

# ECOVA PROJECT COUNTRY LEVEL STUDIES REPORTS AND SYNTHESIS REPORTS 2

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*GRANT / SUBVENTION: - EQUITABLE ACCESS TO COVID-19 VACCINES IN AFRICA (ECOVA)*



**African Health Economics and Policy Association**

**Association Africaine d'Economie et de Politique de la Santé**

## **Gender mainstreaming, equity and diversity considerations within the Equitable Access to Covid-19 Vaccines in Africa project**

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The Equitable Access to COVID-19 Vaccines in Africa (ECOVA) is a Collaborative Initiative by

African Health Economics and Policy Association (AfHEA)

Africa Centres for Disease Control and Prevention (Africa CDC), and

United Nations Economic Commission for Africa (UNECA).

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## Summary

The COVID-19 pandemic worsened existing inequalities in global health, especially in vaccine production, distribution, and access. Gender, socioeconomic, and geographic disparities further marginalized vulnerable populations. To address these challenges, AfHEA partnered with Africa Centres for Disease Control and Prevention (Africa CDC) and United Nations Economic Commission for Africa (UNECA), with funding from International Development Research Centre (IDRC) to research and improve equitable vaccine rollout in Africa. This report presents findings from the Equitable Access to the COVID-19 vaccines in Africa (ECOVA) project from eight African countries (Botswana, Democratic Republic of Congo (DRC), Ghana, Ethiopia, Kenya, Mozambique, Nigeria and Zimbabwe). The report assesses how gender, equity, and diversity were considered. It highlights gaps, best practices, and recommendations to ensure vaccine policies are inclusive, fair, and responsive to Africa's diverse populations through research, advocacy, and capacity building.

This gender analysis follows Morgan et al.'s (2021) Gender and Intersectionality Framework, which examines how power, social identities, and systemic inequities shape health outcomes. It was used to explore how gender, socioeconomic status, geography, and other social identities influence vaccine access, production, and policy. The framework's three key dimensions—structural factors, social norms, and individual agency—help uncover disparities in decision-making, workforce representation, and access to vaccination. Findings were drawn from scoping reviews of country-specific research and key informant interviews on vaccine delivery, then organized thematically for analysis.

Key findings from the gender analysis include, (i) absence of gender-sensitive and inclusive strategies in country plans for COVID-19 vaccine distribution; (ii) underrepresentation of women in national decision-making structures for COVID-19 vaccine; (iii) gender disparities in workforce participation in vaccine distribution – with female frontline health workers bearing a disproportionate burden of vaccine delivery; (iv) lack of sex-disaggregation of analysed data to guide vaccination decision-making; (v) limited access to vaccination for women due to mobility constraints, caregiving responsibilities and economic constraints; (vi) women's limited decision-making power on household vaccination uptake; (vii) gendered cultural norms around consent for vaccination for women; and (viii) employment-related constraints – women faced difficulties leaving work or schools to get vaccinated.

These findings highlight the need for policies and funding to ensure fair vaccine access and strengthen future health responses. Policymakers must adopt gender-responsive strategies, address workforce disparities, and improve data systems. Donors and development partners can support these efforts through funding, capacity-building, and collaboration to build resilient and equitable health systems.

## Background

The COVID-19 pandemic exposed and exacerbated longstanding inequities in global health systems, particularly in the production, distribution, and accessibility of vaccines (Singh et al., 2022; Tatar et al., 2021). While high-income countries rapidly secured and distributed vaccines, many African nations faced significant challenges, including limited local manufacturing capacity, supply chain constraints, and disparities in vaccine access (Ataguba, 2020). These challenges were further compounded by gender, socioeconomic, and geographic inequities that disproportionately affected marginalized populations (Essel et al., 2023; Khanijahani et al., 2021; Torrele & Amon, 2021).

In response to these challenges, AfHEA, together with partners, the Africa Centres for Disease Control and Prevention (Africa CDC) and the United Nations Economic Commission for Africa (UNECA), with funding from the International Development Research Centre (IDRC) established a multicountry research initiative to address inequities in the manufacture and rollout of COVID-19 vaccines in Africa. Through a combination of research, advocacy, and capacity-building activities, this initiative sought to strengthen regional vaccine manufacturing, improve equitable distribution strategies, and enhance policy frameworks that prioritize inclusivity.

Central to this effort is the recognition that gender mainstreaming, equity, and diversity considerations must be integrated into all aspects of vaccine research, production, and deployment. Women and other marginalized groups have historically faced barriers to vaccine access, decision-making, and participation in the health workforce, limiting their ability to benefit from and contribute to pandemic response efforts (Feletto & Sharkey, 2019). Additionally, structural inequities—such as disparities in healthcare infrastructure, income levels, and education—continue to influence vaccine coverage and public health outcomes (Bergen et al., 2023).

