuscript)

Background - page 4, line 21: "this public commitment.." was not focused on HIV as such, the way this sentence in phrased might mislead the reader. This is also related to my comment above about the HIV focus of this paper (against findings more generally on CHW programs).

We have now clarified this sentence:

“This public commitment signaled a broad argument for the need to develop a coherent and harmonized approach to community-based health worker support within countries. The CHW commitment helped bring critical attention to the harmonization of CHW programs for HIV because of the history of CHW cadre creation specific for HIV and expansion of cadre responsibilities with the push for achieving 90-90-90 goals [9].” (p.4, revised manuscript)

Methods - page 6, line 28: it might be better to say harmonization of CHW "programs".

We have now edited this sentence:

“We reviewed full-text versions of all articles whose primary focus was related to the harmonization of CHW programs.” (p.6, revised manuscript)

Methods - page 7, line 34: do you means the constructs of harmonization?

We have now further clarified the constructs in the Methods section:

“Our emphasis has been to clearly define harmonization of CHW programs for HIV, identify priority areas, a set of factors likely to facilitate or inhibit each, and to suggest an analytic framework that permits a systematic assessment of existing CHW programs for HIV.” (p.7, revised manuscript)

Results - page 9, line 4: consider to delete "support".

We have rephrased the sentence accordingly:
“The biggest gaps identified are around interventions for supporting CHW performance and using more appropriate research methods [25].” (p.31, revised manuscript)

Results - page 14, line 35: HEWs preferred over TBAs: by whom?; and there is also evidence in opposite direction (TBAs are older, seen as more experienced especially regarding delivery care). The reference stated here seems not to be correct (36 should be 37?).

We have further clarified the sentence, as well as corrected the reference:

“In Ethiopia, CHW clients preferred to receive health related information or advice from Health Extension Workers over other community volunteers [45].” (p.12, revised manuscript)

Results - page 16, line 7: consider to delete "and the program" at the end of the sentence, or change "the program's consistent supervision". Supervision here is linked to sustainability, but is also related to integration and even coordination. (Related to earlier raised issues of overlap and therefore the (in)possibility for practical use of the framework).

We have now rephrased the sentence, and further clarified overlap between priority areas.

“One factor facilitating the sustainability of CHW programs may be the program’s consistent and adequate supervision of CHWs.” (p.14, revised manuscript)

“We note that there is significant overlap of topics across areas of harmonization and elements of the analytic framework. The perception of a CHW’s program effectiveness among community members and policy-makers, for instance, appears both in the integration and sustainability columns in Table 1. Both coordination and integration into the wider health system are also oft-cited facilitators of sustainability (e.g., for their contribution to be sustained, CHW programs may need to be integrated into the wider health system [59]). Harmonization spans many levels of the health system and the three priority areas are deeply intertwined.” (p.17, revised manuscript)

“This narrative review of the published and grey literature further defines the concept of harmonization, introduces three priority areas, provides an overview of factors thought to facilitate or hinder each, and integrates them into an analytic framework. While the three priority areas and elements of the analytic framework are interconnected and the overlapping drivers of these concepts complicate the establishment of concise definitions, each acts in a distinct way, and each faces its unique challenges. Factors facilitating and inhibiting harmonization are also highly context-specific and increased harmonization is likely to be a complex political process, with generally incremental steps toward improvement. In settings with decentralized government, for instance, minor steps may be required to achieve full harmonization of CHW programs for HIV. Conversely, countries with a stronger central government or a substantial existing national CHW program may be able to achieve effective harmonization rather quickly. The government of Rwanda, for instance, coordinated salary support to CHWs with a non-governmental organization [60], and Brazil and Ethiopia placed their CHWs entirely into an existing civil service structure [44], which considerably facilitated the harmonization process of
their community programs. One advantage of the conceptual approach suggested in this study is that it suggests a common language and framework that can be applied across different settings. This framework is likely informative to country-level decision-makers in settings with a large HIV epidemic, complex health systems, and multiple donors, in addition to other stakeholders involved with community health initiatives in low-and middle-income settings.” (p.17, revised manuscript)

REVIEWER #2:

First, some small language glitches. Page 15: Line 35/36 replace the word "allow" with "allows"

Thank you for bringing this to our attention. We have corrected and clarified the sentence:

“In addition to allowing systems to keep operating, the sustainability of a program could enable CHW initiatives to take a longer time horizon and better anticipate future needs (such as those resulting from changes in HIV treatment guidelines).” (p.13, revised manuscript)

Page 17: Line 29/30: delete "in" after "appears"

We have corrected the sentence:

“The perception of a CHW’s program effectiveness among community members and policy-makers, for instance, appears both in the integration and sustainability columns in Table 1.” (p.17, revised manuscript)

Page 22, reference 22: replace "In preparation 2016" with final journal citation

We have edited the reference to reflect its current status:


Page 24, reference 42: spell out the name of the source (WB) in full or use correct citation mode for references for which author and publisher are identical.

We have now corrected the reference:

“Bamberger M, Cheema S: Case studies of project sustainability: implications for policy and operations from Asian experience. Economic Development Institute seminar series World Bank Institute 1990.” (References, revised manuscript)
for the interested reader, you may wish to add the following reference to ref. number 56: Lehman U. and Sanders D. Community health workers: what do we know about them? The state of evidence on programmes, activities, costs, and impact on health outcomes of using community health workers. WHO, Geneva. Evidence and Information for Policy. Department of Human Resources for Health. 2007

We thank the reviewer for pointing us to this reference and have added it to our review:

“Lehman U, Sanders D: Community health workers: what do we know about them? The state of evidence on programmes, activities, costs, and impact on health outcomes of using community health workers. WHO, Geneva Evidence and Information for Policy Department of Human Resources for Health 2007.” (References, revised manuscript)

Second, comments on content: Since moving from the "Basic Health Services" concept of the 1960s to adoption of the "Primary Health Care" approach in the late 1970s to reach "Health for All by the Year 2000" and re-focussing international health development support on more disease-specific approaches e.g. HIV/AIDS and the creation of accompanying financing mechanisms e.g. GFATM and PEPFAR towards the end of the last millennium, the need to harmonize the contributions of multiple actors, approaches and expectations within and across specific health development programmes re-emerged in full force. Harmonization and coordination of approaches amongst the many "players" at international and national/local level are continuing challenges within a diverse field of humanitarian, health policy and human resources development approaches across agencies and institutions each needing to respond to the specific logic of their host institutional parameters. This article sets out to create a much needed systematization to facilitate harmonization and coordination across the multitude of interests that need to be responded to. Building incentives and reward systems which foster harmonization for, in this case, CHW development in its various dimensions will remain a challenge and demand a high degree of willingness amongst all actors - both national and international. It is hoped that in an ensuing development, much needed detailed operational guidance can be developed from pursuing this approach.

We thank the reviewer for these excellent comments. To our knowledge, this study represents the first introduction of the concept of harmonization, defined as the coordination, integration and sustainability of CHW programs, into the academic literature. It provides a systematic approach to facilitate harmonization among the many stakeholders involved with CHW programs in order to scale up and sustain HIV service delivery. This study further defines harmonization, proposes three priority areas, identifies a set of factors likely to facilitate or inhibit each, and suggests a framework which permits a systematic assessment of existing CHW programs. To clarify these contributions, we have strengthened the paper to better reflect key strengths and to increase its practical applicability for researchers and policy-makers. We have further justified the analytical framework and related it more strongly to results reported in a separate article where we apply the framework to case studies in Lesotho, Mozambique, Swaziland, and South Africa.