



**African Population and
Health Research Center**

Transforming lives in Africa through research.

Modelling the impact of educational campaigns and spousal involvement on women's fertility preferences and pregnancy outcomes

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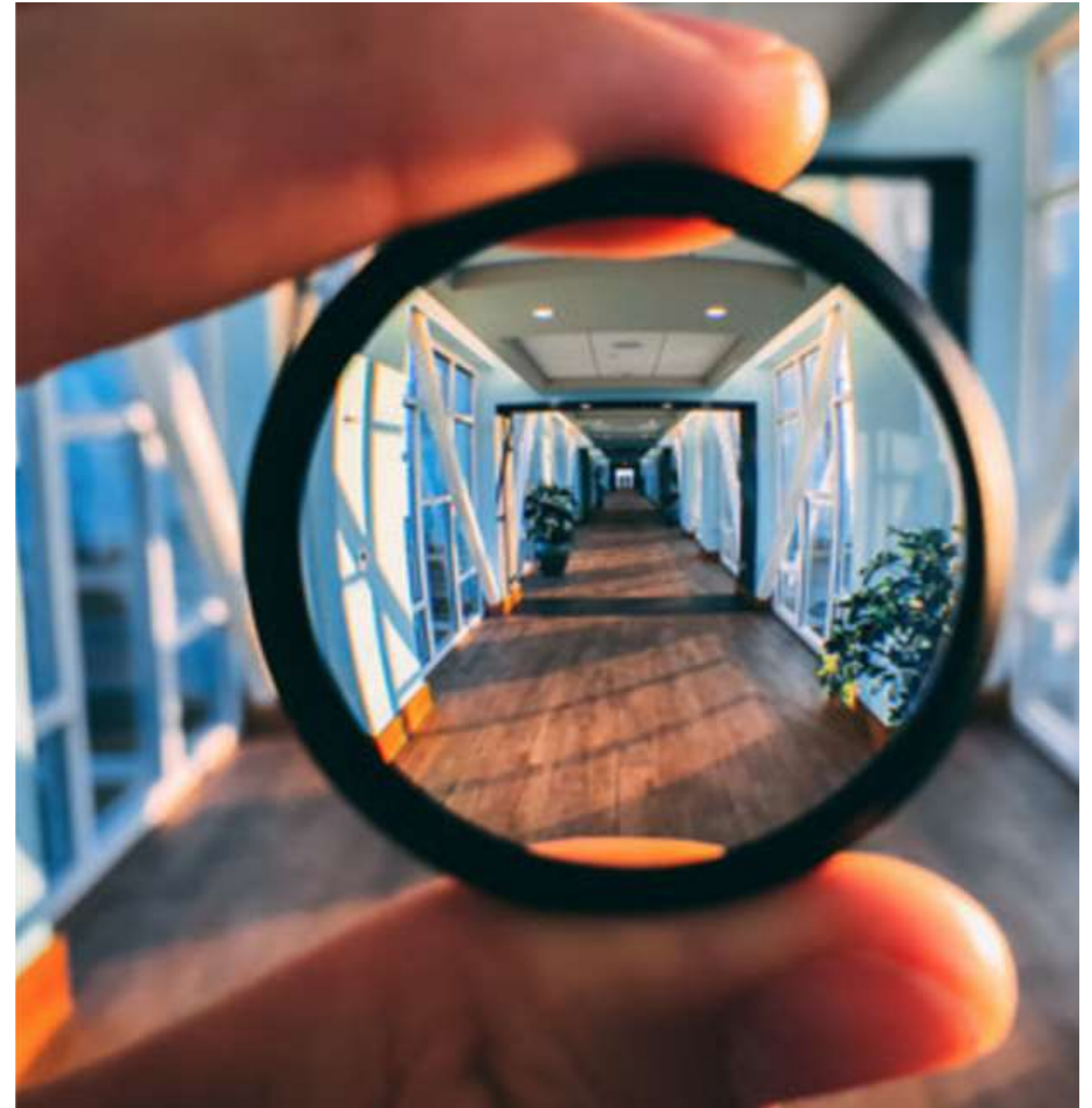
Background

