

# BMJ Open Barriers and facilitators of rendering HIV services by community health workers in sub-Saharan Africa: a meta-synthesis protocol

Gugulethu Eve Khumalo <sup>1,2</sup>, Elizabeth Lutge,<sup>3</sup> Praba Naidoo,<sup>4</sup> Tivani Phosa Mashamba-Thompson <sup>5</sup>

**To cite:** Khumalo GE, Lutge E, Naidoo P, *et al.* Barriers and facilitators of rendering HIV services by community health workers in sub-Saharan Africa: a meta-synthesis protocol. *BMJ Open* 2020;**10**:e037876. doi:10.1136/bmjopen-2020-037876

► Prepublication history and additional material for this paper is available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2020-037876>).

Received 20 February 2020  
Revised 11 September 2020  
Accepted 13 September 2020



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For numbered affiliations see end of article.

## Correspondence to

Gugulethu Eve Khumalo;  
jcatcalvary@gmail.com

## ABSTRACT

**Introduction** In sub-Saharan Africa (SSA), Human Immunodeficiency Virus (HIV) is the leading cause of morbidity and mortality. Community healthcare workers (CHWs) worldwide have been reported to be effective in strengthening the HIV programme by providing services such as adherence support, HIV education and safe sex education as part of their roles. The main aim of this meta-synthesis is to synthesise qualitative evidence on studies that have been conducted in SSA countries to understand the barriers to and facilitators of providing HIV services by CHWs across all settings

**Methods and analysis** This meta-synthesis will be guided by Preferred Reporting Items for Systematic Reviews and Meta-Analyses. An initial search was conducted on 15 November 2019 for studies published between 2009 and 2019 using the population exposure outcome nomenclature. We searched the EBSCOHost (ERIC; Health Source-Nursing/Academic Edition), Google Scholar and PubMed databases for the relevant studies. The Ritchie and Spencer framework will be used for data synthesis and the Supporting the Use of Research Evidence Framework analysis will be used to analyse data. We will conduct critical appraisal on selected studies using the Qualitative Assessment and Review Instrument to limit risk of bias.

**Ethics and dissemination** This review does not involve any human participants and therefore ethical approval will not be required. We will publish the protocol as well as the findings in any relevant journal and various media namely conferences; symposia, local and international health stakeholders.

**PROSPERO registration number** CRD42020160012.

**Conclusion** Evidence from this review will provide synthesised evidence to the utilisation of CHWs in HIV services in SSA.

## INTRODUCTION

As reported, sub-Saharan African (SSA) countries have the highest accumulated percentage of HIV infections globally.<sup>1,2</sup> The HIV programmes in SSA are programmes that focus on preventing the transmission of HIV through a combination of behavioural, biomedical and structural strategies.<sup>3</sup>

## Strengths and limitations of this study

- The strength of this meta-synthesis lies in that it is the first to review the barriers to and facilitators of providing HIV services by the community health workers (CHWs) in sub-Saharan Africa in the past 10 years.
- In sub-Saharan Africa, HIV prevalence continues to rise due to people with the virus living longer through effective antiretroviral therapy (ART). Therefore, task shifting to reduce the workload burden on the other health workers should be considered by effectively using CHWs to promote ART adherence, thereby avoiding opportunistic infections as result of disease progression.
- The study is limited only to published qualitative research studies and not, for example grey literature, unpublished reports and government documents.
- The systematic review also excludes any qualitative, published studies that are in any language other than English because of limited financial resources to cover interpretation costs.
- Both these limitations will be mitigated by working with an experienced librarian to ensure that the meta-synthesis includes as many suitable, high-quality studies as possible.

