


BMJ Open Community engagement in research in sub-Saharan Africa: approaches, barriers, facilitators, ethical considerations and the role of gender – a systematic review protocol

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ABSTRACT

Introduction Meaningful community engagement (CE) is increasingly being considered the major determinant of successful research, innovation and intervention uptake. Community leaders, policy makers and funders have expressed the need to engage communities in research. CE in research empowers the host community to participate in addressing its own health needs and health disparities while ensuring that researchers understand community priorities. Thus, appropriate CE opens a unique way to promote coproduction, coimplementation and coevaluation, which may strengthen both the sense of inclusion, ownership and the effectiveness of the research life-cycle. The aim of this review is to synthesise available evidence on how to engage communities in research in a gender-sensitive, ethical, culture-appropriate and sustainable way in sub-Saharan Africa (SSA). This protocol has been developed following the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols and follows the guidance provided by the Cochrane Handbook for Systematic Reviews.

Methods and analysis A combination of key text words and medical subject headings such as ‘Community Engagement’ or ‘Community Involvement’ will be used to search O09 databases for all literature published between 1 January 2000 and 31 July 2021. Citations retrieved from database searches will be exported into EndNote X9 to remove duplicate citations and imported into Rayyan QCRI for screening. Two independent reviewers will conduct the screening and data extraction process. Disagreements between review authors will be resolved through discussions, consensus a third reviewer serving as a tiebreaker. The risk of bias will be assessed using the 10-item Joanna Briggs Institute Critical Appraisal Checklist for Qualitative Research. The three-staged process described by Thomas and Harden will be used for the thematic and narrative synthesis of findings.

Ethics and dissemination This is a systematic review which uses already collected data thus ethical approval not required. Findings will be published in an open access peer-reviewed journal and presented in relevant conferences and workshops.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ Rigorous methodological and comprehensive search strategy which will be reported according to the preferred reporting items for systematic reviews.
- ⇒ Quality control will be ensured by using two reviewers at each stage of the study and a third reviewer as a tiebreaker.
- ⇒ We will conduct a study quality assessment to evaluate the credibility and transferability of the information synthesised.
- ⇒ Notwithstanding the strengths, the exclusion of papers not published in English and French may result in the loss of important findings.
- ⇒ The exclusion of commentaries might exclude some important articles.

PROSPERO registration number This protocol has been submitted for registration in PROSPERO and has been published under registration number CRD42021282503.

INTRODUCTION

Community engagement (CE) in research can be defined as a process of inclusive participation that supports mutual respect of values, strategies and actions for authentic partnership of people affiliated with or self-identified by geographic proximity, special interest or similar situations to address issues affecting the well-being of the community of focus.¹ Meaningful CE is increasingly considered the major determinant of successful uptake of research, innovation and intervention. Community leaders, policymakers and funders have expressed the need to engage communities in research.¹ National and international bodies now recognise the importance of CE in research. However, CE guidelines are arguably unclear, making it difficult to implement and evaluate, potentially leading

to missed opportunities, squandered resources and poor decisions.² CE in research encourages the host community to participate in addressing its own health needs and ensures that researchers understand community priorities.¹ Indeed, existing evidence suggests that building trust and ownership of the research endeavour among stakeholders, especially the host community for the research project, is ideal to guarantee success and sustainability.^{3,4} In 2009, the HIV Prevention Trials Network's (HPTN) ethics guidance for research directly addressed CE as an ethical obligation in guidance point 3: 'In order to ensure that HPTN research is appropriate as well as scientifically and ethically sound, relevant communities will be engaged in a meaningful process that will help guide the research from protocol development to dissemination of results'.² Thus, effective CE strategies have to be carefully integrated into the design, implementation, monitoring and sustainability phases of the research process.⁵

Ethical CE entails upholding high ethical standards. When we engage the community, we make certain that marginalised or disempowered subgroups in the community are included in the research project.⁶ This has the potential to reduce trial attrition rates and improve uptake of trial outcomes. In addition, CE facilitates the community's willingness to participate in future trials and other healthcare interventions.⁷ Appropriate CE promotes coproduction, coimplementation and coevaluation, which may strengthen both the sense of inclusion, ownership and the effectiveness of the research life-cycle.^{4,8} In contrast, an inappropriate CE strategy affects the project under investigation and jeopardises the trust between the research team and the community in question.

