

BMJ Open Policy responses to the COVID-19 pandemic in West Africa: a scoping review protocol

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ABSTRACT

Introduction Four years after the devastating Ebola outbreak, governments in West Africa were quick to implement non-pharmaceutical interventions (NPIs) in response to the rapid spread of SARS-CoV-2. The NPIs implemented included physical distancing, closure of schools and businesses, restrictions on public gatherings and mandating the use of face masks among others. In the absence of widely available vaccinations, NPIs were the only known means to try to slow the spread of COVID-19. While numerous studies have assessed the effectiveness of these NPIs in high-income countries, less is known about the processes that lead to the adoption of policies and the factors that influence their implementation and adherence in low-income and middle-income countries. The objective of this scoping review is to understand the extent and type of evidence in relation to the policy formulation, decision-making and implementation stages of NPIs in West Africa.

Methods and analysis A scoping review will be undertaken following the guidance developed by Arskey and O'Malley, the Joanna Briggs Institute (JBI) methodology for scoping reviews and the PRISMA guidelines for Scoping Reviews. Both peer-reviewed and grey literature will be searched using Web of Science, Embase, Scopus, APA PsycInfo, WHO Institutional Repository for Information Sharing, JSTOR and Google Advanced Search, and by searching the websites of the WHO, and the West African Health Organisation. Screening will be conducted by two reviewers based on inclusion and exclusion criteria, and data will be extracted, coded and narratively synthesised.

Ethics and dissemination We started this scoping review in May 2023, and anticipate finishing by April 2024. Ethics approval is not required since we are not collecting primary data. This protocol was registered at Open Science Framework (<https://osf.io/gvek2/>). We plan to disseminate this research through publications, conference presentations and upcoming West African policy dialogues on pandemic preparedness and response.

INTRODUCTION

Four years after the devastating Ebola outbreak in West Africa, governments were quick to implement non-pharmaceutical interventions (NPIs) in response to the rapid spread of the novel COVID-19, SARS-CoV-2. In early 2020, West African governments

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ Given the COVID-19 pandemic has officially ended, the review topic and objectives are timely as there is a critical need to learn from the policy responses in order to be better prepared for future public health emergencies.
- ⇒ This study will apply established scoping review methods.
- ⇒ A comprehensive literature search strategy of electronic bibliographic sources and grey literature will be used to capture available evidence.
- ⇒ Due to incorporating broad research methodologies, the heterogeneity in type, method and timing of administration of the various interventions may yield data that might be difficult to synthesise.

feared experiencing the same surging infection rates and sharp increases in morbidity and mortality that China, the USA and parts of Europe faced. Initial predictions suggested that the number of COVID-19 cases in West Africa would match those of Europe, exceeding 10 000 per country by May 2020 and reaching 2.8 million cases by end of June 2020.^{1 2} Given the low capacity of health systems in the region to deal with a new public health emergency, NPIs were introduced as containment and mitigation measures to prevent and slow the spread of disease.^{3 4} The NPIs implemented initially focused on minimising the risk of transmission by screening passengers from China, where the virus originated, and enhancing surveillance at airports.⁵ Bans on international travel, instituting mandatory quarantine and the closing of borders soon followed.⁶ Additional mitigation measures were also implemented including limiting the size of public gatherings, closing schools and businesses and mandating physical distancing.⁷ Given that 9 of the 15 countries in the West African region are among the poorest in the world, however, implementing NPIs has had disproportionately high social, economic and political costs.⁸⁻¹⁰ Lockdowns and the restrictions



on gatherings, in particular, disrupted agricultural activities, livestock, fish farming and interrupted internal food supply chains in Africa.^{11 12} Together with wider disruptions to global trade, these resulted in soaring food prices in the region; the highest prices since 2008.¹³ Even though the full economic impacts of COVID-19 are yet to be seen, Africa is already in its first recession in 25 years as a result of the economic repercussions of the COVID-19 pandemic.¹⁴