The effectiveness of community health workers (CHWs) in strengthening the HIV programme is evident in SSA<sup>4,5</sup> which is home to 12% of the global population, yet accounts for 71% of the global burden of HIV infection.<sup>2</sup> However, the gap between the need for antiretroviral therapy (ART) and actual provision of ART is still wide in SSA.<sup>6</sup> This gap is due to shortfalls in HIV testing, access to ART and long-term retention in care of which the CHWs can close by encouraging HIV testing, referring communities that need ART to healthcare and education on adherence.<sup>6</sup> It is then important to answer the research question of this review to better understand the barriers to and facilitators of providing HIV

services by the CHWs so that appropriate interventions can be implemented in different settings of this region. There have been studies including systematic reviews that have described the HIV services provided by CHWs in SSA. However, after extensive search, no meta-synthesis was found which reported on the barriers to and facilitators of providing HIV services by the CHWs in SSA in the past 10 years, that is, from 2009 to 2019.

In the past 8–10 years, several SSA countries became more serious about using CHWs as part of the task-shifting concept to address the shortage of the health workers and the growing burden of the HIV epidemic among the communities.<sup>7–17</sup> Moreover, in 2011, the World Health Organization (WHO) provided the first cost guidance for developing a locally adaptable and nationally scalable CHW system within primary healthcare systems in SSA.<sup>18</sup> This meta-synthesis will share light on what has worked and what has not worked in terms of using this cadre in providing HIV services including ART.

The antiretroviral treatment (ART) has improved the lives of people in SSA but yet a substantial percentage, sometimes as high as 60% of people living with HIV (PLWH) are not on ART.<sup>1</sup> CHWs are an integral part of both the community and the health system and hence are at an advantage of being the first line of contact with PLWH and being their link to the health system for continuum of care.

Before 2000, CHWs were not an integral part of the health system in most SSA countries<sup>19</sup> but since 2000, they shifted from providing voluntary health services to communities, to being an integral part of the health system<sup>5,19</sup> although not fully integrated.<sup>6</sup> The HIV services provided by CHWs vary in each of the SSA countries. These included patient support (counselling, home-based care, education, adherence support and livelihood support) and health service support (screening, referral and health service organisation and surveillance).<sup>5,20</sup> Community health workers also enhance the reach, uptake and quality of HIV services, as well as the dignity, quality of life and retention in care of PLWH.<sup>5</sup> They certainly are a potential solution in overcoming challenges faced by the HIV programme in the sub-Saharan countries.<sup>5,21</sup> However, CHWs are still not effectively used to play this role because they are not fully integrated into the health system.<sup>6</sup> There is still no harmonised approach in their employment, remuneration, training, management, supervision and retention which pose barriers for their utilisation to provide HIV services in SSA.<sup>6,22–24</sup>

In most SSA countries, CHWs are employed without job descriptions which causes ambiguity around their roles and ultimately leads to them conducting tasks outside their training.<sup>23</sup> In terms of having standardised protocols and defined roles for this cadre, countries like Bangladesh and Brazil that SSA can be used as a benchmark.<sup>6,25</sup>

Political structures in SSA have an opportunity to strengthen the HIV programme and decrease HIV infections by effectively utilising CHWs. However, there is insufficient evidence on the barriers to and facilitators of

CHWs' role in HIV care, resulting in confirmed ineffective utilisation of this cadre.

## STUDY AIM

The aim of this meta-synthesis is to synthesise qualitative evidence which explores the barriers to and facilitators of rendering HIV specific services by the CHWs.

## Objectives

- ▶ To synthesise evidence on the barriers to providing HIV services by CHWs in SSA.
- ▶ To synthesise evidence on the facilitators of providing HIV services by CHWs in SSA.

## METHODS AND ANALYSIS

To synthesise evidence on published qualitative studies regarding the barriers to and facilitators of rendering HIV services by the CHWs, we will conduct a meta-synthesis, systematic review. We will be guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).<sup>26–28</sup> The meta-synthesis will be guided by an interpretive paradigm which aims for researchers to distance themselves from their own views and ideas.<sup>29–31</sup> We selected this paradigm because it guides the researchers to use the experience of participants or of reported data to construct and interpret their understanding from collected data without tainting it with their own views or experiences.<sup>29–31</sup> We will use all included qualitative studies regardless of the methodology used in the study (eg, phenomenology, content analysis, anthropology etcetera). We will use the Ritchie and Spencer framework analysis<sup>32</sup> and the Supporting the Use of Research Evidence (SURE) Framework,<sup>33</sup> which will be our framework for thematic synthesis. We will use NVivo V.12 Pro to code themes emerging from the extracted data. The report of findings for this review will be published as per PRISMA guidelines.<sup>27</sup>

The research question of our systematic review and meta-synthesis is: What are the barriers to and facilitators of rendering HIV services by CHWs in SSA?

