A scoping review of the landscape of ethics review processes during public health emergencies in sub-Saharan Africa

Kingsley Orievulu (Kingsley.orievulu@ahri.org)
Africa Health Research Institute, KwaZulu-Natal

Alex Hinga
KEMRI Wellcome Trust Research Programme

Busi Nkosi
Africa Health Research Institute, KwaZulu-Natal

Nothando Ngwenya
Africa Health Research Institute, KwaZulu-Natal

Janet Seeley
London School of Hygiene & Tropical Medicine

Anthony Gerald
University of Ghana

Paulina Tindana
University of Ghana

Sassy Molyneux
KEMRI Wellcome Trust Research Programme

Samson Kinyanjui
KEMRI Wellcome Trust Research Programme

Dorcas Kamuya
KEMRI Wellcome Trust Research Programme

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Abstract

Background: The COVID-19 pandemic forced governments, multilateral public health organisations and (academic) research institutions to undertake research quickly to inform their responses to the pandemic. Most COVID-19-related studies required swift ethical approval, creating ethical and practical challenges for both regulatory authorities and researchers. In this paper, we look at the landscape of ethics review processes in Africa during the public health emergencies (PHEs).

Methods: We searched four electronic databases (Web of Science, PUBMED, MEDLINE Complete, and CINAHL) to identify articles describing ethics review processes during public health emergencies and/or pandemics. We reviewed the retrieved articles, excluding articles that were not focused on Africa. We charted the data from the retrieved articles including the authors and year of publication, title, country and disease(s) reference, broad areas of (ethical) consideration, paper type, and approach.

Results: Of an initial 4536 entries, we screened the titles and abstracts of 1491 articles, and identified 72 articles for full review. Nine articles were selected for inclusion. Of these nine articles, five referenced West African countries such as Liberia, Guinea and Sierra Leone and experiences linked to the Ebola virus disease. Two articles were centred on South Africa and Kenya, while the other two articles referenced Africa within more general discussions on experiences and pitfalls of ethics review during PHEs. We found that very few articles captured, or reported on, ethics review processes in Africa (including before the emergence of COVID-19). Guidelines on protocol review and approval processes for PHE were more frequently discussed after the 2014 Ebola outbreak, but these did not focus on Africa specifically.

Conclusions: There is a gap in the literature about ethics review processes and preparedness within Africa during PHEs. This paper underscores the importance of these processes to inform practices that facilitate timely, context-relevant research that adequately recognises and reinforces human dignity within the quest to advance scientific knowledge about diseases.

Background

In late 2022, COVID-19 accounted for a cumulative global infection of over 624 million cases, with over 6.5 million deaths (1). This global pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) forced governments, multilateral public health organisations and academic institutions to urgently undertake research to better understand, manage and eradicate the disease (2–4). Research was needed (and remains needed) to understand the modalities of infection and prevention measures, develop therapeutics to aid in treatment, and develop vaccines as a key tool in the fight against the disease (3, 5).

The conduct of research – especially during a public health emergency (PHE) where the research involves human participants – requires robust regulation against the backdrop of historical injustices and irresponsible practices, and what is often a well-intentioned ‘rush’ for solutions in public health interventions (6). For these reasons, international ethical principles and guidelines have been continuously established, revised and promoted to ensure that public health research is ethically sound, scientifically relevant and robust and that human rights are upheld (7).

Africa has experienced different infectious disease outbreaks in the last decade, including Ebola virus disease (EVD), HIV/AIDS, yellow fever, Lassa fever, Rift Valley fever, and Mpo, all of which pose serious public health challenges on the continent. Similar to other globally recognised infectious diseases, such as SARS and MERS (Middle East respiratory syndrome), these infectious diseases have raised global attention towards research that aims to understand, treat and/or eradicate them (8, 9).

Conducting research during PHEs (used hereafter to designate highly transmittable, infectious and deadly diseases officially designated as epidemics and pandemics) and natural disasters presents particular practical and ethical challenges. Within the context of infectious disease outbreaks or pandemics such as COVID-19, the role of ethics review committees (ERCs) (used interchangeably in this paper with research ethics committees (RECs)/institutional review boards (IRBs) and national
research ethics committees (NRECs) – hereafter as RECs – is critical (10). The urgency to understand COVID-19 prompted the development of a plethora of research studies to quickly address the emergency, including observational, interventional, clinical, and human challenge studies. While the scramble for solutions through research was important, so too are the processes of governing and overseeing the quality, rigour, and ethics of the proposed studies. Pandemic and epidemic contexts raise many complex and difficult dilemmas related to advancing scientific inquiry while maintaining the primacy of human rights and dignity.