In light of this high cost, it is critical to assess the appropriateness and effectiveness of NPIs as public policy tools for pandemic preparedness and response in West Africa. When faced with future pandemics, governments require confidence that not only will the NPIs adopted effectively prevent and slow the spread of disease, but also that the social, economic and political price is worth paying. Critics of the NPIs that were implemented in West Africa suggest that governments merely ‘copied and pasted’¹⁵ policy responses from the Global North that were largely inappropriate. They argue that the NPIs failed to recognise the social, cultural economic and political realities of many African countries,¹⁶ and by so doing did not adequately consider the precarious socioeconomic conditions of local populations.¹⁷ Other analysts suggest that the policy responses in West Africa constituted a mix of under-reactions and over-reactions to the pandemic.¹⁸ In terms of effectiveness, although the majority of studies that have estimated the effects of NPIs on the spread of disease since the start of the pandemic were conducted in countries in Asia, North America and Europe, a few West African countries have been included in global reviews that were conducted (see eg, Haug *et al*¹⁹, Mendez-Brito *et al*²⁰ and An *et al*²¹). Overall, the studies highlight that the effectiveness of NPIs varies across geographic, cultural, political and epidemiological contexts.^{19–25} They show that, among other factors, timing, sequencing and adherence influence NPI effectiveness.^{19 22} Existing effectiveness studies focus predominantly on the substantive aspect of policy design for NPIs, however, paying little attention to the procedural aspect, or the process of designing and implementing NPIs.²⁶ This is the case even though it is widely recognised that understanding how policies are formulated and rolled out is a critical component of understanding their effectiveness.²⁷

Scholarship in the field of Health Systems and Policy Research (HSPR) highlights the importance of going beyond a focus on policy outputs, to understanding policy processes, particularly in low-income and middle-income countries.²⁸ This includes understanding how and when decisions were made by policymakers to adopt specific NPIs, what factors influence their implementation and how adherence to NPIs is monitored, if at all. In addition, understanding the policy environment in which the NPIs are developed including the presence of social policies is important.²⁹ Shedding light on these policy processes addresses a current gap in our knowledge, which can help to identify how government responses to future pandemics can be improved. This is especially important

since it is widely acknowledged that in the absence of widely available vaccine, NPIs will continue to be the only known means to try to slow the spread of a new infectious disease.

Study objective

The objective of this scoping review is to assess the extent of the literature on the formulation, adoption and implementation of NPIs in the context of the COVID-19 pandemic in West Africa. Specifically, this review focuses on the processes behind the formulation, adoption and implementation of NPIs, and what is known about the factors that influenced the implementation of, and adherence to, NPIs in West African countries.

Policy formulation refers to the ‘development of specific policy options within government when the range of possible choices is narrowed by excluding infeasible ones’.³⁰ In this process, various actors including epistemic communities typically lobby for their preferred policy solution to be selected.³⁰ Underlying these processes is the interplay of knowledge and power, since aligning problems with solutions involves knowledge and power-based political assessments of the costs and benefits of the policy choice.²⁷ Once policies have been formulated, decision-making takes place where particular policies, or courses of action, are formally adopted by governments.³⁰ After they have been adopted, governments implement the policies using a ‘combination of the tools of public administration’.³⁰ Even though using the ‘stages heuristic’ has been critiqued for being ‘overly mechanistic and linear’,³¹ it will be a useful framework to guide the analysis for this scoping review, particularly in the absence of alternatives.³²

Given the emerging nature of the evidence on NPIs for COVID-19, and the need to ‘map’ the evidence prior to conducting more focused reviews, a scoping review methodology was identified as most appropriate type of review to conduct. A preliminary search of Web of Science and the Open Science Framework was conducted and no current or underway scoping reviews on the topic were identified.

The main question the review seeks to answer is: What is known from the literature about the policy formulation, decision making, and policy implementation stages of the policy cycle for NPIs for COVID-19 in West African countries?

The following additional auxiliary questions that delve into attributes of the context and concept will guide the review:

1. In what governance, epidemiological, and social contexts were NPIs for COVID-19 implemented in West Africa?
2. Which stakeholders were involved in the policy formulation process? To what extent was the process informed by local evidence?