We will use the population exposure outcome mnemonic<sup>34</sup> to determine suitability of our research question to be answered using a meta-synthesis (table 1).

Box 1 indicates the search strategy example from PubMed, including planned limits.

## Eligibility criteria

### Inclusion criteria

We will include:

- ▶ Studies that are in the English language because of limited financial resources for translation.
- ▶ Studies that are qualitative or mixed method as long as there is a qualitative component regardless of the study design.
- ▶ Studies published in the past 10 years (between 2009 and 2019).

**Table 1** PEO showing suitability of our research question for a chosen method

	Population (P)	Exposure (E)	Outcome (O)
Keywords	<ul style="list-style-type: none"> <li>▶ Community health worker</li> <li>▶ Lay health worker</li> <li>▶ Village doctor</li> <li>▶ Community care worker</li> <li>▶ Community caregiver</li> <li>▶ Home-based carer</li> <li>▶ Lay health workers</li> <li>▶ Lay counsellors</li> <li>▶ Community volunteers</li> </ul>	<ul style="list-style-type: none"> <li>▶ Rendering HIV services in communities</li> <li>▶ Offering HIV services in communities</li> </ul>	<ul style="list-style-type: none"> <li>▶ Barriers of rendering or offering HIV services</li> <li>▶ Facilitators of rendering or offering HIV services</li> </ul>

- ▶ Studies with evidence where CHWs were assigned to offer only HIV health services regardless of their work titles or if they were assigned to offer multiple health services as long as these health services also included HIV services.
- ▶ Studies that have evidence of barriers to and facilitators of rendering HIV services by the CHWs.
- ▶ Studies conducted only in SSA countries.

#### Exclusion criteria

- ▶ All quantitative studies that are related to HIV services offered by the CHWs.
- ▶ Qualitative studies regarding the topic published before 2009 or after 2019.
- ▶ All qualitative documents that are in grey literature.
- ▶ Other healthcare workers that are assigned to provide HIV services in the community.
- ▶ Other health services that are provided by CHWs that are non-HIV related.

#### Search strategy: information sources

On the 15 November 2019, we searched the following databases: EBSCOHost- (ERIC; Health Source-Nursing/ Academic Edition; Medline) and Google Scholar. We conducted a Boolean search and also Medical Subject Headings search using keywords to search for relevant studies to answer our research question. The keywords we used were: CHWs; lay health workers; HIV services;

barriers; facilitators and SSA as outlined in [table 1](#). The search results were entered on a Search Form with search dates, database names and the results of the search (online supplemental appendix 1). Studies that will come from the reference list of one of the studies selected will also be searched.

#### Screening of articles

The articles for this systematic review will be screened by two independent reviewers to increase trustworthiness and to eliminate bias. The reviewers will use the inclusion and exclusion criteria to select relevant studies. The screening of studies will be done in three stages using EndNote X9 as a reference manager. If there is any disagreement between the reviewers especially during the last stage of screening (for full-text studies), a third reviewer will be used to help resolve the disagreement. The first stage was initiated by running a search on the relevant databases to screen for titles (online supplemental appendix 1) and all the relevant titles were saved on the reference manager. For the second stage the reviewers will screen the abstracts of the selected titles using the Abstract Selection Form (online supplemental appendix 2). The reviewers will select abstracts and thereafter meet to discuss selected abstracts and resolve any disagreements. The final selected abstracts will be taken to the third stage which involves full-text screening of the studies using full-text screening form (online supplemental appendix 3). The reviewers will obtain full articles from the relevant sources including from authors if not publically available. Final studies included after the third stage will be the final number of studies that will be included for the meta-synthesis. We do not anticipate bias because of missing information on the selected studies as all the selected studies would have met our inclusion criteria. However, if there is any missing information on the selected final full-text articles, the authors will be contacted to clarify and given a time frame for feedback which will be mostly a month. If the authors do not respond within a month, then the studies will be excluded from this review to eliminate bias. A log will be written for studies that were excluded from the meta-synthesis and the reasons for their exclusion will be explained. The final included

