

BMJ Open Strategies to foster community engagement for epidemic and pandemic preparedness and response in sub-Saharan Africa: a scoping review protocol

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ABSTRACT

Introduction The surge of public health emergencies over the past decade has disproportionately affected sub-Saharan Africa. These include outbreaks of infectious diseases such as Ebola, Monkeypox and COVID-19. Experience has shown that community participation is key to the successful implementation of infection control activities. Despite the pivotal role community engagement plays in epidemic and pandemic preparedness and response activities, strategies to engage communities have been underexplored to date, particularly in sub-Saharan Africa. Furthermore, reviews conducted have not included evidence from the latest pandemic, COVID-19. This scoping review aims to address these gaps by documenting through available literature, the strategies for community engagement for epidemic and pandemic preparedness and response in sub-Saharan Africa.

Methods and analysis We will use the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews and the methodological framework for scoping reviews from Arksey and O'Malley to guide the review. Two reviewers will develop a systematic search strategy to identify articles published from January 2014 to date. We will retrieve peer-reviewed research published in the English language from databases including Embase, EBSCOhost, PubMed, Global Health, CINAHL, Google Scholar and Web of Science. Additionally, we will search for relevant grey literature from the websites of specific international organisations, public health institutes and Government Ministries of Health in African countries. After the removal of duplicates, the two reviewers will independently screen all titles, abstracts and full articles to establish the relevance of each study for inclusion in the review. We will extract data from the included articles using a data extraction tool and present the findings in tabular form with an accompanying narrative to aid comprehension.

Ethics and dissemination Ethical approval is not required for the conduct of scoping reviews. We plan to disseminate the findings from this review through publications in a peer-reviewed journal, presentations at conferences and meetings with policy-makers.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This scoping review will provide a comprehensive overview of the strategies that have been used to engage community members in epidemic and pandemic preparedness and response activities in sub-Saharan Africa.
- ⇒ The review will describe the facilitators and barriers to community engagement.
- ⇒ The review topic and research questions were developed through a consultative approach involving public health practitioners.
- ⇒ The review will include literature that covers all epidemics and pandemics since 2014.
- ⇒ The broad nature of our research questions may hinder our ability to draw conclusions from our scoping review and this may be a potential limitation to our study.

INTRODUCTION

Over the last decade, an unparalleled number of public health emergencies have been recorded that threaten global health security.¹ This includes outbreaks of infectious epidemic-prone and pandemic-prone diseases including Ebola, H1N1, SARS, Monkeypox and COVID-19. Due to their weak health systems, public health surveillance and fragile economies, countries in sub-Saharan Africa are disproportionately affected by infectious disease epidemics. The social, economic and health costs of the Ebola virus disease outbreak from 2014 to 2016 in West Africa, for example, were devastating.²

One cornerstone of effective epidemic and pandemic preparedness and response is widely acknowledged to be community engagement.³ During epidemics and pandemics, engaging community members has been identified as critical for reducing pathogen transmission and controlling the spread of infection at the individual and community level.⁴ By working closely

with community members, public health officials can improve communication, mobilise local resources, promote behaviour change and build sustainable systems that are better able to respond to both ongoing and future outbreaks.⁵ Insights drawn from past pandemics, including the 2014 Ebola virus disease outbreak and the current COVID-19 pandemic, reveal that a lack of trust among community members in health authorities and the spread of rumours within communities can impede effective responses to outbreaks and pandemics.^{6,7} Well-implemented community engagement measures can help promote the acceptance and adherence to non-pharmaceutical interventions such as lockdowns, physical distancing and contact tracing that can help reduce the spread of infectious diseases.⁸ These measures contribute to breaking individual chains of transmission and preventing outbreaks and are thus critical in limiting the spread of infectious disease, particularly in the absence of vaccines and therapeutics.^{4,9} Community engagement is also essential as it helps to ensure that people have access to information and resources, which they need to protect themselves and their communities. It can also help to build trust and promote collaboration, which is crucial in controlling the spread of infectious diseases.^{10,11}

Despite the pivotal role that community engagement plays in epidemic and pandemic preparedness and response activities, strategies to engage communities have been underexplored in reviews to date, particularly in countries of sub-Saharan Africa. Where reviews were conducted, these have focused on maternal and child health¹² and health disparities¹³ and not on outbreaks of infectious epidemic-prone and pandemic-prone diseases. Where reviews focused on infectious diseases, these have focused on high-income countries¹⁴ or single diseases such as malaria, and not included evidence from the latest pandemic, COVID-19.^{15,16} This scoping review aims to address this gap by documenting through available literature, the strategies for community engagement for epidemic and pandemic preparedness and response in sub-Saharan Africa.