3. What factors influenced the implementation of, and adherence to, NPIs and how was compliance or the depth of implementation measured?

4. What social, economic, and political effects did the implementation of NPIs have in the countries under study?

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The following additional auxiliary questions that delve into attributes of the context and concept will guide the review: (i) Context and concept

Studies from all 15 West African countries that belong to the Economic Community of West African States (ECOWAS) will be included in the scoping review. These include Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo.

The core concept examined by this scoping review is NPIs for COVID-19. For the purposes of this scoping review, NPIs for COVID-19 will be defined as: 'all measures or actions, other than the use of vaccines or medicines, that can be implemented to slow the spread of (COVID-19) in a population'.³³ NPIs will be categorised into the following four categories: (1) personal protective measures such as hand hygiene and wearing of face masks; (2) environmental measures such as disinfecting surfaces and ventilating; (3) social distancing measures such as closing schools and workplaces and isolating sick persons; and (4) travel-related measures such as conducting entrance and exit screenings and restricting travel.³³

METHODS AND ANALYSIS

The proposed scoping review will follow the methodological guidance developed by Arksey and O'Malley³⁴ and will be conducted in accordance with the Joanna Briggs Institute (JBI) methodology for scoping reviews.³⁵ This protocol for the scoping review was published on the Open Science Framework (<https://osf.io/gvek2/>) and the final review will be reported in compliance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR).³⁶

Search strategy

The search strategy will aim to locate both published and unpublished studies. An initial limited search of EMBASE, Web of Science and SCOPUS was undertaken to identify

articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles were used to develop a full search strategy for Scopus (see online supplemental appendix 1). The preliminary search indicated that a considerable volume of literature exists in relation to NPIs in West Africa. The search on SCOPUS, for example, yielded over 5800 results. The search strategy, including all identified keywords and index terms, will be adapted for each included database and/or information source. The reference list of all included sources of evidence will be screened for additional studies.

Search in electronic databases

The databases to be searched include Web of Science, Embase, Scopus, APA PsycInfo, WHO IRIS (Institutional Repository for Information Sharing) and Google (Advanced Search). Studies published in English and French will be included. Studies published since 30 January 2020 will be included as this was when the COVID-19 pandemic officially declared a public health emergency of international concern (PHEIC).³⁷

Secondary search for research evidence via other sources

Sources of unpublished studies or grey literature will be identified through searches of the websites of the WHO, and the West African Health Organisation (WAHO). The websites of the governments of all 15 West African countries will be searched for policy documents, laws, public advice and guideline documents available related to COVID-19 (see online supplemental appendix 2).

Given the prominence of French and English in the West African region, sources in both languages will be considered for inclusion.

Only studies that refer to NPIs that were implemented in the context of COVID-19 will be included. Studies that reference NPIs in the context of other outbreaks, epidemics or pandemics will be excluded.

Inclusion criteria

Identifying aspects of the policy process demands attention to a variety of sources of evidence, both qualitative and quantitative, published and unpublished. This scoping review will therefore consider studies of any design, if they provide empirical evidence of the policy process for NPIs for COVID-19 in West Africa. This includes, but is not limited to, qualitative study designs including case studies, phenomenology, ethnography and action research, descriptive observational study designs including descriptive cross-sectional and ecological studies and mixed-methods studies. Qualitative evidence syntheses such as scoping reviews and critical interpretive syntheses that meet the inclusion criteria will also be considered. In addition, policy documents, national laws, strategy documents, programme documents, reports and newspaper articles will be considered for inclusion. All documents included in the review must be from one of the 15 countries in the West African region and must be

published after the declaration of the PHEIC in January 2020, in order to differentiate NPIs for COVID-19 from other NPIs that have been implemented in the countries under study.

