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Delivering Care at the Hands of Crime:

Exploring the Nexus of Security Concerns and Maternal & Child Mortality in Nigeria

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Abstract

From kidnapping for ransom to political corruption, Nigeria is a nation grappling with great insecurity. This has an impact on vulnerable populations, such as women and children. Few studies have documented the connection between insecurity and maternal and child mortality in Nigeria despite the rising number of kidnappings and other crimes in the last decade. In this paper, I identify the avenues through which security concerns detrimentally impact child and maternal mortality in Nigeria. I interviewed 10 Nigerian citizens to document the societal impact of growing crime and their opinions on governmental efforts in handling insecurity, maternal mortality, and child mortality. I also conducted an empirical analysis to reveal a strong, positive correlation between an insecurity proxy variable and maternal healthcare. From my qualitative interviews, I found that transportation, education, inadequate healthcare infrastructure/resources, and socioeconomic inequality were key intermediate factors that contributed to the vulnerability of women and children. Based on these findings, I recommend counseling for youth and women, macroeconomic reform, secure medical transportation, and lobbying as a way to incorporate the common Nigerian citizen into the nation's fight against mortality, particularly among mothers and children.

Acknowledgments

There are some people whom I would like to thank for their support and contribution to my thesis. First, I would like to thank the 10 participants who shared their insights on the current condition of living in Nigeria. Due to national insecurity, I refrained from traveling to Nigeria to conduct these interviews, but the participants made me feel like I was on the ground with them. Their willingness to share their stories and opinions with me along with their encouragement means the world to me. I would also like to thank my mother, Dr. Joy Inyang, who put me in contact with the majority of the interviewees. Her support made this work possible. She has been a lifelong teacher of healthcare and Nigerian culture. Last but not certainly not least, I would like to thank the instructors at the University of Chicago who guided me through the thesis writing process. My preceptor, Nina Kerkebane, offered wonderful feedback and made this process far less daunting. My second reader, Asukwo Archibong, J.D., was the most enthusiastic and kind-hearted critic anyone could ask for. Professor Maria Bautista helped me formulate my thesis topic, making her the first person with whom I shared my idea. I am grateful for her guidance on this deeply important topic. Finally, I would like to honor any Nigerian who has lost a family member as a result of the nation's insecurity.

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Introduction

The World Health Organization defines maternal mortality as "[t]he annual number of female deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy" (World Health Organization, 2024). According to the Central Intelligence Agency World Factbook, Nigeria ranks third in the world in maternal mortality rate in 2020 (Central Intelligence Agency, 2024). African nations occupy the top seven slots on this list. Child mortality typically refers to the death of individuals under the age of five (World Health Organization, 2020; UNICEF, 2024; Sullivan et al., 1994). Nigeria ranks among the top five countries globally with the highest rates of mortality among children under the age of five. The Sub-Saharan Africa region continues to bear the highest burden of under-five mortality worldwide, with one in every thirteen children succumbing to death before the age of five (Egbon et al., 2022). In 2019, Nigeria had an under-five mortality rate of 117.2 per 1,000 live births, which greatly exceeds the 2019 global under-five mortality rate of 37.7 per 1,000 live births (UNICEF, 2020; Sharrow et al., 2022, p. e195, p.e201). With Nigeria having the largest population in Africa at over two hundred million people, the nation serves as a key starting point for combating maternal and child mortality across the entire continent. In 2017, the World Health Organization estimated Nigeria's maternal mortality rate at 917 per 100,000 live births. As of 2020, Nigeria had a maternal mortality rate approximately 50 times greater than that in the United States of America at 1,047 deaths per 100,000 live births in Nigeria. Nigeria saw a fourteen percent increase in maternal mortality rates over just three years, from 2017 to 2020 (Lauretta, 2023). Developed nations similar to the U.S. have maternal mortality rates in the teens, a number that Nigeria may experience one day.

Childbirth and motherhood are intimate experiences that all women deserve to savor wholeheartedly. However, Nigerian women cannot anticipate motherhood as they contemplate the plethora of factors that may take their own life or their child's life. Previous research on the rates of child and maternal mortality in Nigeria has been conducted. However, these rates and their trends have not been examined in light of Nigerian security concerns that have become increasingly present in recent years, which is the focus I take in this paper.

The U.S. Department of State put out the following travel advisory in September 2023: "Reconsider travel to Nigeria due to crime, terrorism, civil unrest, kidnapping, and armed gangs. Some areas have increased risk. [...] Violent crime – such as armed robbery, assault, carjacking, kidnapping, hostage taking, roadside banditry, and rape – is common throughout the country. Kidnappings for ransom occur frequently, often targeting dual national citizens who have returned to Nigeria for a visit, as well as U.S. citizens with perceived wealth" (U.S. Department of State - Bureau of Consular Affairs, 2023). Areas like Cross River State that were once known for joyous occasions like Calabar Carnival have become affiliated with area boys who roam the streets with illegal firearms and threats of kidnapping. *Area boy* is a "term used in Nigeria to describe groups of typically young men who set themselves up as informal security guards for areas in or near where they live but often use the control that this gives them to engage in petty criminal activity such as drug dealing and extortion" (Cheeseman et al., 2019)

I immersed myself in this topic after my grandmother's passing. My grandmother, Eyoanwan Okon Archibong, was a strong woman who gave back to the Calabar (a coastal city located in the southern region of Nigeria, situated near the border with Cameroon, serving as the capital of Cross River State) community. Unfortunately, her community was not present for her when she needed it most. Eyoanwan's daughter, my mother, managed to find great success in the

U.S. as a physician, owning a practice and helping countless children. While most families would wholeheartedly rejoice in her accomplishments, ours lived in fear as my mother's success placed a target on my grandmother's head. My grandmother suffered from a pulmonary embolism and complications from diabetes due to the scarcity of genuine pharmaceuticals in the nation. As her situation began to improve and her vitals stabilized, her pulmonologist cleared her to return to the comfort of her home. However, we were blindsided by a certain inconsistency in her breathing that came in the middle of the night. While a medical emergency could happen in most developed countries with little to no concern for time, a medical emergency at night in Nigeria is a death sentence. As my grandmother proceeded to take her last breaths, emergency medical vehicle operators refused to leave their homes out of fear of being robbed or kidnapped. I try to find it in my heart every day to understand their decisions, but I cannot help but feel that my grandmother could have been here today if security concerns did not stand in the way of healthcare efforts.

Labor often begins at night because melatonin collaborates with increasing oxytocin levels to enhance uterine contractions and orchestrate powerful contractions, ultimately triggering spontaneous labor. Some sources associate this nocturnal birth rhythm with evolutionary components such that our ancestors found nighttime labor safer (Nathanielsz, 1996; Martin et al., 2018, p.2). Nigerian women must fight to combat our evolutionary drives, for nighttime labor can result in the death or kidnapping of the individual giving birth and those accompanying her.

The World Health Organization attributes maternal mortality in sub-Saharan Africa to "long distances to health facilities and lack of transport to tertiary facilities." Concerning these hurdles, there stand additional obstacles such as the risk of being kidnapped that prevent mothers

from reaching the necessary health facilities. According to the 2018 Demographic and Health Survey, "[o]nly 39% of women in Nigeria delivered their last live birth in a health facility" (National Population Commission, 2018), which likely exacerbates maternal mortality rates.

Following this introduction, which presents the background and significance of the research topic, I will present a comprehensive review of the relevant literature in the field. Next, the methodology employed in the study will be outlined, detailing the research design, data collection methods, and analysis techniques. Subsequently, the research results will be presented and discussed concerning the research question. The findings hone in on the effect of insecurity on intermediate outcomes that in turn affect mortality rates, specifically that of mothers and children. I will examine the deaths of mothers beyond the time frame detailed in the World Health Organization's definition of maternal mortality and occasionally reference hypothetical mothers. Since childhood is a social and cultural construct, with definitions varying based on context and purpose, this paper will expand the definition of child mortality beyond those under the age of five. Based on my findings, I offer policy recommendations for potential improvements to current practices that should be universally implemented by government actors and healthcare providers to make healthcare more accessible to the vulnerable populations of interest. Finally, the conclusion will summarize the key findings, highlight their implications, and suggest directions for future research. Ultimately, this paper argues that improvements must be made to combat the directly proportional relationship between insecurity and maternal plus child mortality.

Literature Review

Research on the rates of maternal mortality in Nigeria has found region-specific trends. Akinyemi et al. (2015) studied the determinants of neonatal mortality in Nigeria. The authors

used a retrospective analysis of the reproductive history data collected in the Nigeria Demographic and Health Surveys for 1990, 2003, 2008, and 2013 to study the effects of maternal and bio-demographic variables on neonatal mortality. The study found elevated neonatal mortality in rural areas and northern regions of Nigeria. It was also revealed that newborns whose mothers underwent prenatal care, received skilled assistance during delivery, and were administered at least one dose of tetanus toxoid injection demonstrated a reduced likelihood of mortality. These findings underscore the importance of access to healthcare facilities, which is greatly hindered by citizens' fear of being kidnapped after dusk.

The impact of security concerns on citizens' access to Nigerian healthcare facilities has been researched. Tawakalitu Alloh and Pramod Regmi looked at the effect of economic and security challenges (such as Boko Haram and oil pipeline bombings by Niger Delta militants) on the Nigerian health sector. The authors referenced sources such as the World Health Organization and the National Bureau of Statistics to obtain quantitative information regarding changes in Nigeria's crude oil value, nationwide health center closures, and maternal and child mortality. The authors found that the closure of 72% of health centers in Yobe and 60% in Borno (both being northern states) can be tied to elevations in maternal and child mortality (with 58,000 women and 750,000 children dying in 2015). A limitation of the Alloh and Regmi study is that security concerns are not the only independent variable, meaning the researchers cannot confidently determine how significant this factor is to healthcare facility closures. The Boko Haram insurgency in the north and kidnappings in the south of Nigeria have in part contributed to reduced healthcare access in Nigeria. This terrorist group has reversed progress achieved through years of healthcare investments in Nigeria and caused 10 different healthcare workers' strikes in Nigeria over a three-year span, which paralyzed the healthcare industry (Oleribe et al.,

2016). This resulted in avoidable mortality and morbidities along with a disproportionate impact on children and pregnant women.

The impact of security concerns such as kidnapping on child mortality has an indirect impact that deserves more research and policy attention. Bin Liu and his colleagues examined the effect of interactive audio-visual-based art therapy and music therapy in mitigating suicidal ideation among secondary school female children who survived abduction in northern Nigeria (primarily Zamfara, Katsina, and Niger). The results show that the children in the art therapy and music therapy groups reported a lower score for suicidal ideation. While a limitation of this study is its lack of attention to what portion of kidnap victims develop suicidal ideation, this study highlights the presence of suicidal ideation among children who are kidnapped. This mental state among school-age individuals could and possibly has already contributed to elevated child mortality rates in Nigeria. Another unfortunate effect of banditry activity and kidnapping in Nigeria is touched on in a study focused on banditry and gender-based violence in north-west Nigeria The authors asked the question of how banditry activities in Northwest Nigeria impact women and children who are the primary victims. The authors report that many female victims experience sexual abuse which creates trauma, and children experience sexual molestation following kidnapping which can lead to the contraction of sexually transmitted diseases and forced marriages (Kums and Kwede, 2023). This mention of trauma raises concerns about suicidal ideation among adult female victims in addition to children. Furthermore, sexually transmitted diseases, when left untreated, pose another cause of child mortality in Nigeria. Other health concerns associated with child marriages are depression, cervical cancer, death during labor and delivery, and other gynecological and psychological issues (Crawford 2022).

Current scholarship and news outlets address the rise in security concerns in conversation with maternal and child mortality. In this paper, I will delve deeper into the different sources of insecurity contributing to elevated mortality rates among mothers and children. I theorize that growing security concerns correlate with elevated maternal and child mortality. I, firsthand, have seen the effects of insecurity on the health of Nigeria's population. To explore how various security concerns influence maternal and child mortality, I will conduct community-based, interview-dependent research with community leaders, Nigerian mothers, a professor of medicine, business owners, a law student, and a former plus current Nigerian physician. Interviews with these community stakeholders will help answer my research question to alleviate Nigeria's long-lasting trauma its people have endured, deteriorating the quality of life current citizens experience, while simultaneously stripping future generations of an opportunity to thrive amidst the nation's troubling statistics in security and mortality. The interviews will ask how the explanatory variable of security concerns in Nigeria has affected respondents, their families, and their friends. Furthermore, I will ask about respondents' observations regarding maternal and child mortality. Participants and I will discuss a link between the explanatory and outcome variables, starting with their current beliefs and finishing with what I have captured from interviews and prior research on the topic. Interviewees can choose to have their responses be anonymous, for their comfort is my greatest priority. I am honored to cultivate trust and rapport with those I speak with to have their voices properly heard. This qualitative research will set the groundwork for subsequent research and policy changes. I am optimistic that immersing myself in Nigerian communities to hear their thoughts and feelings on the impact of security concerns on maternal and child mortality will effectively help me reveal this link and potential solutions.

