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Ethical challenges in community engagement practices in research during the COVID-19 pandemic in Africa [version 1; peer review: awaiting peer review]

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Abstract
Community engagement (CE) has been highlighted as a key process in the prevention and transmission control of coronavirus disease 2019 (COVID-19). However, the nature of the virus and national response strategies such as social distancing have challenged traditional methods of community engagement. In this paper, we discuss the role of community engagement in research during COVID-19. We first set out the case for community engagement that emerges from international guidance for research during public health emergencies. We then describe the challenges that are emerging with community engagement in health research generally, and on COVID-19 related research specifically in Africa in the context of the COVID-19 pandemic. We further describe the strengths and weaknesses of the current engagement and communication platforms, and suggest ways to overcome some of these challenges. We provide an ethical argument for researchers and research institutions to respond directly to addressing the COVID-19 pandemic by responding to emergency health care needs of the community; and provide some challenges and critiques of such an approach. Finally, we support the call for concerted efforts in responding to the global pandemic, requiring flexibility in funding.

Keywords
Community engagement, Covid-19, Africa

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Introduction

When the World Health Organization declared coronavirus disease 2019 (COVID-19) a global health pandemic (Sohrabi et al., 2020; WHO, 2020) on 11th March 2020, 119 cases with 2 deaths had already been reported from 12 African countries. Two months on, all 54 African countries have reported cases with a total of 92,348 confirmed cases including 2,912 deaths across the continent (Africa CDC, 2020). For example, as of 20th May 2020, the Africa Centre for Disease Control and Prevention (Africa CDC) had reported that Ghana in West Africa had reported 6096 cases with 31 deaths; Kenya in East Africa had 1209 cases with 50 deaths; and South Africa had the highest number of cases in the sub-region, with 18,607 cases including 331 deaths. Given the global death toll of over 310,000 and the enormous challenges faced by high-income countries particularly in Europe and United States of America, there are concerns that despite the relatively low numbers being reported in Africa, the impact of COVID-19 will be devastating to public health systems, economies and the lives and wellbeing of many African communities.

Following recommendations from WHO, many African countries including Ghana, Kenya and South Africa have responded to the pandemic by implementing strict measures to stop the importation of new cases and to curb community spread. A broad spectrum of measures have been implemented including screening at ports of entry to identify people with fever, mandatory quarantine for travelers from counties with reported cases and for close contacts of suspected cases, travel restrictions, contact tracing and bans on non-essential travel, closure of schools and other social gatherings such as churches and mosques, social distancing, and partial, full-blown and very strict lockdowns. These swift actions may have contributed to relatively slow rate of growth in the number of cases reported in countries like Ghana, Kenya and South Africa. In all countries, hand hygiene and sanitation were implemented as an immediate measure to minimize transmission in the community, wearing of masks has also been introduced with mixed guidance on whether this should be mandatory or optional. It is increasingly clear that individual responsibility and action (social distancing, hand hygiene and so forth) is critical in controlling COVID-19 transmission. This requires that all persons are aware of the diseases, the transmission patterns, and their role in controlling its transmission; and importance in adhering to Government directives.

Because there are no proven therapeutics (drugs and vaccines) against the virus, scientific research is now as important as ever. Concerted efforts by scientists and research stakeholders in Africa aim to better understand the biology and epidemiology of the virus, to model and predict transmission patterns, morbidity and mortality and to identify possible vaccine targets. All these efforts require communication and engagement with key stakeholders including communities and the public, to facilitate research activities to be implemented and to seek community input on what constitutes appropriate research conduct during the current restrictions. Thus, as several international guidelines advocate (Nuffield Council, 2020; WHO, 2015; WHO, 2016; WHO, 2020), community engagement is key to the conduct of research during public health emergencies.

However, the nature of the virus itself and national response strategies such as social distancing have challenged traditional methods of face-to-face community engagement. As is widely documented, engagement conducted in most parts of Africa and especially rural African settings, often involve face to face interaction between researchers and communities, including for instance communal meetings such durbars in Ghana and Barazas in Kenya (Kamuya et al., 2013; Marsh et al., 2008; Tindana et al., 2011) which are usually organized by community leaders. These are valued as a way for community leaders and researchers to connect to people, to socialize, and to make collective decisions on proposed activities and form an essential part of traditional African governance (Nzimakwe, 2014). However, under the current COVID-19 situations, such gatherings are not possible or are highly restricted. While international guidelines including the recently released WHO guidelines for research on COVID-19 reiterate the importance of rigorous community engagement practices during research on COVID-19 (WHO, 2020), the guidelines do not provide practical ways to undertake engagement while adhering to restrictions and social distancing.