Different organisations and research bodies use diverse strategies and protocols to engage communities in research activities. However, there is little information on the role gender plays in effective CE, thus justifying the need to assess gender dynamics across the entire spectrum of the research process in African communities.⁹ Gender-sensitive CE can be defined as approaches to engaging communities that promote gender equality and empowerment and respect existing context-specific gender norms. Developing guidelines of best practices to guide researchers in engaging communities in research activities in a gender-sensitive way in sub-Saharan African countries is imperative, as it stands out to be a key contribution to attaining the sustainable development goal 5 on gender equality.¹⁰

The rise of community-based participatory research (CBPR) suggests that researchers are becoming more embedded in the communities they are studying and are committed to preventing harm and promoting social justice while conducting research, as well as developing caring relationships. This demonstrates the critical need for a radical rethinking of research ethics in theory and practice.^{2,11} Given that there are no easy answers or sets of rules that provide definitive prescriptions for action, instead of redressing ethical concerns around research, engagement activities can introduce new ethical and

social challenges.⁷ Thus, an awareness of the potential complexities and conflicts and a willingness and ability among research collaborators to reflect on such ethical issues throughout the planning and conduct of CBPR are fundamental.^{7,11}

Culturally specific CE in research necessitates understanding the perspectives of diverse populations and disciplines and applying that understanding to the process of involving communities in a research project.¹² For example, to be able to have a CE approach with an emphasis on cultural specificity and competency, the research team must be composed of research scientists and relevant stakeholders from that specific culture. Another critical question to consider during a culturally specific CE is whether the research questions or language used is culturally and linguistically appropriate.¹²

Sustainable CE in research will imply engagement that does not focus solely on the research goals without developing a plan for capacity building and creating a sustainable system that will outlive the research funding period. Actively planning for and developing community capacity to ensure sustainability is especially important in research involving underserved populations and underrepresented minorities.¹³

An example of a CE framework in research is the National Institutes of Health (NIH) Director's Council of Public Representatives' framework which targets investigators and communities.¹ Its five core principles are strong community-academic partnerships, capacity building, equitable power, equitable responsibility and an effective dissemination plan.¹ This framework proposed by the NIH intended to build public trust and create an evaluation matrix for future research.

Despite the available literature recommending CE in health research,^{4,5} there are still knowledge gaps in how communities might be best engaged in SSA.^{4,14} Indeed, CE is mentioned in published research to describe community entry, consent and study participant retention. However, the actual CE activities are generally not well documented.¹⁵ Also, the fact that communities are heterogeneous suggests that CE activities will not produce similar results across different contexts.¹⁵ Particularly, in sub-Saharan African settings where there is a great community heterogeneity in terms of culture, this study proposes to synthesise available evidence across different countries in SSA on various practices for engaging communities in research and facilitators and challenges to this process. This review aims to synthesise available evidence on how to engage communities in research in a gender-sensitive, ethical, culture-appropriate and sustainable way. It will focus on health-related studies involving human subjects. We adopt the research concept as a cycle, where the available best practice guidelines shall inform how communities should be involved in the planning, execution, termination and data dissemination phases (publications and conference presentations) of the research project.

Objectives

The main objective of this review is to synthesise available evidence on how to engage communities in research in SSA. Specifically, this review aims to: (a) describe current practices in involving communities in research; (b) identify the barriers and facilitators in effectively engaging communities in research; (c) identify the ethical considerations required in engaging communities in research; (d) ascertain current trends on how gender is taken into account when engaging communities in research.

Research questions

1. What are the mechanisms and approaches used to engage communities in research in SSA?
2. What are the barriers to and facilitators in engaging communities in research in SSA countries?
3. What ethical issues should be considered when engaging communities in research?
4. What role does gender play when involving communities in research?