The manufacture and rollout of COVID-19 vaccines in Africa have been shaped by deep-seated gender and intersectionality issues that have influenced access, decision-making, and health outcomes (Heidari et al., 2021). Women, particularly those in low-income and rural communities, are likely to face greater barriers to vaccine access due to caregiving responsibilities, mobility restrictions, and limited engagement in health decision-making processes (Ahinkorah et al., 2021; CARE, 2021). Additionally, the underrepresentation of women in the science, technology, and policy sectors meant that their perspectives will likely be overlooked in vaccine research, manufacturing, and distribution strategies.

Intersectional factors such as socioeconomic status, education level, geographic location, and disability further compounded these disparities, with marginalized groups experiencing higher rates of misinformation, vaccine hesitancy, and exclusion from priority vaccination programs (Bergen et al., 2023; Kazemi et al., 2022; Zbiri & Boukhalfa, 2023). The COVID-19 pandemic also affected people of different ages and co-morbidities differently, especially the older population group (Ataguba et al., 2021). Moreover, frontline health workers—most of whom are women—were disproportionately exposed to COVID-19 risks yet often lacked adequate protection, training, and decision-making authority in vaccine deployment (Phillips et al., 2024; Shindinge, 2024). Addressing these gender and intersectional barriers is critical to ensuring an equitable and inclusive approach to vaccine production and distribution that leaves no one behind.

As part of the ECOVA project, the research took keen interest in analyzing issues around gender mainstreaming and intersectionality in the COVID-19 vaccine rollout to strengthen and sustain

gender-responsive interventions. The research was conducted in nine African countries (Botswana, Democratic Republic of Congo (DRC), Ghana, Ethiopia, Kenya, Morocco, Mozambique, Nigeria and Zimbabwe) and generated evidence on COVID-19 vaccine rollout in Africa, drawing important lessons to guide future efforts across the continent. To ensure that gender mainstreaming and intersectionality were fully incorporated into the ECOVA research, the gender team (i) reviewed the ECOVA project proposal to identify specific areas of interest for gender diversity and equity considerations; (ii) developed a gender diversity and equity integration framework or plan (here, Morgan et al's (2021) framework was used) to guide the ECOVA project activities and reports; identified project-specific areas for measuring gender diversity and mainstreaming considerations in the COVID-19 vaccine access research; (iii) provided tailor-suited training and supported in-country consultants and the project team on integrating gender and equity considerations into the project implementation (achieved via the capacity workshop in Accra, April 29- May 2, 2024) and (iv) developed a consolidated report and policy brief summarizing the findings of a comprehensive gender analysis of inequities in the manufacture and roll-out of COVID-19 vaccines in the nine African countries.

This report is a consolidation of findings from the gender analysis of eight (out of nine) of the ECOVA project country reports from Botswana, DRC, Ethiopia, Ghana, Kenya, Mozambique, Nigeria and Zimbabwe, as the report from Morocco is not fully completed. The report assesses the extent to which gender, equity, and diversity considerations have been incorporated within the research initiative. It identifies existing gaps, highlights best practices, and provides recommendations to ensure that vaccine-related interventions are inclusive, just, and responsive to the diverse needs of African populations.

## **Methods**

The gender analysis is guided by Morgan et al's (2021) Gender and Intersectionality Framework. The framework provides a structured approach to examining how power dynamics, social identities, and systemic inequities shape health outcomes. In researching inequities in the manufacture and rollout of COVID-19 vaccines in Africa, this framework was used to analyze how gender, socioeconomic status, geography, race, and other intersecting factors influence vaccine access, production, and policy decisions.

The framework's key dimensions—structural factors, social norms, and individual agency—helps uncover disparities in vaccine-related decision-making, workforce representation, and resource allocation. Structural analysis can reveal how global trade policies and intellectual property rights limit African countries' ability to manufacture vaccines, disproportionately affecting women and marginalized communities reliant on local health systems. Social norms analysis highlights gendered roles in caregiving and employment, which impact vaccine access and hesitancy, while an agency-focused perspective explores how individuals navigate systemic barriers to vaccination.

### ***Data synthesis***

Final country reports were reviewed and analysed. The reports were developed through scoping review and key informant interviews. The scoping review was of country-specific published research literature on COVID-19 vaccine uptake, access and hesitancy. While the key informant interviews explored COVID-19 vaccine delivery and distribution mechanisms in the countries.

As shown in table 1, findings from the analysis were organized thematically for each of the key dimensions of the framework. The descriptions of each theme are also provided in the table.