Review objectives

This scoping review seeks to explore, through a search of available literature, the strategies for community engagement that have been used as part of interventions against epidemics and pandemics in Africa. Specifically, the objectives of the review are to (1) provide an overview of the strategies for community engagement for epidemic and pandemic preparedness and response in sub-Saharan Africa, (2) identify the enablers and barriers to engaging communities for epidemic and pandemic preparedness and response in sub-Saharan Africa countries.

METHODS AND ANALYSES

For the scoping review, we will draw on the methodological framework developed by Arskey and O'Malley¹⁷ and will apply the Preferred Reporting Items for Systematic

Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) to guide the review process.¹⁸ Arskey and O'Malley's framework recognises five stages and an optional sixth stage in conducting scoping reviews: (1) identifying the research question, (2) identifying relevant studies, (3) selecting studies, (4) charting the data, (5) collating, summarising and reporting of findings and (6) consulting with relevant stakeholders.¹⁷ The protocol for this review was registered in the Open Science Framework and can be accessed at <https://doi.org/10.17605/osf.io/d478z>

Stage 1: identifying the research question

Based on preliminary searches of the available literature, we have framed our research question in terms of the population to study, and the concept of community or public engagement in the context of public health practice.

The main research question guiding the review is as follows: What strategies for community engagement have been used to prepare and respond to epidemics and pandemics in sub-Saharan Africa? In addition, we will ask: What are the facilitators and barriers to engaging communities for epidemic and pandemic preparedness and response in sub-Saharan Africa?

Stage 2: identifying the relevant studies

To help answer our research questions, a comprehensive research strategy will be developed. Given the heterogeneous nature of literature on the topic, the search strategy will be designed to identify both peer-reviewed and grey literature. We will include documents published between January 2014 and December 2023, to include evidence from the Ebola virus disease outbreak. The peer-reviewed literature search will be conducted using the following databases: Embase, EBSCO-host, PubMed, Global Health, CINAHL, Google Scholar and Web of Science. We will source grey literature from the websites of international organisations including the WHO and the International Federation of the Red Cross and Red Crescent (IFRC), public health institutes including the Center for Disease Control (CDC) and Africa CDC, and Government Ministries of Health in African countries.

According to Arksey and O'Malley,¹⁷ liaising with practitioners from national and local health authorities can provide additional references for potential studies to include in the review. To this end, we will liaise with officials from the Ministry of Health and Ghana Health Service and those from CDC, WHO and IFRC country offices in Ghana. These stakeholders may provide additional insights for fine-tuning the search strategy and identifying relevant grey literature.

Key concepts around which the search terms would be derived include community/public/social engagement, strategies/approaches, pandemic preparedness and response. The search strategy is attached in [table 1](#).

Medical Subject Headings (MeSH) terms and subject headings will be used to capture the possible

Table 1 Search strategy

Search	Query	Records retrieved
#1	((“Community Participation”[Majr]) OR (“Community engagement*”[tw])) OR (“Social engagement*”[tw] OR “Public engagement*”[tw] OR “Civic engagement*” [tw] OR “Community Participation*” [tw]) OR (“Public Participation*”[tw] “citizen involvement*” [tw] OR “citizen participation*” [tw] OR “public involvement*” [tw]) OR “Community-centered”[tw] OR “Social Participation”	
#2	“Pandemic*”[Mesh] OR “Disease Outbreaks”[Mesh] OR “Epidemic*”[Mesh] OR “Communicable Disease Control”[Mesh] OR “Primary Prevention”[Mesh] OR “Disease Prevention”[tw] OR “Disease Control”[tw] OR “epidemic control”[tw] OR “epidemic prevention”[tw] OR “pandemic control”[tw] OR “pandemic prevention”[tw] OR “pandemic response”[tw] OR “outbreak control”[tw] OR “outbreak response”[tw] OR “outbreak prevention”[tw] or “Public health emergenc*”[tw] or “health emergency*”[tw]	
#3	approach*[tw] OR strateg*	
#4	Preparedness [tw] OR Response [tw]	
#5	Africa [tw] OR “sub-Saharan Africa” [tw] OR “Low- and Middle-Income Country*”OR Angola OR Benin OR Botswana OR “Burkina Faso” OR “Cabo Verde” OR “Cape Verde” OR Cameroon OR “Central African Republic” OR Chad OR Congo OR “Cote D’ivoire” OR “Democratic Republic Of The Congo” OR Djibouti OR “Equatorial Guinea” OR Eritrea OR Eswatini OR Ethiopia OR “Gabon” OR “Gambia” OR Ghana OR Guinea OR “Guinea-Bissau” OR Kenya OR Lesotho OR Liberia OR Malawi OR Mali OR Mauritania OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR “Sao Tome And Principe” OR Senegal OR Sierra Leone OR Somalia OR “South Africa” OR “South Sudan” OR Sudan OR Tanzania OR Togo OR Uganda OR Zambia; OR Zimbabwe OR “Southern Africa” OR “East Africa” OR “West Africa” OR “Central Africa”	
#6	#1 AND #2 AND #3 AND #4 AND #5	
Limitations to search		
1. Language: only studies or reports published in English language will be included.		
2. Publication date: January 2014–December 2023		

representations of community engagement, and strategies for pandemic preparedness or response. The reference lists of included articles will be hand searched to identify any other relevant studies.