Methodology/Data

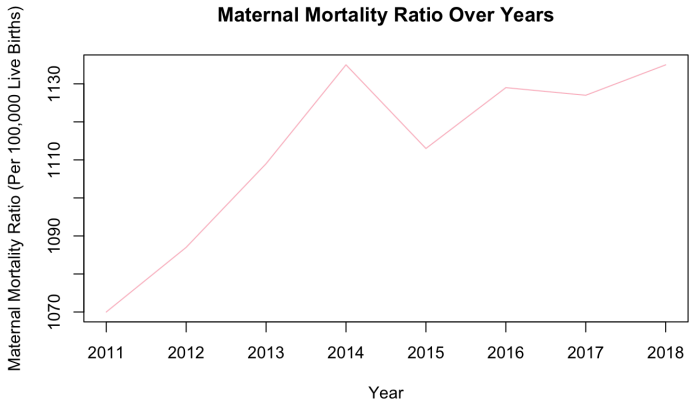
The research design for this paper employs a mid-range number of case studies to explore how security concerns have had an impact on Nigerian communities, particularly in light of maternal and child mortality rates. Differential access to a device, wifi services, and credit (money paid to a phone company for a service but not yet consumed) prevent the data from representing those in Nigeria experiencing multi-dimensional poverty. Furthermore, many of my interviewees reside in Calabar which is in southern Nigeria. Preliminary research revealed that northern Nigeria surpasses southern states in terrorist-attributed attacks. Unfortunately, contacting Nigerians in the north poses a great challenge, causing this data to not fully represent the population of interest. Cases will be compared where the outcome differs (ie: significant difference in child and maternal mortality rates), but all factors mirror each other except one – the presence of security concerns. This is a comparative case method called the *Method of Difference* and was fulfilled using regional statistics provided by the World Health Organization, ACLED, UNICEF, NIH, BMC Pregnancy and Childbirth, and Journal of Global Health Reports.

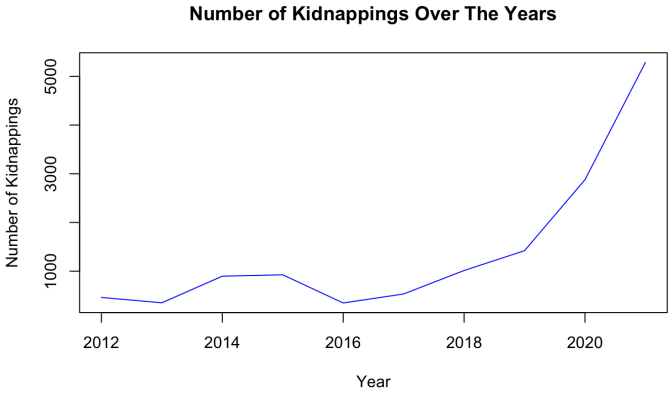
The interview structure has six sections: background information, understanding the link between the variables of interest, explanatory variables, alternative explanation, outcome variables, and conclusion. The explanatory variable for my research is the prevalence of security concerns in Nigeria. An explanatory, or independent, variable can be manipulated by the researcher to observe differences in the outcome, or dependent, variable. I hypothesize that residing in a Nigerian state or city with fewer security concerns will reveal lower levels of maternal and child mortality. I utilized The Armed Conflict Location & Event Data Project (ACLED) to access data on political violence, specifically kidnapping across Nigeria. ACLED reports that abduction events doubled from 2019 to 2020. The International Centre for

Investigative Reporting was the data source for the specific number of kidnappings. The center's sources were ACLED and NST. Using a line graph and R programming language, I created a line graph mapping the number of abduction events on the y-axis and the year (from 2012 to 2021) on the x-axis. I created another graph using a similar coding language to map Nigeria's maternal mortality ratio (from 2011 to 2018). The periods of the two graphs overlap (2012 to 2018). The maternal mortality ratio is expressed per one hundred thousand live births. The graphs reveal an upward trend in both variables, revealing that security concerns like kidnapping are correlated with maternal mortality. This is a conclusion that is backed by the interview responses. The data for maternal mortality was obtained from the Nigeria Demographic and Health Survey, the World Health Organization, and the World Bank. This process is repeated on a nationwide scale as well as a region-based method that compares the southern versus the northern parts of the country to suggest equitable support. The data is from a figure in a piece by Seye Abimbola and her colleagues on the midwives service scheme in Nigeria (Abimbola et al., 2012). Boko Haram is most active in Nigeria's northeast territory. This region faces countless security challenges, and its elevated maternal mortality ratio suggests a correlation between this variable and maternal mortality. A linear regression model was created in R to analyze the relationship between the number of maternal deaths and the number of kidnappings. Another was made to analyze the relationship between child mortality and the number of kidnappings. Using data from the World Bank (secondary sources being WHO and UNICEF), I obtained data regarding the number of maternal deaths between 2017 and 2019. For the same period, I obtained data on the number of people kidnapped, and this data came from the International Center for Investigative Reporting (secondary sources being ACLED and the Nigeria Security Tracker). The coefficient of determination, denoted as R^2, indicates how well the independent variable predicts the

variation in the dependent variable, with a value closer to one implying that the independent variables perfectly explain all of the variability in the dependent variable. An R^2 value of 0.929 suggests that approximately 93% of the variability in the number of maternal deaths in Nigeria can be explained by the number of kidnappings, while the remaining seven percent is unexplained. The p-value of 0.1715 indicates that the results are insignificant. However, this can explained by data quality issues, such as inconsistencies or inaccuracies in the data collection process in Nigeria. Another explanation is the sample size. I focused on three years during which there were notable concerns and reports of insecurity and maternal mortality. These years provide a specific timeframe for assessing the relationship between insecurity and maternal mortality within a relatively recent and relevant context. In 2017, *PubMed* published 2,407 articles related to maternal mortality then 3,257 in 2023, with the numbers only rising between these years. As seen in Figure 2, kidnappings, which is the proxy variable for insecurity, in Nigeria continued to increase from 2016 forward. A similar approach was taken with the regression of child mortality (per 1,000 live births) on the number of kidnappings from 2016 to 2021. Data on child mortality comes from the United Nations Inter-agency Group for Child Mortality Estimation (UN IGME). Though this study's understanding of child mortality includes deaths of Nigerian citizens as old as eighteen, UN IGME's estimate of under-five mortality is used to represent child mortality. An R^2 value of 0.8795 suggests that approximately 88% of the variability in the number of under-five deaths in Nigeria can be explained by the number of kidnappings, while the remaining 12 percent is unexplained. The p-value of 0.00567 indicates the results are significant.

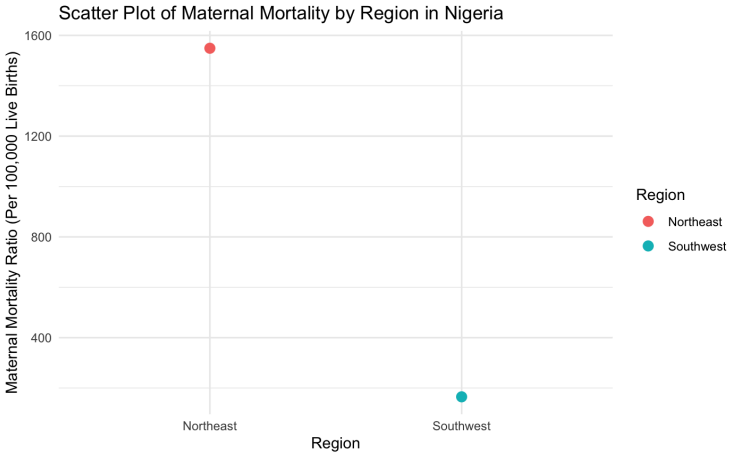
Figure 1. (Left) Trend in Nigeria's Maternal Mortality Ratio (2011-2018)
Figure 2. (Right) Trend in Number of Kidnappings in Nigeria (2012-2021





Figures produced in R Studio and Regression via Overleaf

Figure 3. (Left) Regional Difference in Nigeria's Maternal Mortality Ratio
Figure 4. (Right) Regression Analysis of Kidnappings and Maternal Deaths in Nigeria (2017-2019)



	Dependent variable:
	Number of Maternal Deaths
Number of Kidnappings	0.108
	(0.030)
Constant	814.551***
	(10.999)
Observations	3
R^2	0.929
Adjusted R^2	0.858
Residual Std. Error	4.346 (df = 1)
F Statistic	13.116 (df = 1; 1)
Note:	*p<0.1; **p<0.05; ***p<0.01

Figure 5. (Below) Regression Analysis of Kidnappings and Child Mortality in Nigeria (2016-2021)

Figures produced in R Studio and Regression via Overleaf

	Dependent variable:
	Child Mortality
Number of Kidnappings	−0.003***
	(0.0005)
Constant	123.037***
	(1.241)
Observations	6
R^2	0.880
Adjusted R^2	0.849
Residual Std. Error	2.032 (df = 4)
F Statistic	29.201*** (df = 1; 4)
Note:	*p<0.1; **p<0.05; ***p<0.01

Findings and Analysis

The interviews were conducted with individuals who have resided or currently reside in Nigeria for an extensive period. In this study, the interviewees all lived in Nigeria for at least two decades, allowing them to offer a detailed account of the variables of interest: maternal mortality, child mortality, and security concerns. The interviewees revealed their beliefs regarding the growing culture of crime (both petty and organized) and insecurity. Participants recognized the plethora of ways in which security concerns impact countless factors but shared their opinions on its impact on maternal and child mortality. The shared consensus is that the pressing issue of insecurity in Nigeria clouds and exacerbates the extreme maternal mortality ratio and the child mortality rates within the nation, which are approximately 6.5 and 3 times higher than the global average (Egbon, 2022; Gates Foundation, 2021; World Health Organization, 2023).

Poverty

Participants frequently touched on the widespread financial hardship in Nigeria. When told that sixty-three percent of people living in Nigeria are multidimensionally poor and over half of this demographic are children (National Bureau of Statistics, 2022), no participant expressed much surprise. The primary focus of this study is not to investigate the long-standing poverty and wealth inequality issue in Nigeria. However, the impact of security concerns on maternal and child mortality cannot be adequately discussed without describing the large role of poverty in ushering people to a life of crime that has detrimental outcomes on the health of the nation's people. Inok, a 25-year-old Nigerian man temporarily residing in the United Kingdom to pursue higher education, had the following to say:

> There are no jobs in Nigeria, and the government is bad. Everything is increasing. People will do anything for small money especially if person the person does not have food to eat. If you offer a person one million naira to kill someone, oh hell they are going to do it.

Eno-Obang, an attorney who has been practicing in Nigeria for thirty-three years, had a similar response when asked about factors contributing to maternal and child mortality:

> One of the factors is poverty. Very few people have health insurance, so [the] majority – more than 90 percent– have to pay out of pocket. Most of the time people do not have the money, so they cannot access good medical care and intervention. Quack doctors are chemist people who have medicine stores. Community members call them doctors, but they have no medical training in any form. They are just sending some medication that you can get off the counter. People patronize unqualified medical personnel. They give wrong prescriptions leading to maternal and child mortality. [...] They are not knowledgeable in medicine so they will give wrong prescriptions that could be fatal. They are impersonating medical personnel [and] giving people fake drugs. Poverty goes with the inability of many Nigerians to access proper medical care. Malnutrition [is] linked with poverty. [...] We do not have subsidized medical care. Lots of people – more than half – are poor, so it is difficult for them to access healthcare. Inflation in Nigeria – everything, including medicine, has gone up. [There has been] more than [a] 500% increase in the price of medicines which leads to child and maternal mortality. Medical care is expensive in Nigeria.

The role of poverty as an obstacle to maternal and child health is consistent with a previous study that claims it "prevents many women from getting proper and adequate medical attention due to their inability to afford good antenatal care" (Lanre-Abass, 2008). It has also been reported that Nigeria's poverty "limits the opportunities for most mothers to access appropriate healthcare services for their children, resulting in a high probability of infant and child deaths" (Ezeh et al, 2015). With a significant portion of its population struggling to meet basic needs, Nigeria has evolved into a country where the prevailing sentiment centers on "every man for himself." The socioeconomic strain fosters an environment ripe for criminal activities. Individuals' morals have vanished as their suffering becomes unbearable. Professional positions are granted based on connections rather than merit, leaving common persons to explore illegal endeavors to support themselves and their families.

When asked about a factor aside from insecurity that is contributing to maternal and child mortality, Joel, a Calabar shop owner and partner of another interviewee, responded with the following:

> Poverty is the number one thing. Nigeria no get money oh. The money that we have does not go around to everyone. You could be working but the pay you make is very low. Working like an elephant and eating like an ant. Taxation and policies affect [the] mortality rate.

There is a common sentiment in Nigeria: money is not justly allocated. This is particularly the case for Nigerian women. “Women represent between 60 and 79 percent of Nigeria's rural labor force but are five times less likely to own their own land than men” (Oxfam International, 2016). A study on the gender gap in Nigerian household headship found that “female heads of household have higher rates of poverty” (Mazzotta and Ng’weno, 2020). Sources report that women are the most vulnerable group to poverty and “constitute over 60% of the poorest people in Nigeria. [...] [G]oing by the IMF statistics that Nigeria has over 87 million people in extreme poverty translates to approximately 52 million women on the clutches of extreme poverty” (Eteng, 2014, p.74; Ifeanyi et al., 2019, p. 90). That is 52 million women who have limited access to essential healthcare services, nutritious food, and adequate living conditions. If these women decide to pursue motherhood, they will face higher rates of maternal and infant mortality, as well as increased susceptibility to malnutrition and preventable diseases among themselves and their children. The interviewee's statement in conversation with the evidence above underscores the profound impact of socioeconomic factors, particularly poverty, on maternal and child mortality in Nigeria.