**Table 1: Thematic areas for analysing gender considerations in manufacture and roll-out of COVID-19 vaccines in Africa**

Themes	Descriptions
<b>a. Structural factors</b>	
Political & policy frameworks	<ul style="list-style-type: none"> <li>- National and international policies shaping vaccine manufacturing and distribution in Africa</li> <li>- Gender representation in decision-making processes related to vaccine rollout and production</li> <li>- The role of intellectual property rights, trade agreements, and regulatory barriers in limiting equitable vaccine access</li> </ul>
Health system capacities and economic constraint	<ul style="list-style-type: none"> <li>- Availability and accessibility of vaccine production facilities in Africa</li> <li>- Gender disparities in the workforce participation of vaccine research, production, and distribution</li> <li>- Funding gaps and economic dependencies affecting equitable vaccine delivery and distribution</li> </ul>
Access and supply chain inequities	<ul style="list-style-type: none"> <li>- Geographic and economic barriers limiting vaccine distribution to marginalized communities</li> <li>- Gendered impacts of supply chain disruptions on vaccine availability</li> <li>- The role of public and private sector actors in determining equitable vaccine pricing &amp; distribution</li> </ul>
<b>b. Social norms</b>	
Gender roles and decision-making power	<ul style="list-style-type: none"> <li>- How societal expectations influence who makes vaccination decisions within households and communities</li> <li>- The role of women in caregiving and how this affects their access to vaccination</li> <li>- Gendered power dynamics in vaccine policy, research, and distribution</li> </ul>
Vaccine perceptions, misinformation & trust	<ul style="list-style-type: none"> <li>- Gendered differences in vaccine hesitancy and acceptance</li> <li>- The influence of cultural, religious, and community norms on vaccine attitudes</li> <li>- The role of social networks in spreading or countering vaccine misinformation</li> </ul>
Equity in access and participation	<ul style="list-style-type: none"> <li>- How gender norms shape barriers to vaccine access (e.g., mobility restrictions, informal labour, financial constraints)</li> <li>- The marginalization of certain groups (e.g., pregnant women, people with disabilities) in vaccine distribution</li> <li>- The gendered experiences of frontline health workers in vaccine rollout</li> </ul>
<b>c. Individual agency</b>	
Decision-making power and health autonomy	<ul style="list-style-type: none"> <li>- Gendered differences in the ability to make independent vaccination decisions</li> <li>- Socioeconomic and cultural constraints affecting individuals' choices regarding vaccination</li> <li>- The role of education and awareness in empowering individuals to seek vaccination</li> </ul>
Access to resources and opportunities	<ul style="list-style-type: none"> <li>- Barriers to accessing vaccines due to financial, geographic, or employment-related constraints</li> <li>- Disparities in access to information, healthcare services, and vaccine distribution points</li> <li>- How digital access and literacy affect individuals' ability to navigate vaccine registration and scheduling systems</li> </ul>
Resilience, advocacy, and community engagement	<ul style="list-style-type: none"> <li>- How individuals and community leaders (especially women) advocate for equitable vaccine access</li> <li>- Grassroots efforts and local initiatives to promote vaccine uptake in marginalized populations</li> <li>- Stories of resilience and agency in overcoming vaccine-related barriers</li> </ul>

## Findings

- **Structural factors affecting access to COVID-19 vaccine for women and marginalized communities**

Findings on the structural factors are summarized for each country in table 2. On the political and policy frameworks, most of the countries reported having national plans for COVID-19 vaccine distribution and a few had coordination committees. None of the countries had policies or plans for COVID-19 manufacturing but Ghana and Ethiopia reported availability of facilities and structures for vaccine production. **None of the country plans had gender-sensitive strategies or a policy for gender mainstreaming in COVID-19 vaccine distribution.** Only Botswana and Kenya reported on gender representation in decision-making processes related to vaccine rollout, and in both countries, **there was underrepresentation of women in national decision-making structures for COVID-19 vaccine.** None of the countries reported regulatory barriers limiting equitable access to COVID-19 vaccine.

Findings on health systems capacities and economic constraints showed that there were **gender disparities in workforce participation in vaccine distribution.** Botswana and Nigeria reports stated that **health workers at the frontlines of the COVID-19 vaccine delivery were mostly women.** In Ghana, it was reported that these frontline health workers were inadequate in numbers and the available ones were fatigued from the added burden of delivering COVID-19 vaccination services to the population. There was no mention of gender disparities in the vaccine research in any of the countries. There were reports of **lack of gender-sensitive data and lack of sex-disaggregation of analysed data to guide vaccination decision-making** in Ethiopia and Mozambique. Funding gaps and economic dependencies affected vaccine availability and deployment in Ghana.

Regarding access and supply chain inequities, all countries reported geographic and economic barriers limiting vaccine distribution to marginalized communities in rural and hard-to-reach areas. Five of the countries reported supply chain disruptions on vaccine availability but only Kenya reported that **structural barriers such as transportation difficulties affected women's access to COVID-19 vaccine more than men.** Ghana explicitly reported that there was no evidence of gendered impacts of supply chain disruptions on vaccine availability. Mozambique also reported **limited strategies for reaching vulnerable stigma-prone groups such as LGBTQ+ community.**

- **Social norms impacting COVID-19 vaccine access and hesitancy**

Findings on the social norms impacting COVID-19 vaccine access and hesitancy are summarized for each country in table 3. In Botswana, Mozambique, and Nigeria, both men and women independently decide whether to take the COVID-19 vaccine. However, **gendered differences in decision-making and access persist across countries.** In Ethiopia, while women do not require permission to get vaccinated, **socioeconomic and cultural constraints, such as domestic responsibilities and restricted mobility, limit their access to information and services.** In Ghana, Kenya, and Zimbabwe, **cultural norms dictate that women must seek permission from male household heads before getting vaccinated,** further constraining their autonomy. Meanwhile, efforts in Nigeria have focused on raising awareness and promoting education on vaccine uptake, highlighting the role of information in empowering individuals—especially women—to make informed vaccination decisions. In the DRC, an article reported statistical association between male gender and negative intention to be vaccinated against

COVID-19. However, male health workers accepted the vaccine more than their female counterparts.

