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# BMJ Open

## Mapping evidence of physical rehabilitation services delivered by community health workers in Sub Saharan Africa– a scoping review protocol

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3 **Mapping evidence of physical rehabilitation services delivered by**  
4 **community health workers in Sub Saharan Africa– a scoping review**  
5 **protocol**  
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## ABSTRACT

**Introduction:** Sub-Saharan Africa is one of the poorest regions in the world which is affected by the critical shortage of HRH amid a high disease burden, including physical disability. Community Health Workers are viewed as the possible solution to increase population access to health services, including rehabilitation at the community level. The purpose of this scoping review is to map evidence and scope of physical rehabilitation services delivered by Community Health Workers in SSA.

**Methods and analysis:** The framework by Arksey & O'Malley will be used to guide the scoping review protocol. Database searching will be conducted using JSTOR, PubMed, Science Direct, Cochrane central, Source, Google scholar, Global Health, Rehabdata, and databases within the EBSCOhost platform. Other sources of literature will include reference lists, dissertations, conference presentations, and publications on organizational websites such as WHO and Ministries of Health in SSA. The screening will be guided by the inclusion and exclusion criteria. Thematic content analysis aided by NVIVO.11. will be done to present the narrative account of the review. The mixed-methods appraisal tool (MMAT) version 2018 will be used to evaluate the methodological quality of the studies.

**Ethics and dissemination:** The review is part of a larger study that has received ethical clearance. The result will be disseminated using print and electronic media

**Registration:** This scoping review requires no registration.

**Keywords:** Evidence, Physical rehabilitation services, Community Health Workers, Sub Saharan Africa

**Data statement:** Prepublication history and additional material for this paper will be made available online. To view these files, please visit the journal online.

### **The strengths and limitations of this study**

- The study findings will provide evidence that will help in bringing out the gaps in service implementation.
- The findings will build and contribute to the body of knowledge on rehabilitation services provision.
- The use of the Mixed Methods Appraisal Tool to appraise the methodological quality of the studies that will be included in this search ensures a clear and updated methodological and transparent process that can be replicated.
- Primary studies published in peer-reviewed journals and grey literature such as unpublished studies, conference presentations, thesis, and studies in press addressing the research topic will be included which is a strength.
- The review will only include literature published in English which is a potential limitation.

## INTRODUCTION

Rehabilitation is a set of interventions to address impairments or activity limitations and participation restrictions, as well as personal and environmental factors that have an impact on functioning.<sup>1</sup> Physical rehabilitation, is the restoration, maintenance, and promotion of optimal human physical function.<sup>2</sup> Besides, physical rehabilitation aims to optimize the functioning of the affected persons; and encompasses specific health services that people may require regarding disability, including diagnosis, treatment, surgery, assistive devices, and therapy.<sup>1</sup> The need for physical rehabilitation is increasing due to changes in demographic trends leading to the increase in chronic health conditions, thereby dramatically increasing the number of people with disabilities.<sup>3</sup> Although the variation in demographic trends suggests that there is a demand for physical rehabilitation services, evidence indicates that rehabilitation services remain inaccessible due to various factors, including the shortage of rehabilitation professionals.<sup>3, 4, 5</sup>

The World Health Organisation (WHO) report states that there are less than ten skilled rehabilitation practitioners per 1 million population in Low- and -Middle-Income Countries (LMICs), leading to the chronic scarcity of Human Resources for Health (HRH).<sup>6, 7</sup> This has resulted in reduced access to rehabilitation services, especially in poorer counties.<sup>8</sup> Sub-Saharan Africa (SSA), is one of the poorest regions in the world which is affected by the critical shortage of HRH amid a high disease burden, including physical disability.<sup>9</sup> SSA accounts for 12% of the world's population, and 27% of the global disease burden, yet it only has 3.5% of the world's health workers.<sup>10</sup> Furthermore, with the global crisis of HRH, about 14.5 million is required to achieve Universal Health Coverage (UHC) and Sustainable Development Goals (SDGs), yet many African countries are facing the most critical health worker crisis. Therefore, the total health worker deficit for Africa is estimated to reach 6.1 million by 2030 which means that the current workforce needs to be scaled up by as much as 140% to attain international health development targets.<sup>11</sup>

The HRH scarcity in SSA is emanated from many causes, including wrong investment in pre-service training, brain drain, career changes among health workers, early retirement, morbidity, and natural attrition.<sup>12</sup> Several initiatives are being implemented to bridge the gap in HRH including increasing pre-service training, motivating health workers to stay

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3 employed, and task shifting to lay health workers like Community Health Workers ( CHWs).  
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8 The widely accepted definition of CHWs by the WHO Study Group as “members of the  
9 communities where they work, should be selected by the communities, should be answerable  
10 to the communities for their activities, should be supported by the health system but not  
11 necessarily a part of its organization, and have shorter training than professional workers”,<sup>14</sup>  
12 has evolved much, as they are not necessarily selected by the communities but organizations  
13 spearheading their programs and have since become part of the health systems.<sup>15</sup> Therefore,  
14 in many SSA countries, CHWs have become an important part of the healthcare workforce  
15 and have contributed to the fight against the burden of disease with recorded success.<sup>16, 17</sup> For  
16 instance, CHWs have been the backbone in the fight against HIV/AIDS including Malaria  
17 and have also been attributed to the success recorded in Maternal and Child Health.<sup>18, 19, 20 &</sup>  
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29 Low-income countries have identified the use of CHWs as one strategy to alleviate the HRH  
30 crisis, thereby helping to increase access to health services in general.<sup>22</sup> CHWs programs  
31 have been extensively used to address the paucity of trained health workers through task-shifting.  
32 This has led to an increase in access to care, improved health outcomes, and complemented traditional  
33 healthcare delivery systems in many resource-constrained settings.<sup>23</sup> Equally, the framework for  
34 the implementation of the global strategy on HRH in the African region proposed a range of  
35 actions that countries must implement by 2022 and 2030, including improving the  
36 effectiveness of CHWs programs.<sup>13, 24</sup>  
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45 CHWs perform a wide range of tasks such as home visits, screening, health education, and  
46 promotion and are viewed as the possible solution to increase population access to health  
47 services, including rehabilitation at the community level.<sup>25, 26</sup> This delegation of tasks from  
48 one cadre to another has been used in many countries and for many decades, either as a  
49 response to emergency needs or as a method to provide adequate care at primary and  
50 secondary levels, especially in understaffed rural facilities, to enhance quality and reduce  
51 costs.<sup>27</sup> This has been evidenced in some settings where duties that should be performed by  
52 qualified rehabilitation professionals are allocated to CHWs due to HRH constraints.<sup>26</sup>  
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60 Following a short training in the rehabilitation program, CHWs have been able to deliver