In this paper, we discuss the role of community engagement in research during COVID-19. We first set out the case for community engagement that emerges from international guidance for research during public health emergencies. We then describe particular social or community-based challenges associated with COVID-19 mitigation strategies that compromise researchers’ ability to design community engagement strategies. We then consider potential solutions to these challenges - for instance, by taking engagement online - but describe that these challenges raise a range of ethical issues that need to be considered in their own right.

The importance of community engagement in research during public health emergencies

Following the Ebola epidemic in West Africa between 2014 and 2016, a number of international organizations brought together experts to develop guidance for conducting research during public health emergencies (Nuffield Council on Bioethics, 2020; World Health Organisation, 2015). The resulting guidance documents emphasize the importance of community engagement during global health emergencies to strengthen and promote public trust; and as essential in the ‘ethics ecosystem’ of research (Nuffield Council on Bioethics, 2020). Global health emergencies may amplify existing health and wealth inequalities between communities, researchers and research institutions in unprecedented ways, can contribute to misinformation, and in some cases, to violence (e.g. Ebola in DRC congo).
collaborative research before in-country buy-in in Africa are likely to exacerbate general mistrust towards externally funded research\textsuperscript{2}. Furthermore, broad government measures such as lock-downs are likely to inhibit avenues for traditional approaches often used in engagement with communities. Yet, even if in-person meetings are permitted, there is a risk that engagement meetings could accelerate COVID-19 transmission. If this is the case, then it can contribute to long term consequences for research, including damage to the reputation of research institutions if it seen to have contributed to COVID-19 transmissions in the populations. Furthermore, researchers will not only be dealing with challenges of finding appropriate and effective engagement strategies, but are also likely to encounter worsening conditions of poverty, unmet health needs, overwhelmed health care systems and deprivation.

There has been a proliferation of communication and networking platforms, aimed at keeping people connected during lock downs and social distancing. These platforms provide opportunities for innovative engagement processes with diverse stakeholders, including communities. Other possibilities include television and radio discussions, development of published materials (leaflets, posters, newspaper advertisements etc) for distribution, dedicated interactive websites, online platforms for teaching and learning; COVID-19 text messages and WhatsApp platforms; Apps on COVID-19 tracker; Apps on COVID-19 risk assessment and the use of mobile information vans). Recognizing that there is no perfect engagement strategy at this time, some of the strategies that are likely to meet the conditions for restrictions are outlined in Table 1, including their pros and cons as well as proposed mitigation strategies.

Looking at the possible interventions, it is clear that methods need to be contextualized in that they should be appropriate for the audience and the engagement aims. It is important to note that these methods may also lead to the furthering of digital inequality through excluding community members who do not own or have access to mobile devices, the internet or radio – often the marginalized and poorest in the community. Innovative ways of reaching these marginalized populations need to be considered. Similarly, the depth of engagement and of interaction is likely to vary across the different methods and audience; younger generations are likely to be more comfortable and agile with most of the mobile and internet-based platforms than older generations. In addition, there are limits on the extent to which privacy and confidentiality of information shared in the platforms and of individuals participating in an activity can be safeguarded. There is potential for information to be misinterpreted and distorted if it is not carefully presented. Thus,