Across the countries studied, several barriers to COVID-19 vaccine distribution and uptake were reported, including geographic inaccessibility, employment-related challenges, and disparities in information access. Limited transportation options and inadequate healthcare workforce hindered vaccine availability, while mistrust, misinformation, religious and cultural beliefs, and fear of side effects further discouraged uptake. In Kenya, **women faced difficulties leaving work or school to get vaccinated**, highlighting employment-related constraints. **Pregnant and lactating women also avoided vaccination due to concerns about potential health effects**. Gender disparities in access were evident, as **men had greater exposure to vaccine-related information and services**. In Zimbabwe, **women's vaccine uptake was limited because cultural expectations confined them to domestic roles**, restricting their access to both information and vaccination sites.

Strategies for community engagement included **mobilizing mother support groups, market women, and queen mothers, alongside engaging men at the community level to enhance vaccine information** dissemination in Ghana. Traditional media platforms were widely used to spread accurate vaccine information in Kenya, while community health workers and young people played a pivotal role in ensuring that communities—especially underserved populations—had access to reliable vaccination information in Mozambique. Other countries did not report any individual, community or grassroots efforts to overcome vaccine-related barriers.

- **Individual agency for navigating systemic barriers to COVID-19 vaccination**

Findings on individual agency for navigating systemic barriers to COVID-19 vaccination are summarized for each country in table 4. Across all countries, findings reveal that **men dominate household and community decisions about vaccination**. In many cases, religious and community leaders influenced uptake, sometimes promoting acceptance but reinforcing hesitancy in some communities. **Women, not minding their roles as primary caregivers, often had limited decision-making power to determine their vaccination**.

Misinformation was observed to be a major driver of vaccine hesitancy across all the countries. **Worries of whether vaccines are safe, fear of its possible side effects, and fertility particularly among women were widespread**. Rumours and conspiracy theories, including fears about population control intentions of the western world with vaccine quality differences for Africans, exacerbated distrust in governments and healthcare systems of different countries. In some cases, the engagement of trusted community leaders in vaccine campaigns helped counter misinformation. While social networks enabled the spread of misinformation, they as well served as platforms for corrective information through community engagement efforts.

For marginalized groups, including pregnant women, people with disabilities, and women in informal labour, structural barriers limited vaccine access. In most of the countries, **women faced additional mobility restrictions, caregiving responsibilities, and economic constraints**, making it difficult for them to access vaccination sites. **Female frontline health workers bore a disproportionate burden during vaccine rollouts without adequate institutional support**. Additionally, in countries like Nigeria and Zimbabwe, corruption, funding shortages and logistical challenges contributed greatly to inequitable vaccine distribution, particularly in rural and last-mile communities.