Documented ethical issues in conducting research during PHEs include preparing RECs for accelerated review of studies, for instance through the establishment of ad hoc committees (3, 11–19); ensuring appropriate research designs for scientific validity, social value and fair selection of participants (20); promoting inclusive and adequate stakeholder engagement and informed consent processes (2, 21–23); dealing with specific ethical conundrum of clinical trials and human challenge studies during emergencies (24–30); supporting appropriate data collection, storage and future use, including those relating to children (22, 31–34); and maintaining mechanisms for ethics review, sometimes virtual, during PHEs(29, 35–40). However, few studies specifically consider ethics review systems, processes, procedures and governance frameworks for epidemics and public health emergencies in Africa (41). In this paper, we look at the landscape of ethics review processes in Africa during the PHE. Our objectives were to identify the context and content (where possible) of such systems, and identify emerging issues within ethics review systems and processes during PHEs. We also aimed to identify gaps in the literature on this topic in and for Africa.

**Methods**

**Search Strategy**

We searched four electronic databases: Web of Science, PUBMED, MEDLINE Complete, and CINAHL (12 August – 12 September 2021, and 30 March 2023). We followed Arksey and O’Malley’s scoping review guidance and framework, keeping the search terms flexible enough to accommodate as many articles as possible within the broader scope of the review (42). We also relied on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) to guide the selection process (43). Table 1 shows the search terms used, while Table 2 indicates our inclusion and exclusion criteria.

<table>
<thead>
<tr>
<th>Database(s)</th>
<th>Search Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>PubMed</td>
<td>((ethic*[Title/Abstract]) AND (((governance[Title/Abstract] OR regulat*[Title/Abstract] OR oversight[Title/Abstract] OR codes[Title/Abstract] OR guidelines[Title/Abstract]) OR (ethical review OR ethics committees[MeSH Terms])) OR ('ethical review'[Title/Abstract])) AND (pandemic*[Title/Abstract] OR 'public health emergenc*[Title/Abstract] OR disaster[Title/Abstract] OR COVID-19[Title/Abstract])</td>
</tr>
<tr>
<td>Web of Science</td>
<td></td>
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<tr>
<td>Medline Complete</td>
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<td>CINAHL</td>
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Table 2
Inclusion and Exclusion Criteria

We included articles that showed

• RECs coordination efforts, strategies, and processes towards reviewing research protocols during pandemics and PHEs

• Recommendations about the role of RECs and actions to facilitate the review of research protocols during pandemics and PHEs

• Guidelines and recommendations on the conduct of ethics review procedures or processes during pandemics (Ebola, COVID-19, Zika etc.)

• Bioethics arguments – in commentaries, opinion pieces, reviews – focusing on RECs procedures and or oversight functions/roles/processes in or for the review of protocols for and during pandemics/PHEs

We excluded articles that

• Focus too narrowly on ethical considerations and issues in pandemics from a Bioethical analytic process; articles not grounded on the processes or procedures of ethics review committees

• Not focused on the review of research protocols developed during PHEs

• Report of post-pandemic research and or ethical issues in general

• Narrowly focus on pandemic response or interventions – not specifically linked to research activities, research ethics, IRB/REC processes/oversight/procedures or research protocol review

• Narrowly focused on the external effects or impacts of COVID-19 or any other pandemic/disaster (on populations/economies/health outcomes) without exploring IRB processes/procedures or IRB procedures pertaining to protocol reviews

• Focus on natural disasters and post-Natural disaster interventions and research activities in affected areas

• Are not published in English

• Are not fully accessible for full review

• Are not focused on, or make clear references to, Africa (during the final review)

Study Screening and Selection

We imported all retrieved entries into Rayyan, an online systematic review management tool. KO and AH used Rayyan to automatically identify and exclude duplicates and conducted an initial screening by title, abstract, and full content review. This was followed by a second set of screenings in which only articles from, reporting on, or referencing, the African context were included. Where there were disagreements, senior team members BN, NN, DK, and JS provided adjudication. We exported the data from Rayyan into Microsoft Excel and classified them by their Rayyan identification numbers, article title, author name, year of publication, country reference, disease reference, broad topic covered, paper type, and approach. These were initially selected for the second phase of the review and screened using the inclusion criteria set out in Table 2. We included peer-reviewed publications, unpublished works, commentaries, reports of (meeting) proceedings, reflection/discussion papers and research communications (42).

Data Analysis

In line with Arksey and O’Malley (42) and Peters et al.(44), the analysis was descriptive of studies and issues relevant to ethical review processes in Africa. Themes were identified within the selected articles and described in terms of their coverage. The broad thematic areas covered included the landscape or (country or regional) contexts within which ethics review processes were identified; the description of ethical review processes and regulatory frameworks identified or mentioned in articles; and the considerations identified by RECs during review processes, ranging from study design to informed consent, collaborative partnerships, and engagements. These themes were drawn from our review objectives and emphasised based on the level of attention afforded them by the papers reviewed.
Findings

Table 3 shows the PRISMA flowchart. We located 4536 potential papers from our initial search. This was reduced to 1491, which we screened after we excluded 3045 duplicates. A further 1207 were excluded after reviewing titles and abstracts. We then conducted two rounds of full-text review of the remaining 284 articles, first excluding 212 articles that did not meet our criteria, and then excluding 63 of the remaining 72 because they were not Africa-centred. Nine articles were included in the final review.