An analysis of a 2012 national HIV/AIDS and reproductive health survey revealed that “members of households in lower quintiles having lesser likelihood (33.0%) to receive antenatal care than among those in the highest quintiles (91.9%)” (Fagbamigbe et al., 2015, p.1). Northern Nigeria has one of the highest maternal mortality rates in the world with over 1,000 maternal deaths per 100,000 live births (Wall, 1998, p.341). The North has a larger percentage of rural populations and a higher proportion of people engaged in agriculture and pastoralism while the southern region has experienced more urbanization and industrialization. “[R]ural women in Nigeria, like in most developing countries, disproportionately bear the burden of poverty due to

poor access to productive resources, information, and services" (Jerumeh, 2024, p.1). The pervasive poverty, coupled with an uneven distribution of resources, creates a challenging environment where individuals struggle to access adequate healthcare. The analogy of "working like an elephant and eating like an ant" vividly captures the discrepancy between labor and the meager rewards, shedding light on the economic disparities that significantly influence healthcare outcomes. The mention of taxation and policies as contributors to mortality rates highlights the systemic issues that further exacerbate the plight of vulnerable populations. As policies and tax structures directly impact economic conditions, they play a crucial role in determining the accessibility and quality of healthcare services. This insight emphasizes the interconnectedness of socioeconomic factors, governmental policies, and the alarming rates of maternal and child mortality in Nigeria.

Asukwo, a former lawyer in the U.S. turned law student and aspiring politician in Nigeria, revealed how economic hardship contributes to various forms of violence:

> A lot of the violence is economic based. There are no jobs and the economy has gone down. People do not have hope for the future so they turn to violence, banditry, and kidnapping as a way of life and making money. Improving the economy of Nigeria will bring down the violence in the country and keep professionals from leaving the country.

A systematic literature review of the mechanisms linking crime and poverty found that "crime is a central aspect of the conditions and experience of poverty" (Gaitán-Rossi and Guadarramam, 2021). The absence of basic necessities drives one to a life of crime to survive. CNBC had the following to say about Nigeria's economic crisis and insecurity: "Alongside soaring inflation and a plunging currency, Nigeria is also battling record levels of government debt, high unemployment, power shortages, and declining oil production — its main export. These economic pressures are compounded by violence and insecurity in many rural areas" (Smith, 2024).

Eno-Obang touched briefly on inflation in Nigeria and its impact on the health of women and children:

> Inflation in Nigeria – everything, including medicine, has gone up. [There has been] more than [a] 500% increase in the price of medicines which leads to child and maternal mortality.

Widespread corruption within government institutions has siphoned off public funds and undermined economic development. In a February 2024 article, the Associated Press (AP) News attributed "West African nation's worst economic crises in years" and the Naira's lowest-ever value against the dollar to surging inflation and monetary policies (Asadu, 2024). The principles of action proposed by the Nigerian government have hindered Nigerians from accessing essential resources such as medications that are used amidst pregnancy and to fight illnesses that children experience more frequently than adults due to their developing immune systems and increased exposure to germs. Furthermore, mismanagement of resources and embezzlement have eroded trust in the government and hindered investment. The constraint of economic activities primarily disadvantages the common, impoverished citizen. Therefore, the lives of countless women and children remain on the line due to faulty government actions.

Education

The kidnappings and terrorist attacks have impeded countless children's educational journeys. "Between December 2020 and March 2021, there have been at least five reported cases of abductions in northern Nigeria, including from schools, at Kankara, Kagara, Jangebe, Damishi Kaduna, Tegina, and Yawuri while the threat of further attacks has led to the closure of over 600 schools in the north of the country" (Jaiyeola, 2023). According to BMC Public Health, "[w]omen with no education had over two and a half times the risk [...] and those with between one and six years of education had twice the risk [...] of maternal mortality compared with women with more than 12 years of education" (Karlsen *et al*, 2011). When asked about the

specific healthcare challenges or obstacles that are exacerbated by security concerns, Inok expressed that these concerns and a lack of education hinder avenues:

> You can order things online unless the person is not educated or does not know how to use the internet.

Nigerians utilize online pharmacies or medical stores to order medicines or consult physicians who will write prescriptions and offer tailored medical advice. Unfortunately, a lack of education and awareness greatly hinders one's use of this resource. The growing number of security concerns has resulted in school closures that leave countless young people uneducated. Boko Haram often targets girls under the age of eighteen who are receiving their secondary education. Their attacks disrupt the girls' educational journey, placing them and their future children at a higher risk of mortality.

Joel shared with me some insights on the impact of insecurity on the educational pursuits of Nigeria's youth:

> People die carelessly. They kidnapped a student from [the] University of Calabar. [They] kidnapped the driver for [the] Uber she ordered and shot the driver dead. They told her parents that if they do not pay the ransom, they will take their daughter's life.

The Nigeria Demographic and Health Survey 2008 revealed that the mortality rate for children under the age of 5 decreases as the mother's education level rises. Specifically, this number drops from 170 deaths per 1,000 live births for children whose mothers have no education to 56 deaths per 1,000 live births for those whose mothers have completed more than secondary education. As kidnapping becomes a more prevalent issue in Nigeria, school-aged individuals and their families may prioritize life over education. Unfortunately, this decision, while sensible and uncontestable at the moment, has great repercussions. As seen above, the result of evading an education has an impact on future generations. The story of a fellow student being kidnapped might urge other students at the university to abandon their pursuit of higher education. This increases the number of uneducated future parents in a generation. Educated mothers often have

better access to information, enabling them to make informed decisions about their health and their children's health.

One's journey to school can feel drastically more difficult in light of kidnappings and attacks. The voices of two different generations reveal how national insecurity has significantly disrupted the school experience, diminishing its enjoyment and overall quality. Joel, a member of the Millennial generation, disclosed the following:

> If [the] school is far from where they [students] are, [it] is a problem. You can get kidnapped along the way.

His words stand in opposition to those of Joy, a member of the Baby Boomer generation, who reported with deep regret how her educational experience differs from that seen today in Nigeria:

> I went to boarding school in the North forty years ago. That would not happen today [Joy laughs]. God forbid bad thing. Things are so so *so* different now. In UniCal [University of Calabar], you could walk to find suya at 2 AM. Everything was safe. All this nonsense is in the past God knows when. The kidnappers are just young people who graduate and can't get a job. These kidnappers are not just hooligans. They are graduates that don't have jobs.

A key social determinant of health is education. Education is "strongly associated with life expectancy, morbidity, health behaviours [...]. Education shapes lives—it is key to lifting people out of poverty and reducing socioeconomic and political inequalities" (The Lancet Public Health, 2020). Across the globe, educational disparities contribute to health inequities. A paper by Boniface and Lorretta Nworgu found that "substantial urban-rural disparities do exist in the academic achievement of pupils at the basic (primary) education level in the south-eastern states of Nigeria" (Nworgu and Nworgu, 2013, p. 137). It is not coincidental that those in rural areas experience greater maternal mortality compared to their urban counterparts. A Bayesian spatial modeling approach found that the "under-five mortality risk is severe in Kebbi, Kaduna, Jigawa, Adamawa, Gombe, Kano, Kogi, Nasarawa, Plateau, and Sokoto states in Nigeria" (Egbon et al., 2022). The listed states are all in the northern region of Nigeria, and, generally speaking, the northern region of Nigeria tends to be more rural compared to the southern region.

In Nigeria, the quality of healthcare services and education one can attain depends on the depth of their pockets. Employment in Nigeria is often based on nepotism and personal connections rather than merit. Therefore, education cannot be established as a method of escaping socioeconomic hardship like in the Western world. However, the mere pursuit of an education exposes future mothers to crucial resources and practices. Educated individuals may be more knowledgeable about proper nutrition practices, leading to improved dietary choices for their children. This can significantly influence child growth, development, and mortality. A person with a stronger educational background may also have a stronger voice in healthcare decisions, leading to better adherence to recommended practices and interventions. Well-educated individuals are more likely to understand preventive measures, recognize symptoms, and seek timely medical care. When experiencing abnormal symptoms during pregnancy, a mother with a weaker educational background may neglect signs of serious health issues. Similarly, when their child presents themselves with concerning symptoms, uneducated mothers may neglect these signs either due to a lack of knowledge or financial strain. In Nigeria, "[w]omen are [...] less likely to have had a decent education. Over three-quarters of the poorest women in Nigeria have never been to school and 94% of them are illiterate" (Oxfam International, 2017). The level of one's health literacy is directly correlated with their level of education, meaning key medical information may go over the heads of those who decide to abandon their education to save their lives amidst Nigeria's severe insecurity.

Dr. Ansa, a cardiologist and professor of medicine at the University of Calabar, revealed the more direct impacts of a lack of education on maternal and child mortality:

> People still seek care from unorthodox sources. Most people go to non-doctors or unauthorized places to get healthcare, even for their children. [...] [F]amily size is quite big. People deliver five to six children. After five children, the risk of death in labor or pregnancy is higher. Even though there is no income people still grow their families. Because of ignorance, they do not seek medical care in the right places. They go to churches and midwives. They do not seek obstetric care in the right places.

Eno-Obang revealed that individuals' lack of awareness prevents care for diseases that greatly impact pregnant women and children:

> Malaria causes child mortality. [...] The malaria program that [...] was done in the community encouraged pregnant mothers to go to health centers to access preventative treatments and antenatal care to prevent malaria in pregnancy. Those not attending use traditional medicine and traditional medical practitioners. [It is] not orthodox medicine, [the] traditional healers. They are not accessing medical care in the hospitals. [...] A lot of women use traditional healers maybe because they do not have money or access to information. Malaria prevention in pregnancy was free at a point, but some people did not have this information, so they would use the traditional practitioners. [...] Malaria kills pregnant women and kills mostly children zero to five years.

A mother in Calabar, Okang, shared the methods through which expecting mothers can improve their knowledge of health-giving behaviors:

> Awareness through television and phone in urban areas is making maternal mortality low.

The trends described underscore the urgent need for comprehensive education and awareness programs to promote maternal and child health, increase access to obstetric care, and discourage reliance on unqualified healthcare providers. In general, people in rural areas of Nigeria tend to have less access to education compared to those in urban areas. There is an urgent need for educational initiatives, particularly aimed at rural communities, to increase awareness about the risks associated with home births and the importance of accessing healthcare facilities for safe deliveries. Additionally, the mention of television and phone-based awareness campaigns in urban areas highlights the effectiveness of education in reducing maternal mortality rates by providing information and promoting healthy behaviors. A piece on the challenges of rural telecommunication in rural Nigeria writes, “Despite the fact that telecommunications services in Nigeria could be traced back to 1851, the aforementioned factors, coupled with the difficult physical terrain in some cases, have made them lack behind the urban areas with regard to provision of telecommunications access” (Adediran et al., 2016). In many Nigerian villages, access to telephone connections can be limited or unreliable due to factors such as inadequate

infrastructure, geographical challenges, and economic constraints, posing a barrier to adequate medical literacy regarding maternal and child health.

Mothers like Eno-Obang are distressed by the possibility of their children being kidnapped or harmed at school:

> From time to time, we express some concerns to school authorities who try to assure us they are doing everything to ensure the environment is safe enough for the children. You pray silently that nothing goes wrong.

Eno-Obang's daughter goes to the school in a state in southern Nigeria — Akwa Ibom. Despite the largest school kidnapping having taken place across the country in the most northeastern state, Borno State, Eno-Obang still expressed worry over her daughter's well-being because security challenges have spanned every corner of the country. Rather than worrying about their children bringing back good reports, Nigerian mothers fixate on the possibility of the nation's insecurity putting their children in harm's way in an environment where learning should take priority.

Terrorism

Nigerian healthcare workers are targeted by Boko Haram, making the terrorist group a clear impediment to the health of the nation's people. Its members openly oppose Western medicine, including vaccinations, and have actively targeted and destroyed healthcare facilities, particularly in Yobe and Borno. Health workers, especially those involved in immunization campaigns, have been specific targets, resulting in fatalities. Consequently, many health workers have fled the region (*Country Guidance, Nigeria: Common Analysis and Guidance Note: October 2021*). In Borno, where the Chibok schoolgirls kidnapping took place, "80% of local government areas have insufficient numbers of functioning health facilities" (Adeboye, 2021). These acts of terrorism, targeting civilians and infrastructure, contribute to the breakdown of

essential services and divert healthcare from too many Nigerian communities. Boko Haram eliminates healthcare facilities; however, they do not replace these frameworks with alternative forms of healthcare, hindering timely interventions for expectant mothers and children. The resulting scarcity of resources amplifies the vulnerability of these demographics.

Boko Haram captures adolescent girls and sells them into marriages with the group's fighters. Salamatu Umar was just fifteen years old when she fell into this distressing situation. Umar eventually escaped with a friend and her son, but she unfortunately experiences mental health struggles. Umar says, "I'm always happy when I see my child, but deep down, deep inside I'm depressed. I have lost so much. [...] I lost my virginity. I have lost my friends. I have been robbed of my childhood" (Quist, 2017). Victims like Umar do not have access to mental health services in Nigeria, and on the rare occasion they do, stigma keeps them from engaging. Boko Haram has undeniably induced a mental health burden on Nigeria, particularly the women and children the group tends to kidnap. The rape and countless other violations perpetrated by Boko Haram cause post-traumatic stress disorder (PTSD) and other mental health issues that unfortunately cannot be properly addressed due to the flaws in the nation's public health system. PTSD is a risk factor, particularly among women, for suicide (Fox et al., 2021). Girls abducted by Boko Haram face an elevated risk of maternal mortality due to the unsafe and dire conditions in which they often give birth. Nigeria's most prominent and active terrorist group is killing the nation's children both directly and indirectly. There are reports of forced child conscription by the terrorist group. The family members of the Chibok school girls who were abducted in 2014 by Boko Haram from the Government Girls Secondary School in Borno State reported to *Amnesty International*, "Our pain is endless because 14 of the girls came back with 24 children. We have with us grandchildren whose fathers are unknown to us. Our burden has now multiplied

as we do not have the money to bear the additional burden of feeding, educating, and [providing] healthcare for our returnee children and grandchildren" (Jaiyeola, 2023). Children are birthing children under the most unfortunate circumstances, and the health of the victims, their families, and their children is uncertain. There exist girls who fall under the category of both child and maternal mortality due to terrorism in Nigeria, and Dr. Joy touches on this:

> Young girls are sold into marriages with Boko Haram members. Some of them will die of childbirth. This also happens to young girls who are abandoned by their families. When children's parents are kidnapped, they are left to fend for themselves if not taken in by local people. The orphanages are always full.