METHODS

This study will run from September 2021 to April 2022. We will conduct a comprehensive systematic review of available research in this domain and a qualitative synthesis of collected information towards developing a framework for CE in research in SSA. The protocol for this systematic review is developed following the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols¹⁶ (see figure 1) and follows the guidance provided by the Cochrane Handbook for Systematic Reviews.¹⁷

Eligibility criteria

In this systematic review, we will include peer-reviewed articles and grey literature. We will search for studies

that include discussions and elements of CE within their research activity. While several models of CE in research exist, such as participatory research, empowerment evaluation, participatory or community action research and participatory rapid appraisal,¹ we will include any study that uses any of these models. However, we will limit our search to research studies done in SSA no earlier than 2000. The rationale for restricting the search dates is that empirical research with focus on understanding engagement of communities in research is a recent phenomenon (2000 onwards). We think a 20 years search interval should be enough to provide relevant documented research findings to answer our review questions.

We will include original studies if they:

1. Are published between 2000 and 2021.
2. Contain research on CE or their research implementation involved engaging communities.
3. Include details on ethical issues involved in engaging communities.
4. Include information on the role of gender in CE.
5. Are written in English or French.

We will exclude:

1. Commentaries, personal views, letters to editors
2. Reviews and articles on CE in disciplines other than CE in community-based health research studies.

Information sources

Comprehensive systematic search

We will search MEDLINE, EMBASE, Global Health Library through OVID SP for all literature published from 1 January 2000 to 31 July 2021. Additionally, the Cochrane Library, PsychINFO, CINAHL, WHO Afro Library, WHO Global Index Medicus and the National Institute for Health Research will be searched to identify literature published from 2000 to 2021. We selected

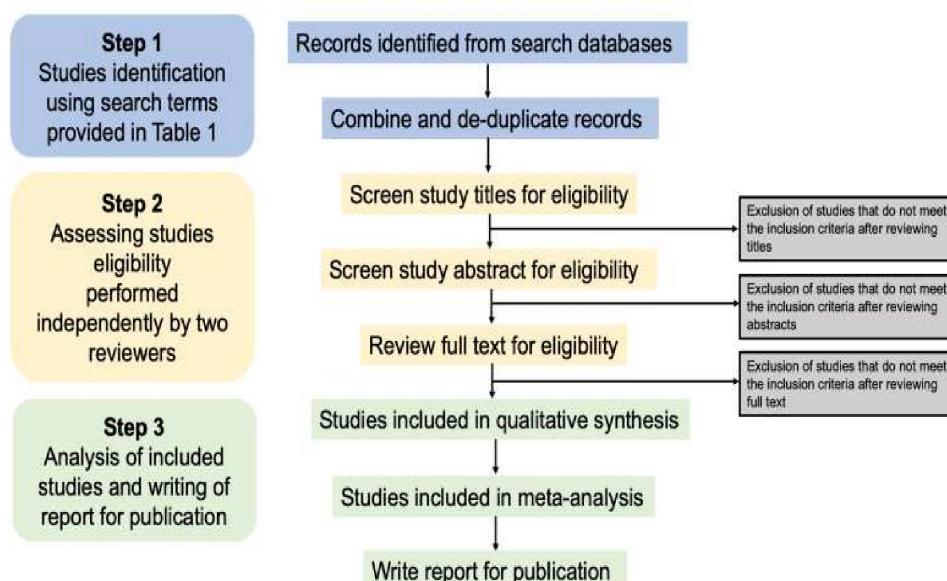


Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram illustrating the process of identification and inclusion of studies.

mostly databases that publish health-related research studies in SSA. While there are multiple health-related databases, we consider that the number of databases to be selected is comprehensive enough. A combination of key text words and medical subject headings such as

‘Community Engagement’ or ‘Community Involvement’ will be used to identify literature on CE in SSA. Moreover, we will apply a validated geographic search filter for SSA to improve the precision of our search.¹⁸ Table 1 shows the search strategy for MEDLINE that will be adapted to