#### Box 1 Search strategy example (PubMed)

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((“hiv”(MeSH Terms) OR “hiv”(All Fields)) AND services(All Fields)) AND (“community health workers”(MeSH Terms) OR (“community”(All Fields) AND “health”(All Fields) AND “workers”(All Fields)) OR “community health workers”(All Fields) OR (lay(All Fields) AND (“health”(MeSH Terms) OR “health”(All Fields)) AND workers(All Fields)) AND (“qualitative research”(MeSH Terms) OR (“qualitative”(All Fields) AND “research”(All Fields)) OR “qualitative research”(All Fields) OR (“qualitative”(All Fields) AND “study”(All Fields)) OR “qualitative study”(All Fields)) AND (“africa south of the sahara”(MeSH Terms) OR (“africa”(All Fields) AND “south”(All Fields) AND “sahara”(All Fields)) OR “africa south of the sahara”(All Fields) OR (“sub”(All Fields) AND “saharan”(All Fields) AND “africa”(All Fields)) OR “sub saharan africa”(All Fields)) AND (“2009/01/01”(PDAT) : “2019/11/31”(PDAT)) AND “humans”(MeSH Terms) AND English(lang)).
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qualitative studies will each be given a unique ID number. The PRISMA 2009 flow diagram<sup>26</sup> will be used to report the screening results.

### **Risk of bias: assessing the quality of selected studies**

Critical appraisal in meta-synthesis is for assessing the rigour on the selected qualitative studies and to also ensure that they are free from methodological issues that may somehow affect the findings of the meta-synthesis.<sup>35,36</sup> We will use the Qualitative Assessment and Review Instrument (QARI) developed by the Joanna Briggs Institute, Australia<sup>37</sup> (online supplemental appendix 4) to appraise the quality of the selected studies. This will be undertaken by two independent reviewers. We will develop a scoring system for rating the quality of studies. The scoring system and the QARI tool will be piloted on ten percent of studies that were selected for the meta-synthesis. This will assist us in examining the scores provided; to inform the development of an appropriate scoring system and to eventually determine the cut-off points for low and high-quality studies. Where there is disagreement between scoring results, a third independent reviewer will be used for arbitration.

### **Data extraction**

We will develop a data extraction tool using Google Forms for all studies selected for the meta-synthesis. Once the form has been created, the form will be pretested or piloted by at least two independent individuals on five included full-text studies. The data extraction form will contain the following information about the selected studies: author and year; title; aim; study design; study setting; study population; percentage of target population; exposure (rendering of HIV services) and outcome (barriers to or facilitators of providing HIV services) (online supplemental appendix 5). A short, structured questionnaire will be emailed to the authors to complete any missing data or information. The authors will be followed up at least for 1 month until they provide the missing information. The study will be excluded if the authors do not send the missing information.

### **Data synthesis**

The aim of data synthesis or analysis is to gather all the findings from all the selected studies into a meaningful statement or a set of statements which will represent and explain the phenomenon under study or answer the research question of the systematic review.<sup>38–40</sup> The synthesis or analysis will be conducted by two research team members independently to guard against bias and improve trustworthiness. The two members are both experts in thematic and content analysis using NVivo V.12 Pro. The SURE Framework analysis<sup>33</sup> (online supplemental appendix 6) will be used to analyse data and for improving comparability and trustworthiness of the study. The SURE framework can be applied to any healthcare research<sup>41</sup> and the research team agreed on this framework analysis because of its domains that are linked

to factors affecting health service delivery.<sup>41</sup> The data synthesis approach that we will use is the same approach that was used in other studies.<sup>42, 43</sup> We will juxtapose sources of evidence, that is, when data about the barriers to and facilitators of providing HIV services are extensively mentioned in one paper, that information will allow insight into those barriers and facilitators in another paper.