\textsuperscript{2}As happened recently in a BBC televised interview with one of the medical correspondents in which a collaborative vaccine research between a UK based institution and Kenya research institution caused uproar in social media; the vaccine trial was under review in Kenya and engagement with stakeholders was under way.
<table>
<thead>
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<th>Engagement method</th>
<th>Pros (strengths)</th>
<th>Cons/Challenges</th>
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| Web-based platforms e.g. zoom, skype, Ms Teams etc | • Can connect in real time  
• Able to see each other  
• Less time consuming  
• Focused discussion time | • requires internet and electricity connection; Poor populations without access to these resources will be left out  
• Need careful moderation for it to be useful, sometimes can be too directed  
• Consider potential for data protection threat in some of the platforms | • Provision of electronic devices e.g. in each community, so that people can share (perhaps with projector)  
• Provision of data vouchers  
• Provision of solar charges  
• Carefully select the virtual platform to use. |
| Phone based platforms e.g. WhatsApp    | • End to end encryption for WhatsApp  
• Can be used by all people with smartphones  
• More interactive – people can post comments all the time | • Potential to post all kinds of information, including misinformation  
• Difficult to control who sees messages (e.g. private messages can be redirected to third parties)  
• Populations without smartphones left out  
• Connection can be erratic – making calling difficult  
• At any time, only a few people can participate in calls | • Setting clear rules on use of the WhatsApp group  
• Use of the ‘broadcast’ functionality (but then people cannot post messages)  
• Moderator can respond immediately to rumours and fake news and can follow-up with a phone call  
• Where the group being managed is relatively smaller, researchers can provide smartphones with this functionality  
• Provision of data bundles |
| Telephoning                           | • Can reach a wider segment of populations that has phones  
• Useful for one on one conversations  
• Cost of call can be borne by the research team | • Can only call a few individuals at any one time  
• No assured way ensuring data protection of the conversation  
• For long extended call can end up being expensive | • Could be used as a way to engage a smaller group e.g. CAB members  
• Can provide phones to members who do not have these |
| Leaflets, posters                     | • Can reach wide population – all those that see the posters or receive the leaflets  
• Information can be tailored to audience  
• Well known method of passing information  
• Can be produced in different languages | • Targets literate community members, or those who have literate members  
• Can easily be ignored (esp. if people are bombarded by leaflets often)  
• Is not interactive and not easy to discern people opinions – potential for misunderstanding  
• Will not be effective in cases of lockdown | • Can be used to support other engagement strategies and to affirm or amplify messaging about the outbreak |
| Mass media e.g. radio, TV, newspapers  | • can reach a wider population;  
• can target communities in particular geographic areas e.g. using local radios, daily newspapers  
• can be pre-recorded and message checked for clarity  
• can build in interactive session e.g. provide numbers to call | • Potential that population will miss the message unless there is prior advertisement, and the engagement message is short, clear and repeated  
• Expensive  
• One-directional | • Can be used to support other engagement strategies |
the use of these alternative approaches to community engagement places greater responsibility on researchers and community engagement practitioners to choose wisely the methods to be used, to weigh carefully the merits and demerits of each and to consider any ethical issues that might arise.

Community engagement about non-COVID-19 research

In addition to COVID-19 research engagement, researchers need to also consider engagement about non-COVID research. In countries/settings where travel restrictions are in effect, most research activities have been stopped by the relevant bodies including Ethics Review Committees (ERCs). Careful communication about these actions [of stopping research] is important to continue strengthening positive relationships in the community. Some of the unintended consequences could be the development of serious adverse events in participants in clinical trials, and/or the interruption of research-related healthcare provided to participants when health facilities are turned into COVID-19 wards and isolation centres. Furthermore, where there is an existing relationship between communities and research centres, there may be expectations for assistance in times of need, for instance through the provision of food or emergency medicines. Researchers will need to carefully consider how existing relations of trust can be honored or maintained during the pandemic, and what the risks are for interrupting or discontinuing such relations.

Co-existing with COVID-19: some considerations for engagement

The impact of COVID-19 will feel for a long time and is likely to transform the way we interact with each other, and how engagement in health research will be carried out. Virtual and other online platforms will likely become more often used as a means of engagement. Systematically investigating the effectiveness of such platforms (i.e. what platforms are used for what type of engagement, with which population groups, what are they engaged about, which views do they bring forth, who are left out/included, how messages are understood and so forth), is an area that needs to be systematically investigated.