Table 1 Search strategy for Medline through OVID SP

S. No.	Search items
1	Community Participation/ or Community-Based Participatory Research/ or Community engagement.mp.
2	((Engaging or engagement or involv* or participat* or implicat*) adj3 Communit*).m_titl.
3	limit 2 to abstracts
4	1 or 2 or 3
5	benin/ or burkina faso/ or cape verde/ or cote d'ivoire/ or gambia/ or ghana/ or guinea/ or guinea-bissau/ or liberia/ or mali/ or mauritania/ or niger/ or niger/ or senegal/ or sierra leone/ or togo/ or (africa*adj2 west* or benin* or burkina fas* or cape verd* or cabo verd* or ivory coast or cote d'ivoire* or gambia* or ghana* or (guinea* not pig*) or bissau or liberia* or (mali not fowl) or malian or mauritania* or niger/ or niger/ or senegal* or sierra leon* or togo* or (Lagos or Accra or Abidjan or Dakar or Abobo or Abuja or Freetown or Ouagadougou or Conakry or Lome or Bamako or Cotonou or Kumasi or Monrovia or Ibadan or Kano or Port harcourt or Benin City or Porto Novo or Niamey or Yamoussoukro or Banjul or Timbuktu or Djenne or Abomeyu or Zaria or Tamale or Jos or Cape Coast or Maidugul or Aba or Gao or Calabar or Warri or Maiduguri or Bobo Dioulasso or Parakou or Djougou or Bohicon or Sekondi Takoradi or Sunyani or Obuasi or Teshie or Tema or Sikasso or Kalabankoro or Nouakchott or Dakhlet Nouadhibou or Benin City or Port Harcourt or Ilorin or Kaduna or Enugu or Ikorodu or Onitsha or Bauchi or Akure or Abeokuta or Sokoto or Bouake or Makeni or Kaduna or Sogbo or Osogbo or Gombe or Ilesa or Badagry or makurdi or Sagamu or Iseyin or obbomoshu or Awka or Ado Ekiti or Nsukka or Ikeja or Katsina or Okene or Lafia or Minna or Ondo city or Umuahia or Calabar or Yola or Pikine or Touba or Thies Nones or Saint Louis or Kolak or Ziguinch or (San Pedro not (Spain or Mexico or Argentina or California or United States or Italy)) or Bandama or Daloa or Owerri or Kandi or Ili or Dakar or Ogbomoshu or Divo or Korhogo).mp.[mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
6	(angola or cameroon* or chad* or tchad or congo* or DRC or equatorial guinea* or gabon* or “Sao Tome” or Principe or Luanda or lobito or kuito or huambo or Malanje or Douala or Yaounde or Bamenda or Garoua of Bafoussam or Ngaoundere or Maroua or Kouosseri or Buena or Kumba or N'Djamena or Moundou or Bangui or Bimbo or Brazzaville or Point Noire or Kinshasa or Lubumbashi or Leopoldville or Elizabethville or Mbuji Mayi or Bakwanga or Bukavu or Costermansville or Kananga or Luluabourg or Kisangani or Stanleyville or Tshikapa or Koalwezi or Likasi or Jadotville or Goma or Kikwit or Uvira or Bunia or Mbandaka or Coquilhatville or Matadi or Butembo or Kabinda or Mwene Ditu or Isiro or Paulis or Boma or Kindu or Bata or Malabo or Libreville).mp.[mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
7	((British Indian Ocean Territory or Burundi* or Comoros or Djibouti* or Eritrea* or Ethiopia* or Kenya* or Madagascar or Malawi or Mauritius or Mayotte or Mozambique or Reunion or Rwanda* or Seychelles or Somalia* or Sudan* or Tanzania* or Uganda* or Zambia or Zimbabwe or Crozet Islands or Iles Crozet or Scattered Islands ! or Iles E! parses or Mwanza or Zanzibar or Eldoret or Morogoro or Hargeysa or Berbera or Nyeri or Mbeya or Machakos or Marka or Tabora or Iringa or Gondar or Meru or Geita or Musoma or Mtwara or Songea or Kigoma or Dese or Mek'ele or Bahir Dar or Jimma or Sinyanga or Korogwe or Nairobi or “Dar es Salaam” or Mombasa or Addis Ababa or Kampala or Kigali or Mogadishu or Dodoma or Bujumbura or Nakuru or Ananarivo or Kisumu or Maputo or Asmara or Lusaka or Harare or Port Louis or Arusha or kitale or lilongwe or malindi or machakos or hargeisa or Bulawayo or Ruiru or Lamu or Kire Dawa or Kikuyu or naivasha or mwanza or tanga or nanyuki or voi or garissa or lodwar of kakamega or maralal or kitui or webuye or Axum or Nyahururu or Jinja or Kismayo or Namanga or Mumias or Moshi or Moroni or Lokichogio or Hola or Rwenzori Mountains or Lake Victoria or Puntland* or (Adiharush or Ali-Addeh or Alinjurgur or Buramino or Dadaab or Dagahaley or Dollo Ado or Fugnido or Hagadera or Hilaweyn or Ifo or Kakuma or Kambioos or Kayaka II or Kobe or Kyangwali Nakivale or Nyarugusu or Wad Sherife or Bokolmanyu or Melkadida or Rwamanja) adj5 (camp or refug*)).mp.[mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
8	angola/ or botswana/ or lesotho/ or malawi/ or mozambique/ or namibia/ or south africa/ or swaziland/ or zambia/ or zimbabwe/ or ((africa* adj2 south*) or angola* or botswana* or lesotho* or malawi* or mozambiq* or namibia* or swaziland or zambia* or zimbabwe or Zulu or Tsonga or Xhosa or Swazi or Ndebele or Tswana or Sotho or Shona people or BaLunda or Mbundu or Ovimbundu or Chaga or Sukuma or Pretoria or Cape Town or Johannesburg or Durban or Port Elizabeth or Bloemfontein or Windhoek or Maseru or Pietermaritz or (Kimberley not Australia) or Nespruit or Soweto or Polokwane or Limpopo or Rustenburg or Mahikeng or Oudtshroom or! Stellenb! osch or Paarl or Gaborone or Luanda or Cabinda or Huambo or Lubango or Kuit or Malanje or Lobito or Lilongwe or Blantyre or Mzuzu or Maputo or Matola or Beira or Nampula or Chimoio or Nacala or Quelimane or Lusaka or Kitwe or Ndola or Kabwe or Copperbelt Harare or Bulawayo or Chitungwiza or Mutare or Masvingo or Monashonaland or Manicaland).mp.[mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
9	5 or 6 or 7 or 8
10	4 and 9
11	limit 10 to yr="2000–2021"