- **Family planning initiatives:** Kenya has implemented several key policies to improve health and well-being.
- **Disparities:** Significant disparities in maternal and child health outcomes persist.
- **Campaigns:** Educational campaigns about fertility preferences and contraceptive use are critical.
- **Male inclusion:** Male involvement in fertility preferences and contraceptive use is critical for effective policy development.
- **ABM:** Application of ABM in exploring complex dynamics
- **Drivers:** All women of reproductive age (15-49)
- **Subject:** A crucial consideration for government and policymakers

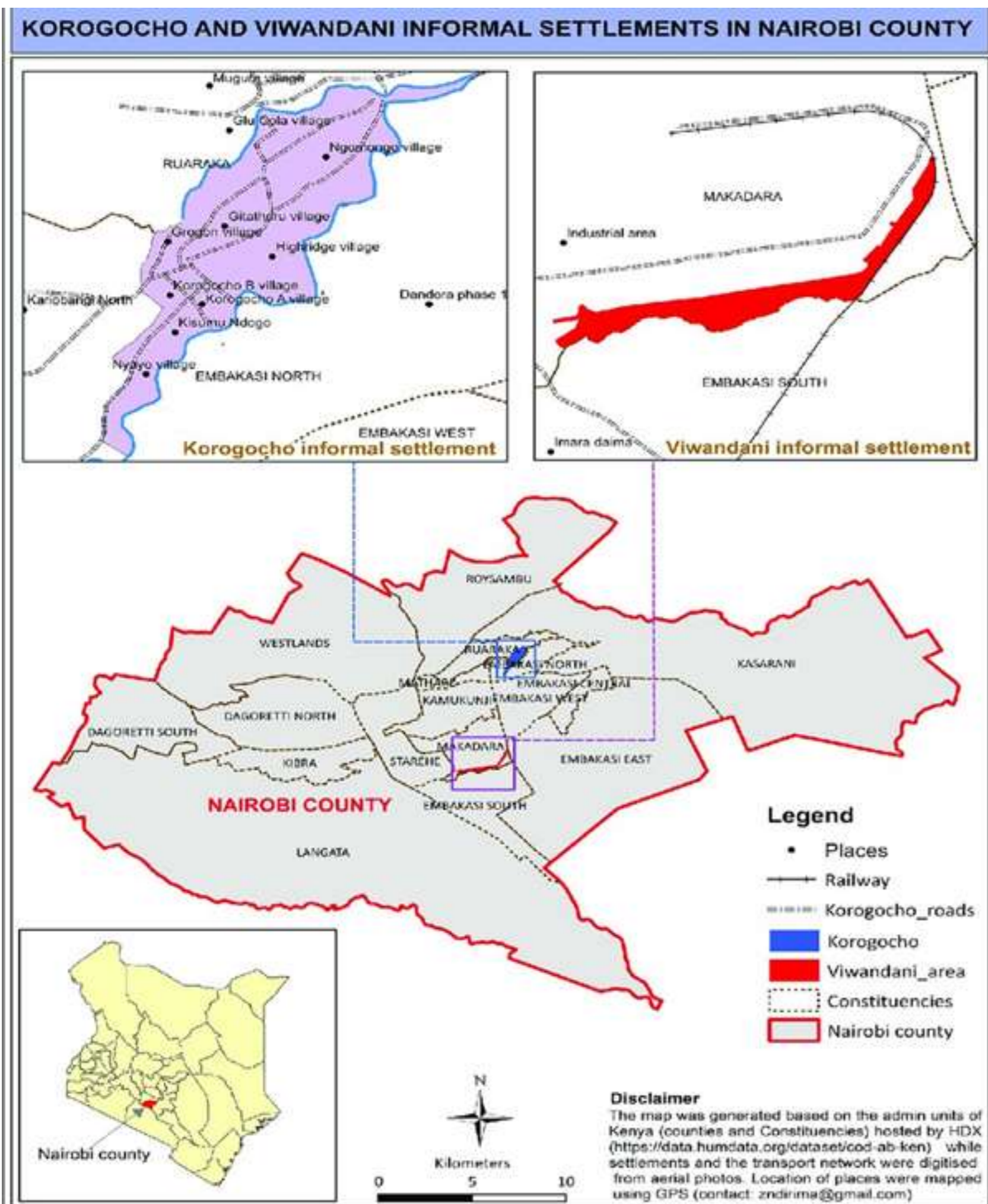


Objectives

- To examine the existing family planning simulator by O'Brien et.al.,(2023) and develop a FPSim-NUHDSS motivated by local data.
- Assess the impact of educational campaigns and male involvement on fertility preferences, contraceptive use, and pregnancy outcomes
- Guide the development of targeted policies and interventions for family planning.
- Patterns and trends in births, deaths (infant and maternal), and overall family planning dynamics in Urban slums of Nairobi.