Inclusion and exclusion criteria

Studies and reports from grey literature will be eligible for inclusion if they: (1) are from or were conducted in a country in sub-Sahara Africa; (2) use either qualitative, quantitative or mixed methods; (3) describe strategies for epidemic or pandemic preparedness and response that engage or aim to engage community members; (4) are written between 2014 and 2023. The researchers will choose 2014 as the starting because it coincides with the beginning of the West Africa Ebola outbreak. It was during the Ebola outbreak that application of community engagement practices became regarded as a crucial part of the outbreak response¹⁹ and (5) are written in English language.

Studies will be excluded if they are commentaries, editorials, letters, conference abstracts, study protocols and those not written in English.

Stage 3: study selection

Using the inclusion and exclusion criteria, two authors (GRI and HT-F) will review the search results independently from the databases exported into Rayyan, a web-based platform for conducting reviews. Duplicates

will be merged in Rayyan. Articles will first be excluded based on an initial title and abstract screening. A subset of 50 randomly selected titles and abstracts will be compared to reach 100% agreement between the two authors. For articles that are included after the title and abstract screening, a full-text review will be carried out. The full text of the remaining papers will be sourced and independently evaluated by the two authors to determine whether all inclusion and exclusion criteria are met. The two researchers will then meet and discuss each paper to determine whether it should be included in the scoping review. Any disagreements will be forwarded to a third author (EA-B), who will evaluate the article(s) for inclusion independently and make the final decision.

Stage 4: data extraction

A data collection tool will be designed in Microsoft Excel by the two authors who conducted the screening and full-text review. To ensure clarity, the tool will be piloted by both authors using a subset of three papers each. The tool will serve as a guide to extract data on the characteristics of the studies and reports included. Data will be extracted according to the nature of the epidemic or pandemic, country, population, data collection method(s), community engagement strategies, actors involved in implementing the strategies, as well as barriers and facilitators to community engagement (table 2). Where key data are



Table 2 Data extraction instrument

S/N	Author and date	Title of study	Study setting	Type of epidemic/pandemic	Study design/study population	Sample size/sampling method	Methodology/instrument	Community engagement strategy used	Actors involved	Facilitators to community engagement	Barriers to community engagement	Limitations/gaps/directions
1												

missing from the studies or reports, the authors may be contacted. If missing data are unavailable, characteristics will be reported as unknown or missing.

Stage 5: collating, summarising and reporting of findings

We will employ a narrative strategy to summarise and synthesise extracted data selected for review. Additionally, we would include thematic analysis of the extracted data as an extension of the scoping review as recommended by Levac *et al.*²⁰

The primary analysis data will be based on the following themes: (1) study characteristics, (2) strategies employed to engage communities and (3) facilitators and barriers to community engagement. We will categorise the strategies according to the type of epidemic or pandemic. This is because different diseases require different preparedness and response activities.

To bring clarity to the results, quantitative and qualitative studies will be synthesised separately. Individual reviewers will summarise the findings from all included studies. The reviewers will then discuss their findings and merge them. Findings will then be shared with the whole research team.

A flow diagram which conforms to the PRISMA-ScR statement for scoping reviews will be developed which illustrates which reports or articles were excluded and at what stage of screening. In addition, an Excel table will be created to display information about study characteristics from retrieved documents. This table will display information about the author (s), year of publication, title of paper, setting of the study, study design, sampling methods, strategy for community engagement, barriers and facilitators to engagement and limitations of the study. The research team will discuss and consolidate the results.

We will provide a narrative synthesis of key strategies for community engagement and the barriers and facilitators to community engagement. Overall, the scoping reviews aim to develop a map of the strategies that have been used for community engagement in epidemic and pandemic preparedness and response in Africa.

Stage 6: consulting with relevant stakeholders

We developed the question, the literature search and other aspects of the review in consultation with public health practitioners and academics in the epidemic and pandemic response field. Primarily public health practitioners from the Ghana Health Service and academicians from Ghana and German universities made valuable inputs into the design of the scoping review.

Ethics and dissemination

The scoping review does not require ethical approval because the methodology involves the collection and review of publicly available literature. The findings from this scoping review will be disseminated through publications in a peer-reviewed journal, presentations

in conferences and meetings with relevant stakeholders including public health authorities.

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Contributors GRI, DO, JH and EA-B conceived the idea. GRI, H-TF and EA-B developed the initial research question and study methods and contributed extensively to the drafting and editing. H-TF, EA-B, DO and JH contributed to shaping up the idea of the scoping review protocol. EA-B, DO and JH came up with the initial idea of the review, supervised the whole activity and approved the final manuscript.

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