search other databases. Furthermore, we will scrutinise the references of selected articles for additional relevant articles missed by our search.

Study records

Data management

Citations retrieved from database searches will be exported into EndNote X9 to remove duplicate citations. The deduplicated citations will be exported to Rayyan QCRI for screening based on full-texts and abstracts.¹⁹ Rayyan is a mobile and web-based application that facilitates collaboration between authors involved in screening and selecting articles for final inclusion in a systematic review. Data from eligible full-text articles will be extracted using a pre-designed Microsoft Office Excel Sheet.

Selection process

Two review authors will independently screen citations retrieved from database searches based on title and abstract. The titles and the abstracts will be screened by applying the previously stated eligibility criteria before assessing the full texts of selected articles for final inclusion in the review. Disagreements between review authors during the screening stage will be resolved through discussions and consensus. In case of non-resolution, a third reviewer will serve as a tiebreaker. Reasons for excluding references will be documented and reported in a Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram at the full-text assessment stage of the selection process (see [figure 1](#)). Only articles with concurrence between the two reviewers and confirmation of this concurrence by a third reviewer will be included in the review and will qualify for data extraction.

Data item and extraction

We will extract data into a prevalidated excel sheet which will collect data on: the surname of the first author, article publication year, study period, country of study, the language of publication, whether the article was peer-reviewed, CE patterns, strategies and mechanisms, gender specifications considered in CE, ethical considerations in CE, best practices in CE, challenges in CE and outcomes for CE reported in each article.

Assessment of methodological quality and risk of bias

We will conduct a study quality assessment to evaluate the credibility and transferability of the information synthesised. Two reviewers will independently assess the included full texts for methodological quality and risk of bias using the 10-item Joanna Briggs Institute Critical Appraisal Checklist for Qualitative Research.²⁰ Each question in the Checklist will be attributed a score of one (if the response is 'yes'), zero (if the response is 'no'), and one half (if the response to the question is 'unclear'). Thus, each study can have a maximum score of 10. Studies with scores from 3 to 5, 6–7 and 8 or over, will be classified as low-quality, moderate-quality and high-quality studies, respectively. Disagreements between review authors will be resolved by

discussion and a third reviewer as a tiebreaker in the case of a non-consensus.