**Table 2: Structural factors affecting access to COVID-19 vaccine for women and marginalized communities**

Thematic areas	BOTSWANA	DRC	ETHIOPIA	GHANA	KENYA	MOZAMBIQUE	NIGERIA	ZIMBABWE
<b>Political &amp; policy frameworks</b>	<p>National plan for distribution of COVID-19 vaccines.</p> <p>No evidence of approaches to ensure gender programming, equity and reaching vulnerable populations.</p> <p>Male-led and dominated coordination committees.</p>	<p>National plan for distribution of COVID-19 vaccines.</p> <p>No evidence of approaches to ensure gender programming, equity and reaching vulnerable populations.</p> <p>Male dominated coordination committee.</p>	<p>Macro-plans for improving equity in vaccine distribution.</p> <p>Lack of integration of gender-sensitive strategies in the COVID-19 vaccination strategy.</p> <p>Lack of gender considerations in the planning and execution of safety monitoring activities.</p>	<p>COVID-19 vaccine distribution plan prioritized high-risk groups. However, there was no strategy for gender programming in the vaccine distribution.</p>	<p>Women were underrepresented in decision-making in response to COVID-19 pandemic – only four women were included in the 22-member COVID-19 task force committee.</p>	<p>Vaccine distribution plan - phased administration of vaccines prioritized high-risk groups.</p> <p>Limited gender (and social) inclusion in the decision-making, planning and coordination of COVID-19 vaccination.</p>	<p>COVID-19 vaccine distribution plan prioritized high-risk groups. However, there was no strategy for gender programming in the vaccine distribution.</p>	<p>COVID-19 vaccine distribution plan prioritized high-risk groups. However, there was no strategy for gender programming in the vaccine distribution.</p>
<b>Health system capacities and economic constraint</b>	<p>Women (nurses – female dominated) were at the frontlines of vaccine delivery (facility and community)</p>	<p>Whereas physicians (male-dominated) headed the operations of COVID-19 distribution in health zones, nurses (female-dominated) were involved in vaccine delivery in the health areas.</p>	<p>Inefficient data monitoring systems for tracking vulnerable populations and ensuring equitable distribution of vaccines.</p> <p>Non-specific information in data systems</p>	<p>Insufficient number of health workers – leading to fatigue of available health workers.</p> <p>Economic dependency affected vaccine availability and deployment</p>	<p>Not reported</p>	<p>Lack of sex-disaggregation of data analysis</p>	<p>Health workers at the frontlines of COVID-19 vaccine delivery were mostly women</p>	<p>Not reported</p>
<b>Access and supply chain inequities</b>	<p>Remote and hard-to-reach communities experienced delays due to transportation challenges and health worker shortages.</p> <p>Inequities in vaccine storage facility.</p> <p>Limited private sector participation.</p>	<p>Delays in vaccine supply and insufficient cold chain capacity limiting access to hard-to-reach areas.</p> <p>Logistic challenges (related to transportation) made it hard to reach populations at the riverbanks.</p>	<p>Limited cold chain storage infrastructure in rural and remote regions.</p> <p>Insufficient personnel, facilities and transport to manage large-scale vaccination campaign</p> <p>Private sector and mobile vaccination teams enabled vaccine distribution.</p> <p>Disruption of health services in conflict regions</p>	<p>Inadequate cold chain transportation equipment to reach remote areas.</p> <p>No evidence of gendered impacts of disruption in vaccine availability.</p>	<p>Geographic and economic barriers limited vaccine distribution to rural areas, informal settlements, difficult terrains, long travel time.</p> <p>Unvaccinated women were less likely to get vaccinated due to structural barriers such as difficulties traveling to vaccination sites</p>	<p>Limited strategies for reaching vulnerable stigma-prone LGBTQ+ community</p> <p>Leveraged national defence forces in conflict areas to ensure equitable access.</p>	<p>Geographic barriers limiting access to vaccine distribution – Remote and hard-to-reach populations Conflict regions</p>	<p>Difficult to reach remote areas with vaccines due to inadequate number of vehicles.</p> <p>Staff shortages and high attrition due to lack of compensation for risks.</p> <p>Lack of mobile vaccination units.</p> <p>Centralization of vaccination centres in urban areas.</p>

**Table 3: Social norms impacting COVID-19 vaccine access and hesitancy**

Thematic areas	BOTSWANA	DRC	ETHIOPIA	GHANA	KENYA	MOZAMBIQUE	NIGERIA	ZIMBABWE
<b>Gender roles and decision-making power</b>	Decision-making on vaccination was largely driven by community and religious leaders rather than households	Not reported.	Gender disparities in professional and decision-making settings. Males dominate decision making in vaccine-related policies.	Decision-making regarding vaccination is influenced by societal expectations. Men had the final say in many households on access to vaccines.	Decisions on vaccine uptake are dominated by men in households and communities, limiting women's autonomy as primary caregivers.	Women, particularly caregivers, faced challenges in accessing vaccines due to caregiving responsibilities and household duties.	Not reported*	In many households, men are the primary decision-makers for health interventions, including vaccination, and women primarily at home as caregivers
<b>Vaccine perceptions, misinformation &amp; trust</b>	No record of gender differences in vaccine hesitancy, due to lack of gender-disaggregated data. Although women were perceived as better representative of women on vaccine concerns this was not incorporated into the strategy. Early engagement of trusted community leaders and political leaders helped dispel vaccine myths and was effective in countering misinformation	General mistrust of the vaccine and fear of side effects fueled vaccine hesitancy.  However, the scoping review reported an association between being male and having negative intentions to receive the vaccine.	Misinformation contributed to vaccine hesitancy. Rumors about vaccine-related deaths and vaccine efficacy undermined public confidence.  Concerns about the rapid vaccine development led to skepticism, and fueled mistrust in the healthcare system.  However, no evidence on gender differences in vaccine perception, misinformation and trust.	Community trust in vaccine distribution relied on continuous engagement, consensus-building, and transparency among stakeholders in the process.  No evidence of gender differences in vaccine perception, misinformation and trust.	Vaccine hesitancy was more among women due to fertility and pregnancy-related risks, and this was influenced by cultural and religious beliefs.  Mistrust in government and the health system fueled vaccine hesitancy.  Misinformation spread through informal networks, social media and community interactions, affecting uptake.	Misinformation was spread through community networks and social circles.  Community engagement, including the use of local networks, was crucial in countering misinformation and increasing trust in vaccines.  No evidence of gender differences in vaccine perception, misinformation and trust.	Misinformation on vaccine side effects and conspiracy theories on racial genocide fueled vaccine hesitancy and low uptake.  Mistrust of the health system was led by community leaders and made it harder to reach people.  No evidence of gender differences in vaccine perception, misinformation and trust.	Vaccine hesitancy was more among women due to fertility and pregnancy-related risks.  Religious and cultural beliefs influenced vaccine acceptance.  Social networks played a crucial role in amplifying or countering vaccine misinformation.
<b>Equity in access and participation</b>	People with disabilities were left out in vaccine planning and outreach. Pregnant women were not mentioned, potential oversight. No mention of the gendered experiences of frontline health workers.	Limited geographic access to COVID-19 vaccine for people in rural areas.  Delays in reaching remote and difficult areas.	Traditional gender roles disadvantage women from mobility, information and access to vaccines.  Lack of deliberate gender sensitive approach in COVID-19 vaccination strategy  Geographic barriers hindered vaccine distribution and access to rural women	Gender norms around obtaining consent from the male head of household influenced access to COVID-19 vaccine for women.  Women, as primary caregivers, often prioritized the health of their children and families over their own vaccination, sometimes missing opportunities to get vaccinated.	Women faced more barriers to vaccine access due to mobility restrictions, financial constraints, and informal labour responsibilities  Pregnant women and people with disabilities were marginalized in vaccine delivery due to limited targeted outreach strategies.	Female frontline health workers bore a heavier workload during the vaccine rollout but often lacked adequate institutional support.  Women in informal labor struggled to get vaccinated due to work-hour constraints and mobility issues.	Most frontline health workers are women, and those engaged in vaccine logistics and supply chain are men, suggesting gender difference in COVID-19 vaccine management and delivery.  Corruption, inadequate skilled staff, poor surveillance systems led to inequities in vaccine access for marginalized groups.	Patriarchal system – women stay at home to care for children, men go to work. Most women must seek permission to leave the home or to even take the vaccines. Rural women faced harsher realities of patriarchal dominance that impeded access to vaccination. Female health workers faced workplace discrimination.