As shown in Table 4, most (6/9) of the included articles are discussion papers published in peer-reviewed journals (11, 45–48, 50). Two original research articles were included: a qualitative (51), and mixed method paper with a strong qualitative element (41). Six articles covered issues related to ethics review and EVD considerations (11, 45, 46, 48–50); three covered issues linked to COVID-19, including (informed) consent (47), stakeholder engagement (51) and research and ethics review (41); three commented on virtual modalities for review (meetings), consultations or obtaining consent (11, 41, 47); and five described review timelines during public health disasters (41, 46, 48–50).

Table 3: Flowchart of Study selection
<table>
<thead>
<tr>
<th>Authors + Year</th>
<th>Title</th>
<th>Country</th>
<th>Disease</th>
<th>Topic Areas addressed</th>
<th>Paper type</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alirol, E et. Al.,</td>
<td>Ethics review of studies during public health emergencies - the experience of the WHO ethics review committee during the Ebola virus disease epidemic.</td>
<td>Unspecified</td>
<td>Ebola</td>
<td>Considerations in PHE study protocol reviews</td>
<td>Discussion paper</td>
<td>Mixed Methods</td>
</tr>
<tr>
<td>(2017).(45)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>De-Crop, Maaike et</td>
<td>Multiple ethical review in North–South collaborative research: the experience of the Ebola-Tx trial in Guinea.</td>
<td>Guinea</td>
<td>Ebola</td>
<td>Joint (double) ethics review</td>
<td>Discussion paper</td>
<td>Qualitative</td>
</tr>
<tr>
<td>al. (2016).(46)</td>
<td></td>
<td></td>
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<tr>
<td>(2020). (47)</td>
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<tr>
<td>Saxena, A. et al.</td>
<td>Ethics preparedness: facilitating ethics review during outbreaks - recommendations from an expert panel</td>
<td>Unspecified</td>
<td>Ebola</td>
<td>Ethics preparedness and considerations for PHEs</td>
<td>Discussion paper</td>
<td>Qualitative</td>
</tr>
<tr>
<td>(2019). (11)</td>
<td></td>
<td></td>
<td>and PHEs</td>
<td></td>
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<tr>
<td>Schopper, D et al.</td>
<td>Research Ethics Governance in Times of Ebola</td>
<td>Unspecified</td>
<td>Ebola</td>
<td>Ethics review processes</td>
<td>Discussion paper</td>
<td>Qualitative</td>
</tr>
<tr>
<td>(2017). (48)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Bain, L. E. et al.</td>
<td>Research Ethics Committees (RECs) and epidemic response in low- and middle-income countries</td>
<td>Unspecified</td>
<td>Ebola</td>
<td>REC considerations in ethics review frameworks development</td>
<td>Essay</td>
<td>Qualitative</td>
</tr>
<tr>
<td>(2018). (49)</td>
<td></td>
<td></td>
<td>and Zika</td>
<td></td>
<td></td>
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<tr>
<td>Doe-Anderson, J. et</td>
<td>Beating the odds: Successful establishment of a Phase II/III clinical research trial in resource-poor Liberia during the largest-ever Ebola outbreak</td>
<td>Liberia</td>
<td>Ebola</td>
<td>Clinical trials</td>
<td>Discussion paper</td>
<td>Qualitative</td>
</tr>
<tr>
<td>al. (2016). (50)</td>
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</table>
Most articles were drawn from or referenced West African countries such as Liberia, Guinea, and Sierra Leone, either individually ((46), (50)) or as a collective ((11, 45, 48)). These were the countries most affected by EVD between 2014 and 2016. One article drew on South African experience (47) and another on Kenyan experience (41). The remaining two articles reference Africa broadly (51) or extrapolate from an African experience to make comments about ethics review processes during PHEs across low- and middle-income countries (49).

**Thematic Areas in the African Ethics Review Process Landscape**

**A) Processes, Procedures and Frameworks for Ethics Review during PHE**

**Preparing for (Accelerated and Robust) Ethical Reviews during Outbreaks**

The reviewed articles describe different aspects of processes, procedures, and frameworks set up or implemented during PHEs. Five studies describe experiences of establishing or reviewing clinical trial or intervention studies and some the procedural aspects of ethics review (41, 45, 46, 48, 50). Three articles emphasise preparing review bodies (11, 41) or their members in LMICs (49) for reviewing study proposals during outbreaks. Saxena et al. (11) discuss preparing committees as a priority outcome of the 2018 workshop organised between the World Health Organisation Global Health Ethics Team and the African coalition for Epidemic Research, Response and Training (ALERRT) (11). The articles describe the need for accelerating review processes, audits to identify and address competency gaps among REC members through training, and approaches to review studies in the event of future (and possibly deadly) infectious disease outbreaks (11, 41, 49).