Data synthesis

The three-staged process described by Thomas and Harden will be used for the thematic synthesis of findings.²¹ First, four review authors will independently perform a line-by-line coding of aspects that are related to barriers to and opportunities of CE, ethical considerations in CE and gender-related issues to be considered in CE. The review authors will manually assess the consistency of interpretation and any disagreements will be resolved by discussion or consensus. Second, we will evaluate similarities and differences between codes through an iterative and inductive process. Finally, we will condense identified descriptives into analytical themes.

Patient and public involvement

No patients or members of the general public will be involved in this study.

Ethics and dissemination

This systematic review will not need ethical approval because it will retrieve and synthesise data from already published studies. However, appropriate public health (COVID-19) measures will be taken when accessing public spaces for grey literature. Study results will be disseminated through scientific publications in an open-access peer-reviewed journal and presented at relevant local and international scientific conferences.

DISCUSSION

A similar review conducted documented many health systems interventions at the community level but did not have a standard definition or reporting guidelines on describing community participation. Only a few studies in the review made references to CE definitions or frameworks.²² A more recent review describing patient–public engagement (PPE) strategies for strengthening health systems in SSA found that tokenism rather than actual participation is the main characteristic of PPE in SSA.²³ Their research focused on PPE and its ability to strengthen health systems. Our review goes beyond PPE to evaluate diverse CE in community-based participatory research out of clinical settings. This study intends to describe current practices, barriers to and opportunities for engaging communities in research in SSA. In addition, we propose to create a checklist of minimum ethical issues to consider when engaging communities in research and describe specific considerations for gender-inclusive CE in research.

Generally, in research, the goals of CE are synonymous to achieving study objectives, particularly in terms of promoting study recruitment and retention.²⁴ Nevertheless, in low-income contexts in particular, economic, educational and power inequalities between the research team and the host community, could serve as barriers

and build distrust in the communities leading to study refusals and withdrawals^{25–28}; premature study closures; and inadequate sample sizes which cumulatively compromise the ability to generate high-quality evidence.^{29–31} In community research, researchers are sometimes obliged—prompted by demands from communities—to address the burden of disease that is unrelated to the area of research, which potentially diverts resources away from achieving study aims. For example, factors such as poverty, malnutrition, lack of healthcare infrastructure and high disease burden bring additional challenges which may be unrelated to the research but demanding attention during the research process.^{2 25} Involving communities from the designing phase of the research will thus enable them to present their disease burdens and other important issues for consideration. This study will synthesise available literature in SSA on how these challenges have been overcome and identify mechanisms to facilitate CE in low-income and middle-income settings. By exploring the mechanisms that inform community and stakeholder participation in research governance and results uptake processes, it will contribute to raising stakeholder awareness on ethical and gender sensitive CE.

Meaningful CE in research aims to address ethical issues including trust and mutual respect, community benefits and risks of participation to build a better understanding of the research endeavour.^{29 32} It enables power-sharing, colearning, coproduction and sets realistic expectations for what a project can deliver to a community within set timelines. From this review, a few ethical concerns for CE in SSA settings will be summarised. It is important to recognise that CE occurs in settings that could either be ‘invited spaces’ with unequal power dynamics where communities are engaged on the research team’s terms, or ‘created spaces’ that emerge organically to give communities greater ownership of the research process.³³ The purpose, however, is to create enabling environments where people can freely express themselves on the research agenda and the analyses of the research outcomes.^{34 35} Moreover, to varying extents, some communities may have unrealistic expectations of what benefits or compensation the community and community partners may receive. It is in these ‘spaces’ that consultative process start in the initial stages of CE to work out meaningful forms of reciprocity that researchers can offer in a time-bound project.³⁶ This study will review the ethical challenges of engaging communities in research in SSA and synthesise how these challenges are overcome in different settings.