Engaging about COVID-19 beyond research

Beyond research, there is arguably also an obligation for researchers and research institutions, to contribute to the humanitarian emergency caused by COVID-19. Solidarity, as an ethical value has been highlighted as key to community engagement in global health research (Pratt et al., 2020) and to the response to COVID-19 (Dawson et al., 2020). This requires a concerted effort by all stakeholders including research institutions supporting the communities they work with. Many research institutions in Africa employ clinical and healthcare workers who could respond to their local government’s call to duty; and many have existing links with relevant ministries (e.g. Ministries of Health). For example, major research institutions in Ghana such as the Noguchi Memorial Institute for Medical Research (NMIMR), the University of Ghana and the Kumasi Centre for Collaborative Research (KCCR, 2020) have used their existing research capacities to contribute to Ghana’s national response to COVID-19 and served as key testing centres; as has Kenya Medical Research Institutes (KEMRI Centres) in Kenya. But more directly relevant to community engagement, many research institutions have long-standing relationships with the communities they work with; most of the staff are members of the local community and are particularly skilled in communicating about health with their community members. They are also skilled in addressing rumours and false information and have built up an arsenal of tools and evidence around community engagement. Thus, research institutions have unique knowledge and experience that could help communicate important information about COVID-19 and should use their skill in helping address the pandemic. In addition, for the future sustainability of the research enterprise, it is important that research is not perceived only being interested in its own aims and oblivious to the needs and suffering of the community; and that it only concerns itself with the community when there are no emergencies. Thus, in the context of global health emergencies, there is arguably an ethical imperative to assist

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| Mobile information vans       | • Can be an effective way of disseminating information in rural communities and market places and communities with limited access to information technology  
• Can be a useful tool for creating awareness about public health measures under lockdowns  
• Information can be pre-recorded in local languages and checked for clarity before playing over loud speakers | • One-directional  
• Is not interactive and not easy to discern people opinions – potential for misunderstanding  
• Research teams might need to do this repeatedly over a period of time which could end of being expensive | • Should be used to support other engagement strategies such as radio discussions |

|                        |                                                                                                                                  |                                                                                       |                                                                                           |
governments in communicating about the pandemic and containment measures.

The type and nature of such a response can vary from providing expertise to government through being involved in response teams and advisory committees, carrying out surveillance and modelling work to inform response strategies and predictions and providing evidence to inform the response strategy. However, any response will need to be carefully considered as it has implications for the work of the research institutions; funding to support the response strategy; perception of the institution as a health care provider which can further build into therapeutic misconception on research activities; potential to undermine existing government response systems; and potential to take unsustainable roles.

For community engagement, whilst the experience of engagement practitioners is primarily relevant to research, aspects of their work is also relevant to COVID-19. For instance, community engagement practitioners frequently have quite nuanced understandings of how communities perceive and receive certain type of information and how information travels within communities. They know how to convey information about illness and, importantly, know how to counter false information and rumors. These types of knowledge can work to inform or strengthen existing COVID-19 communication strategies. Expertise from engagement researchers and practitioners can also be harnessed to inform governments on community reception of the information, on understanding of information and messages, on strategies to reach hard-to-reach communities and in designing appropriate engagement strategies. Furthermore, community engagement practitioners can assist in designing appropriate social science methodologies to monitor and evaluate communication initiatives, behavioural change and to generate evidence about what works. Where such engagement requires information sharing about COVID-19, a clear line of responsibility is important, recognizing that the public health offices would primarily lead such activities. A collaborative working arrangement is desirable, with overall responsibility for communicating about COVID-19 placed on the relevant government agency.

Conclusion
COVID-19 has presented us with unprecedented suffering globally with cases and mortality raising daily, no curative therapy and over-stretched health care systems. The response to COVID-19 in Africa has followed the global trend, with restrictions on travel, lock downs imposed, social distancing and hygiene practices promoted. Whilst many research activities have been halted, there is increasing emphasis on the importance of conducting COVID-19-specific research. Community engagement is an essential component of that research and is important not just for the current moment, but also to maintain relations of trust between communities and research institutions. Yet, COVID-19 containment measures have challenged the conduct of community engagement, which traditionally heavily relies on face-to-face interaction. In this manuscript, we listed possible alternative ways in which community engagement can be conducted, but also cautioned that these alternatives could risk increasing the digital divide. We also described a possible ethical imperative for community engagement practitioners to assist in the governmental COVID-19 response. Overall, we conclude that as more African researchers are getting involved with COVID-19 research, it is imperative that community engagement is recognized and emphasized as a necessary precursor to any research taking place.

Data availability
Underlying data
No data are associated with this article.

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