**Regulatory and procedural issues for accelerated reviews**

The reviewed articles show important steps undertaken to facilitate accelerated reviews: the World Health Organisation Ethics Research Committee (WHO-ERC) development of and reliance on a Standard Operating Procedures (SOP) – or Rules of Procedures – for accelerated review during emergency periods (11, 45); establishing the protocol review subcommittee; and ensuing training for specialised subject-area reviews. Alirol and colleagues (45) highlighted the importance of the WHO-ERC Rules of Procedure, noting that “the EVD outbreak was the first-time accelerated review was implemented” (45). These rules provided the framework for sensitising WHO-ERC members on the plans by the WHO to rapidly review Ebola disease-related...
studies. The established WHO-ERC subcommittee was populated by volunteers recruited on short notice. The newly established system designed to accelerate reviews and protocol assessment was characterised by regular monthly meetings (face to face or teleconferences) and task allocations (45).

Saxena et al. highlighted another priority issue for preparedness: pre-review of generic (non-context specific) research protocols by RECs (11). The generic protocols were to be developed outside of a period of infectious disease outbreaks, facilitating applications for review early during an outbreak. These protocols can be adapted and are easier to review by REC, thus increasing speed without compromising quality (11). Reflecting on their experiences of submitting research protocols for review during the COVID-19 pandemic, researchers in Kenya supported the idea of pre-reviewing generic protocols in non-emergency times to accelerate research review and implementation during public health emergencies (41).

**Membership composition of review committees**

Within the EVD context, Alirol and colleagues (45) highlight that setting up the review of intervention and preventative studies, especially clinical trials of therapeutic products, required the WHO-ERC to draw on guidelines of the Council for International Organisations of Medical Sciences (CIOMS) concerning conducting research with human participants, especially during disasters and public health emergencies (45). This WHO-ERC was constituted as a 27-member committee consisting of experts “in clinical research, drug development, social sciences, [and] legal affairs”, including “a lay member” (45). “Between 6 and 8 members are from Geneva-based universities or international organisations” (45). Schopper and colleagues (48) also highlight that the MSF-ERB contributed and worked with other institutions towards the design and review of study (intervention) protocols, including clinical trials. This was in line with the International Health Regulation’s (IHR) declaration about EVD and the WHO permission for the ethical use of unregistered interventions in the treatment of Ebola patients (48).

**Multiple review processes**

Six articles describe processes for undertaking, double or multiple ethics reviews within collaborative/partnership research, as per funding (11, 41, 46, 48–50). For example, the Ebola-Tx clinical trials study funded by a European Union grant was sponsored by the Institute of Tropical Medicine (ITM) and implemented at the MSF Ebola Treatment Centres (ETC) in Guinea (46). De-Crop et al. (46) highlight that in this study, the initial process involved forming a research consortium comprising 17 institutions led by the ITM. Consequently, the study protocol had to go to multiple RECs: from the study country (Guinea) and the sponsor country (Belgium), to the institutional committees of collaborating institutions such as ITM, MSF, WHO, and LSHTM. Although other collaborators did not demand the submission of the protocol for assessment, the scientific Commission of the National Ebola Coordination in Guinea considered the scientific rationale of the study before issuing an initial approval for the study in Guinea (46). The requirements for these review processes included the protocol (to be reviewed by coordinators from Belgium and Guinea), informed consent documents, a no-fault insurance certificate, CVs of the scientific coordinator and country PI, and case report forms [48]. Although much of the documentation required was similar, there were some differences in the content and modalities of submission across institutions, essentially resulting in a multiple ethics review process, with implications for the timing of the trial.

Similarly, the Partnership for Research on Ebola Vaccines in Liberia (PREVAIL) was a collaboration between the USA and the Liberian government to establish and implement clinical trials under the EVD context in Liberia (50). Reviews were therefore required from the different country bodies of the funders and country where the trial was implemented. Doe-Anderson and colleagues (50) highlight that the protocol was submitted to two regulatory authorities in each partner country: the FDA and the IRB of the National Cancer Institute (NCI) at the National Institutes of Health (NIH) in the US and the Liberian Medicines and Health Products Regulatory Authority (LMHRA) and National Research Ethics Board (NREB) (50).

Schopper et al. also report elements of multiple reviews for studies reviewed by the Medicine San Frontiers Ethics Review Board (MSF-ERB) and other institutions, including Oxford University and London School of Hygiene and Tropical Medicine (48). They note: “Of the 27 protocols reviewed by the MSF ERB, 11 were in addition reviewed by a national EC only, while 7
were reviewed by a national EC and one or several ECs/IRBs from other international institutions or academic centres” (48) (p.52–54).