The selling of young girls into marriages with Boko Haram members not only subjects them to early and forced pregnancies but also increases their risk of maternal mortality due to inadequate healthcare during childbirth. Some of these girls are young enough to be considered children. By disrupting families, undermining access to healthcare, and exacerbating social vulnerabilities, the activities of Boko Haram contribute to the elevated levels of child and maternal mortality in Nigeria through diverse mechanisms.

In a report on the April 2014 Chibok schoolgirls kidnapping, authors from the Human Rights Watch wrote that Boko Haram kidnappers forced girls as young as fifteen into marriage. According to the report, a Boko Haram commander justified this practice by saying that his five-year-old daughter "got married last year, and is just waiting till puberty for its consummation" ("'Those Terrible Weeks in Their Camp': Boko Haram Violence against Women and Girls in Northeast Nigeria | HRW"). Boko Haram's maltreatment of women and children stems from their extreme Islamic beliefs that disapprove of Christianity and Western-style education. Following their traumatic experiences with Boko Haram, victims complain that the Nigerian government fails to provide adequate medical and psychological support. Numerous victims and their relatives voice "ongoing anguish" following their kidnapping. For instance, they cite "deep fears of re-abduction, sleeplessness, and frustration for insufficient support from

the government" ("'Those Terrible Weeks in Their Camp': Boko Haram Violence against Women and Girls in Northeast Nigeria | HRW"). Human Rights Watch claims that in the first half of 2014, Boko Haram killed over 2,000 civilians, and from May 2013 to the publishing of the report in October 2014, over 4,000 citizens were killed in almost 200 attacks across northeast Nigeria and Abuja. With women and children being the primary targets of these attacks, it is reasonable to assume that Boko Haram is a key contributor to maternal and child mortality in Nigeria.

An article by the African Renewal reveals that women and children "continue to be killed, abducted, and used to carry bombs." In addition, lack of funding impedes UNICEF's humanitarian efforts. As a result, "over 124,000 children in the conflict-torn area have not received measles vaccinations, more than 83,000 lack access to safe water, and over 208,000 are not in school" (UN News, 2015). Boko Haram is depriving Nigerian youth of their childhoods. The terrorist group is also creating a "lost generation" as they damage the country's education system. As of 2021, approximately 600 schools had shut down due to the Boko Haram insurgency. These school closures severely impact the lives and prospects of all children. Records show that "8.7 million to 13 million primary school-aged children — the most of any nation worldwide — have been out of classes, and that 60 percent of them have been girls." An education, as mentioned in the previous section, can protect these girls from "the hazards of child marriage, including abuse, injury or death from early childbirth, and impoverishment" (Iwara, 2021). Whether it be direct violence from the perpetrators, forced labor, sexual abuse, resource deprivation, or psychological effects, the heightened risk of mortality for mothers and children (and those who occupy both these identities following the forced marriage and impregnation by these terrorists) is evident under an analysis of Boko Haram activity.

In Nigeria, conflicts involving Fulani herders, farmers, and various communities have escalated in recent years due to factors such as competition over land, resources, and ethnic tensions. These clashes have resulted in violence, including attacks on villages and reprisal killings. Dr. Usoro, a general surgeon at the University of Calabar Teaching Hospital, touched on the impact of this terrorist group on maternal and child mortality:

> Children simply starve because their parents are not able to farm. When they go to farm, there are gunmen who shoot them down or demand money. Buhari claims they were invaders coming from elsewhere – Fulani terrorists. There are these armed invaders who come in and terrorize the natives, taking money from them before allowing them to get to their farms to work, or they simply kill them to take their land. Native are huddled in their homes not farming. The harvest is not going to be good, or there will be no harvest at all. I have seen videos where they burn down the farmland, and they cut up the farmmen and serve them to their cows. These individuals are displaced. When people are displaced, they are not working or earning morning. They are at the mercy of relief agencies. The agencies cannot always cope.

According to the World Health Organization, "[n]early half of deaths among children under 5 years of age are linked to undernutrition" (World Health Organization, 2024). Insecurity disrupts agricultural activities, leading to food insecurity and malnutrition, particularly among children. This insecurity comes in the form of gunmen who target these children's parents who are striving to cultivate their land and provide for their families. In January 2023, UNICEF put out a press release saying, "Children are the most vulnerable to food insecurity. Approximately 6 of the 17 million food-insecure Nigerians today are children under 5 living in Borno, Adamawa, Yobe, Sokoto, Katsina, and Zamfara states. There is a serious risk of mortality among children attributed to acute malnutrition" (UNICEF, 2023). The listed states are all in North Nigeria, or the northern and central region of the country, and conflicts involving Fulani militias have been particularly prevalent in this region, indicating a link between elevated child mortality and terrorist activity. Economic hardship is exacerbated by the presence of armed invaders who threaten the lives of farmers, instilling fear among communities that leads to displacement. Displaced families are unable to work or earn a living, further increasing their vulnerability to food insecurity and malnutrition. The lack of access to adequate healthcare and nutrition in

displacement settings can elevate the risk of child and maternal mortality. Dr. Usoro elaborated on how the Fulani Militia's wickedness contributes to maternal mortality:

> In invaded communities, there will be pregnant women. Some of them get raped. Some get killed. Some get their bellies ripped open and their children brought out to be killed. Sometimes health workers are targeted and abducted. The few remaining may not be competent enough to care for complex issues of maternal health or they may be afraid to go to work because they are afraid of being abducted, or they may be displaced and leave the environment. Pregnant women go to health centers or hospitals and find nobody there. It may even be sacked and burned down. She is left to her own faith and may have her baby on her own. When she experiences placenta previa and other issues like postpartum hemorrhage in delivery she may not be able to help herself and that will impact mortality. Some women may require surgery, and the surgery may not be available in the IDP camp, so they need to be taken to a hospital somewhere. There may be no transport, and if there is transport, the route may not be safe, or nobody will be working in the hospital. [...] People in the IDP camps only have access to the meds provided by relief agencies. The agencies have their hands full so the medicine may not go around. The majority of the people in camps have left the things in their homes and have no means of making money so they depend on the relief agency for everything – clothes, food, meds.

The atrocities mentioned detail the horrifying acts that terrorist organizations inflict on Nigerian mothers. Whether it be the psychological trauma following these acts of barbarity that elevates mothers' suicidal ideation or the brutal dual homicide wreaked on women and their unborn children, terrorists, like those in the Fulani Malitia, have a clear, detrimental impact on the child and maternal mortality rates in Nigeria. The Nigerian healthcare sector is disrupted as healthcare workers, who play a critical role in providing prenatal care, skilled birth attendance, and emergency obstetric services, are targeted and become direct casualties of armed conflict. The loss of skilled health workers further strains an already fragile healthcare system, reducing the capacity to respond effectively to obstetric emergencies and provide lifesaving interventions. Health facilities are often abandoned, destroyed, or inaccessible due to insecurity, leaving pregnant women to fend for themselves during childbirth or navigate life-threatening complications without adequate medical assistance.

During their Postpartum Hemorrhage Summit, the World Health Organization reported in September 2022 that "about 14 million women experience PPH [postpartum hemmorage] resulting in about 70,000 maternal deaths globally. Even when women survive, they often need

urgent surgical interventions to control the bleeding and may be left with life-long reproductive disability" (World Health Organization, 2022). A study by Albaro J. Nieto-Calvache and his colleagues on placenta accreta spectrum patients found that "[a]lmost all maternal deaths (81 cases, 98.8%) were preventable, with inexperience among surgeons being identified as the most relevant problem in the process that led to death among 87% (67 women) of the cases who had contact with health services. [...] Lack of experience and inadequate surgical technique are the most frequent problems associated with maternal deaths in PAS [placenta accreta spectrum]" (Nieto-Calvache et al., 2021, p. 1445). As mentioned by Dr. Usoro, the mothers displaced by terrorists are often relocated to internally displaced persons (IDP) camps that lack surgical facilities and experienced surgeons, increasing the chance of maternal deaths if medical care takes place in this environment. Limited resources and logistical constraints often prevent relief agencies from adequately meeting the needs of internally displaced people, leaving pregnant women and other vulnerable populations without access to critical healthcare and support services. The alternatives to the camps are hospitals, but, as will be elaborated on under the *Transportation* section of this paper, several factors prevent or complicate the journey to healthcare facilities.

Insecurity negatively impacts access to essential resources used in healthcare settings. During his interview, Dr. Usoro enlightened me about the difficulty in accessing water in conflicted areas, which adversely affects women and children who undergo medical intervention:

> They cannot collect water even from the stream without bandits shooting them down. You always need water in a healthcare setting because you need to wash hands, people, body parts, [and] instruments. Women are giving birth in unsanitary conditions. [...] There have been stories of bandits attacking these [IDP] camps. A woman who gives birth has no water to bathe herself or her baby. She cannot clean the breast she will use to feed the baby. She can develop infections because there is no water.

The presence of bandits and armed groups not only poses a direct threat to individuals' safety but also restricts their ability to perform basic tasks necessary for maintaining hygiene and

preventing infections. The quality of healthcare delivery is significantly compromised, increasing the risk of complications during childbirth. The U.S. Department of Energy reported, "Healthcare systems are among a community's largest consumers of water. Consumption, however, varies greatly: Water use per capita ranges from 40 gallons per day to 350 gallons per day [...]" (U.S. Department of Energy, 2011). This draws attention to the significant water consumption by healthcare facilities, highlighting the magnitude of the challenge posed by water scarcity in conflict-affected areas.

Social Hierarchy

Nigeria's wealth inequality has reached extreme levels. The charitable organization Oxfam reports that the "wealth of the nation's five richest men - $29.9 billion - could end extreme poverty at a national level yet 5 million people face hunger" (Oxfam International, 2017). When speaking with a thirty-year-old woman by the name of Elizabeth, I learned more about the personal feelings of those of lower socioeconomic statuses:

> Security is very poor [in Nigeria]. They do not take care of the citizens. Police officials only give serious attention to the politicians and those in high positions. Mothers and children are a no-no. Maybe if they are the child of a senator. A normal someone like me, they do not care.

In the Nigerian National Parliament (Senate and House of Representatives), there are only 29 women (six percent) as of 2019 and 440 men. Furthermore, in Nigeria, one must be 35 years old to be elected President, Vice President, or senator; 30 to be a State Governor; and 25 to be a Representative in Parliament or Member of the States' House of Assembly. The standing expectations and requirements for Nigerian politicians exclude women and children, resulting in diminished protection for them amidst the nation's security concerns. The disparities in attention from authorities and the political landscape mold women and children into second-class citizens. The added poverty identity exacerbates the situation.

It is important to note that one's status as a politician has an ironic effect. These individuals are granted better protections along with being targeted more. Elizabeth enlightened me about a recent kidnapping event that demonstrates the dangers of being a woman associated with a wealthy politician:

> The recent governor – then he was not the governor – they kidnapped his sister-in-law. By the grace of God, they paid the ransom, and she was released. When she came back, she was not her normal self. They gave them a series of injections we don't even know. Sometimes they do nasty things to them. They rape them. If you are not strong, you do not survive when you come back. Some become depressed.

While this does not directly correlate with the definition of maternal mortality as death during pregnancy, at delivery, or soon after delivery, it highlights the elevated possibility of death for the nation's mothers. The experience of the governor's sister-in-law, who underwent a deeply traumatic event, emphasizes the vulnerability of and psychological toll on those who already are or may become mothers. This woman's altered state upon return suggests potential health implications that extend beyond the immediate aftermath of the kidnapping. Studies have established that depression is associated with a greater risk of suicide (Brådvik, 2018; Orsolini, 2020). The National Health Service lists "a history of mental health problems, particularly depression, earlier in life," "recent stressful life events," and "physical or psychological trauma" as causes of postnatal depression (NHS, 2024). A leading cause of maternal mortality is suicide. It accounts for approximately 20% of postpartum deaths (Lindahl et al., 2005). The years preceding and following pregnancy are times of increased access to healthcare and, thus, greater opportunities to recognize and mitigate suicide risk. Unfortunately, Nigeria is facing a significant mental health crisis, with millions of its residents contending with diverse mental disorders. Those in positions of power, whether it be through political or financial means, often seek medical attention abroad where it is less stigmatized and further studied. The societal stigma surrounding mental health challenges in the country forces mothers to endure their struggles in

silence, on the brink of death. Depressed parents, often inclined toward social withdrawal, may also face challenges in seeking timely medical care for their children, potentially leading to delayed interventions and increased mortality risk.

Elizabeth references the "grace of God" in this woman's return. She alludes to the fact that some victims are not lucky enough to return home. Often, these unfortunate victims are those without the financial means to pay ransom. Payment of ransom money is forbidden by Nigerian law, meaning there are no policies intended to support disadvantaged families. The UN Office for the Coordination of Humanitarian Affairs reports that "the security situation has resulted in a humanitarian emergency, with more than 8.3 million people – approximately 80 percent of whom are women and children – requiring urgent assistance" ("Nigeria," 2024). This disproportional impact highlights the importance of government officials reallocating their security officers to women and children of all socioeconomic statuses.

