

Comparative Evaluation of COVID-19 Public Health Interventions and Management in Older Populations: A Scoping Review and SWOT Analysis of Cameroon and the United States

Clinton Kwemu Njakoi

drkwemu2015@yahoo.com

University of Bamenda

Frankline Sevidzem Wirsiy

Africa Centres for Disease Control and Prevention (Africa CDC)

Carine Njwengba Owajege

University of Bamenda

Systematic Review

Keywords: COVID-19, Geriatric Care, SWOT Analysis, Cameroon, USA, Public Health Policy, Health Equity

Posted Date: July 10th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-10267359/v1>

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Additional Declarations: No competing interests reported.

Version of Record: A version of this preprint was published at BMC Geriatrics on October 15th, 2026. See the published version at <https://doi.org/10.1186/s12877-026-08467-7>.

Abstract

Background

The COVID-19 pandemic disproportionately affected older adults ((65+)) due to physiological vulnerabilities and social isolation. This study evaluates public health response and management strategies for elderly populations in two distinct economic contexts: Cameroon, a Lower-Middle Income Country (LMIC), and the United States, a High-Income Country (HIC).

Methods

A scoping review and structured SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis were conducted following the PRISMA-ScR guidelines. We systematically searched PubMed, Scopus, and African Journals Online (AJOL) for peer-reviewed literature and institutional reports published between 2020 and 2026.

Results

Cameroon's response relied on resilient community networks and government-led financial cushions, such as a 20% increase in state pensions, alongside robust international technical support. However, these efforts were severely hindered by structural healthcare weaknesses, a 73% fear-driven clinical avoidance rate, low diagnostic testing (10.02) per (1,000), and conflict-zone resource constraints. In contrast, the United States leveraged sophisticated real-time data systems and rapid vaccine rollouts that averted an estimated 92% of elderly deaths post-implementation, alongside a massive expansion of telehealth serving 59% of isolated seniors. Nevertheless, the US faced profound failures in infection control within long-term care facilities, sharp political polarization, and deep-seated racial health inequities.

Conclusion

Future pandemic preparedness must systematically integrate "healthy aging" strategies into national policy frameworks. LMICs must prioritize sustainable domestic health financing and decentralized mobile care, while HICs must dismantle institutional inequities and combat public health misinformation to safeguard the global aging population.

Trial Registration

Clinical trial number: not applicable.

1. Introduction

The COVID-19 pandemic, caused by the SARS-CoV-2 virus, precipitated an unprecedented global health emergency that brought systemic vulnerabilities to light across diverse health infrastructure frameworks. Older adults (defined as individuals aged 65 and older) bore the heaviest burden of the disease. Age-related physiological changes, such as immune senescence, coupled with a high prevalence of underlying chronic comorbidities, placed this demographic at a significantly elevated risk for severe clinical complications, recurrent hospitalizations, and mortality. Beyond the direct biomedical impacts, the containment measures implemented to suppress viral transmission including prolonged lockdowns, physical distancing mandates, and structural reallocations of healthcare resources compounded the social isolation, financial instability, and healthcare access barriers experienced by older populations.

Evaluating public health and geriatric-focused strategies across highly contrasting socioeconomic strata is critical to uncovering core flaws and successes in pandemic management. This study employs a comparative framework by analyzing two nations representing opposing ends of the World Bank's economic classifications: Cameroon, a Lower-Middle Income Country (LMIC) in Sub-Saharan Africa, and the United States of America (USA), a High-Income Country (HIC).

Cameroon features a young overall demographic profile with a median age of 18.7 years, yet it faces a steadily growing absolute population of older individuals who rely on underfunded health systems and navigate complex regional geopolitical instabilities. Conversely, the United States is navigating a rapid demographic shift toward an aging society, with its population aged 65 and older expanding from 55.8 million to 61.2 million between 2024 and 2025. While the USA possesses an advanced clinical and technological infrastructure, its pandemic response was heavily mediated by deep-seated socioeconomic inequities, fragmented institutional models, and political polarization. By deploying a structured Scoping Review methodology paired with a SWOT analysis, this paper synthesizes literature from 2020 to 2026 to critically evaluate the successes, systemic failure points, and long-term policy implications of the geriatric COVID-19 response in both Cameroon and the United States.

2. Methods

This study was designed as a scoping review and policy synthesis, adhering structurally to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines. The dual objective was to gather empirical literature regarding older adults during the pandemic and systematically categorize the findings using a standard SWOT analytical framework.