The multiple review processes undertaken for PHE studies are often intended to support partners, funders and institutions involved in collaborations to achieve the rapid but robust protocol reviews before their implementation (11).

**Bottlenecks around multiple reviews**

Five articles highlight drawbacks associated with multiple reviews, especially within a drive to achieve expeditious and scientifically robust reviews during outbreaks (11, 46, 48, 49). Protocol submission requests, specific REC comments, revisions, and resubmissions – requiring researchers’ replies to specific REC queries – often impacted timelines for the review process and study implementation (46, 48, 49). The varying capacities and processes of different review committees, in terms of review turnaround times, for example, were highlighted as a major challenge for multiple reviews since researchers had to respond to reviewers’ comments on different versions of submitted protocols (41). Although multiple review processes aim to ensure robust ethical standards and quality review, these did not insulate the process from possible debilitating complexities, hence the emphasis on the adoption of joint reviews and coordination to harmonise the process and circumvent some of these inherent complexities (11, 48, 49).

**Guidance documents for outbreak reviews**

Studies also reference different international and national guidelines, proposals, consultation outcomes, recommendations, and frameworks, broadly governing the design and implementation of the studies. This includes guidance on ethics review processes and procedures for the studies being reviewed, whether clinical trials, experimental studies, intervention studies or otherwise. For example, the Ebola-Tx trial processes relied on the 2014 WHO “consultation on vaccines and therapies” (46). This consultation resulted in a consensus on the imperative for the rapid development of study protocols for effectively testing vaccines and therapies that demonstrate promise to be used for interventions. To facilitate trust in this process, multiple institutional reviews and harmonising such processes across the different ethics committees were viewed as crucial (46). De Vries and colleagues draw on national (South African) and international guidelines to discuss important questions and applications of informed consent while designing, reviewing and implementing COVID-19-related studies and interventions (47). Folayan and colleagues focus on elements of the “Good Participatory Practices for Emergency Pathogens” (GPP-EP) to discuss the centrality of stakeholder engagement in designing and implementing COVID-19 clinical trials in SSA (51). Hinga et al. highlight the development of institutional and national-level guidelines for review of research protocols during the COVID-19 pandemic in Kenya, which included guidelines for protecting participants and research staff from infection during data collection and guidance on remote submission and review of protocols (41). The fundamental role of, and reliance on, ethical and practical documentation guidelines is arguably considered vital to the efficiency and transparency of ethics review processes. Adapting these to unique outbreak circumstances and contexts is a major aspect of the review process.

**Review Timelines**

Timelines for the review and approval of protocols varied within the different reviewed articles. In the case of the WHO-ERC, an average of six working days was reported for the WHO-ERC teams to review protocols submitted under the context of the EVD (45). This was slightly different from the reviews conducted by the MSF-ERB, which reported over 30 days between initial request and final approval (48). In the latter, there was an initial average response time of 12.4 days from initial submission to replies from investigator. Although this timing reduced to 1–4 days, the influx of more protocols increased the MSF-ERB workload (48). In Kenya, the review of research protocols during the COVID-19 pandemic was faster than during the pre-pandemic period. However, internally set targets for review turnaround times during the pandemic were generally not met; there was a 5-day delay by the national review committee in providing initial feedback on new research protocols (41). The PREVAIL study took less than 30 days to obtain all required approvals after intentional strides to address the concerns raised around conducting vaccine trials on people (50), and the Ebola Tx Trial study took 55 days (46). Bain and colleagues
critiqued the conventional system of ethics reviews, which took between 24 and 44 days, as counterproductive to the goal of gaining an understanding of new infectious diseases (49).

**B) Considerations identified during Review Processes**

**Appropriateness of the proposed study design**

Five articles discuss the appropriateness of different study designs in the context of PHEs (45, 46, 48, 50). The study design was reviewed in relation to the need for scientific validity, social value, and minimising risk while maximising benefits during PHEs and infectious disease outbreaks (45, 49).

Randomisation in clinical trials and experimental intervention studies for EVD was highlighted as particularly challenging, with RECs proposing a change of design for all participants to receive the experimental intervention treatment (45, 46, 48, 50). For the COVID-19 pandemic, RECs highlighted the need to account for loss to follow-up while calculating study power given the significant disruption and uncertainty (41). The PREVAIL Vaccine trial considered both a RCT and ring design but chose the RCT design because it provided “… the greatest likelihood of providing more definitive results, and could potentially lead to rapid licensure and availability of effective vaccines” (50). The MSF-ERC determined a priori to use the ring design as community engagement consultations (through MSF) revealed that randomisation was unacceptable, as it represented a “lottery system” for receiving the intervention (in the clinical trial) despite high Ebola mortality in the community (46). For the WHO-ERC, protocols that provided strong arguments for the benefit-risk ratio assumption were accepted if they came from the Ebola-affected countries (45).