**Table 4: Individual agency for navigating systemic barriers to COVID-19 vaccination**

Thematic areas	BOTSWANA	DRC	ETHIOPIA	GHANA	KENYA	MOZAMBIQUE	NIGERIA	ZIMBABWE
<b>Decision-making power and health autonomy</b>	The decision for vaccination is solely on an individual basis or choice	Not reported.	Women do not need to seek permission to be vaccinated but are restricted by traditional gender roles (confinement to domestic responsibility, limiting their mobility, thereby their ability to obtain information and vaccination services.	Women have to take permission from the man before engaging in vaccine uptake as culture demands.	Women were alienated from making decisions. They are dissociated from making decisions for themselves regarding the COVID-19 vaccine uptake.	As the campaign slogan states, 'protect yourself', the decision on vaccine uptake was on personal choice.	Vaccination decision was based on individual choices. Masses sensitization through awareness creation on the need for vaccine uptake	The patriarchal nature of men affects the women's decision-making. Women have to seek permission before leaving the house or taking the vaccine
<b>Access to resources and opportunities</b>	Geographical barriers to vaccine access – bad roads and poor transportation system.  No records of gender disparities in access to information and vaccination.	Geographic barriers due to bad roads and difficult terrain of riverbanks.	Poor transportation, and topography limited access to vaccines. Health facilities and healthcare workers were inadequate to meet demand for COVID-19 vaccination.  Lack of a cultural and gender-sensitive approach in vaccine information dissemination.	Geographical barriers to vaccine access – bad roads and poor transportation system. Health worker insufficiency was an issue  No recorded gender disparities in access to information and vaccination.	Women faced challenge in leaving work/school to go for vaccination. Men had greater access to information on COVID-19 compared to women; and were more likely to get vaccinated. Intersectional barriers to COVID-19 vaccine uptake – middle age, married or divorced, higher risk of gender-based violence	Geographical barriers to vaccine access were mostly due to poor transportation and logistics issues.  No records of gender disparities in access to information and vaccination.	Not reported.	Geographical barriers due to transportation challenges limited access to vaccines in remote areas.  There was a shortage of healthcare workers in remote areas.  Women have limited access to information because they are often at home.
<b>Resilience, advocacy, and community engagement</b>	Not reported	Not reported	Not reported	The engagement of mother support groups, market women, queen mothers, & men at the community level to improve vaccine information reach.	Use of traditional media to disseminate information.	Use of community health workers and young people to ensure access to information in communities.	Not reported	Not reported

## Policy implication

The synthesis findings from these studies highlight gaps in gender-sensitive strategies and women's representation in COVID-19 vaccine decision-making across these African countries. It also revealed structural barriers that disproportionately hinder women's access to COVID-19 vaccines, limited outreach strategies for vulnerable groups, and gender disparities in workforce participation, with women disproportionately represented as frontline health workers in COVID-19 vaccine distribution. Additionally, the lack of gender-sensitive data and sex-disaggregated analyses limits the ability to make informed, equitable policy decisions.