Data extraction

Following the searches, all identified citations will be collated and uploaded into Endnote software and duplicates removed. Following a pilot test, titles and abstracts will then be uploaded onto the web-based application Rayyan (<https://rayyan.qcri.org/welcome>). Rayyan was selected to support the screening of articles due to the familiarity of the research team with the platform, the ability of researchers to conduct blinded screening simultaneously and the free cost of the platform. The titles and abstracts will be screened by two reviewers (H-TF and KM) independently for assessment against the inclusion criteria for the review. Reviewers will compare screening results and compile a list of included studies for full-text review. Where disagreements arise between the two researchers, a third member of the research team (JH) will be consulted. All potentially relevant sources will be retrieved in full and their citation details imported into a Microsoft Excel file. The full text of selected citations will be assessed in detail against the inclusion criteria by two independent reviewers (H-TF and KM). Here, the second reviewer (KM) will randomly assess 10% of the citations and the two reviewers will compare assessments. Reasons for exclusion of sources of evidence in full text that do not meet the inclusion criteria will be recorded and reported in the scoping review. As with the previous step, any disagreements that arise between the reviewers at this stage of the selection process will be resolved through discussion, or with the additional reviewer (JH). The results of the search and the study inclusion process will be reported in full in the final scoping review and presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for scoping review (PRISMA-ScR) flow diagram.³⁶

Data will be extracted from papers included in the scoping review by one review author (H-TF) using a data extraction tool developed in Microsoft Excel. The data extracted will include specific details about the context, study methods (where relevant) and key findings relevant to the review questions. Specifically, data will be extracted related to four domains: (1) metadata: authors, publication year, document type (journal article, policy document, programme report, newspaper article, etc), country of study and institution of lead author; (2) study/document descriptions: study design (where relevant), research type (where relevant), study objectives (where relevant), date of data collection (where relevant) and aspect of the policy process under study (policy formulation, decision-making and implementation); and (3) study detail: brief description of epidemiological context, governance context (regime type), social policy context, NPIs implemented and extraction of the main findings.

A draft extraction form is provided (see online supplemental appendix 3). The four a priori domains will be pilot tested by the review team and adapted as needed. During the process of extracting data from each included evidence source, the draft data extraction tool will be further modified and revised as necessary. Modifications will be detailed in the scoping review. Any disagreements that arise between the reviewers will be resolved through discussion, or with an additional reviewer/s. If appropriate, corresponding authors of papers will be contacted to request missing or additional data, where required. If no answer is received in 2 months, the paper will be excluded.

The individual sources of evidence will not be critically appraised for this scoping review.

Data analysis and presentation

Based on the a priori and inductively defined domains, the extracted data will be synthesised narratively, graphically and in table form. An expert who is involved with West African policy dialogues in pandemic preparedness and response will join the research team for the analysis process to identify categories of importance and discuss issues of contextual relevance. Once the domains are agreed on, NVivo software will be used to undertake coding both deductively using codes for the countries, stages of the policy cycle and NPIs discussed, and inductively, through identification of additional codes. For the narrative synthesis, data will subsequently be narratively synthesised to form an understanding of what is known about the formulation of, decision-making on, and implementation of NPIs for COVID-19 in West Africa. For the graphical representation, types of NPIs, stages of the policy cycle and contexts will be presented in clusters. Findings will be summarised in three graphical evidence maps, one for each stage of the policy cycle: policy formulation, decision-making and policy implementation. Each map will include types and combinations of NPIs on the y axis and context categories on the x axis. The cells of the map—each representing a specific NPI-context category combination—will be populated by information describing the number and types of studies/sources of evidence, if any, that have examined that NPI-context category pair. A narrative summary will accompany the graphical evidence maps and will describe how the results relate to the reviews objective and questions. All data presented in the tables, text and graphics will be double-checked by a second reviewer.

ETHICS AND DISSEMINATION

Research ethics approval is not required for this scoping review. This review started in May 2023, and is anticipated to end in April 2024. We plan to disseminate this research through publications, presentations at relevant international conferences and meetings with relevant stakeholders such as upcoming West African policy dialogues on pandemic preparedness and response. It is anticipated

that the research gaps that are identified during this scoping review will generate research questions that can inform upcoming research in West Africa. This scoping review protocol has been registered at Open Science Framework (<https://osf.io/gvek2/>).