- **Formative research to inform the development of protocols and appropriate research designs during PHEs**

Linked to ensuring appropriateness of research design to context, four papers noted the importance of formative research during PHEs (48–51). Formative research allows consideration of crucial and sensitive components of the social contexts, cultural norms and practices and potential misgivings, fears and sensitivities to be considered in the design and conduct of clinical trials (49, 51). The feasibility of undertaking formative research was raised, linked to safety as well as time for approvals (48). Nevertheless, Bain and colleagues (49) emphasised its importance during emergencies, especially to inform randomised trials. They promote rapid anthropological research during disasters as warranting the attention of RECs, the response team, and researchers.

- **Study population and involving vulnerable populations in research and intervention**

The study population within protocols under review during PHEs was discussed in four articles (45, 46, 48, 50). RECs definitions of risk and benefits, and how consent should be obtained, influenced their different views regarding the inclusion or exclusion of vulnerable populations (46, 48). One REC suggested that researchers should provide alternative methods of participation for individuals without smartphones to prevent unfair exclusion of participants during the COVID-19 pandemic (41). The PREVAIL study excluded pregnant women, lactating mothers, and children on the basis of the inadequacy of safety data [51]. The WHO and MSF ERCs however emphasised including pregnant women, children and unaccompanied minors unless their exclusion was justified on the basis of data demonstrating greater risk than standard of care (45, 48). Although neither REC rejected protocols that excluded these vulnerable populations, these are essential ethical study design considerations during PHEs.

**Addressing Informed Consent in Study Protocols**

**Informed consent**

was referenced in most of the articles reviewed (45–49, 51), with several discussing delayed, proxy and waived consent (45, 47). The WHO-ERC waived consent for two protocols aimed at retrieving anonymised information from patient records (45).
Some papers emphasised the need to guard against scenarios of situational coercion in participants' recruitment, including scenarios where a third party – husbands, parents or local chiefs – may influence individuals’ participation (45, 51). Contexts of deadly outbreaks such as the EVD can facilitate scenarios where people are tacitly coerced to participate in a study without adequate information and informed consent (45). The WHO-ERC thus emphasised ensuring that information documents are simplified in the language of participants and well explained (45). In the Ebola-Tx study, the REC required the researchers to provide clarity around considerations of consent related to minors and unaccompanied minors (46). The consent of parents in this context (for minors) and other third party actors, such as local chiefs, is designed to protect potential participants but can lead to coerced consent in communities and families (51). The training and capacitation of researchers, implementers, and REC members was therefore emphasised (49), and the involvement of the community in developing informed consent documents recommended (45, 47, 51).

**Prioritising Stakeholder Engagement**

The importance of stakeholder engagement, consultation, and involvement in the process of designing and implementing research studies is also highly referenced among the articles reviewed (47, 49–51). Stakeholder engagement is a component of the “Good Participatory Practices for Emergency Pathogens (GPP-EP)” (51). De Vries and colleagues (47) reflect on the importance of community engagement using new and conventional media (including social media, TV, radio, and newspapers) to facilitate information sharing and communicate findings, especially where in-person contact is difficult. The authors recommend that ethics review processes impress on researchers that ‘Community and public engagement are genuine and robust, long term and include a plan for post-pandemic communication of research results and plans for long term sample and data storage’ (47).

The PREVAIL study used the concept of social mobilisation and communication (SMC) to emphasise multistakeholder engagement in the planning, recruitment for, and implementation of clinical trials (50). This aimed to better understand local perceptions of and attitudes towards the EVD against the backdrop of views that EVD was man-made, externally curated, and transmitted to populations through clinical trials (50). Indeed, deep-seated myths, mistrust, and suspicion about interventions, the government and the disease(s) require not only education but also advocacy and consultations to manage (and subsequently implement research without widespread disapprovals from local populations) (47–51). Study protocols therefore had to reflect strategies for stakeholder engagement, and RECs had to emphasise and request that study designers – PIs – and sponsors address these issues during review processes (47, 49).

**Demonstrating Collaborative Partnerships within Study Protocols**

Three articles show the need for protocols submitted for review during PHEs to demonstrate equitable collaboration and partnerships between external and local researchers (45, 49, 50). Collaborating in research during PHE has important implications for ethics review including the need for proposed studies to truly reflect the local context of research and interventions. However, a number of factors can contribute to lack of collaboration between local and external researchers including marginalisation of local actors and researchers (49). Thus, the WHO-ERC requested protocols to clarify the involvement of (and nature of collaboration with) local scientists and local actors for better contextual analysis and engagement with communities and people within the context of EVD research and interventions (45). This emphasis emanates from heightened levels of mistrust for externally funded research and associated experiences such as polio-related side effects in Nigeria and other issues such as local attitudes towards blood and misgivings about the collection and storage of people's blood samples (48–50).