The research also revealed persistent gendered disparities in decision-making and access to COVID-19 vaccines. Socioeconomic and cultural constraints, such as domestic responsibilities and restricted mobility, limited women's access to vaccination information and services. In some contexts, cultural norms required women to seek permission from male household heads before getting vaccinated. Men predominantly controlled household and community decisions regarding COVID-19 vaccination, while women—despite being primary caregivers—had limited decision-making power over their own vaccination. Men had greater exposure to vaccine-related information and services, whereas women's vaccine uptake was restricted by cultural expectations that confined them to domestic roles, further deepening inequities in vaccine access.

Female frontline health workers bore a disproportionate burden during vaccine rollouts, often facing increased workloads without adequate institutional support, further exacerbating gender inequities in the vaccination process. Additionally, women faced challenges leaving work or school for vaccination, while pregnant and lactating women avoided vaccines due to health concerns.

These findings have implications for policies and strategies to promote equitable vaccine access and strengthen future health emergency responses. Addressing these inequities requires targeted policy and funding interventions to ensure equitable vaccine access for all.

Recommendations to policymakers, donors and development partners for addressing these issues and improving vaccine equity and strengthening health system resilience include integrating gender-sensitive and social inclusive strategies into vaccine policy and distribution plans, increasing women's representation in decision-making structures and addressing structural, sociocultural and economic barriers to vaccine access for women. Donors and development partners should prioritize funding for gender-responsive vaccine distribution and enhance data and research on gender, social inclusion and vaccine equity by investing in context-specific studies that inform policy improvements and encouraging cross-country knowledge sharing. Other recommendations are shown in table 5.

**Table 5: Recommendations to policymakers, donors and development partners for improving equitable vaccine access and strengthen future health emergency response**

Recommendations to policymakers	Recommendations to donors & development partners
<p><b>Integrate gender-sensitive strategies into vaccine policy and distribution plans</b></p> <ul style="list-style-type: none"> <li>○ National vaccination strategies should explicitly incorporate gender considerations, ensuring that outreach and service delivery address barriers faced by women and marginalized populations.</li> <li>○ Policies should mandate the systematic collection and use of sex- and gender-disaggregated data to inform equitable vaccine distribution and monitor progress.</li> </ul>	<p><b>Prioritize funding for gender-responsive vaccine distribution</b></p> <ul style="list-style-type: none"> <li>○ Condition funding on the inclusion of gender-sensitive indicators in vaccine rollout programs.</li> <li>○ Direct support toward community-based vaccine initiatives that reach marginalized women and gender-diverse groups.</li> </ul>
<p><b>Increase women’s representation in decision-making structures</b></p> <ul style="list-style-type: none"> <li>○ Governments should implement affirmative action policies to ensure women’s participation in national and local COVID-19 response committees.</li> <li>○ Ministries of Health should establish gender-focused advisory groups to guide the development and implementation of immunization policies.</li> </ul>	<p><b>Support women’s leadership in governance</b></p> <ul style="list-style-type: none"> <li>○ Invest in capacity-building programs that empower women to take leadership roles in vaccine policymaking and implementation.</li> <li>○ Funding support for the creation of gender-equity task forces within national health ministries and research institutions.</li> </ul>
<p><b>Address structural barriers to women’s vaccine access</b></p> <ul style="list-style-type: none"> <li>○ Policymakers should invest in decentralized vaccination services, such as mobile clinics and workplace-based vaccination, to improve access for women in rural and informal sectors.</li> <li>○ Governments should develop policies that mitigate financial and time constraints, such as subsidized transport to vaccination sites and childcare support during immunization drives.</li> </ul>	<p><b>Promote multisectoral and cross-country learning</b></p> <ul style="list-style-type: none"> <li>○ Facilitate regional knowledge-sharing platforms where countries can exchange best practices on gender-inclusive vaccine policies.</li> <li>○ Encourage collaboration between government agencies, civil society, and research institutions to enhance gender equity in global health security efforts.</li> </ul>
<p><b>Strengthen gender mainstreaming in health systems</b></p> <ul style="list-style-type: none"> <li>○ Gender mainstreaming should be institutionalized in national health policies, requiring all immunization programs to undergo a gender impact assessment.</li> <li>○ Health ministries should collaborate with women’s organizations and community groups to co-design and implement gender-equitable vaccine policies.</li> </ul>	<p><b>Enhance data and research on gender, social inclusion and vaccine equity</b></p> <ul style="list-style-type: none"> <li>○ Invest in context-specific studies that examine structural barriers and explore gender disparities in vaccine access, hesitancy, and outcomes to inform policy improvements.</li> <li>○ Encourage cross-country knowledge sharing on best practices for inclusive vaccination strategies.</li> <li>○ Provide technical and financial support for developing robust gender-disaggregated health data systems to guide equitable health interventions.</li> </ul>
<p><b>Develop inclusive policies to reach stigma-prone and marginalized groups</b></p> <ul style="list-style-type: none"> <li>○ Design non-discriminatory, inclusive health policies that protect against stigma in vaccine access and health services.</li> <li>○ Train healthcare providers on culturally competent and stigma-free service delivery to improve vaccine uptake among stigma-prone populations.</li> <li>○ Establish confidential and safe vaccination sites, ensuring privacy and protection from discrimination.</li> </ul>	

## Conclusion

Building resilient and equitable health systems requires policymakers to embed gender-responsive approaches in vaccine planning and governance. This includes addressing workforce

disparities, improving data systems, and institutionalizing gender-sensitive policies to ensure equitable access to vaccines. Donors and development partners play a critical role in supporting these efforts through strategic funding, capacity-building, and cross-sector collaboration.