2.1 Search Strategy and Information Sources

Comprehensive electronic searches were executed across three major databases: PubMed/MEDLINE, Scopus, and African Journals Online (AJOL). The search scope was restricted to literature published between January 2020 and February 2026 to capture the full trajectory of the pandemic and early post-pandemic evaluations. The search strings utilized a combination of Medical Subject Heading (MeSH)

terms and boolean operators as follows: ("COVID-19" OR "SARS-CoV-2") AND ("elderly" OR "older adults" OR "geriatric care" OR "aged") AND ("SWOT analysis" OR "public health response" OR "health policy") AND ("Cameroon" OR "United States" OR "USA"). To capture crucial grey literature, targeted manual searches were performed on the official repositories of the World Health Organization (WHO), the Africa Centres for Disease Control and Prevention (Africa CDC), the US Centers for Disease Control and Prevention (CDC), the U.S. Census Bureau, and the World Bank Group.

2.2 Inclusion and Exclusion Criteria

Studies were screened and selected based on the following criteria:

Inclusion Criteria

(1) Peer-reviewed primary research, systematic or scoping reviews, meta-analyses, and official government or institutional public health reports; (2) Focus on populations aged 65 and older; (3) Direct relevance to the public health interventions, socioeconomic cushions, clinical management, or structural outcomes of the COVID-19 pandemic in either Cameroon or the United States.

Exclusion Criteria

(1) Broad population studies lacking age-stratified or geriatric-specific data subsets; (2) Opinion pieces, non-peer-reviewed commentaries, or editorials without empirical data; (3) Literature published in languages other than English or French.

2.3 Methodological Framework: SWOT Matrix

The extracted data points were processed using a standard SWOT matrix to evaluate internal and external factors driving the responses. Internal factors (Strengths and Weaknesses) are defined as intrinsic characteristics and resource capacities inherent within each nation's domestic healthcare system and governance models. External factors (Opportunities and Threats) are defined as macro-environmental dynamics, global strategic partnerships, economic shocks, and geopolitical climates that exist outside the immediate health sector but directly impact its capacity to protect older citizens.

3. Results

The systematic synthesis of the literature revealed distinct strategic architectures in both nations. A high-level comparative summary of these findings across the health systems framework is detailed in Table 1.

Table 1
Comparative SWOT Matrix of Geriatric COVID-19 Responses

SWOT Dimension	Cameroon (Lower-Middle Income Country) (21)	United States (High-Income Country) (21)
Strengths (Internal)	• Decentralized informal community/kinship networks (22) • State-led 20% pension & allowance expansion (1) • Africa CDC/US-CDC backed lab surveillance (3)	• Rapid mass deployment of mRNA vaccine rollouts (10) • Swift scaling of federal telehealth coverage to 59% (6) • Highly advanced real-time molecular data systems (10)
Weaknesses (Internal)	• 73% fear-driven outpatient care avoidance (12) • Extreme diagnostic testing gaps ((10.02/1,000)) (11) • Severe shortfalls in clinical PPE and oxygen systems (11)	• Vulnerabilities in long-term nursing care settings (2, 15) • (3.0 times) higher minority hospitalization rates (15) • Isolation-linked mental health decline in 59% of elders (15)
Opportunities (External)	• \$400M bilateral US-Cameroon Health MOU (19) • Integration into UN Decade of Healthy Ageing (20) • Pilot adoption of low-cost rural digital medicine (8,9)	• Legislative overhauls for long-term care safety (14) • Permanent federal telehealth reimbursement shifts (17) • Increased capital allocation for health equity research (15)
Threats (External)	• National macroeconomic deficit ((approx 800)B FCFA) (5) • Armed conflicts causing regional internal displacement (12) • High risk of resurgence driven by vaccine hesitancy (16)	• Long COVID symptoms affecting 20% of senior survivors (18) • Intense structural and political policy polarization (18) • Proliferation of systemic anti-vaccine misinformation (18)

3.1 Strengths (Internal Attributes)

3.1.1 Cameroon

The Cameroonian response for older cohorts drew heavily upon proactive institutional financial adjustments and organic, community-level support structures. To buffer vulnerable households against immediate macroeconomic disruptions, the presidency enacted targeted financial measures, which included increasing family allowances from CFAF 2,800 to 4,500 and raising state pensions by 20%. On an epidemiological level, long-standing bilateral partnerships most notably with the United States Centers for Disease Control and Prevention (US-CDC) enabled over 100 rapid outbreak investigations. This international technical support directly facilitated the operational expansion of the Public Health

Emergency Operations Center, the Incident Management System, and the National Public Health Laboratory, providing a basic framework for tracking transmission dynamics.