This is relevant considering the critique of the poorly established nature of collaborative frameworks and partnerships between researchers and institutions from donor and local contexts, especially when it came down to the management and recognition of ethics approvals (49). While double or multiple, but harmonised, ethics review of multiple site study protocols is generally acceptable (45, 46, 48, 49), situations of unequal collaborative activities elongate the review process. This makes it largely difficult for timely review because the externally imposed institutional guidelines and processes lack adequate relevance in the context of research implementation, leading to missed research opportunities (49).
Data/Sample sharing and Future Use

Data and sample collection, storage and sharing remain very sensitive issues in the context of research and interventions during PHEs. These often challenge the concept of equitable partnerships in research collaborations between Western and African institutions, and accounts for the attention that research review processes pay to them. In this review, these issues were predominantly referenced by three articles (11, 47, 48). Studies found it unethical to impose a blanket ban on data and sample sharing, but critical ethical questions must be answered relative to the subject. Nevertheless, RECs can establish modalities that can be used to review protocols in the area of data sharing. On the one hand, this would entail the requesting research sponsors and PIs to submit preliminary data and sampling sharing plans on how data generated will be shared. On the other hand, these applicants can be requested to submit full-data sharing plans when resubmitting their (now full) application (11).

Accordingly, de Vries et al. argue that RECs must establish guidelines that clearly define the types of research data that can be used in the context of imperfect informed consent – bearing in mind that there is high likelihood of situations of imperfect informed consent during disease outbreaks (47). While debates remain about how ethical (or not) it is to use samples collected during the COVID pandemic for broad population genomic studies or to interrogate questions completely unrelated to the condition (47) (p.638), the studies highlighted the importance of RECs must guide the modalities for data use through engagements with PIs, study sponsors within the process of reviewing proposals during pandemics. The process would ensure that researchers clearly outline plans and justifications for storage, sharing and future use of data/samples in their ethics clearance application (45, 47). It would also ensure a clear description of whether samples and data will be stored and shared, who they will be shared with (with or without restrictions), and what they will be used for in the future (45, 47).

In the case of blood samples, while being cognisant of local contextual outlook and suspicion around taking and using blood samples, Schopper and colleagues contended that the ethics review process must be used to ensure that protocols explicitly indicate if blood samples collected during the research study will be destroyed or stored for future use (48), and that this information must be explicit in consent forms and the patients/participants must explicitly indicate their choice/decision. For example, in all the studies that they reviewed, the WHO-ERC explicitly requested for clarifications on sample and data ownership, data sharing policy, processes for decisions on future use of samples and appropriate participant information (45). Nevertheless, in view of the urgency of the EVD, the WHO-ERC approved studies where researchers demonstrated commitment to put appropriate agreements/processes in place (45).

Discussion

This review explored the landscape of ethics review systems, processes, procedures, and frameworks in Africa. We identified that within the African context, there is a gap in the published literature on research ethics review during public health emergencies, including protocol review processes, preparedness and priority-setting. While the Ebola virus disease provided the basis for more active engagement with the issue of oversight and governance for ethics review systems, little has been published on ethics review systems, processes, and frameworks during public health emergencies within the African landscape. This is an important area of interest because although there are studies, commentaries and opinion pieces on intervention or response strategies and activities in the event of PHEs such as the recent COVID-19 pandemic or disasters in general, these articles do not adequately capture questions around ethics review systems, processes and governance frameworks as part of ensuring preparedness for future pandemics.

We found that pertaining to issues of ethics review systems and processes as well as frameworks, most of the studies demonstrated that the processes undertaken, established, or adopted under the context of the PHEs within which they emerged were rooted in existing international principles relevant to the conduct of pandemic research. This is in line with different global studies where emphases have been placed on reliance on existent international guidelines and guiding principles on ethical conduct of research processes. Bain and colleagues, however, critiqued the pervasiveness of the existing international guidelines on the basis of the contextual appropriateness of some of these guidelines (49). This is especially in
terms of their potential negative impacts on timely and swift but robust and context-sensitive ethics review processes for study protocols during PHEs or disasters. The view is thus that without quick turnaround review times, much could be lost as regards the knowledge gained from data collected at crucial – not redundant – contexts of the infectious disease outbreak.