The Ritchie and Spencer framework analysis which consist of five stages of thematic analysis will guide the analysis of the study.<sup>32</sup> This framework analysis method will be selected because it is appropriate for thematic analysis of textual data, where it is important to be able to compare and contrast data by themes across many studies while also situating each perspective in context by retaining the connection to other aspects of each study's account.<sup>44</sup> The five stages of analysis are familiarisation, generating themes, searching for themes, reviewing themes and finally producing a report.<sup>32</sup> The first stage is familiarisation, where the data analyst will familiarise himself with the selected studies and immerses himself in them while writing down recurrent themes and ideas. The second stage is identifying a thematic framework where the evolving themes are written down and form part of the study thematic framework that is temporal as it can change at different parts of data analysis. The thematic framework then guides the allocation of the study contents to written themes. We decided to use the SURE framework for this stage. The third stage which is indexing involves identifying portions from the studies and allocating theme numbers to them. This will be done using NVivo V.12 Pro. The fourth stage which is charting entails extracting the portions that were allocated theme numbers and placing them under themes and subthemes that were created during thematic framework identification. The fifth and the last stage is mapping and interpretation which is when the key characteristics of the charts are analysed to guide the interpretation of the data sets and to ultimately produce a report of findings. The PRISMA standards will also guide the writing of the report.

### **Patient and public involvement**

Patients and the public were not involved in the design and planning of this study.

### **Publishing the protocol**

We will disseminate the findings of this meta-synthesis through publication in a peer-reviewed journal; relevant conference; local and international health government departments. Publication of this meta-synthesis will enable transparency of the review methodology and allows feedback and views of the peer review before the review commences. This will also improve quality, trustworthiness of this review. Publication will also prevent duplication in case other researchers want to conduct a similar review.

## DISCUSSION

Globally, SSA region is the most affected by the HIV epidemic and<sup>1 45</sup> with a large percentage still not having access to proper healthcare and treatment. In this same region, CHWs are increasingly used to provide HIV services and there is evidence that they play a role in improving HIV programmes through various community interventions.<sup>46–48</sup> However, there is high variability of CHWs' utilisation between different sub-Saharan countries.<sup>47</sup> Therefore, synthesising evidence of what has worked and what has not worked in the provision of HIV services by CHWs is important for benchmarking and adapting or adopting by similar country settings. The results of this systematic review should then have practical implications for future clinical practice, research and policy. The past 10 years, from 2009 to 2019, CHWs have been increasingly mobilised to improve health systems with the WHO issuing guidelines on affordable strategies to implement their programme in 2011.<sup>18 49</sup> This meta-synthesis, therefore, excludes qualitative studies that were published before 2009 and after 2019. The other limitation of this meta-synthesis is the exclusion of other reports and documents that may have had evidence on the topic but were published in grey literature and also not published as qualitative studies in the selected databases and journals. However, working with the librarian ensured that as many databases and journals relevant to the topic were searched to include as many studies as possible.

### Author affiliations

<sup>1</sup>Discipline of Public Health Medicine, University of KwaZulu-Natal College of Health Sciences, Durban, South Africa

<sup>2</sup>Department of Health, KwaZulu-Natal, Pietermaritzburg, KwaZulu-Natal, South Africa

<sup>3</sup>KwaZulu Natal Department of Health, South African Government, Durban, KwaZulu Natal, South Africa

<sup>4</sup>Library, University of KwaZulu-Natal - Medical School, Durban, South Africa

<sup>5</sup>Public Health, University of KwaZulu Natal, Durban, KwaZulu Natal, South Africa

**Acknowledgements** The authors express their gratitude to the College of Health Science, University of KwaZulu-Natal for support of this study.

**Contributors** The protocol was conceptualised and developed by GEK and TPM-T. The subsequent study, review of abstracts, full article studies and extraction process will comprise of all team members (GEK, TPM-T, EL and PN).

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent for publication** Not required.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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### ORCID iDs

Gugulethu Eve Khumalo <http://orcid.org/0000-0002-1881-4104>

Tivani Phosa Mashamba-Thompson <http://orcid.org/0000-0002-4193-2416>

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