One's socioeconomic status profoundly influences their access to healthcare services in Nigeria. The fiancé of Elizabeth, Joel, shared with me the following:

> Everybody has access to Navy Hospital. [You] need to have the money to be cared for.

Asukwo highlighted similar economic barriers at a healthcare facility in Akwa Ibom state:

> When you go to the teaching hospital, you need to buy the card for 2,000 [Naira]. Aside from prescriptions, you need to buy the medication. The health insurance scheme is not effective. You need to buy syringes, needles, and medications. It makes it difficult for people to afford. Specialist doctors are unbearably expensive. 30,000 Naira is [the] average pay in Nigeria. You are taking 8 percent of a salary.

Across Nigeria, the substandard infrastructure of healthcare settings causes excessive out-of-pocket expenses. Nigerians must buy more medical supplies to carry out care because hospitals are often not properly funded. The Nigerian Navy Reference Hospital Calabar describes itself as "one of the finest military healthcare facilities in Nigeria." However, the hospital's exceptional quality, in comparison to the average healthcare facility in Nigeria, is not

accessible to all citizens. The lack of a middle class in Nigeria makes it so health policies do not consider varying salaries. For this reason, countless individuals outside of the upper class, which is primarily comprised of politicians, are deprived of proper medical care. Dr . Joy revealed the following about healthcare at Navy Hospital:

> An MRI can cost anywhere from $100 to $200. To some, that is one year's salary.

In addition to a socioeconomic hierarchy, there is a geographical hierarchy that disproportionately impacts mothers and children in rural Nigeria. Asukwo delved into differing, geographic-dependent experiences of mothers in Nigeria:

> A lot of women outside the cities – rural communities, the village, borderline cities – [are in] the places and areas that are impacted the most by kidnapping, killing, riots, ritual killings, [and they] are usually not in the cities but the vulnerable areas outside of the cities – outlying communities – that are not as protected an covered by security networks the way the cities are. These areas are left to fend for themselves. They are overwhelmed by Boko haram, religious fighters in the north, and kidnappers in the south. That mixed with women who are pregnant, they become the most vulnerable ones in the society. Already, prenatal and antenatal care is precarious in the country. When you have this insecurity, you do not have medical doctors who agree to work in these communities because of the level of violence there, affecting the nursing mothers who need care and infant mortality goes up. When areas are attacked, it is the women and children that suffer the most.

In her interview, Okang expressed a similar opinion as Asukwo:

> Maternal mortality is high in Nigeria because they do not go into the rural areas – the villages – to bring awareness. In the urban city, the mortality rate is low. In rural areas, there are no hospitals. They do births at home which is very risky for mother and child. The government should focus on rural areas, bringing health facilities there. [The] mother and child are lost in the process with traditional birth attendants. It can be any occurrence like [the] baby not breathing well. Before you rush the baby to the town, the baby or the mother is dead.

Women and children in rural Nigeria experience the brunt of insecurity-related challenges. These areas, often lacking adequate security infrastructure and government attention, are particularly susceptible to the activities of terrorist groups, religious conflicts, and rampant kidnappings. Consequently, pregnant women in these regions face heightened risks, compounded by the already precarious state of prenatal and antenatal care. Asukwo alone named four mothers, both residing in urban and rural areas, who he knows died in childbirth. He explained that maternal mortality is more frequently discussed in urban areas due to the wider dissemination of

information compared to villages., indicating that this issue is understated among certain populations. Moreover, the scarcity of medical professionals willing to work in these violence-prone, remote communities further limits access to essential maternal healthcare services, exacerbating maternal mortality rates.

Societal Impact

The growing rate of crime and violence in Nigeria has exerted a psychological impact on a number of its citizens. Nearly every interviewee expressed feelings of frustration, fear, and/or wistfulness. Joel describes the feelings of the Nigerian people wholly:

> They [security concerns] keep you on your toes. You are not sleeping with your eyes closed. You watch your back. In the night, you go back quite early. Things close down early. No nightlife. In December, we don't have people going out. Certain years before the Buhari government, this state [Calabar] was very vibrant. You could go out till 2 [or] 3 AM, and everything [was] fine. The environment… people no longer trust one another. People don't go out late at night. It [crime] is happening in broad daylight too.

Dr. Ansa also touched on the feelings and changes in Nigerians' day-to-day lives:

> Kidnapping is getting worse. That is a major fear. You can imagine the psychological impact it is having on people. People are kidnapped in their homes now. Previously, you would have to go out to be kidnapped.

When asked how often security challenges prevent her from leaving the house, Eno-Obang had the following to say:

> [On a] daily basis even in the house. Anything could just happen even in the night when you are indoors. We are praying that nothing goes wrong. [...] You have to look over your shoulders to make sure you cannot get hurt by the perpetrator.

The drastic lifestyle changes stemming from the proliferation of security concerns can linked to negative mental and physical health outcomes for the mother and child. Studies show that excessive stress may lead to headaches, sleeping problems, and changes in appetite. These behaviors can be detrimental to the well-being and the health of a mother and her developing baby ("Will stress during pregnancy affect my baby? | NICHD"). Stress in the womb has also been shown to impact neurobehavioral development (i.e., depression and irritability), birth

weight, and the likelihood of a preterm birth. High blood pressure and heart disease are additional maternal consequences of stress during pregnancy.

The current Nigerian population is forced to adapt to the growing national insecurity. The acceptance of the nation's degradation poses a great threat to the well-being of future generations. The CDC reports that severe depression can prompt a child to contemplate or devise plans for suicide. Suicide stands as one of the prominent causes of death among adolescents. As of 2019, Nigeria's suicide rate of 17.3 per 100,000 surpasses the global estimate of 10.5 per 100,000 and the African estimate of 12.0 per 100,000 (World Health Organization, 2019). Nigeria's reported suicide rate should be skeptically received given the negative cultural and religious sentiments surrounding the act along with the legal prohibition of suicide as outlined in the Nigerian constitution. The lack of mental health services in addition to the risk factors of suicide place Nigeria's future children in harm's way. Whether it be bandits and terrorists or one's own doing, countless Nigerian children are at risk of dying before they have seen what this world has to offer. Nigerian children's inability to see domestic improvement blinds them from their opportunity-filled futures.

Several interviewees acknowledged that the growing presence of kidnappings and protests across Nigeria are the doings of the nation's youth. A more prominent materialistic culture has emerged in recent decades. Many young adults feel the need to achieve an unachievable lifestyle. This lifestyle appears more attainable with the help of illegal activities such as robbery and kidnapping. This mindset is primarily among young men. On the other hand, young women are interested in an extravagant life that they have not earned. Inok framed this frightening dynamic best:

> People are on social media posting lifestyles that we don't know are true. The youth want to get those things. A child of 21 years feels they have failed in life because they are not driving a [Mercedez] Benz,

> but their mate is. Young girls want guys with flashy things. Girls put themselves in danger. Guys end up killing them and using their body parts. Girls are killed by their boyfriends or their supposed friends.

Nigeria's young people have lost sight of their morals. Young girls are willing to risk their lives to "flex," or show off valuables in a non-humble manner (Urban Dictionary), and young men are willing to carry out evil acts to do the same. Youth disillusionment and moral decay contribute to an environment of insecurity in Nigeria. Teenage girls, who take on the intersectional identity of women and children, are particularly vulnerable to kidnapping due to factors like human trafficking, ransom demands, or forced marriage. Teenagers are particularly susceptible to social contagion (Martínez, 2023, p.237). They are attracted to opportunities without reasonable consideration of future consequences which is why we see more and more young girls being killed and having their organs harvested for the financial gain of their assailants.

Preterm birth and low birth weight are more direct causes of infant and child mortality. Long-term complications that may not result in mortality include learning disabilities, vision and hearing problems, asthma, and feeding problems. Living with an impairment such as the ones listed above is not the reason for a lower quality of life. Rather, as described by the social model of disability, systemic barriers and societal attitudes in Nigeria will make it nearly impossible for disabled persons to participate in society the same way as their non-disabled counterparts. The children born to mothers under the current stressful conditions in Nigeria are more susceptible to a life of hardship or no life at all. Premature infants face an increased risk of sudden infant death syndrome (SIDS), a phenomenon in which an infant passes away under unclear circumstances. SIDS often takes place when an infant is sleeping. The vast majority of Nigerians are facing financial strain amidst the nation's economic inflation. For this reason, technology, like baby monitors, is far less likely to be purchased to avoid SIDS. Preterm infants continue to be susceptible to a range of other complications such as "respiratory distress syndrome, chronic

lung disease, injury to the intestines, a compromised immune system, [and] cardiovascular disorders" (Institute of Medicine, 2007). The World Heart Federation reports that in the last three decades, global deaths from cardiovascular disease increased by sixty percent. Similarly, the World Health Organization (2019) reported that of the top ten causes of death globally, respiratory diseases made up three. Neonatal conditions ranked fifth on this list. It is crucial that acknowledge how Nigerian women and children become a part of these statistics as a result of the nation's insecurity.

Kidnappers have also driven healthcare providers from scores of communities due to their immortality. Dr. Ansa shared with me a disturbing story that reveals why medical practitioners are fleeing Nigeria:

> A doctor was kidnapped in her clinic when trying to save the life of an ill patient. The persons who brought the patient are the ones who kidnapped her.

Okang delved deeper into the maltreatment of healthcare professionals in the area where she and Dr. Ansa reside:

> Terrorists go to [the University of Calabar] teaching hospital late at night to rob the patients. There is no security. At 7 or 8 [PM] when workers are going home, you hear they are terrorized and robbed. [...] These are night nurses and doctors. The doors are not locked in the hospital in case of [an] emergency. [The] windows are open at night because the generators are running.

One could claim that medical personnel on a battlefield, protected under the Geneva Conventions, are safer than their counterparts in Nigeria. Medical neutrality refers to the noninterference with medical services amidst war and other conflicts. Through concealed kidnapping schemes, kidnappers exploit a physician's oath to always help those in need and neglect medical ethics, creating a distrustful environment that makes healthcare professionals hesitant to help women and children, despite their vulnerability.

Disruptions caused by violence and insecurity impede access to essential healthcare services, exacerbating existing challenges in maternal and child mortality. Joy, a former

physician in Nigeria now practicing in the U.S., connected the issues of poverty, security, and maternal mortality:

> Women are scared to get cesarean sections because of the risk of having their organs removed. Organ trafficking has been a major headline in Nigerian news. A woman who went for an appendectomy discovered that the surgeon removed her kidney without her knowledge. How can expecting mothers trust Nigerian healthcare facilities? Women in the village often do homebirths. The hospital is too far, and they do not have the money. Driving at night is highly discouraged because of area boys.

Less than half of the nation's women give birth in healthcare facilities. The growing crisis of organ harvesting is likely to exacerbate this statistic given the distrust it associates with the nation's healthcare system. According to the Mayo Clinic, "planned home births are associated with a higher risk of infant death, seizures, and nervous system disorders than planned hospital births" ("Home birth: Know the pros and cons"). Such risks can be reduced with access to a specialized physician and planned transport to a hospital if needed. Even if impoverished women in the villages gather the courage and financial means to give birth in a hospital, Inok revealed that this is not always an option due to the issue of kidnapping:

> When a doctor is kidnapped, all doctors want to go for a strike. This affects the health sector because people are sick every day.

The kidnappings continue to place expecting mothers' lives in jeopardy. As these mothers refrain from medical settings and these settings face a shortage of physicians, the risk of maternal mortality exponentially increases. The risk of maternal mortality has persisted at an elevated level in the Nigerian countryside or villages. In these areas, women regularly deliver at home. With kidnappers carrying out their work at all hours, there is no ideal time for villagers to navigate their way to the nearest hospital. In addition, this demographic is lower-class and often unable to finance a hospital visit.

Malaria is a pressing issue in Nigeria, and the disease's parasites continue to develop immune escape strategies that a weakened immune system stands no chance against. According

to the Westfield Development Initiative, malaria stands as the primary cause of child fatalities in Nigeria, with approximately 250,000 Nigerian children succumbing to the disease annually.

Low birth weight is often caused by premature birth. This adverse pregnancy outcome often results in incomplete fetal development, more specifically the underdevelopment of vital organs such as the the brain, lungs, and immune system. The dangers of compromised immunity for children are outlined in the paragraph above. Underdeveloped organs may struggle to function optimally outside the womb, posing a great threat to a child's vitality. Nutritional challenges, both in utero and post-birth, are another concern of low birth weight. In 2023, Save the Children published a piece titled "Worsening Food Crisis in Nigeria as Farmers Face Wave of Attacks and Kidnappings by Armed Groups." In this article, the authors discuss how the nation's insecurity obstructs critical food supplies, exacerbating the hunger crisis. The Nigerian Security Tracker reports that between January and June 2023, armed groups were responsible for the deaths of over 128 farmers and the kidnapping of 37 individuals across Nigeria (Lawal, 2023). The doings of these bandits fragment families and deprive the population of resources necessary to survive. Specifically, poor diets in early childhood pose a threat to proper growth and development and result in fatalities due to prevalent childhood illnesses.

The saying "It takes a village to raise a child" is contested amidst the growing crime and violence in Nigeria. As said by Joel, "People no longer trust each other." Punch Newspaper revealed that some kidnappers lure children with gifts. The authors reported a 2016 incident in which two brothers schooling in the Okokomaiko area of Lagos State were intercepted by kidnappers who offered them money to buy candy and biscuits. The kidnappers forced the older brother to collect the treats alone while they remained with his younger brother whom they

abducted. When asked whether he sees a link between insecurity and child plus maternal mortality, Dr. Usoro responded with the following:

> As a physician or surgeon, I can surely see the link. Children are actually targeted and kidnapped. They are not lodged in five-star hotels. They are taken into the jungle, and some of them die in captivity. Some of them who escape die later due to various problems.