Furthermore, in resource-constrained rural environments where formal healthcare infrastructure was absent, decentralized kinship networks and traditional community leadership stepped in. These informal structures spearheaded localized hygiene drives, disseminated basic health education in native languages, and provided direct social support to homebound elders, stabilizing self-rated well-being amidst external disruptions.

3.1.2 United States

The internal strengths of the United States response rested on its massive scientific, clinical, and technological infrastructure. The rapid, prioritized deployment of mRNA vaccines and subsequent boosters to high-risk older age groups served as a highly effective intervention, averting an estimated 92% of potential geriatric deaths once fully implemented. To protect isolated older individuals from the risk of clinical viral exposure, federal regulatory adjustments rapidly scaled up telehealth infrastructure, expanding remote medical services to 59% of seniors.

Additionally, the CDC coordinated real-time tracking, genomic sequencing, and data collection networks. This data-driven framework allowed public health authorities to detect emerging variants and dynamically implement targeted intervention protocols within high-risk congregate environments and nursing homes.

3.2 Weaknesses (Internal Gaps)

3.2.1 Cameroon

The structural deficits of Cameroon's health system severely undermined clinical delivery for older adults. Widespread public anxiety regarding hospital-acquired transmission triggered a catastrophic 73% fear-driven decline in routine geriatric outpatient consultations. This disruption in chronic disease management led to a documented 23% rapid functional physical decline and left 50% of the elderly cohort self-reporting poor baseline health statuses.

Epidemiological management was further restricted by a low national testing rate of just (10.02) tests per (1,000) individuals, creating a severe underreporting loop that obscured true geriatric mortality rates. Finally, structural shortages of personal protective equipment (PPE), essential diagnostics, and clinical oxygen delivery systems across dedicated isolation units compromised care delivery for hospitalized older patients experiencing respiratory distress.

3.2.2 United States

The primary internal weakness in the United States lay in the systemic failure to protect older adults residing in congregate long-term care facilities. Due to poor early infection control, inadequate staffing, and communal living designs, nursing home residents accounted for over one-third and up to 40% in

early waves of all recorded COVID-19 fatalities nationwide, with mortality rates exceeding 100 per 1,000 person-years in 2020.

The pandemic also highlighted deep-seated racial and socioeconomic inequities within the American healthcare apparatus. Due to systemic barriers, lower early vaccination uptake, and higher baseline comorbidities, minority older populations specifically non-Hispanic Black, Hispanic, and American Indian/Alaska Native seniors experienced disproportionately elevated mortality rates, with Black older adults suffering a hospitalization rate 3.0 times higher than their White counterparts. Concurrently, prolonged quarantine restrictions created a secondary mental health crisis, with 59% of older Americans experiencing significant psychological decline, cognitive acceleration, or depressive symptoms driven by extended social isolation.

3.3 Opportunities (External Factors)

3.3.1 Cameroon

The pandemic created external avenues for international partnership and strategic alignment. A landmark five-year, \$400 million USD Health Memorandum of Understanding (MOU) signed under the America First Global Health Strategy provided capital to upgrade Cameroon's digital health infrastructure and laboratory networks.

Furthermore, the global momentum generated by the World Health Organization's *UN Decade of Healthy Ageing (2021–2030)* offered Cameroon an institutional pathway to integrate community-based education models into formal national health policy, helping bridge the rural-urban health literacy divides. The pandemic-era validation of remote monitoring tools also laid the groundwork for deploying scalable, low-cost telemedicine frameworks tailored for rural older adults with chronic conditions.

3.3.2 United States

In the United States, the systemic failures exposed by the pandemic catalyzed substantial opportunities for legislative and structural reform. Catastrophic losses within long-term care networks pushed policymakers to introduce comprehensive regulatory overhauls aimed at improving mandatory staffing ratios, enhancing clinical safety protocols, and reshaping institutional funding models.

In the digital domain, public health success spurred a regulatory push to make emergency pandemic telehealth expansions permanent under federal insurance programs, securing continuous healthcare access for geographically isolated older populations. Furthermore, the clear data on racial disparities prompted substantial new federal capital allocations for health equity initiatives and targeted clinical research into marginalized aging demographics.