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3 services in disadvantaged communities doing awareness and advocacy aside from  
4 rehabilitation services.<sup>28</sup>  
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8 Although CHWs have been the backbone of community health systems in LICs, and have  
9 since recorded much success, e.g in maternal and infectious diseases; and the task shifting of  
10 rehabilitation services to CHWs having been demonstrated in some countries, the scope of  
11 physical rehabilitation services in SSA remains unclear. The purpose of this scoping review is  
12 to map evidence and scope of physical rehabilitation services delivered by CHWs in SSA. It  
13 is anticipated that this scoping review will highlight the CHWs' mode of delivery, identify  
14 barriers, and facilitating factors in the delivery of physical rehabilitation services by CHWs.  
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## 22 **METHODS AND ANALYSIS**

### 23 **Study design**

24 This scoping review is part of a larger study aiming to establish a model for the training of  
25 CHWs in physical rehabilitation services. It will be based on the Arksey and O'Malley<sup>29</sup>  
26 framework which includes the following stages:  
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31 - Identifying the research questions.  
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33 - Identifying relevant studies.  
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35 - Study selection.  
36  
37 - Charting the data using the Preferred Reporting Items for Systematic Review and Meta-  
38 Analyses (PRISMA) Extension for Scoping Reviews Guidelines.<sup>30</sup>  
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40 -Collating, summarizing, and reporting the results  
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### 43 **Stage 1: Identifying research questions**

44 What is the evidence of physical rehabilitation services delivered by CHWs in SSA?  
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46 The specific research questions are as follows:  
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50 ● What is the scope of physical rehabilitation services delivered by CHWs in SSA?  
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52 ● What is the mode of delivery of physical rehabilitation services delivered by CHWs in  
53 SSA?  
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55 ● What barriers are experienced by CHWs in the delivery of physical rehabilitation  
56 services in SSA?  
57  
58 ● What facilitates the CHWs to deliver physical rehabilitation services in SSA?  
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### Eligibility criteria

To be included in the review are studies that present evidence on:

- CHWs delivering physical rehabilitation services and articles reporting evidence on physical rehabilitation services provided by CHWs will be included.
- Scope of physical rehabilitation services delivered by CHWs.
- Grey literature in the form of unpublished empirical research papers, theses, and dissertations will also be included.
- All primary study designs.

### Exclusion criteria

The following will be excluded:

- Articles reporting evidence of CHW outside SSA.
- Commentaries or opinion pieces will not be included.
- Due to lack of expertise in other Official languages, this study will include only literature published in English.

Table 1: The elements of the population, concept and context criteria will be used to map studies

<i>Criteria</i>	<i>Determinants</i>
Population	Community Health Workers
Concept	Scope of physical rehabilitation services
Context	Sub Sahara Africa

### Stage 2: Identifying relevant studies

An in-depth search for relevant peer-reviewed articles published in the following databases will be done: JSTOR, PubMed, Science Direct, Cochrane central, Source, Google scholar, Global Health, Rehabdata, and databases within EBSCOhost (Medline and CINAHL). The reference lists of key articles will be equally searched for additional studies. Other sources of literature will include dissertations, conference presentations, and publications on

organizational websites such as WHO and Ministries of Health in SSA. The authors will utilize the following: keywords "community health workers", "lay health workers", "rehabilitation assistants" or "community rehabilitation services", "disability services", "physical rehabilitation", "rehabilitation", "community-based rehabilitation"; "sub-Saharan Africa", "developing countries", "Low-income countries". The search will use the Boolean terms (AND, OR) to separate the keywords. The record of the number of publications retrieved and the search date after each session will be kept. The draft of a preliminary search in JSTOR, PubMed, and ScienceDirect is shown in Table 2.

*Table 2: Results of a pilot search*

<b>Date of search</b>	<b>Search engine used</b>	<b>Keywords used</b>	<b>Number of publications retrieved</b>
19 <sup>th</sup> March 2021	PubMed	(((((community health worker) OR (community health assistant)) OR (rehabilitation assistant)) OR (community rehabilitation worker)) AND (rehabilitation services)) OR (disability services)) OR (physical rehabilitation services)	692
19 <sup>th</sup> March 2021	JSTOR	((community health workers) OR (rehabilitation assistants)) AND (rehabilitation services))	34, 486
19 <sup>th</sup> March 2021	Science Direct	Rehabilitation services (2000-2021)	124,967

### **Stage 3: Study Selection**

Before the abstract and full-text screening phases, the principal investigator will conduct the keywords search for relevant articles in the electronic databases. Using the eligibility criteria as a guide, all related titles will be imported onto an Endnote X9 library created for this study. A google form with questions for screening abstracts will be developed based on the

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3 eligibility criteria Screening of study titles and abstracts from the databases will be  
4 conducted by two reviewers independently to ensure consistency. Any discrepancies arising  
5 among the two reviewers at the title and abstract stage will be discussed to reach a consensus.  
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7 After the title and abstract screening, full articles will be screened by the two reviewers  
8 independently simultaneously. A third reviewer will be involved to resolve discrepancies  
9 between the reviewers at the full article stage. To ensure the reproducibility of the review, the  
10 references of excluded sources and the rationale for exclusion will be provided in an  
11 additional file of the completed review. The findings will be summarised using the PRISMA  
12 chart( Figure 1)  
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### 20 **Quality appraisal**