The chilling prospect of such atrocities befalling one's own child instills a profound sense of fear and caution among Nigerians. The once-strong bonds of community and trust have been shattered by the specter of insecurity, leaving many hesitant to rely on their neighbors or even extended family members for support and protection. In essence, the epidemic of crime and violence in Nigeria has not only undermined the traditional concept of communal responsibility in child-rearing but has also instilled a pervasive sense of mistrust and apprehension within society.

In her piece “Life and Death on the Social Ladder,” Helen Epstein claims that “there may be something health-giving about societies that strive together, where individuals are sustained by strong social or family ties and shared ambition” (Epstein, 1998, p.9). The lack of community trust can make individuals hesitant to seek healthcare services. In addition, communities with low levels of trust may be less likely to share vital health information, hindering the dissemination of knowledge about childcare practices, disease prevention, maternal health, and early warning signs of health issues. Nigerian communities with low trust may struggle to mobilize collective efforts to address health challenges as they prioritize the avoidance of attacks and kidnappings.

In September 2023, there was a 24-hour curfew in Kano State following a tribunal's decision to overturn the election of the governor. The tribunal declared a member of President Bola Tinubu's party as the rightful winner. Amidst this decision, officials suspected unrest from the public, so they threatened arrest and legal action against those who defied the curfew. The

political events leading to the curfew reflect the volatile nature of the sociopolitical landscape, contributing to instability and unrest. Similar curfews, whether enacted to prevent politically motivated violence or address security threats like kidnappings, disrupt the normal functioning of communities. Joel detailed a condition of a curfew established in Calabar:

> When there was [a] curfew, you adhere because the police will harass you and collect money before releasing you from a facility.

Joel's account of the conditions during a curfew in Calabar sheds light on the challenges faced by individuals, including harassment by law enforcement and financial consequences for non-compliance. These disruptions not only hinder daily activities but also impact healthcare access, posing risks to maternal and child health. The fear of arrest and the imposition of curfews create barriers to timely medical interventions, potentially leading to adverse outcomes for pregnant women and children.

When asked whether there are specific healthcare challenges or obstacles that are exacerbated by security concerns, leading to increased maternal and child mortality rates, Asukwo had the following to say:

> It has become quite unpleasant for doctors because they have been suffering the brunt of kidnappings and being abducted for ransom. A lot of doctors go on strike because of the kidnapping of their colleagues. If your colleagues are being kidnapped you will not want to remain in the country. It is not easy to replace these physicians because we do not have doctors coming from outside the country into Nigeria. [The] exodus of medical personnel from Nigeria is at a tipping point. So many health professionals – doctor attendants, physician assistants, nurses – who are leaving the country. This will affect the standard of healthcare that we have in the country. If the quality of healthcare is affected, naturally infant and maternal mortality rates will be affected. The infants cannot advocate for themselves. They are left at the mercies of us adults. If adults are leaving the country because of the high rates of insecurity and the rate of inflation and difficulty in getting jobs and the poor healthcare system in the country, you are going to have the impacts on the infants being severe.

Nigeria’s security challenges have set the stage for the nation’s physicians to flee to other countries where they will be better protected and paid. This dangerous trend worsens the nation’s healthcare system with every day that passes. While their loyalty to one another is admirable,

Nigeria's healthcare professionals are choosing their own well-being over that of the next generation, contributing to child mortality.

Transportation

The rising rates of crime in Nigeria have caused residents to not only change their attitudes but also their methods of transportation. A former pediatrician in Nigeria, whom I will call Dr. Doe, revealed to me the following:

> I retired in 2016, and the security situation had always been bad, especially in the northern part of the country. I worked in Zaria, Kaduna. The security issue was bad, but not as bad as it is now. I remember that I came to the US in 2018. By the time I went back – just before I went back – I was told that a godson of mine was kidnapped on his way to Abuja from Kaduna. In fact, I was so scared coming back home. My children advised me to come by rail and not road because of what was happening. I was like "Oh my God. This person was kidnapped and you didn't tell me." My children said they did not want to scare me.

Train transportation is not available around the clock. Dr. Doe was able to travel by rail, possibly because of a more adaptable schedule. However, the process of labor and childbirth does not afford such flexibility. The lack of maintenance has placed the nation's Cape gauge national railway network in poor condition. Approximately eighty percent of Nigerian railways fall under this category, having been built by British colonial power. Both the Cape and standard gauge railways networks fail to cover a great deal of Nigerian land. The Economist exposed the rail journey from southeast (Lagos) to north Nigeria to take thirty hours. Meanwhile, the journey by car is approximately seventeen hours. This is evidence that the outdated transit infrastructure in the country impedes efficient transportation, an intermediate outcome that in turn affects maternal and child mortality rates.

Renovated rail transportation holds particular promise for women, including existing and prospective mothers, offering a safer and more reliable mode of travel. In a city in northern Nigeria, nearly four dozen motorcycle taxi riders were fined for transporting women after a court in the area ruled it a violation of Islamic Sharia law (NBC News, 2006). The Association of

Women's Health Care says expecting mothers should have a prenatal appointment every four weeks during the first and second trimesters and a visit every two weeks for the majority of the third trimester. Then, a visit every week from weeks 36 to 40 of pregnancy is recommended. With religious obligations and insecurity posing barriers to transportation, there is an elevated chance of Nigerian mothers, specifically those in northern Nigeria, failing to adhere to these visitation recommendations.

Abuja Light Rail was one of the few active or under-construction metro systems. Today, the station is abandoned and draining the country of $50 million a year to pay off $500 million in loans from the Export-Import Bank of China, drawing more money away from the Nigerian health sector. The railway was built in an area with insufficient population density for it to be effective, and according to a Nigerian urban planning consultant, this is "a lesson in how not to create a mass transit system" (Morrow, 2023).

Inadequate access to transportation infrastructure compounds existing challenges, particularly in rural areas where healthcare facilities are sparse. The repercussions are dire, as delays in reaching medical care during emergencies significantly increase the risk of adverse maternal and child health outcomes. Eno-Obang had much to say on the method through which insecurity prevents timely medical care:

> Insecurity has a lot to do with child and maternal mortality. There is a nexus. If the environment is not safe, then people cannot get to the hospital. People are afraid to go out. When there is insecurity in a community, people can't move around freely, and so they cannot or may not be able to access medical care. People are reluctant to move around in the night to access medical care. [For] those who can, it will be very slow. In the process of trying to make up their mind if it is safe enough for them to leave from one environment to another, the patient passes on. It [insecurity] is a general feeling everywhere. We feel that there are only so many things one can do especially when it is dark in the evening. You do not want to be outside. It is worse for people who do not have vehicles and need to rely on public transportation. Last month, I had to travel out of the state. Many people I talked to tried to talk me out of it out of fear I would run into kidnappers, but I had to deliver a paper. I had my heart in my hands. You do not want to travel to other parts of the country. It bothers everybody in the country. I am glad we did not encounter any problems on the trip.

Nigeirans' lives how been so greatly impacted by insecurity. It guides their every decision, even in the case of medical emergencies. Eno-Obang's statement highlights how fear, vehicle access, and time of day impact citizens' health. Her reference to public transportation supports the notion that Nigeria's rail system, being part of the country's public transit system, is lackluster in its services. Feelings of limited agency deteriorate Nigerians' health-seeking behavior. A field experiment focusing on the impact of enhanced personal responsibility and choice on care home residents found that a "reduction in sense of agency is associated with poor health and a reduction in quality of life" (Langer and Rodi, 1976). The inability of women and children to move as they please, especially in life-threatening situations, results in a lower resilience to stress, causing higher cortisol responses to stress (Mehta, 2023). Both psychologically and tangibly, transportation infrastructure contributes to the setback of medical treatment.

Dr. Anupam Jena and his colleagues found that "[m]edicare beneficiaries who were admitted to marathon-affected hospitals [...] on marathon dates had longer ambulance transport times [...] (4.4 minutes longer) and higher 30-day mortality than beneficiaries who were hospitalized on nonmarathon dates." (Jena et al, 2017, p. 1441). The authors explicitly address that large marathons cause road closures and infrastructure disruptions. While the road closures and healthcare infrastructure disruptions in Nigeria are the doings of bandits, kidnappers, area boys, and political corruption instead of marathons, I believe that this shared unfortunate outcome can be reasonably assumed to also cause elevated mortality in Nigeria.

The lack of infrastructure and availability of the Nigerian rail system along with the risk of using this mode of transportation prevents women and children from safely traveling domestically. Dr. Doe shared with me an incident of a train kidnapping, involving a friend of hers, that demonstrates this unfortunate circumstance:

> She went on [a] visit to Abuja. She is a nurse. Usually, when she has some days off, she visits her twin granddaughters to help out one way or another. On her way back to resume work on a Monday, she decided to come by rail because the road was dangerous from the kidnapping. It [kidnapping] was so frequent then. Most people resorted to traveling by rail. She took the train on a Monday. Unfortunately, that was the first time the bandits decided to operate on a train. So many people were killed and some were kidnapped. She was one of the ones kidnapped. They made her talk to someone to raise the ransom of 100 million naira. She decided to call the husband. They dictated to her what she was to say. She was there for 8 months. It is not easy to raise 100 million. When they first made her call her husband, they did not ask for ransom yet because they were deciding whether to kill them or not. Her husband went into depression. Prayer groups [were] formed to pray for her release and for her not to be killed. From time to time, they would take pictures of the kidnapped people for it to be published in a newspaper. They said, "If you can identify anyone in the picture, be prepared to send us what we ask for ransom." You can imagine that level of boldness. I guess it was sent into WhatsApp messages. I don't know how it ended up in the papers. Somebody sent the picture to me, and I was able to identify her among the ones that were in the group [at] that time. Among her own group, there were three pregnant women. There were children. They didn't care. Some children that travel with their parents were among those who were kidnapped. There were children under five years [old]. One of them was due to deliver. They had to kidnap an OBGYN doctor. They told him they were kidnapping him just for the purpose to deliver the pregnant woman safely. The OBGYN doctor went with them and helped with the delivery then they released him.

Asukwo revealed to me his awareness of this unfortunate event and his experience with shifting transportation safety and availability in Nigeria:

> In 2018/2019, I was able to drive down from Abuja to Uyo or Abuja to Kaduna with no fears. As of today, you are not driving such a path, [for] you will be kidnapped and killed. The train meant to travel from Kaduna is not functioning. There was a train attack by bandits that killed over one hundred people.

The harrowing experience faced by passengers due to the insecurity and frequent kidnappings along transportation routes repels women and children from utilizing these systems. Pregnant women and children are often targeted regardless of their circumstances. It is disturbing that in an attempt to offer her daughter support in raising her daughters, Dr. Doe's friend was traumatized by ruthless kidnappers. Mothers cannot be aided in parenthood because of these bandits. A longitudinal study by Meghan Angley and her colleagues found that "the associations of social support and family functioning during pregnancy with parenting competence in the early postpartum period may be mediated by lower levels of maternal and paternal depression in the postpartum period" (Angley, 2015, p.7). The presence of a loved one during parenthood allows for emotional support, knowledge sharing, physical support, and encouragement. By combatting depression through emotional support, there is a reduced chance of mothers failing to

take care of themselves and their children or even contemplating suicide. Meghan Angley and her colleagues claim, “Recent evidence has shown that among first-time mothers, social support of friends, families, and professionals provides both informational support on infant care practices and appraisal support [...]” (Angley et al., 2015, p. 7). As mentioned above, it takes a village to raise a child, and the growing insecurity in Nigeria prevents this from taking place. Support in parenthood from loved ones plays a crucial role in promoting maternal and child health, reducing the risk of mortality, and fostering positive outcomes for families. Today, a Nigerian grandmother cannot peacefully anticipate a hug from her grandchildren and daughter because she is focused on the bandits that might be lurking around every corner.

A weakened immune system, discussed under the *Societal Impact* section, makes children more vulnerable to infections, such as pneumonia and bronchiolitis. Such infections can progress rapidly in children with compromised immunity. Respiratory infections can compromise the airways, making it difficult for the child to breathe and leading to respiratory failure. If a Nigerian child suddenly experiences difficulty breathing at night, transportation problems arise due to the kidnappers that fill the streets. Concerning the issue of transportation, Elizabeth shared with me the following:

> Emergency medical transportation is still an issue. Nothing is improving in Nigeria.

Dr. Ansa provided a similar response, his coming from the view of a medical professional striving to provide care amidst these difficult circumstances:

> If one has a crisis late at night, they try to manage whatever they can until it is safe in the morning. “We couldn't come out because we were scared or could not get transport.” It happens quite often. Even doctors do not respond to calls when it is late unless they are sleeping in the hospital. Most of the kidnapped victims have been doctors who went out on duty.

Asukwo conveyed a similar sentiment but tied in the wider geographic basis of the transportation issue that is preventing proper care for mothers and children in rural areas:

> In the instances where the women want to leave the villages and come to the city for antenatal care, the kidnappers are on the road and kidnap the mother, their husbands, the infant, and their children. They disrupt family rhythm and demand outrageous ransom amounts – millions of Naira. This discourages women from leaving their villages for care. They refrain from taking infants to get inoculation, nurturing food, [and] vaccines for the children. These children cannot grow and compete at the same level as other children. Nutrition does help in terms of educational capabilities. A child that is well-fed will be well-read. A child that is hungry will want nothing to do with education. This is the building block for the next generation of criminals, breeding uneducated people and kidnappers.