3.4 Threats (External Hazards)

3.4.1 Cameroon

Cameroon's long-term recovery and elder-care systems face serious macroeconomic and geopolitical threats. The pandemic caused an estimated national economic loss of 800 billion FCFA, triggering severe inflation that pushed impoverished older adults into food insecurity, nutritional deficits, and medication poverty.

Compounding this economic distress, active, protracted armed conflicts and climate-driven disasters across the Northwest, Southwest, and Far North regions caused massive internal population displacements. These crises disrupted established kinship networks and cut off older refugees from physical access to health facilities. Finally, low national vaccination coverage, combined with persistent diagnostic underreporting, leaves the country highly vulnerable to silent, unmonitored resurgences of new viral variants.

3.4.2 United States

The United States faces ongoing threats rooted in post-viral clinical burdens and intense socio-political division. Epidemiological tracking indicates that Long COVID characterized by persistent fatigue, chronic pain, and cognitive deficits affects roughly 20% of older survivors, placing a heavy, continuous demand on specialized geriatric healthcare resources.

Crucially, deep political polarization has fragmented the national public health strategy. Conflicting state-level legislations, divided messaging from political figures, and institutional distrust have fueled widespread vaccine hesitancy and resistance. This ongoing polarization continues to suppress booster uptake and hampers coordinated, unified responses to subsequent epidemiological waves.

4. Discussion and Policy Implications

This comparative analysis demonstrates how contrasting macroeconomic realities shaped the pandemic experience for older adults. In Cameroon, a younger overall demographic profile helped keep crude nationwide mortality rates lower, yet older adults faced high vulnerability due to a fragile healthcare system, conflict-driven displacement, and fear-induced care avoidance. In direct contrast, the United States deployed immense financial, technological, and clinical capital to mitigate the pandemic's impact, yet its structural successes were severely undermined by institutional failures in nursing homes, sharp political divisions, and pervasive racial inequities.

To transition these insights into actionable public health preparedness, both nations must pursue distinct, targeted policy pathways:

4.1 Policy Recommendations for Resource-Constrained Contexts (Cameroon)

Establish Mobile Geriatric Healthcare Delivery

To directly counter the documented 73% clinic avoidance rate caused by fear of institutional infection, public health authorities should deploy decentralized mobile medical clinics and home-based monitoring systems. These tools can deliver routine chronic disease management directly to rural and conflict-displaced older adults.

Decentralize and Secure Clinical Supply Chains

Cameroon must utilize funding from international partnerships, such as the \$400 million USD bilateral MOU, to build resilient regional stockpiles of personal protective equipment (PPE), diagnostic kits, and therapeutic oxygen infrastructure, ensuring continuous care capacity during emergencies.

Formalize Community Support Networks

The informal kinship and traditional civic networks that showed high resilience during the pandemic should be integrated into official primary healthcare frameworks to help bridge the rural-urban health literacy gap.

4.2 Policy Recommendations for High-Income Contexts (United States)

Enact Strict Federal Regulations on Long-Term Care Facilities

To address the vulnerabilities that led to nursing homes becoming major vectors, the US must mandate stricter infection control standards, transparent data reporting, and higher mandatory medical staffing ratios.

De-polarize Public Health Messaging

Public health agencies must decouple health guidance from political channels. Partnering with trusted, non-partisan local community leaders and local clinicians is essential to combat vaccine misinformation and improve booster uptake among vulnerable seniors.

Institutionalize Health Equity Frameworks

Policymakers must use data on racial disparities to structurally reform resource allocation, ensuring that minority and lower-income older adults receive timely, barrier-free access to preventative care and breakthrough therapeutics.

Declarations

Competing interests

The authors declare no competing interests.

Trial Registration

Clinical trial number: not applicable.

Funding Declaration

This research received no specific grant or financial support from any funding agency in public, commercial, or not-for-profit sectors.

Authors' contributions

The corresponding author-CKN was the principal investigator who conceptualized the study design and analysis of the study. CNO and FSW participated in drafting the first manuscript. All the authors reviewed and edited the final manuscript. They have also read and approved the final version of this manuscript.

Ethics and Consent to Participate declarations:

'Not Applicable"

Consent to Publish

'Not Applicable"

Data Availability Statement

All data generated or analyzed during this study are included in this published article.

Ethics and Consent to Participate declarations:

'Not Applicable"

ORCID IDs

Clinton Kwemu Njakoi: <https://orcid.org/my-orcid?orcid=0009-0001-8246-3564>

Frankline Sevidzem Wirsy: <https://orcid.org/0000-0001-5767-7344>

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