21 The Mixed Methods Appraisal Tool (MMAT) version 2018 will be used to appraise the  
22 methodological quality of the studies that will be included in this search.<sup>31</sup> The criteria for the  
23 appropriateness of included sources of evidence will be determined by the aim of the study,  
24 appropriate methodology, study design, recruitment strategy, and appropriate sampling  
25 technique. Other categories include suitable data collection procedures, appropriate data  
26 analysis, appropriate data interpretation, presentation of findings, discussion, and conclusions  
27 of the author from the included articles. The quality appraisal will be carried out to examine  
28 the article's strengths, weaknesses, and quality of research evidence presented. The quality of  
29 all the included articles will be calculated and rated using the MMAT guidelines with 25%  
30 accounting for low-quality articles, 50% being average, 75% being above average, and 100%  
31 being high average. To enhance quality assessment criteria for the inclusion of grey literature,  
32 the study will consider 1<sup>st</sup> and 2<sup>nd</sup> Tier grey literature only.<sup>32</sup> This will ensure that the study  
33 designs of the included sources of evidence are appropriate for the research objectives. The  
34 quality assessment will also assist in reporting on the risk of bias and the quality of evidence  
35 of the included sources.  
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### 50 **Stage 4: Charting/extraction the data**

51 Data will be charted using Google form which will be developed to record necessary  
52 information found in the included studies (Table 3). The standard bibliographical  
53 information: author, date of publication, study title, objective/aim of the study, study design,  
54 country of study, study population, sample size, intervention(s), methodology, relevant  
55 findings, most significant findings of the study, conclusions, and notes. The data extraction  
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form will be piloted by two independent reviewers using a random sample of 10% of the included studies to ensure consistency and accuracy. The data extraction form will then be adjusted as required based on feedback from CA and PA. The data extraction will constantly be updated to enable adequate abstraction of all relevant data to answer the review question.

*Table 3: Data extraction table*

<i>Attribute</i>	<i>Findings</i>
Author	
Date of publication	
Study title	
Objective/aim of the study	
Study design	
Country of study	
Study population	
Sample size	
Intervention(s)	
Methodology	
Relevant findings.	
<i>Evidence</i>	
<i>Scope of rehabilitation services</i>	
<i>Barriers to rehabilitation service delivery</i>	
<i>Facilitators to rehabilitation service delivery</i>	
Most significant findings of the study	
Conclusions	
Notes	

### **Stage 5: Collating, summarizing, and reporting the finding**

Thematic content analysis will be used in data analysis, which will be examined concerning the study research question and the aim of the study. Emerging themes will be tabulated to describe the evidence, scope of services, mode of delivery, barriers, and facilitators in rehabilitation service delivery by CHWs. The thematic content analysis will be aided by

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3 NVIVO V.11. The implications of the study results for future research, policy, and practice  
4 will be examined and reported on.  
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### 7 **Patient and Public involvement**

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9 The patients or the public will not be directly involved in the conception, design, and  
10 planning of the study.  
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### 13 **Ethics and dissemination**

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15 The study is part of a larger study. Ethics approval has been obtained for the whole research,  
16 including this scoping review, from the University of KwaZulu Natal Biomedical Research  
17 Ethics Committee (BREC/00000569/2019). The study will be disseminated using print and  
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electronic media.

## 24 **DISCUSSION**

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28 This scoping review aims to map evidence of physical rehabilitation services delivered by  
29 CHWs in SSA. CHWs are viewed as the solution to the chronic HRH crisis in SSAs.<sup>33,34 & 35</sup>  
30 Task shifting is increasingly used to address HRH shortages.<sup>36 & 37</sup> Research relating to task  
31 shifting in SSA tends to focus more on specific health issues as well on potential health  
32 system challenges that can be alleviated by task shifting. CHWs are an integral part of  
33 delivering physical rehabilitation services in some SSA countries. The findings of the study  
34 will generate vital information that will be useful to health care managers and stakeholders  
35 that advocate for universal healthcare in settings with poor access to integrated health  
36 services especially in the area of rehabilitation. In line with the above, the study findings will  
37 help in bringing out the gaps in service implementation which may help in CHWs further  
38 training for physical rehabilitation. This will aid countries in SSA in increasing access and  
39 coverage of rehabilitation services in line with SDG 3 and SDG 10 which highlights the need  
40 for good health with reduced inequalities.<sup>38</sup> Additionally, the findings will build and  
41 contribute to the body of knowledge on rehabilitation services provision, HRH, and  
42 community health systems. The evidence obtained from this review will be disseminated via  
43 publication on several platforms including peer-reviewed journals, conferences, and  
44 interactions with potential knowledge users.  
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7 **Figure 1: Selection of sources of evidence. PRISMA ScR flowchart which demonstrates**  
8 **the literature search and selection of sources of evidence**  
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## 10 11 **LIST OF ABBREVIATIONS**

12  
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14 CHWs- Community Health Workers

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16 SSA-Sub Sahara Africa

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18 LMICs- Low and Middle-Income Countries

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20 SDG- Sustainable Development Goals

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22 WHO- World Health Organisation

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27 *Contributions-* The scoping review protocol was conceptualized by MM and developed by  
28 MM and TD. MM and TD drafted the protocol. The authors read and approved the final  
29 manuscript.  
30

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39  
40 *Competing interests-* No competing interests are declared by the authors.