Even though there has been a lot of research on gender and CE in research, only a few studies have shown how gender plays a role in involving communities in research. The men, who are generally the household and community decision-makers, are most often consulted on whether or not their households or communities would participate in the defined community-based research. In reality, decision-making is much more complicated, with many women subtly influencing the outcome.²⁹ With the

goal of having gender-inclusive CE in research, this study will examine current trends of gender considerations in involving communities. The findings of this study will also be useful because of the scarcity of literature on gender dynamics in engaging communities in research.

The findings of this study will guide policymakers and support researchers to improve CE planning as well as informing the design of other empirical studies to investigate gender roles in CE in research.

Strengths and limitations of the study

Strengths of the study

A key strength of this review protocol is the rigorous methodological and comprehensive search strategy that will enable us to maximise the potential of knowledge engagement in the study. In addition, this study will be innovative by synthesising the best CE strategies in research in SSA.

Another strength of the study is its effort to assess ethical and gender-inclusive CE strategies in SSA countries. This data will contribute to filling current knowledge gaps. Methodological quality assessment of the study which will enable us to evaluate the credibility and transferability of the information synthesised. Furthermore, a flexible approach to the search terms and keywords used enable a maximum number of possible studies to be identified for the review.

Limitations of the study

Notwithstanding the outlined strengths, some limitations are imminent. First, excluding commentaries, personal reports and papers that have not been published in English or French may result in the loss of important findings. Second, given the breadth and the complexity of definitions for CE and research, and the existence of a variety of community involvement in research strategies, careful considerations need to be given to ensure that best evidence is identified and included to answer the research questions.

PERSPECTIVES

The short-term impact of this project is that its results will serve as baseline data to inform stakeholders on how to engage communities in a gender-sensitive, ethical, culture-specific and sustainable way. A medium-term opportunity will be to evaluate how these strategies are being implemented in the different structures such as ethics review boards, civil society organisations and research organisations across different SSA countries.

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Contributors CA, WYN, HEM, LEB conceptualised the project. All authors contributed to the design of the protocol. The protocol was drafted and refined by all authors. Statistical advice was provided VNA. All authors contributed to the manuscript writing, read and approved the final manuscript. AKN was responsible for overall supervision.

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Disclaimer The lead author (guarantor of the manuscript) certifies that the manuscript is an honest, transparent and accurate account of the research being reported; that no important aspects (objectives) of the study have been omitted; and that any deviations from the study as planned (and, if relevant, registered) have been explained. The funder of this grant had no role in the development of this protocol.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