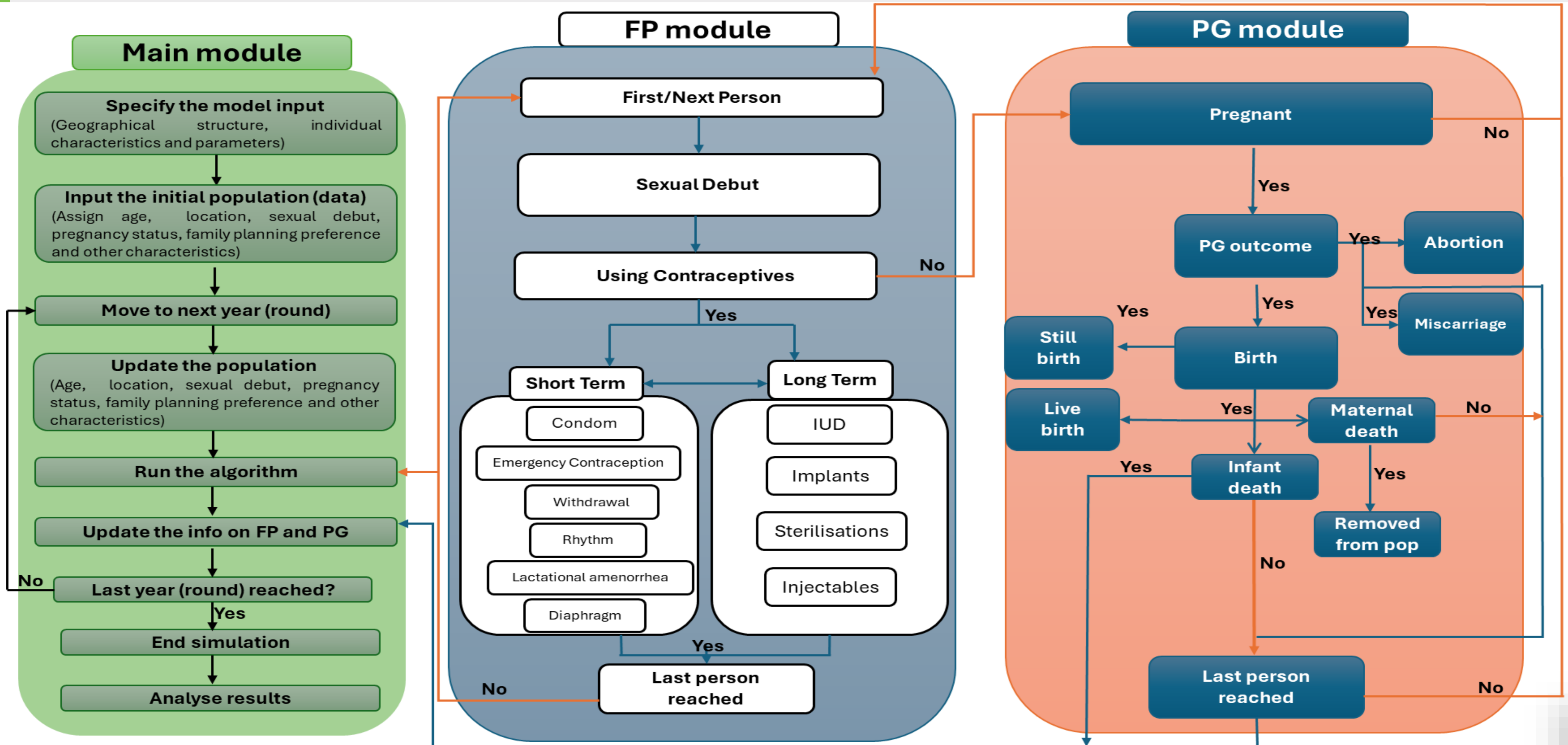


Data sources



- **NUHDSS:** Gives insights into demographic events within the urban slums
- **Locations:** Korogocho and Viwandani urban slums in Nairobi
- **Data collection:** Longitudinal observational study
- **Variables:** Social demographic characteristics, reproductive history and preferences, family planning knowledge and use, pregnancy outcomes, etc.
- **Time:** Data collected from 2012 – 2015
- **Population studied:** 756 individuals