41  
42 *Patient consent for publication-*Not required

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44 *Word count-* 4053 words  
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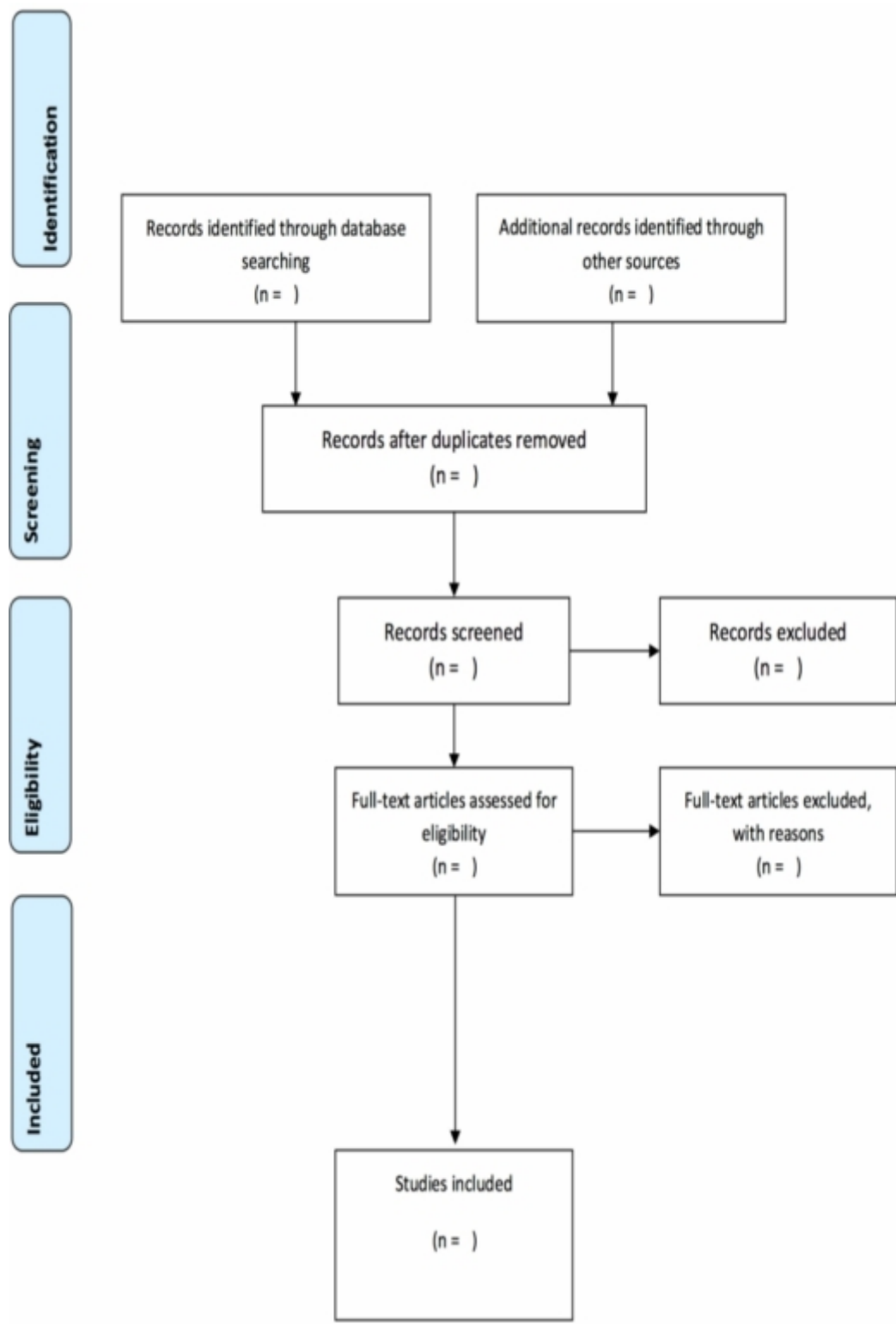
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Figure 1: Selection of sources of evidence. PRISMA ScR flowchart which demonstrates the literature search and selection of sources of evidence



## Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

TITLE			
Title	1	Identify the report as a scoping review.	P1 L3
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	P2 L1- L14
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	P4 L1- P6 L9
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	P6 L7- L9
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	N/A
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	P 7 L1
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	P7 L21
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	P8 L8
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	P8 L25
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	P9 L30
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	P 11 L5
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	P 9 L 10
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	P11 L25
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	N/A



Characteristics of sources of evidence	1 5	For each source of evidence, present characteristics for which data were charted and provide the citations.	N/A
Critical appraisal within sources of evidence	1 6	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	1 7	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	N/A
Synthesis of results	1 8	Summarize and/or present the charting results as they relate to the review questions and objectives.	N/A
<b>DISCUSSION</b>			
Summary of evidence	1 9	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	N/A
Limitations	2 0	Discuss the limitations of the scoping review process.	N/A
Conclusions	2 1	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	N/A
<b>FUNDING</b>			
Funding	2 2	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	P 12 L12

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

\* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med*. 2018;169:467–473. doi: 10.7326/M18-0850.



# BMJ Open

## Mapping evidence of Community Health Workers delivering physical rehabilitation services in Sub Saharan Africa– a scoping review protocol

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# Mapping evidence of Community Health Workers delivering physical rehabilitation services in Sub Saharan Africa– a scoping review protocol

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## ABSTRACT

**Introduction:** Sub-Saharan Africa is one of the low-income regions in the world which is affected by the critical shortage of HRH amid a high disease burden, including physical disability. Community Health Workers are viewed as the possible solution to increase population access to health services, including rehabilitation at the community level. The purpose of this scoping review is to map the evidence and scope of physical rehabilitation services delivered by Community Health Workers in SSA.

**Methods and analysis:** The framework by Arksey & O'Malley will be used to guide the scoping review protocol. Database searching will be conducted using PubMed, Scopus, Cochrane Central, and databases within the EBSCOhost platform. Other sources of literature will include reference lists, conference presentations, and publications on organizational websites such as WHO, Ministries of Health, and Non-governmental Organisations in SSA. The screening will be guided by the inclusion and exclusion criteria. Thematic content analysis aided by NVIVO.12 will be done to present the narrative account of the review. The mixed methods appraisal tool (MMAT) version 2018 will be used to evaluate the methodological quality of the studies.

**Ethics and dissemination:** The review is part of a larger study that has received ethical clearance. The result will be disseminated using print and electronic media

**Registration:** This scoping review requires no registration.

**Keywords:** Evidence, Physical rehabilitation services, Community Health Workers, Sub Saharan Africa

**Data statement:** Prepublication history and additional material for this paper will be made available online. To view these files, please visit the journal online.

### The strengths and limitations of this study

- The will be the first scoping review on community health workers' delivery of physical rehabilitation service in SSA.
- The review will include literature from 1978 onwards to capture both the current context and the dynamic nature of this topic.
- The use of the Mixed Methods Appraisal Tool to appraise the methodological quality of the studies ensures a clear and updated methodological and transparent process that can be replicated.

- The inclusion of both peer-reviewed and grey literature addressing the research topic is a strength.
- The review will not exclude any literature based on language which is a potential strength.

