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# MisGenMas: Understanding Drivers of Misinformation, Gender Disparity and Masculinity on Vaccination Decision-making in Sub-Saharan Africa

## Project type

interdisciplinary pilot project     cross-sector project     global health postdoc fellowship

## Research areas involved (check all that apply)

Biomedical sciences     Public health  
 Social sciences and humanities     Engineering and other sciences

## Project duration

November 2022 – December 2024

## Project team

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## Case study

### Introduction to project

Since the turn of the millennium, childhood vaccination coverage against preventable infectious diseases in sub-Saharan Africa (SSA) has reached unprecedented levels. However, uptake still has a long way to go in the region, as it still accounts for the highest under-five mortality rate globally. Despite previous gains, the erosion of coverage over the last decade owing to wide ranging drivers is further complicating interventions. Low vaccination coverage will continue to plague the region unless the knowledge gaps associated with decision-making on childhood and adolescent vaccination in the region are identified, studied, measured and addressed.

### Project summary

The project was designed to contribute to the overarching global health agenda, which advises low-income countries to design public health interventions based on scientific evidence. However, this has not been optimal given the dearth of scientific evidence and the inadequate capacity to generate it, particularly in SSA. The MisGenMas project is therefore a great asset in this regard, especially for low-resource settings such as Nigeria, Malawi and Kenya, where the project was implemented.

It is significant that the project investigated and produced three main outputs: a qualitative manuscript, a quantitative manuscript and a policy brief. This tripartite dimension of methodological research and dissemination of unique findings contributes to the scientific desire to explore appropriate tools that are

best suited to specific low-resource settings, and also to use an effective strategy, such as a policy brief, to communicate the findings to decision-makers or policymakers in the African region.

The study used a mixed methods approach: quantitative (cross-sectional design) and qualitative (Focus Group Discussion (FGD)). The study population was Nigeria, Malawi and Kenya. The quantitative part consisted of three data collection schemes, and each involving n=1,000 caregivers of children under-5 years old, for a total of n=3,000. Participants were recruited using a multistage sampling technique, from a representative sample that divided each country into its respective geopolitical constituencies. For the qualitative part, nine FGDs (three per country) were conducted with key actors. Logistic regression analysis was used to identify social, behavioural and contextual drivers of household vaccination decision-making. MAXQDA software was used to analyse the qualitative data part.

The project aimed to achieve three main impacts: 1) Contribute to academic knowledge in the field of global health, particularly on the drivers of low demand for immunization in SSA. 2) Increase demand for immunization in the region. 3) Reduce infant and child mortality in the region, thereby contributing to Sustainable Development Goal (SDG) 3 and target 3.2.



The project filled a long-standing gap by linking research to policymakers through a policy brief and offering evidence to design interventions targeting the root causes of low immunization demand, including gender norms, masculinity, and misinformation. It introduced new ways to communicate vaccine information to caregivers and opened doors for innovative policy approaches. Manuscripts now in preparation will further contribute to the evidence base, supporting more effective strategies to improve childhood vaccine uptake in SSA.

Photos: Field work during the MisGenMas project  
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### Summary of findings

Overall, the project found a strong relationship between gender disparity (boys versus girls), masculinity (men's attitude) and the weaponisation of inaccurate information (misinformation) about immunization and household vaccination behaviour in the SSA region. The key finding from the qualitative data shows that the project hypothesis was correct: i.e. that gender inequality, misinformation and masculinity (fathers' attitude) play a crucial role in household vaccination behaviour in SSA. The evidence shows that caregivers' vaccination decision-making are mainly motivated by: inadequate knowledge about childhood

immunization, especially confusion about which diseases that are vaccine-preventable and which are not; masculinity (i.e., fathers' attitudes can help or hinder immunization); the child's gender (i.e., perceptions of the weaker versus stronger gender); misinformation about immunization, especially perceptions of harmful chemicals in vaccines designed to sterilize the population (i.e. family planning through the back door). Other influences include exploitation of caregivers by healthcare workers; frequent stock-outs of vaccines leading to complacent behaviour associated with vaccine hesitancy; ineffective communication about the vaccination schedule and poor reminder system; religious beliefs; poor attitudes of healthcare workers; lack of trust between healthcare workers and the communities they serve.

Similar to the quantitative data, the key findings from this section show that the overall hypothesis for the project was validated and confirmed. Interesting secondary results were also found in relation to gender. Attitudes towards vaccination, if the child is a boy; religious beliefs about vaccination especially among Muslims; higher household income; lower education; being a Kenyan or Malawian compared to a Nigerian; negatively affect the belief that it is more important to vaccinate girls than boys. Meanwhile, father's consent to vaccinate child, belief in misinformation, trust in information sources, religious influence, cost of vaccination and polygamous households positively influence the belief that vaccinating girls is more important than boys.

Beyond the hypothesis and the secondary outputs, the project found that vaccination intentions and actual behaviour are related in the SSA setting. I.e., intentions to vaccinate children in the SSA setting are positive when caregivers have confidence in vaccination, trust in media sources of vaccination information, and can be sway by community or social pressure (peers and family). However, intentions to vaccinate children have several negative drivers, including misinformation, father's approval (fathers make the final decision), religious beliefs about vaccination, carry-over of the effects of the COVID-19 pandemic, and being a housewife compared to working class women, which reduces intentions to vaccinate. Finally, the results show that positive childhood vaccination behaviour or decision-making in the study settings is significantly influenced or predicted by attitudes towards vaccination, religious beliefs about vaccination, trust in media sources of vaccination information, influence of community or social pressure (peers and family), costs associated with undertaking vaccination activities, age of the child, being a Kenyan or Malawian compared to a Nigerian. However, low vaccination demand or behaviour is significantly influenced by the gender of the child (if the child is female), misinformation about vaccination, carry-over effects of the COVID-19 pandemic, whether the child in the household is a male, and whether the participants were Muslims compared to other religions.

### Lessons learnt

The tangible evidence of these contributions is, of course, the manuscripts currently being prepared for submission to open access, peer-reviewed journals for publication. In terms of the significant experience gained, the project has exposed the Principal Investigator to the dynamics of the demand and supply sides of vaccination behaviour in the African region, with a particular understanding of certain convergences and divergences.



See project video on YouTube:

<https://youtu.be/lct2cWEa4yo?feature=shared>