Methodology



Interventions

Male involvement

- Family planning discussions
- Decision making
- Fertility preferences

Campaigns

- Health promotions
- Responsible parenthood
- Birth spacing benefits

Male involvement & campaigns

- Combination of 2 interventions

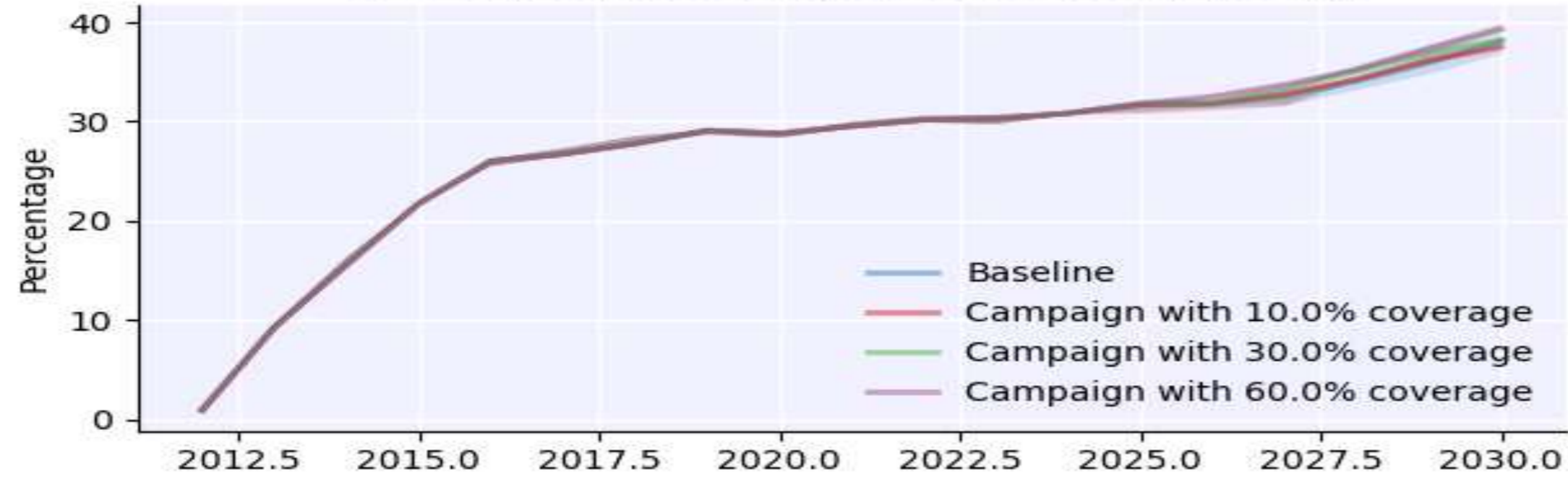
Intervention effectiveness

- Effect size
- Women's awareness
- Women preferences