For peer review only



## INTRODUCTION

Rehabilitation is a set of interventions to address impairments or activity limitations and participation restrictions, as well as personal and environmental factors that have an impact on functioning.<sup>1</sup> Physical rehabilitation, is the restoration, maintenance, and promotion of optimal human physical function.<sup>2</sup> Besides, physical rehabilitation aims to optimize the functioning of the affected persons; and encompasses specific health services that people may require regarding disability, including diagnosis, treatment, surgery, assistive devices, and therapy.<sup>1</sup> The need for physical rehabilitation services is increasing due to changes in demographic trends leading to the increase in chronic health conditions, thereby dramatically increasing the number of people with disabilities.<sup>3</sup> The demand for physical rehabilitation services is due to a 66.2% increase in the YLD (Year lived with Disability) from 1990 to 2017 with more than 5.1 million YLDs per year but evidence indicates that rehabilitation services remain inaccessible due to various factors, including the shortage of rehabilitation professionals.<sup>3, 4, 5</sup>

The World Health Organisation (WHO) report states that there are less than ten skilled rehabilitation practitioners per 1 million population in Low- and -Middle-Income Countries (LMICs), leading to the chronic scarcity of Human Resources for Health (HRH).<sup>6, 7</sup> This has resulted in reduced access to rehabilitation services, especially in resource-constrained regions.<sup>8</sup> Sub-Saharan Africa (SSA), a low resource region, is affected by the critical shortage of HRH amid a high disease burden, including physical disability.<sup>9</sup> SSA accounts for 12% of the world's population, and 27% of the global disease burden, yet it only has 3.5% of the world's health workers.<sup>10</sup> Furthermore, with the global crisis of HRH, about 14.5 million is required to achieve Universal Health Coverage (UHC) and Sustainable Development Goals (SDGs), yet many African countries are facing the most critical health worker crisis. Therefore, the total health worker deficit for Africa is estimated to reach 6.1 million by 2030 which means that the current workforce needs to be scaled up by as much as 140% to attain international health development targets.<sup>11</sup> Apart from economic resource constraints, the HRH scarcity in SSA is emanated from many causes, including wrong investment in pre-service training, brain drain, career changes among health workers, early retirement, morbidity, and natural attrition.

Several initiatives are being implemented to bridge the gap in HRH including increasing pre-service training, motivating health workers to stay employed, and task shifting to lay health workers like Community Health Workers (CHWs).<sup>12</sup> The Community Based Rehabilitation

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3 (CBR) initiative was put in place to increase access to rehabilitation services of which the  
4 community is central in service provision.<sup>13</sup> CBR serves as a way of task shifting rehabilitation  
5 services from highly trained professionals to lay health workers mainly called CHWs.  
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10 The widely accepted definition of CHWs by the WHO Study Group as “members of the  
11 communities where they work, should be selected by the communities, should be answerable  
12 to the communities for their activities, should be supported by the health system but not  
13 necessarily a part of its organization, and have shorter training than professional workers”,<sup>14</sup>  
14 has evolved much, as they are not necessarily selected by the communities but organizations  
15 spearheading their programs and have since become part of the health systems.<sup>15</sup> Therefore, in  
16 many SSA countries, CHWs have become an important part of the healthcare workforce and  
17 have contributed to the fight against the burden of disease with recorded success.<sup>16, 17</sup> For  
18 instance, CHWs have been the backbone in the fight against HIV/AIDS including Malaria and  
19 have also been attributed to the success recorded in Maternal and Child Health.<sup>18, 19, 20 & 21</sup>  
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29 Low-income countries have identified the use of CHWs as one strategy to alleviate the HRH  
30 crisis, thereby helping to increase access to health services in general.<sup>22</sup> CHWs programs have  
31 been extensively used to address the paucity of trained health workers through task-shifting.  
32 This has led to an increase in access to care, improved health outcomes, and complemented  
33 traditional healthcare delivery systems in many resource-constrained settings.<sup>23</sup> Equally, the  
34 framework for the implementation of the global strategy on HRH in the African region  
35 proposed a range of actions that countries must implement by 2022 and 2030, including  
36 improving the effectiveness of CHWs programs.<sup>13, 24</sup>  
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45 CHWs perform a wide range of tasks such as home visits, screening, health education, and  
46 promotion and are viewed as the possible solution to increase population access to health  
47 services, including rehabilitation at the community level.<sup>25, 26</sup> This delegation of tasks from  
48 one cadre to another has been used in many countries and for many decades, either as a response  
49 to emergency needs or as a method to provide adequate care at primary and secondary levels,  
50 especially in understaffed rural facilities, to enhance quality and reduce costs.<sup>27</sup> This has been  
51 evidenced in some settings where duties that should be performed by qualified rehabilitation  
52 professionals are allocated to CHWs due to HRH constraints.<sup>26</sup> Following a short training in  
53 the rehabilitation program, CHWs have been able to deliver services in disadvantaged  
54 communities doing awareness and advocacy aside from rehabilitation services.<sup>28</sup>  
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5 Although CHWs have been the backbone of community health systems in LICs, and have since  
6 recorded much success in some areas e.g in maternal and infectious diseases; the task shifting  
7 of physical rehabilitation services to CHWs in SSA remains unclear. With the evidence that  
8 SSA has been affected adversely by health worker shortages, with the great need for physical  
9 rehabilitation services, this review will shed more light.<sup>4,11</sup> The purpose of this scoping review  
10 is to map evidence of CHWs providing physical rehabilitation services in SSA. It is anticipated  
11 that this Scoping review will highlight the scope of physical rehabilitation services delivered  
12 by community health workers, their mode of physical rehabilitation services delivery, the  
13 barriers, and facilitators experienced by CHWs in the delivery of physical rehabilitation  
14 services in SSA. This Scoping review results will inform the bigger study taking place in SSA.  
15 The results of this study will help to gather evidence about community health workers  
16 delivering physical rehabilitation services and identify research gaps and therefore guide in the  
17 development of the training model of the CHWs in physical rehabilitation services in SSA.  
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## 29 **METHODOLOGY**

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31 We will use the scoping review method to systematically search, select and synthesize existing  
32 data from 1978 which is the beginning of primary health care to answer the research question;  
33 what is the evidence of physical rehabilitation services delivered by CHWs in SSA? This  
34 scoping review is part of a larger study aiming to establish a model for the training of CHWs  
35 in providing physical rehabilitation services and has been registered in OSF registries  
36 <https://archive.org/details/osf-registrations-bmjgz-v1>. This review will be guided by the framework  
37 of Arksey and O'Malley<sup>29</sup> and further enhanced by Levac et al<sup>30</sup> by Identifying the research  
38 questions; Identifying relevant studies; Study selection, Charting the data using the Preferred  
39 Reporting Items for Systematic Review and Meta-Analyses (PRISMA-ScR) Extension for  
40 Scoping Reviews Guidelines<sup>31</sup> and finally Collating, summarizing, and reporting the results  
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### 50 **Eligibility of the research question by scoping review**

51 This study will answer the question: What is the evidence of CHWs providing physical  
52 rehabilitation services in SSA? The specific research questions are as follows:  
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- 54 ● What is the scope of physical rehabilitation services delivered by CHWs in SSA?
- 55 ● What is the mode of delivery of physical rehabilitation services delivered by CHWs in  
56 SSA?
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- What are the barriers are experienced by CHWs in the delivery of physical rehabilitation services in SSA?
- What factors facilitate the delivery of physical rehabilitation services in SSA by CHWs?