Additionally, the studies reviewed share similarities in terms of processes set in motion or recommended to be put in place to facilitate accelerated review in current PHEs or in preparation for future experiences. This remains a cross-cutting theme among most of the articles reviewed in this paper: the need for rapid, expedited ethics review of study protocols to facilitate a speedy investigation into disease pathogenesis as well as therapeutics and interventions required to curb the spread and impacts of the diseases (49). A central idea here entailed constituting ex-temporal committees or systems of review, including joint and multiple reviews (11, 45). A study addressing issues of accelerated reviews in Jamaica and St. Lucia proposed the convening of an ad hoc committee specifically focused on epidemics. This is especially true in countries where there are multiple RECs to reduce the propensity for long and duplicated review processes (3, 4). Such a framework, which allows for representatives of individual RECs to form part of the ad hoc committee, allows for a central review and approval process for which the final verdict will be reported back via the same channel, thus reducing the time for the review of articles. This process stands in addition to other recommendations, such as the development or amendment of the standard of operation (SOP) pertaining to the conduct of research to take note of the context specificity of the pandemic or infectious disease outbreak as well as enhance flexibility for how ethics review systems work, the manner of coordination and harmonisation required in cases of multisite studies and joint reviews and collaborative activities to strengthen the review processes not only for speed but also for robustness (3, 12, 37). Although a useful point, the idea of establishing ad hoc committees is not universally shared, as another study in Ecuador contended that this ad hoc committee process unnecessarily impedes the desired expedition of reviews and defeats the purpose for which it was proposed or recommended (18). Indeed, steps undertaken to expedite the review process do not often yield the intended result – a point clearly confirmed by De Crop and colleagues’ experience of the Ebola Tx Trial study (46).

Interrogating the content of the ethics review processes, we also found that issues such as study design, the nature of informed consent – especially how information is communicated, and consent obtained – and the importance of stakeholder engagement and collaborative partnerships were quite high on the agenda of most of the Africa-specific literature reviewed. This is often in terms of their relevance in the review of study protocols to reflect important ethical principles – from respect for persons, the imperative to do no harm, maximise benefit and minimise risks under beneficence, to demonstrating fairness and justice particularly in the selection of study participants – during infectious disease outbreaks. These findings are also captured in the broader literature on the implementation of research during pandemics and disasters (36, 52, 53), as well as the ethical considerations that researchers and sponsors must bear in mind in their design and implementation of studies that involve human subjects (4, 32), especially those from vulnerable communities and populations (53).

In all these, the role of research teams is to ensure that communities/societies facing infectious disease outbreaks adequately understand the rationale for the research being undertaken in their context and how it concerns them. This includes all the stages of the research and/or research intervention activities (49). A Stakeholder Engagement and Communication and Issues Management plan can facilitate engagements with interest groups, identified within the formative research, who can positively or negatively impact how the proposed study or intervention would work (51). This plan should also be adequately demonstrated in the clinical trial protocols that the REC must review and adequately scrutinise.

Our findings also relate to the need for qualitative, formative, or anthropological research (approaches) supporting research interventions during PHEs despite the inherent challenges, risks and drawbacks linked to setting up and executing them timeously. The articles emphasise the contribution of such research approaches within research designs or as independent studies that contribute a great deal toward enhancing contextual understandings of the people, participants, or targets of research (and interventions), especially environments riddled with mistrust for health practitioners and researchers in particular, as well as strong cultural beliefs and interpretations of and engagement with Western medical practices and modalities.
Study Limitations

An important limitation of this scoping review is that while the diversity of focus within the articles reviewed demonstrates different components of the ethics review systems, processes and frameworks required for ethical conduct of research during PHEs, many of the arguments made in this review are inferred. Essentially, we argued that authors’ emphasis on certain components of the ethical conduct of research implies a recommendation for what RECs should consider in their engagement with research protocols during the context of a PHE. Hence, a reading of some of the articles reviewed will point to discussions, for example, about the importance of stakeholder engagement and various aspects of informed consent application within the establishment and execution of studies during COVID-19 (47, 51). While the components remain crucial for ethics review processes, they were not readily discussed by the authors in that sense, hence our inferential conclusions.

Conclusion

This scoping review reveals that much more needs to be done around ethics review systems, processes and procedures within Africa for better preparedness and response to emerging and future pandemics. This is needed so that timely context-relevant research can be undertaken but also in a manner that adequately recognises and reinforces the dignity of people in the quest to gain more understanding of diseases. This requires training and capacity building for REC members, reviewing the make-up of RECs and their competencies to review and handle specific cases during reviews, and for governments and study funders to make funds more flexible and durable to allow for training and more ingenious approaches to research review during public health emergencies.

Abbreviations

EVD
Ebola virus disease
ERC
Ethics Review Committees
IRB
Institutional Review Board
MERS
Middle East Respiratory Syndrome
NREC
National Research Ethics Committee
PHE
Public Health Emergency
REC
Research Ethics Committee
SARS-CoV-2
Severe Acute Respiratory Syndrome Coronavirus 2
SOP
Standard operating procedure
SSA
Sub-Saharan Africa

Declarations

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Not applicable.
Consent for publication
Not applicable.

Availability of data and materials
All the data generated or analysed during this scoping review have been included in this manuscript.

Competing interests
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Contributions
KO, AH and DK conceptualised and designed the study. KO and AH coordinated the data search process. KO and AH contributed to the analysis of the results and drafted the manuscript. BN, NN, PT, AG, SM, SK, JS and DK critically reviewed the manuscript. All authors contributed to the revision of the manuscript and approved the final manuscript.

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