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REFERENCES

- Ahmed SM, Palermo A-GS. Community engagement in research: frameworks for education and peer review. *Am J Public Health* 2010;100:1380–7.
- MacQueen KM, Bhan A, Frohlich J, et al. Evaluating community engagement in global health research: the need for metrics. *BMC Med Ethics* 2015;16:44.
- Wallerstein NB, Duran B. Using community-based participatory research to address health disparities. *Health Promot Pract* 2006;7:312–23.
- Popay J, Attree P, Hornby D. Community engagement in initiatives addressing the wider social determinants of health a rapid review of evidence on impact, experience and process. *Soc Determinants Eff Rev* 2007.
- Swainston K, Summerbell C. The effectiveness of community engagement approaches and methods for health promotion interventions. *Rapid Review Phase2*2007;3.
- Carter L, Williams L, Cosijn M. The principles and practices of ethical community engagement
- Reynolds L, Sariola S. The ethics and politics of community engagement in global health research. *Crit Public Health* 2018;28:257–68.
- Lavery JV. 'Wicked problems', community engagement and the need for an implementation science for research ethics. *J Med Ethics* 2018;44:163–4.
- Tindana PO, Rozmovits L, Boulanger RF, et al. Aligning community engagement with traditional authority structures in global health research: a case study from Northern Ghana. *Am J Public Health* 2011;101:1857–67.
- Gender equality and women's empowerment. United nations sustainable development. Available: <https://www.un.org/sustainabledevelopment/gender-equality/> [Accessed 21 Sep 2021].
- Banks S, Armstrong A, Carter K, et al. Everyday ethics in community-based participatory research. *Contemp Soc Sci* 2013;8:263–77.
- Graham PW, Kim MM, Clinton-Sherrad AM, et al. What is the role of culture, diversity, and community engagement in transdisciplinary translational science? *Transl Behav Med* 2016;6:115–24.
- Mosavel M, Winship J, Liggins V, et al. Community-Based participatory research and sustainability: the Petersburg wellness Consortium. *J Community Engagem Scholarsh* 2019;11.
- Martin GP. Whose health, whose care, whose say? some comments on public involvement in new NHS commissioning arrangements. *Crit Public Health* 2009;19:123–32.
- Musesengwa R, Chimbari MJ. Community engagement practices in southern Africa: review and thematic synthesis of studies done in Botswana, Zimbabwe and South Africa. *Acta Trop* 2017;175:20–30.
- Moher D, Shamseer L, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst Rev* 2015;4:1.
- Cochrane Handbook for systematic reviews of interventions. Available: <https://training.cochrane.org/handbook/current> [Accessed 21 Sep 2021].
- Library PSTJWS. *Subject guides: health sciences search filters*. Africa, 2021. <https://guides.library.ualberta.ca/c.php?g=342568&p=4521604>
- Ouzzani M, Hammady H, Fedorowicz Z, et al. Rayyan-a web and mobile APP for systematic reviews. *Syst Rev* 2016;5:210.
- Lockwood C, Munn Z, Porritt K. Qualitative research synthesis: methodological guidance for systematic reviewers utilizing meta-aggregation. *Int J Evid Based Healthc* 2015;13:179–87.
- Thomas J, Harden A. Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Med Res Methodol* 2008;8:45.
- George AS, Mehra V, Scott K, et al. Community participation in health systems research: a systematic review assessing the state of research, the nature of interventions involved and the features of engagement with communities. *PLoS One* 2015;10:e0141091.
- Ankomah SE, Fusheni A, Ballard C, et al. Patient-public engagement strategies for health system improvement in sub-Saharan Africa: a systematic scoping review. *BMC Health Serv Res* 2021;21:1047.
- Adhikari B, James N, Newby G, et al. Community engagement and population coverage in mass anti-malarial administrations: a systematic literature review. *Malar J* 2016;15:523.
- Lavery JV. Putting international research ethics guidelines to work for the benefit of developing countries. *Yale J Health Policy Law Ethics* 2004;4:319–36.
- Morin SF, Morfit S, Maiorana A, et al. Building community partnerships: case studies of community Advisory boards at research sites in Peru, Zimbabwe, and Thailand. *Clin Trials* 2008;5:147–56.
- Newman PA, Rubincam C, Slack C, et al. Towards a science of community Stakeholder engagement in biomedical HIV prevention trials: an embedded Four-Country case study. *PLoS One* 2015;10:e0135937.
- Adhikari B, Pell C, Cheah PY. Community engagement and ethical global health research. *Global Bioethics* 2020;31:1–12.
- Dickert N, Sugarman J. Ethical goals of community consultation in research. *Am J Public Health* 2005;95:1123–7.
- Mills EJ, Singh S, Singh JA, et al. Designing research in vulnerable populations: lessons from HIV prevention trials that stopped early. *BMJ* 2005;331:1403–6.
- Wilkinson A, Parker M, Martineau F. Engaging 'communities': anthropological insights from the West African Ebola epidemic. *Philos Trans R Soc B Biol Sci* 1721;2017:20160305.
- Adhikari B, Vincent R, Wong G, et al. A realist review of community engagement with health research. *Wellcome Open Res* 2019;4:87.
- Pratt B. Constructing citizen engagement in health research priority-setting to attend to dynamics of power and difference. *Dev World Bioeth* 2019;19:45–60.
- Molyneux S, Bull S. Consent and community engagement in diverse research contexts: reviewing and developing research and practice. *Journal of Empirical Research on Human Research Ethics* 2013;8:1–18.
- Kamuya DM, Marsh V, Kombe FK, et al. Engaging communities to strengthen research ethics in low-income settings: selection and perceptions of members of a network of representatives in coastal Kenya. *Dev World Bioeth* 2013;13:10–20.
- Maiter S, Simich L, Jacobson N. Reciprocity: an ethic for community-based participatory action research. *Action Res* 2008;6:305–25. doi:10.1177/1476750307083720