To determine the eligibility of our research question for a scoping review study, we are going to use the Population, Concept, and Context (PCC) framework (Table 1).

Table 1: The elements of the population, concept, and context criteria will be used to map studies

<i>Criteria</i>	<i>Determinants</i>
Population	Community Health Workers
Concept	Physical rehabilitation services
Context	Sub-Saharan Africa

### Identifying relevant studies

An in-depth search for relevant literature published from the beginning of primary health care in 1978 in the following databases will be done: PubMed, Scopus, Cochrane central, databases within the EBSCOhost platform (Academic Search Complete, ERIC, Health Source - Consumer Edition, Health Source: Nursing/Academic Edition, MEDLINE with Full Text, Open Dissertations). Other sources of literature will include reference lists, conference presentations, and publications on organizational websites such as WHO, Ministries of Health, and Non-governmental Organisations in SSA. We shall use a mix of Medical Subject Heading (MeSH) terms and the following keywords developed with the aid of the subject librarian as follows: "community health worker\*" OR "lay health worker\*" OR "rehabilitation assistant\*" OR "community rehabilitation worker\*" OR "Community Health Aide\*" OR "Village Health Worker\*" OR "Care giver\*" OR "Barefoot Doctor\*" in All Text AND "rehabilitation service" OR "disability service" OR "rehabilitation" OR "community-based rehabilitation" in All Text AND AND "sub Saharan Africa "OR "sub-Saharan Africa" OR "sub-Sahara" OR sub-Sahara OR SSA OR "Africa south of the Sahara" OR Angola OR Benin OR Botswana OR "Burkina Faso" OR Burundi OR "Cabo Verde" OR Cameroon OR "Central African Republic" OR Chad OR Comoros OR Congo OR "Cote d'ivoire" OR "Equatorial Guinea" OR Eritrea OR Eswatini OR Ethiopia OR Gabon OR "Gambia, the" OR Ghana OR Guinea OR "Guinea-Bissau" OR Kenya OR Lesotho OR Liberia OR Madagascar OR Malawi OR Mali OR Mauritania OR

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3 Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR "Sao tome  
4 and Principe" OR Senegal OR Seychelles OR "Sierra Leone" OR Somalia OR "South Africa"  
5 OR "South Sudan" OR Sudan OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe.  
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8 The record of the number of publications retrieved and the search date after each session was  
9 kept. We shall adopt the search strategy to suit each database. All the searches will be  
10 documented in detail showing the keywords, date of search, search engine, and the number of  
11 publications retrieved. The literature search will be done beginning 1<sup>st</sup> February-28<sup>th</sup> February  
12 2022.  
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18 To demonstrate the feasibility of answering our research question using a scoping review  
19 method, we conducted a pilot search and the results are presented in Table 2.  
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Table 2: Results of a pilot search

Date of search	Search engine used	Number of articles retrieved	Keywords used
4 <sup>th</sup> October 2021	PubMed	63	"community health worker*" OR "lay health worker*" OR "rehabilitation assistant*" OR "community rehabilitation worker*" OR "Community Health Aide*" OR "Village Health Worker*" OR "Care giver*" OR "Barefoot Doctor*" in All Text AND "rehabilitation service"OR "disability service"OR "physical rehabilitation" OR "rehabilitation" OR "community-based rehabilitation" in All Text AND "sub Saharan Africa "OR "sub-Saharan Africa" OR "sub-Sahara" OR sub-Sahara OR SSA OR "Africa south of the Sahara" OR Angola OR Benin OR Botswana OR "Burkina Faso" OR Burundi OR "Cabo Verde" OR Cameroon OR "Central African Republic" OR Chad OR Comoros OR Congo OR "Cote d'ivoire" OR "Equatorial Guinea" OR Eritrea OR Eswatini OR Ethiopia OR Gabon OR "Gambia, the" OR Ghana OR Guinea OR "Guinea-Bissau" OR Kenya OR Lesotho OR Liberia OR Madagascar OR malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR "Sao tome and Principe" OR Senegal OR Seychelles OR "Sierra Leone" OR Somalia OR "South Africa" OR "South Sudan" OR Sudan OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe
4 <sup>th</sup> October 2021	Scopus	948	"community health worker*" OR "lay health worker*" OR "rehabilitation assistant*" OR "community rehabilitation worker*" OR "Community Health Aide*" OR "Village Health Worker*" OR "Care giver*" OR "Barefoot Doctor*" in All Text AND "rehabilitation service"OR "disability service"OR "physical rehabilitation" OR "rehabilitation" OR "community-based rehabilitation" in All Text AND "sub Saharan Africa "OR "sub-Saharan Africa" OR "sub-Sahara" OR sub-Sahara OR SSA OR "Africa south of the Sahara" OR Angola OR Benin OR Botswana OR "Burkina Faso" OR Burundi OR "Cabo Verde" OR Cameroon OR "Central African Republic" OR Chad OR Comoros OR Congo OR "Cote d'ivoire" OR "Equatorial Guinea" OR Eritrea OR Eswatini OR Ethiopia OR Gabon OR "Gambia, the" OR Ghana OR Guinea OR "Guinea-Bissau" OR Kenya OR Lesotho OR Liberia OR Madagascar OR malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR "Sao tome and Principe" OR Senegal OR Seychelles OR "Sierra Leone" OR Somalia OR "South Africa" OR "South Sudan" OR Sudan OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe
4 <sup>th</sup> October 2021	Health source	263	"community health worker*" OR "lay health worker*" OR "rehabilitation assistant*" OR "community rehabilitation worker*" OR "Community Health Aide*" OR "Village Health Worker*" OR "Care giver*" OR "Barefoot Doctor*" in All Text AND "rehabilitation service"OR "disability service"OR "physical rehabilitation" OR "rehabilitation" OR "community-based rehabilitation" in All Text AND "sub Saharan Africa "OR "sub-Saharan Africa" OR "sub-Sahara" OR sub-Sahara OR SSA OR "Africa south of the Sahara" OR Angola OR Benin OR Botswana OR "Burkina Faso" OR Burundi OR "Cabo Verde" OR Cameroon OR "Central African Republic" OR Chad OR Comoros OR Congo OR "Cote d'ivoire" OR "Equatorial Guinea" OR Eritrea OR Eswatini OR Ethiopia OR Gabon OR "Gambia, the" OR Ghana OR Guinea OR "Guinea-Bissau" OR Kenya OR Lesotho OR Liberia OR Madagascar OR malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR "Sao tome and Principe" OR Senegal OR Seychelles OR "Sierra Leone" OR Somalia OR "South Africa" OR "South Sudan" OR Sudan OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe

## Study Selection

To ensure that relevant studies on physical rehabilitation services delivered by CHWs in SSA will be included, selection criteria have been developed.

### Inclusion criteria

To be included in the review are citations that present evidence on:

- CHWs delivering physical rehabilitation services.
- Literature in form of reports, guidelines, protocols, primary studies will be included.
- Reference lists from review articles reporting evidence on physical rehabilitation services provided by CHWs will be included.
- Literature from the beginning of primary health care in 1978 to date will be included.
- Literature from SSA will be included.
- Commentaries or opinion pieces will be included.

### Exclusion criteria

The following were excluded:

- Articles of other health workers, not CHWs delivering physical rehabilitation services.
- Review articles were excluded.
- Evidence not from SSA was not be included.

Before the abstract and full-text screening phases, the principal investigator will conduct the literature search for relevant records in the electronic databases and search engines. Using the eligibility criteria as a guide, all related titles will be imported onto an Endnote 20<sup>32</sup> library created for this study. A google form with questions for abstract screening will be developed based on the eligibility criteria and piloted. The abstract screening will be conducted by two reviewers independently to ensure consistency and minimize bias. Any discrepancies arising among the two reviewers during the abstract screening stage, discussions will be held until consensus is reached. All eligible records at the abstract screening stage will undergo full-text screening by the two independent reviewers. A third reviewer will be involved to resolve discrepancies between the reviewers at the full article stage. Kappa statistics calculation will be performed to determine the degree of agreement between reviewers at the full-text screening by using STATA 17 software.<sup>33</sup> To ensure the reproducibility of the review, the references of excluded sources and the rationale for exclusion will be provided in an additional file of the completed review. The findings will be summarised using the PRISMA chart (Figure 1).

**Figure 1: Selection of sources of evidence. PRISMA ScR flowchart which demonstrates the literature search and selection of sources of evidence**

**Charting the data**

Data will be charted using Google form which will be developed to record necessary information found in the included records (Table 3). The data extraction form will be piloted by two independent reviewers using a random sample of 10% of the included records to ensure consistency and accuracy. The data extraction form will then be adjusted as required based on feedback from the reviewers. The data extraction will constantly be updated to enable adequate abstraction of all relevant data to answer the review question.

Table 3: Data extraction table

<i>Attribute</i>	<i>Findings</i>
Author	
Date of publication	
Study title	
Objective/aim of the study	
Study design	
Country of study	
Type of literature	
Study population	
Sample size	
Intervention(s)	
Methodology	
Relevant findings.	
<i>Evidence</i>	
<i>Scope of physical rehabilitation services</i>	
<i>Mode of delivery</i>	
<i>Barriers to physical rehabilitation service delivery</i>	
<i>Facilitators to physical rehabilitation service delivery</i>	



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3 Most significant findings of the study  
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Conclusions

Notes

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### 16 **Collating, summarizing, and reporting the finding**

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18 We will conduct a thematic content analysis, using Nvivo 12 software, to extract data and  
19 summarize findings. We will summarize the results using a narrative approach. The reviewers  
20 will analyze the emerging themes from the included articles concerning the research question.  
21 The emergent themes will be tabulated to describe the evidence, scope of services, mode of  
22 delivery, barriers, and facilitators in CHWs' physical rehabilitation service delivery. The  
23 implications of the study results for future research, policy, and practice will be examined and  
24 reported on.  
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### 31 **Quality appraisal**

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33 The Mixed Methods Appraisal Tool (MMAT) version 2018 will be used to appraise the  
34 methodological quality of the studies that will be included in this search.<sup>34</sup> The criteria for the  
35 appropriateness of included sources of evidence will be determined by the aim of the study,  
36 appropriate methodology, study design, recruitment strategy, and appropriate sampling  
37 technique. Other categories include suitable data collection procedures, appropriate data  
38 analysis, appropriate data interpretation, presentation of findings, discussion, and conclusions  
39 of the author from the included articles. The quality appraisal will be carried out to examine  
40 the article's strengths, weaknesses, and quality of research evidence presented. The quality of  
41 all the included articles will be calculated and rated using the MMAT guidelines with 25%  
42 accounting for low-quality articles, 50% being average, 75% being above average, and 100%  
43 being high average. To enhance quality assessment criteria for the inclusion of grey literature,  
44 the study will consider 1<sup>st</sup> and 2<sup>nd</sup> Tier grey literature only.<sup>35</sup> This will ensure that the study  
45 designs of the included sources of evidence are appropriate for the research objectives. The  
46 quality assessment will also assist in reporting on the risk of bias and the quality of evidence  
47 of the included sources.  
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## **Patient and Public involvement**

The patients or the public will not be directly involved in the conception, design, and planning of the study.

## **Ethics and dissemination**

The study is part of a larger study. Ethics approval has been obtained for the whole research, including this scoping review, from the University of KwaZulu Natal Biomedical Research Ethics Committee (BREC/00000569/2019). The study will be disseminated using print and electronic media.