Their statements evoke a sense of helplessness and urgency, emphasizing the dire state of Nigerian emergency response systems. In the latter half of Elizabeth's statement, she expresses a pervasive frustration with the lack of progress in addressing fundamental healthcare infrastructural issues that are amplified by overarching security concerns. This sentiment underscores the tangible consequences of inadequate emergency medical services, where individuals may perceive a lack of assurance that timely help will arrive during critical situations. Regarding Dr. Ansa's statement, it is evident that doctors must also consider their own safety in light of frequent nocturnal crime. His statement highlights the pervasive fear and insecurity that pervades nighttime crises in Nigeria, contributing to delayed or inadequate responses to emergencies. The reluctance of individuals, including healthcare professionals, to venture out at night due to safety concerns severely impacts the timely delivery of critical services. Asukwo stresses how mothers do not attempt to transport themselves for medical care due to the threat of kidnapping on the roads, leading to significant disruptions in healthcare-seeking behaviors.

The Indigenous People of Biafra (IPOB) in August 2021 exacerbated the issue of delayed medical care through their sit-at-home order across southeast Nigeria that was meant "to pressure the Nigerian government to release its detained leader, Nnamdi Kanu." In a 2023 Premium Times piece, it was reported that "[s]ome residents and motorists, including commuters, have been attacked lately by gunmen for stepping out of their homes on Monday and other days declared for sit-at-home by the armed groups." Citizens' fear of IPOB has made them afraid to go

to any health clinic even on non-sit-at-home days, leading them to dangerous self-medicating. A physician in the affected area stated that "delayed access to medical care can bring 'dire consequences' including death for both adults and infants." The authors postulated that "the lowest percentage in the recommended vaccines intake in 2023 with about 61,000 children across the region not being vaccinated" was the result of the stay-at-home order (Ugwu, 2023).

Punch Newspaper listed roadblocks as one of the methods kidnappers use to trick their victims. The authors wrote, "The modus operandi of kidnappers includes mounting roadblocks on highways in military uniforms and staging a surprise attack on unsuspecting motorists" (Punchng, 2016). As a result of this danger, infants miss out on crucial healthcare interventions that impair their physical and cognitive development. In addition, an article in the *Paediatrics & Child Health* journal found that "hunger is related to poor health outcomes, including a higher risk of depression and suicidal ideation in adolescents, and chronic conditions, particularly asthma. In addition, nutrient deficiencies, such as iron deficiency, are known to impair learning and cause decreased productivity in school-age children, and maternal depressive disorders" (Ke and Ford-Jones, 2015, p. 89). The interplay between insecurity, limited access to healthcare, and inadequate nutrition sets the stage for a vicious cycle of educational disadvantage and socioeconomic marginalization, ultimately perpetuating a cycle of poverty and insecurity in Nigeria.

Corruption

Nigeria has become notorious for its corrupt politicians. When asked how security concerns impact economic conditions, and subsequently, healthcare outcomes, Dr. Ansa, speaking on behalf of healthcare professionals and common Nigerian citizens, shared with me the following;

> We wish there was more transparency. There is an element of corruption.

Eno-Obang revealed to me her belief in the source of poverty in Nigeria:

> Poverty is exacerbated by corruption [and] by bad governance.

Feelings of insecurity stem from those who are meant to advocate for all citizens given the proclaimed democratic rule of the nation since 1999. Unfortunately, there is no power to the people, only power to the Naira. It comes as no shock that the Nigerian Financial Intelligence Unit reports that the nation has lost over 400 billion dollars from the mid-twentieth century to corruption and other illegal activities like money laundering and tax evasion (Nigerian Financial Intelligence Unit, 2023). In the interest of this paper's focus, I will focus on how corruption impacts the Nigerian healthcare sector.

The pocketing of millions of U.S. dollars deprives healthcare facilities of the funds to rebuild and fortify their infrastructure. A 2021 CNBC article claims that "Nigeria's public spending on health care amounts to just 3.75% of its $495 billion GDP [...]." Furthermore, the author also claims that Nigeria would need "386,000 additional beds and $82 billion of investment in healthcare real estate assets to reach the global average" (Smith, 2021). According to Nigeria's Minister of Information, Lai Mohammed, fifty-five government ministers, state governors, public officials, bankers, and businessmen embezzled 1.34 trillion naira from Nigeria's public funds between 2006 and 2013 (Eboh and Akwagyiram, 2016). That is half of Nigeria's current spending on healthcare. When Mohammed made this statement, one dollar was equal to 198.00 naira. Today, inflation has made one dollar equal to approximately 898.00 naira. The elimination of fuel subsidies by President Bola Ahmed Tinubu has contributed to the devaluation of Nigeria's currency. Tinubu is the same individual who was allegedly linked to a drug trafficking ring in Chicago before his presidency, making citizens suspicious that he is among those who have stolen from Nigeria's public treasury. The supposed theft by those in

positions of power amounted to $6.8 billion in 2016 but now amounts to only $1.4 billion, due to the inflation that has caused a cost-of-living crisis in Nigeria. The greed of less than six dozen people deprives an entire nation (i.e., more than 200 million people) of proper healthcare. Elizabeth revealed what this looks like for ordinary citizens like herself:

> Hospitals in Nigeria need a lot of equipment. Facilities are not okay for the kind of doctors we have. Nigeria has the best doctors. Many doctors are Nigerians outside of Nigeria. The issue is the facilities. The facilities are not there for them to work. Many of them fighting to be outside of Nigeria to progress and make ends meet. Doctors are paid by [the] government. They go on strike because their salaries are withheld. The government is pocketing money that should be going to doctors. Big people – senators, the president, [and] governors – do not use hospitals in Nigeria, so do not need to pay those people in time. [They would] rather pocket the money and let people suffer.

Elizabeth's account sheds light on the pervasive corruption crippling Nigeria's healthcare sector, which directly contributes to maternal and child mortality rates. The diversion of funds meant for healthcare infrastructure and workers, coupled with the privileged treatment of political elites who seek medical care abroad, exacerbates the already dire conditions in Nigerian hospitals. As a result, many doctors, aware of their expertise and the opportunities outside of Nigeria, are compelled to leave the country, leaving behind a healthcare system ill-equipped to handle the needs of expectant mothers and children. A piece on missed opportunities for cervical cancer screening in Nigeria claims that "despite having a population of over 200 million people, Nigeria has less than 1,000 gynaecologists and 100 oncologists [...]. Such a low number of gynaecologists and oncologists mirrors similar staff shortages in Nigeria's health system [...]" (Okolie et al., 2022). The study identified 968 OB/GYNs across Nigeria, with only 2 (0.2%) and 1 (0.1%) OB/GYNs located in the northern states of Yobe and Jigawa (Agboghoroma and Gharoro, 2015). The systemic corruption in Nigeria not only undermines trust in government institutions but also perpetuates a cycle of suffering as citizens are left to navigate inadequate healthcare facilities and services, ultimately leading to preventable maternal and child deaths. Elizabeth's partner, Joel, shared a similar response:

> [Nigerians are] not courageous in tackling affairs that are troubling us. Not outspoken about bad government. We are timid and allow those that are not meant to be in power to be in power.
> Poor healthcare is a number one issue. By the time people get to the hospital, the hospital might not be able to handle challenges because of the facilities they do not have.

However, it is important to note that some of the country's expenditures have thankfully been geared toward combating growing insecurity in Nigeria. An article by Ubong Effiong and his colleagues at the University of Uyo revealed how Nigeria's security challenges have impacted the investment climate of the country. The authors found that Nigeria's escalating insecurity, such as terrorism by groups like Boko Haram along with incidents involving Fulani herdsmen, bandits, and kidnappers, have led to a significant increase in military expenditure, totaling 2.567 billion US dollars in 2020 as compared to the $270-million-dollar military expenditure in 1988 (Effiong et al, 2022, p. 28).

Overall, many Nigerians feel that the government is not doing enough to address security concerns in Nigeria. Dr. Doe shared with me the following:

> I do not think the government was doing everything they could to improve insecurity, especially what I was hearing in the north when it is close to elections. I remember when the previous president Buhari was supposed to take over from Jonathan. [...] Jonathan and Buhari were contesting. Lots of thugs within Kaduna, Zaria, and Kaduna-Zaria road, especially when the election was conducted and even before the election was conducted. Just a week before, you could see young young boys that would go around places. [...] They went to places like [the] market and other people's houses chanting "Say Buhari." They will say that if Buhari does not win they will handle all the Christians. I have a friend with a small market. They knew she was a Christian so they always paraded there, hitting her window and saying that if she did not vote for Buhari they would come for her. She was a mother. She has children with her youngest being 10 years old. [...] The security was so bad that the government did not do anything. The federal government did not arrest anybody or go to where the camps were to arrest them. When Christians were being killed, the government would not do anything.

With a position in office, and, hence, access to the public treasury, being their biggest concern, politicians overlook threats to the lives of Nigerian mothers. A piece by Ayodele Bello and his colleagues on insecurity and government response to banditry in Nigeria reads, "President Buhari's body language in the real sense seems to be tolerant of bandits' operations in Nigeria. Even though this has been denied, the government action under him has been passive and less proactive" (Bello et al, 2022, p. 27). Area boys are suspected of working with Nigerian

politicians (Onyebuchi, 2014). The country's president-elect, Bola Tinubu, with a past of money laundering and drug trafficking in the United States, is suspected of promoting "the proliferation of "Agbero', 'Area Boys' and other hoodlums all over Nigeria, since [...] 'he is the originator and promoter of Agbero in Lagos State and consequently in Nigeria.'" (Ojikutu, 2022). These government officials use their power to ensure that criminals, specifically those who support them and threaten their opponents, go without prosecution. With morals behind them, Nigerian politicians trade the safety of Nigerian citizens, particularly vulnerable populations like women and children, for political gain.

Dr. Ansa builds on the discussion with the following response to my inquiry about governmental efforts in combating national insecurity:

> These kidnappers are even better equipped in terms of the arsenals. They have superior firepower and likely have connections. How can they continue despite efforts by [the] government to mitigate? They may have some high-level connection with government officials protecting them. The government could definitely do more. The government likely has more intelligence to track where they are and arrest them. If so much money is involved, I have a feeling that some of the share is collected by officials.

Despite government efforts to address national insecurity, kidnappers operate with advanced weaponry that Dr. Ansa suggests is sourced from government officials who may be complicit in protecting these criminals. This potential collaboration of Nigerian criminals with the government creates an unstoppable force that exacerbates insecurity, ultimately leading to increased vulnerability for children and mothers. To pay off a bribe to kidnappers is no easy task according to Dr. Ansa:

> People sell property and borrow to bail out a loved one that has been kidnapped. You can imagine the economic impact on the family. [...] There is no money to take care of the family.

Suppose Dr. Ansa and other Nigerians' suspicion of governmental involvement in kidnapping and other crimes that promote national insecurity is true. In that case, it is plausible to attribute absurd ransom amounts to government officials' need to support their lavish lifestyles at the expense of the common Nigerian.

The government has also been exposed for its involvement in a secret, illegal abortion program. The program was conducted by the Nigerian military, which operates under the authority of the federal government, and has terminated over ten thousand pregnancies among women and girls in northeast Nigeria, many of whom had been kidnapped and raped by Islamist militants ("Nigeria," 2024; George and Levinson, 2022). Military officers gave women mysterious injections and pills in dingy barracks, terminating their pregnancies without their consent. Using violent threats, the soldiers ensured the victims' silence. Victims as young as twelve years old endured excruciating pain and horrifying bleeding, all at the hands of forces responsible for national defense and the maintenance of internal security.

Policy Recommendations

Policy recommendations in Nigeria are particularly challenging to implement due to the pervasive corruption within the government, hindering the effective execution and enforcement of proposed initiatives. The government might resist funding reallocation and stricter surveillance that will reduce mortality and morbidity among women and children.

Dr. Usoro inspired my approach to this section of the paper with the following statement:

> You need to look at the bigger picture. Recommending band-aid solutions might not hit the nail on the head. The kidnappings and genocide need to stop rather than just helping the victims.

Though Dr. Usoro's use of the word *band-aid* carries a negative connotation and suggests insufficiency, shortsighted policy recommendations are needed to alleviate the suffering of our target population.

Amidst the security concerns in Nigeria, individuals face elevated risk of death, physical disability, and other injuries. Those who escape this fate may experience mental distress, causing reduced quality of life (Krug et al, 2002, p.1083; McCollister et al, 2010, p.98). Nigeria's cultural perspectives and insufficient resources have led the nation to a global human rights emergency in

mental health. Mental health is often overlooked in underprivileged, African communities. Adegboyega Ogunwale and colleagues, in their piece on Indigenous mental healthcare and human rights abuses in Nigeria, concluded that the "treatment gap for mental disorders in low and middle-income countries including Nigeria is up to 80% [...]. Only 20% of those with severe mental illness in Nigeria have received any treatment in the preceding year and only 10% of those who received any treatment received minimally adequate treatment [...]" (Ogunwale, 2023). A study by Olayinka Olusola Omigbodun and her colleagues honed in on Nigerian youth in light of the mental health issue. They found that "over 1 in 5 youth aged 10–17 years in southwest Nigeria had experienced suicidal ideation in the previous year, and 1 in 10 had attempted suicide in the past year" (Omigbodun et al., 2008, p.41). While the #EndSARS protests, aimed at ending brutality by the Special Anti-Robbery Squad (SARS) of the Nigeria Police Force, demonstrate the potential of Nigerian youth to fight for their rights, this vulnerable population must have the opportunity to receive free mental healthcare during these troubling times.