By eliminating structural barriers and addressing stigma-related challenges, policymakers can create more inclusive vaccination policies. Donors and development partners can further advance equity by investing in community-driven solutions, supporting gender-responsive data systems, and funding outreach programs for underserved populations. Taking these steps now will not only enhance vaccine access for women and marginalized groups but also strengthen preparedness for future health crises, ensuring a more just and effective public health response.

## References

- Ahinkorah, B. O., Hagan Jr, J. E., Ameyaw, E. K., Seidu, A.-A., & Schack, T. (2021). COVID-19 pandemic worsening gender inequalities for women and girls in Sub-Saharan Africa. *Frontiers in Global Women's Health*, 2, 686984.
- Ataguba, J. E. (2020). COVID-19 pandemic, a war to be won: understanding its economic implications for Africa. *Applied health economics and health policy*, 18(3), 325-328.
- Ataguba, J. E., Bloom, D. E., & Scott, A. J. (2021). A timely call to establish an international convention on the rights of older people. *The Lancet Healthy Longevity*, 2(9), e540-e542.
- Bergen, N., Kirkby, K., Fuertes, C. V., Schlottheuber, A., Menning, L., Mac Feely, S., O'Brien, K., & Hosseinpoor, A. R. (2023). Global state of education-related inequality in COVID-19 vaccine coverage, structural barriers, vaccine hesitancy, and vaccine refusal: findings from the Global COVID-19 Trends and Impact Survey. *The Lancet Global Health*, 11(2), e207-e217.
- CARE. (2021). *Women in low-income countries denied access to COVID vaccines, new research reveals*. Retrieved 10 March from <https://reliefweb.int/report/world/women-low-income-countries-denied-access-covid-vaccines-new-research-reveals>
- Essel, N. O. M., Aidoo, E. N., & Appiah, S. K. (2023). Geospatial modelling of COVID-19 vaccination coverage inequalities: evidence from 192 countries. *Spatial Information Research*, 31(6), 653-667.
- Felletto, M., & Sharkey, A. (2019). The influence of gender on immunisation: using an ecological framework to examine intersecting inequities and pathways to change. *BMJ Global Health*, 4(5).
- Heidari, S., Durrheim, D. N., Faden, R., Kochhar, S., MacDonald, N., Olayinka, F., & Goodman, T. S. (2021). Time for action: towards an intersectional gender approach to COVID-19 vaccine development and deployment that leaves no one behind. *BMJ Global Health*, 6(8), e006854.
- Kazemi, M., Bragazzi, N. L., & Kong, J. D. (2022). Assessing inequities in COVID-19 vaccine roll-out strategy programs: a cross-country study using a machine learning approach. *Vaccines*, 10(2), 194.
- Khanijahani, A., Iezadi, S., Gholipour, K., Azami-Aghdash, S., & Naghibi, D. (2021). A systematic review of racial/ethnic and socioeconomic disparities in COVID-19. *International Journal for Equity in Health*, 20, 1-30.
- Phillips, G., Kendino, M., Brolan, C. E., Herron, L. M., Körver, S., Motofaga, S., & Cox, M. (2024). Women on the frontline: exploring the gendered experience for Pacific healthcare workers during the COVID-19 pandemic. *Lancet Reg Health West Pac*, 42, 100961. <https://doi.org/10.1016/j.lanwpc.2023.100961>

- Shindinge, S. T. (2024). *Gendered experiences and perceptions of COVID-19 vaccinations: A case study of healthcare workers at Katutura Health Centre, in Khomas region, Namibia* [University of Namibia].
- Singh, B., Kaur, J., & Chattu, V. K. (2022). Global vaccine inequities and multilateralism amid COVID-19: Reconnaissance of Global Health Diplomacy as a panacea? *Health Promotion Perspectives, 12*(4), 315.
- Tatar, M., Shoorekchali, J. M., Faraji, M. R., & Wilson, F. A. (2021). International COVID-19 vaccine inequality amid the pandemic: Perpetuating a global crisis? *Journal of Global Health, 11*, 03086.
- Torreele, E., & Amon, J. J. (2021). Equitable COVID-19 vaccine access. *Health and human rights, 23*(1), 273.
- Zbiri, S., & Boukhalifa, C. (2023). Inequality in COVID-19 vaccination in Africa. *Journal of Public Health in Africa, 14*(7), 2353.