## **DISCUSSION**

This scoping review aims to map evidence of CHWs delivering physical rehabilitation services in SSA. Given the chronic HRH crisis, CHWs are viewed as the solution.<sup>36, 37 & 38</sup> Equally task shifting of duties from a highly trained cadre to a lower trained cadre is increasingly used to address HRH shortages.<sup>39 & 40</sup> Meanwhile, research relating to task shifting in SSA, tends to focus more on specific health issues as well as on potential health system challenges that can be alleviated by task shifting. CHWs could be an integral part of delivering physical rehabilitation services in some SSA countries. The findings of the study will generate vital information that will be useful to health care managers and stakeholders that advocate for universal healthcare in settings with limited access to integrated health services especially in the area of physical rehabilitation services. In line with the above, the study findings will help in bringing out the gaps in service implementation which may help in physical rehabilitation services training for CHWs. This will aid countries in SSA in increasing access and coverage of physical rehabilitation services in line with SDG 3 and SDG 10 which highlights the need for good health with reduced inequalities.<sup>41</sup> Additionally, the findings will build and contribute to the body of knowledge on physical rehabilitation services provision, HRH, and community health systems. The evidence obtained from this review will be disseminated via publication on several platforms including peer-reviewed journals, conferences, and interactions with potential knowledge users.

## **LIST OF ABBREVIATIONS**

CHWs- Community Health Workers

SSA-Sub Sahara Africa

LMICs- Low and Middle-Income Countries

SDG- Sustainable Development Goals

WHO- World Health Organisation

*Contributions*- The scoping review protocol was conceptualized by MM and developed by MM and TD. MM and TD drafted the protocol. The authors read and approved the final manuscript.

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*Competing interests*- No competing interests are declared by the authors.

*Patient consent for publication*-Not required

*Word count*- 4737 words

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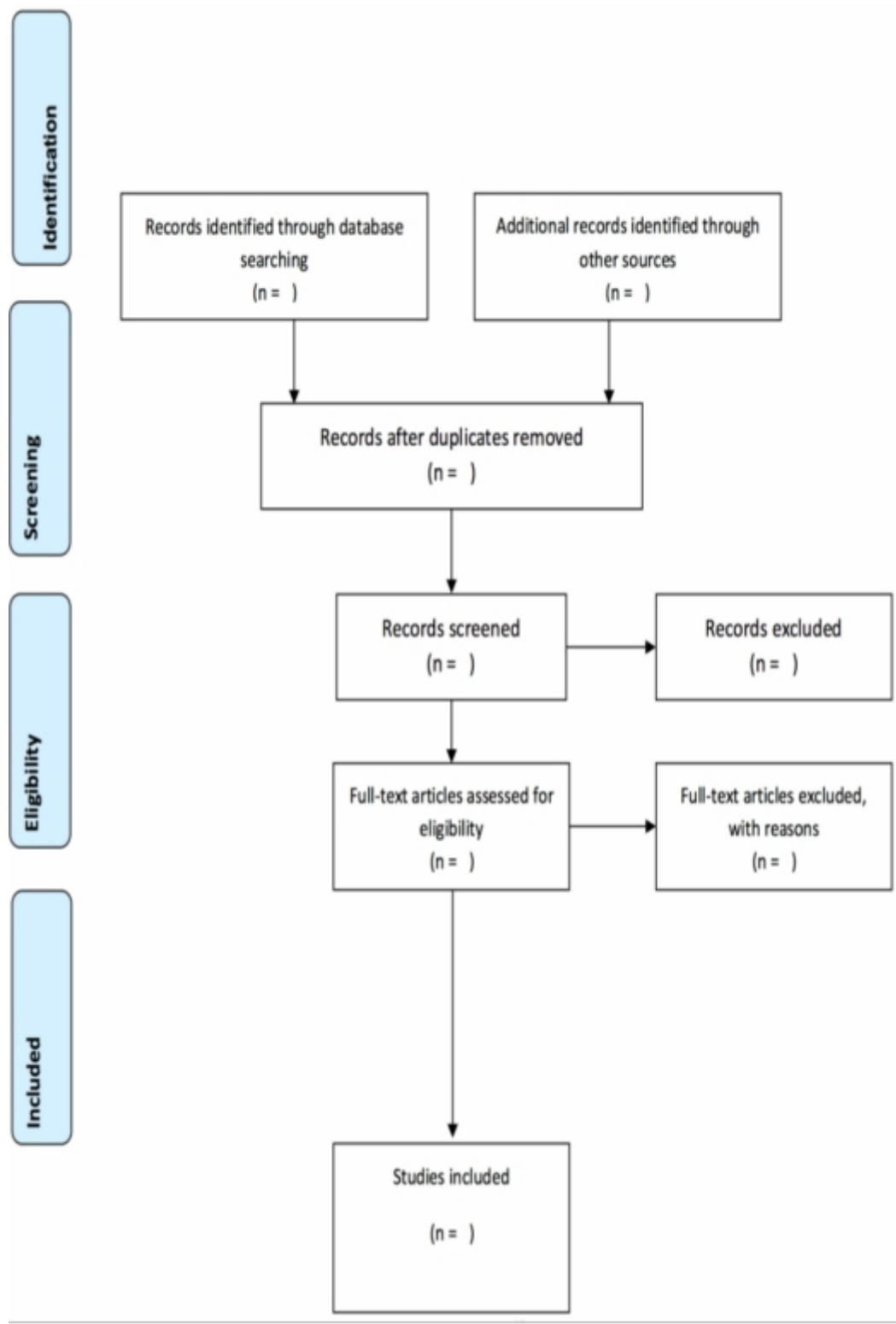
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Figure 1: Selection of sources of evidence. PRISMA ScR flowchart which demonstrates the literature search and selection of sources of evidence





## Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

TITLE			
Title	1	Identify the report as a scoping review.	P1 L2
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	P2 L1- L22
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	P4 L1- P6 L15
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	P6 L27- P6 L13
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	P6 L20- 24
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	P 6 L29
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	P7 L14
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	P9
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	P10 L4
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	P11 L5
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	P 7 L6
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	P 12 L 14
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	P12 L6
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	N/A



Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	N/A
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	N/A
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	N/A
<b>DISCUSSION</b>			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	N/A
Limitations	20	Discuss the limitations of the scoping review process.	N/A
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	N/A
<b>FUNDING</b>			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	P 14 L7

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

\* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. doi: [10.7326/M18-0850](https://doi.org/10.7326/M18-0850).