In her TED talk "Is Something Wrong with Me? - Mental Health in Nigeria," Chioma Nwosu revealed that there are only 250 psychiatrists in Nigeria which is 1 psychiatrist to 800,000 Nigerians. She also revealed that there are only 12 federal neuropsychiatric hospitals and state psychiatric hospitals in Nigeria (Nwosu, 2020, 4:42). There could be 12 churches on one block in Nigeria. The country is home to thousands of churches and mosques. However, it is difficult to provide an exact number. A webpage by This Is Africa describes Nigeria as "a country with more churches and mosques than hospitals."[1]

Mental healthcare would fall under community-based healthcare programs that would engage local communities in promoting maternal and child health. Other available services

[1] https://thisisafrica.me/politics-and-society/nigeria-a-country-with-more-churches-and-mosques-than-hospitals/

through this program could be prenatal education, vaccination campaigns, and nutrition interventions. A piece by Aluko and Mbada (2020) writes, "[A]lthough formal education is essential, informal education should be strategically encouraged (based on the culture and beliefs of the people) in a way that enables them to build networks and obtain information needed to empower themselves to be lifted out of poverty" (p. 82). With Nigeria having the sixth-largest Christian population in the world and the fifth-largest Muslim population, officials should foster partnerships with religious institutions and leaders to deliver essential healthcare services and information to underserved populations (Fischer). A majority of Nigerians (65%) believe religion plays a more important role today than it did twenty years ago (Poushter and Fetterolf, 2019). Nigeria's National Mental Health Policy should utilize this common ideology to make mental healthcare more palatable to Nigerian citizens who have come to stigmatize this form of care. Considering the significant role of religion in Nigerian culture, officials should create policies that acknowledge the policy environment and public perception.

Erecting clinics within religious institutions where many Nigerians spend a great deal of time may increase the number of annual checkups we see for children from birth to 23 months when the vast majority of vaccinations are administered (Cleveland Clinic, 2022). Mothers who previously relied on prayer to protect them during pregnancy will have the opportunity to receive essential prenatal care and ask important questions about the birth process and motherhood. Given the financial constraints many Nigerians face when accessing healthcare, this program will be on a pay-what-you-can basis. The formatting of these clinics will help ensure that individuals receive necessary medical care regardless of their ability to pay, thus addressing issues of healthcare affordability and accessibility. This serves as a more immediate solution to the common concern of out-of-pocket costs that come with seeking medical care in Nigeria.

While these clinics are needed throughout the country, particular focus will be paid to the northern and rural areas where maternal and child mortality rates are higher. Furthermore, Nigerian medical schools should encourage their students to work in rural areas. The Association of American Medical Colleges claims, “Medical students who grow up in small communities far from urban centers are much more likely to return to them to practice, research shows. So, many medical schools aim to identify potential candidates from rural communities and encourage them to take up medicine” (Jaret, 2020). From the village to medical school, a medical student can make their hometown more educated through community health education programs, local school health programs, mentorships, knowledge sharing, and capacity building.

Expanding access to health insurance coverage could be another crucial policy recommendation in the long term. Health insurance plans could provide financial protection against healthcare expenses and reduce reliance on out-of-pocket payments. Nigeria could strive to establish Medicaid, a U.S. government program that provides health coverage to eligible low-income individuals and families. This health insurance program is jointly funded by the federal government and individual states. To avoid the pocketing of government funds intended to support such health policies, lobbying should become an opportunity for common Nigerians to have a voice in administrative affairs. Corruption and bribery are deeply ingrained in Nigerian culture. Through lobbying, a sense of legality and agency will be delegated to Nigerian citizens as they are encouraged to play an active role in government. Lobbying can serve as a mechanism for advocating for policy changes and holding government officials accountable for their actions. If lobbying efforts are successful in raising awareness about issues of public concern and mobilizing grassroots support, it could increase pressure on officials to act in the public interest and be more transparent in their decision-making processes.

Such transparency will allow for the appropriate allocation of resources to rebuild and fortify healthcare facilities in regions affected by insecurity, ensuring they are equipped to provide essential maternal and child health services as action is being taken to address the dire conditions outside the hospital walls. Efforts should be made to implement measures to secure healthcare facilities and protect healthcare workers, enabling them to operate safely in volatile environments. There should be strict adherence to hospital protocol that, for instance, calls Nigerian police officers to accompany hospital workers when they walk to their vehicles or places of residence. Police officers should be summoned to surveil clinic and hospital entrances around the clock.

Nigeria's government should develop and implement comprehensive strategies to address the underlying causes of insecurity, including poverty, unemployment, and social inequality, which disproportionately affect women and children. This can come as investments in education, vocational training, and economic empowerment programs mitigate the socio-economic factors driving conflict and insecurity, ultimately improving maternal and child health outcomes.

Macroeconomic reforms aimed at stabilizing the economy and addressing inflation might improve healthcare affordability. The implementation of better exchange rate policies can lead to a more favorable healthcare financing landscape. For instance, Nigeria should consider a managed float exchange rate system, where the central bank intervenes in the foreign exchange market to stabilize the currency's value. According to CNBC, "Nigeria's naira currency plunged by around 70% against the U.S. dollar over the course of a year, hitting an all-time low of around 1,600 to the dollar in late February" (Smith, 2024). The Nigerian government should look to "the Chinese currency regime. At the start of each trading day, China's central bank sets a 'reference rate' against which the renminbi is allowed to rise or fall no more than 2 percent against USD in

onshore trading" (Masquelier). A more stable economic environment with controlled inflation rates could improve purchasing power for individuals, making healthcare a more obtainable service. Another contributor to Nigeria's unstable economic environment is the country's overreliance on oil revenue, increasing its vulnerability to fluctuations in global oil prices. Failure to diversify the economy and invest in other sectors has hindered sustainable growth and development. Nigeria can diversify its economy by promoting growth in non-oil sectors such as agriculture, manufacturing, services, and information technology. This will also create job opportunities in various sectors, making kidnapping and other crimes a less alluring course of action.

Eno-obang mentioned during her interview that many Nigerians flout the law, believing that the claimed consequences are unlikely.

> There are laws. Kidnapping – the penalty is a death penalty. It was put in place to checkmate the menace. Unfortunately, it is on the rise. Always hearing some sad news of people getting kidnapped. [...]. We have stringent laws with stringent punishment. Some of them have been prosecuted and some have been apprehended. Some are standing trial and some [are] already sentenced to death. This still hasn't deterred people from committing the crime. People want to test the law – dare the law/law enforcement officers. [...] Now we have a life sentence for rape, but rape, sexual violence, and sexual assault are on the increase. They are daring the law to see if it will catch up with them.

She brings up deeply unfortunate crimes that are often inflicted upon women and children. The failure of the Nigerian judiciary system to sentence criminals promptly exposes a gap in the system that criminals can exploit. As of April 2023, 69.4% of Nigeria's prison population consists of pre-trial detainees (Nigeria World Prison Brief, 2024). The number of pre-trial/remand imprisonments has increased from 27,959 prisoners in 2000 to 51,939 in 2023. In 2017, a reporter with Quartz Africa revealed through an analysis of data from Nigeria's National Bureau of Statistics that "72.5% of Nigeria's total prison population are inmates serving time while awaiting trial and without being sentenced" (Kazeem, 2017). These alarming figures demonstrate the Nigerian Police Force's failure to validate the consequences established by

current legislation. I suggest a national judicial reform aimed at improving the efficiency and transparency of the judicial system by streamlining court processes, reducing case backlogs, and ensuring fair and timely trials. This will rebuild community trust as citizens rest assured that justice is served against criminals who are currently forcing them to live a life of fear. Asukwo had the following to say during his interview:

> People have become too desensitized to what is happening with regard to violence in the country that people do not react anymore. The level of violence is far higher than that seen three years ago.

Improved implementation of justice laws and community empowerment programs will resensitize people to the unfortunate reality that Nigeria is facing. Authorities must fully commit to the fight against insecurity in Nigeria to protect mothers and children.

To combat barriers to transportation, and thus healthcare, I suggest a health transportation program similar to that in Cook County, Chicago, Illinois. In September 2022, Cook County Health (CCH) collaborated with a new transportation provider to offer eligible patients more scheduling options for transportation services to and from their Cook County Health doctors' appointments. With this program, individuals can schedule a ride as soon as their appointment is made and up to two business days before their appointment. On their website, it is said that "[v]ehicles will look like regular cars or cabs that are used by Lyft, Uber, or cab companies. Vehicles will no longer have Cook County Health's name or logo on them" (Cook Country Health, 2022). I hope something similar can come to Nigeria (starting in cities like Lagos, Abuja, Benin City, Port Harcourt, and Ibadan where Uber is available) to establish emergency response systems that facilitate timely access to obstetric and neonatal care for pregnant women and newborns. Okadas, or motorcycle taxis, are commonly used in Nigeria because of their maneuverability. While they would be a convenient addition to this project, a study by Anthony Ayotounde Olasinde and Kehinde Sunday Oluwadiya found that motorcycle taxi drivers in Owo,

Ondo State, Nigeria exhibited unsafe behaviors that increased their chances of being involved in accidents (Olasinde and Oluwadiya, 2022, p. 189). Tight coupling between Nigeria's Federal Ministry of Transportation and the Ministry of Police Affairs will allow for the swift implementation of this program in which armed police officers accompany patients in a vehicle to their medical appointments, providing both security and assistance during transport.

Conclusion

Nigeria grapples with profound insecurity, such as rampant kidnappings, terrorism, ethnoreligious conflicts, herder-farmer conflicts, political violence, and banditry, that significantly impact vulnerable demographics like women and children. Despite the escalating crime rates over the past decade and Nigeria's second-place ranking in the number of maternal, neonatal, and child deaths worldwide (World Health Organization, 2023, p. 3), there remains a conspicuous gap in research linking insecurity to maternal and child mortality in the country. Through profound, impassioned interviews with ten Nigerian citizens and empirical analysis, this study has illuminated how security concerns detrimentally affect maternal and child mortality rates in the country through various intermediate factors. The regressional analysis and graphical representations support a correlational relationship between insecurity and maternal plus child mortality, with high R-squared values and simultaneous increases in the variables of interest. Key findings underscore transportation obstacles, educational barriers, deficient healthcare infrastructure, political corruption, cruel terrorist organizations, social distrust, and socioeconomic inequalities as pivotal factors exacerbating the vulnerability of women and children. Recommendations have been proposed, including counseling initiatives for youth and women, macroeconomic reforms, enhancements to medical transportation services, and advocacy efforts to foster greater citizen involvement in addressing child and maternal mortality.

Motherhood is a source of empowerment for many women in Nigerian culture. By embracing these recommendations, Nigeria can strive towards a future where maternal and child mortality rates are significantly reduced, paving the way for healthier and more resilient communities. While the findings presented here shed light on insecurity and the mortality of our vulnerable populations of interest, it is crucial to acknowledge the remaining gaps in knowledge and areas requiring further investigation. Moving forward, additional research is warranted to validate and expand upon the claims made in this study. Specifically, future studies should conduct interviews across various regions in Nigeria, such as the north, where insecurity and mortality rates are particularly rampant.

Appendix 1. Interview Guide

Introduction:
Thank the interviewee for their participation.
Explain that the purpose of the interview is to understand the impact of security concerns on infant and maternal mortality in Nigeria.
Assure them of confidentiality and ethical considerations.

Section 1: Background Information
Confirm the name and affiliation of the interviewee.
Their experience and involvement in healthcare or security matters related to Nigeria.
How they perceive the current security situation in Nigeria and its implications on healthcare.

Section 2: Understanding the Underlying Link
Ask the interviewees to share their insights on the potential link between security concerns and infant and maternal mortality.

Section 3: Explanatory Variables
Discuss the explanatory variables of security concerns (e.g., conflict intensity, terrorist groups, politically motivated violence) affecting infant and maternal mortality.
Ask for the interviewee's views on the significance of these variables.
Ask interviewees if they know anyone who has been kidnapped.
Ask how strictly the interviewee and their family (if applicable) adhere to the curfews in place as a result of kidnapping concerns.
Ask the interviewee how often security concerns prevent them from leaving the house (ie: daily, weekly, monthly, never)
Probes:

- How would you describe the intensity of conflicts or security concerns in your region, and has it varied over the years?
- What government policies or interventions have been implemented to address security concerns in Nigeria?

Section 4: Alternative Explanations
Invite the interviewee to provide any alternative explanations or factors that could impact infant and maternal mortality.
Discuss their perspectives on these alternative explanations.

Section 5: Outcome Variables
Explore how the interviewee defines and measures infant and maternal mortality.
Ask for their insights on the current trends and statistics in Nigeria.

Questions:

- Have you noticed any specific trends or patterns in maternal and infant mortality that coincide with security concerns or conflicts?
- What are the primary causes of maternal and infant mortality in your area, and do security concerns play a role in any of these causes?
- Are there specific healthcare challenges or obstacles that are exacerbated by security concerns, leading to increased mortality rates?
- How do security concerns impact access to healthcare services for pregnant women and infants in your region?
- How do the quality and availability of healthcare facilities and services influence maternal and infant mortality?
- Can you share insights into how security concerns impact economic conditions, and subsequently, healthcare outcomes?

Section 6: Conclusion

Summarize key points discussed during the interview.

Ask if the interviewee has any additional comments or recommendations for further research.

Closing:

Thank the interviewee for their time and valuable insights.

Provide contact information for any follow-up questions or clarifications.

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