Patient and public involvement

Patients and the public were not involved in the design or planning of the study.

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Contributors H-TF designed the protocol and wrote the manuscript. KM, JH and CW contributed to the intellectual content of, and critically appraised, the review protocol. All the authors edited and approved the manuscript before submission.

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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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37 World Health Organization. *COVID-19 Public Health Emergency of International Concern (PHEIC): Global research and innovation forum*. Geneva: World Health Organization, 2020.

Appendices

Appendix I: Search strategy

Database	Search string
Scopus	<p>(TITLE-ABS-KEY ("non-pharmaceutical*" OR "nonpharmaceutical" OR "non-pharmacological" OR "nonpharmacological" OR "public health and social measures" OR "public health measures" OR "social measures" OR "containment" OR "hygiene" OR "hand hygiene" OR "face mask" OR "mask wearing" OR "mask-wearing" OR "disinfection" OR "ventilation" OR "hand-washing" OR "physical distancing" OR "social distancing" OR "closure" OR "mass gatherings" OR "shielding" OR "travel restriction" OR "travel ban" OR "movement restriction" OR "border closure" OR "RCCE" OR "community engagement" OR "active case detection" OR "screening" OR "contact tracing" OR "isolation" OR "quarantine" OR "curfew" OR "compliance" OR "adherence" OR "school closure" OR "business closure" OR "workplace closure") AND TITLE-ABS-KEY ("infectious" OR "communicable" OR "epidemic" OR "pandemic" OR "outbreak" OR "coronavirus" OR "SARS-CoV-2" OR "COVID") AND TITLE-ABS-KEY ("West Africa" OR "Sierra Leone" OR "Guinea" OR "Ghana" OR "Benin" OR "Burkina Faso" OR "Cabo Verde" OR "Cote d'Ivoire" OR "Ivory Coast" OR "Gambia" OR "Guinea-Bissau" OR "Liberia" OR "Mali" OR "Nigeria" OR "Niger" OR "Senegal" OR "Togo")) AND PUBYEAR > 2019 AND (LIMIT-TO (LANGUAGE , "English") OR LIMIT-TO (LANGUAGE , "French"))</p>

Appendix II: Government website search

Government	Website
Benin	https://sante.gouv.bj/
Burkina Faso	https://www.sante.gov.bf/
Cabo Verde	https://minsaude.gov.cv/
Cote d'Ivoire	https://guce.gouv.ci/health
Gambia	https://moh.gov.gm/
Ghana	https://www.moh.gov.gh/
Guinea	https://ihf-fih.org/members/ministry-of-health-and-public-hygiene/
Guinea-Bissau	https://www.parlamento.gw/
Liberia	https://www.nphil.gov.lr/
Mali	http://www.sante.gov.ml/
Niger	https://www.gouv.ne/
Nigeria	https://www.health.gov.ng/
Senegal	https://www.sante.gouv.sn/
Sierra Leone	https://mohs.gov.sl/
Togo	https://sante.gouv.tg/

Appendix III: Data extraction instrument

The following modifications are suggested to the JBI template source of evidence details, characteristics and results extraction instrument.

Scoping Review Details	
Scoping Review title	
Review objectives	
Review questions	
Inclusion/Exclusion Criteria	
Population	
Concept	
Context	
Source Metadata	
Citation details (e.g. author/s, date, title, document type (journal article, policy document, programme report, newspaper article, etc))	
Country	
Institution of lead author	
Participants (details e.g. age/sex and number), if relevant	
Study/document descriptions	
Study design (where relevant)	
Research type (where relevant)	
Study objectives (where relevant)	
Date of data collection (where relevant)	
Aspect of the policy process under study (policy formulation, decision-making, implementation)	
Details/Results	
Description of epidemiological context	
Governance context (regime type)	
Social policy context	
Non-pharmaceutical intervention(s)	
Other main findings	