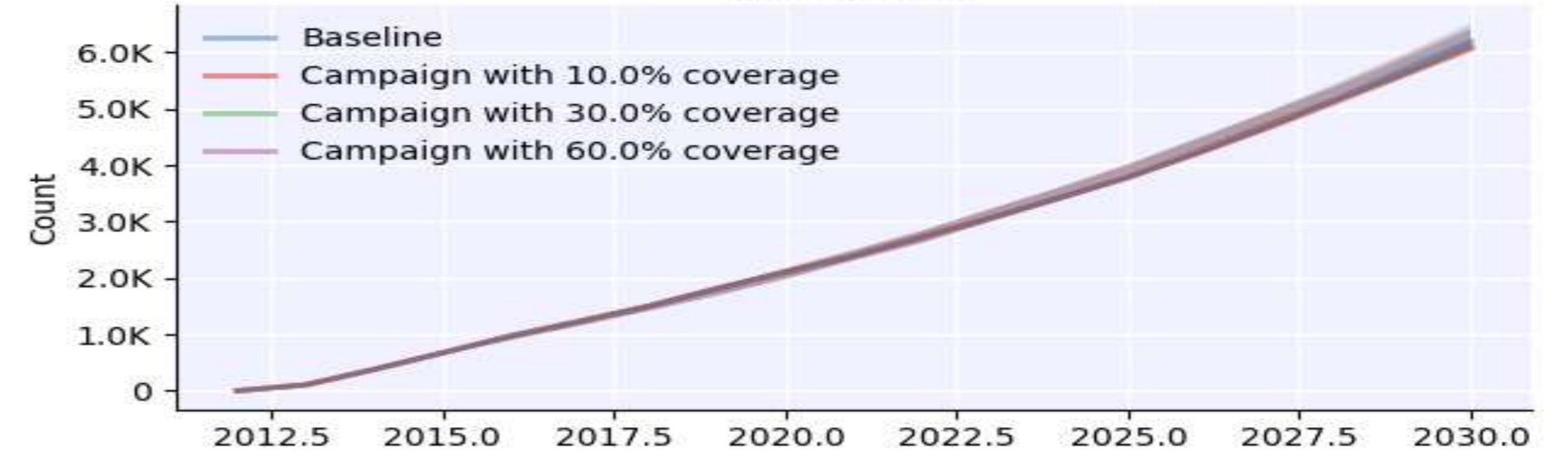


Campaigns

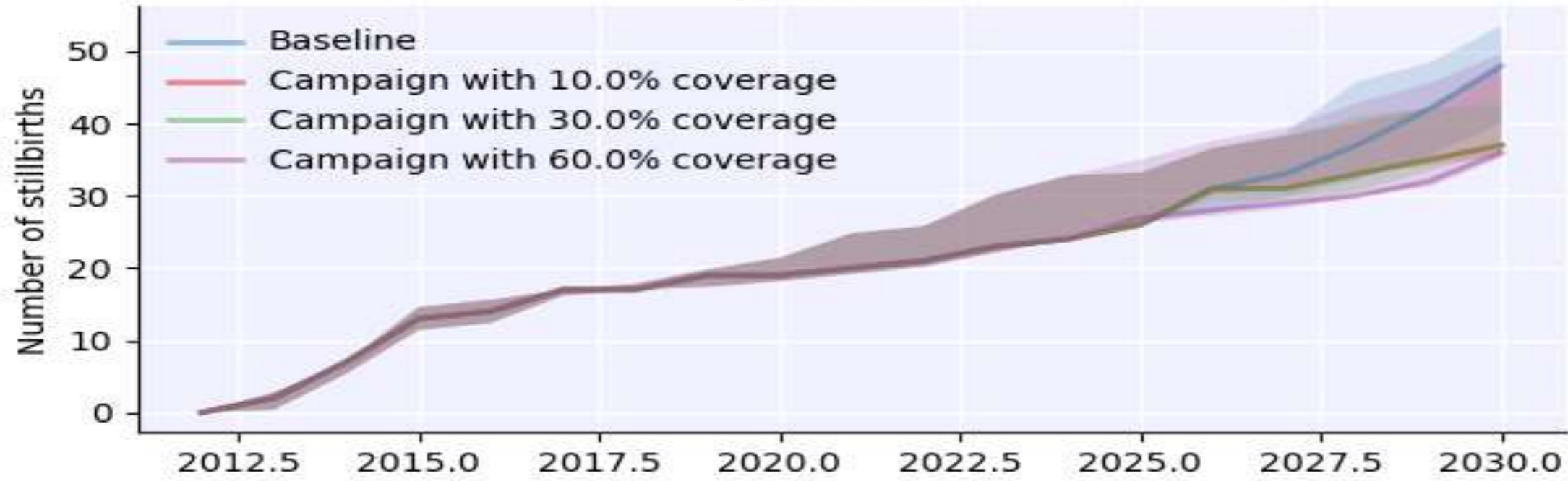
Modern contraceptive prevalence rate (%)



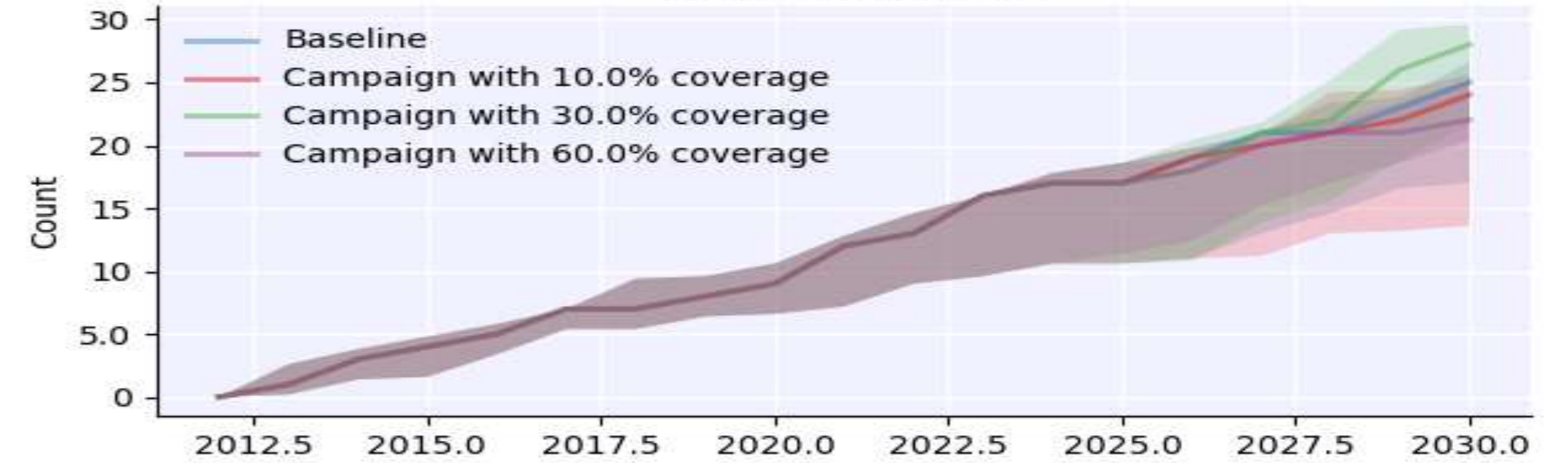
Live births



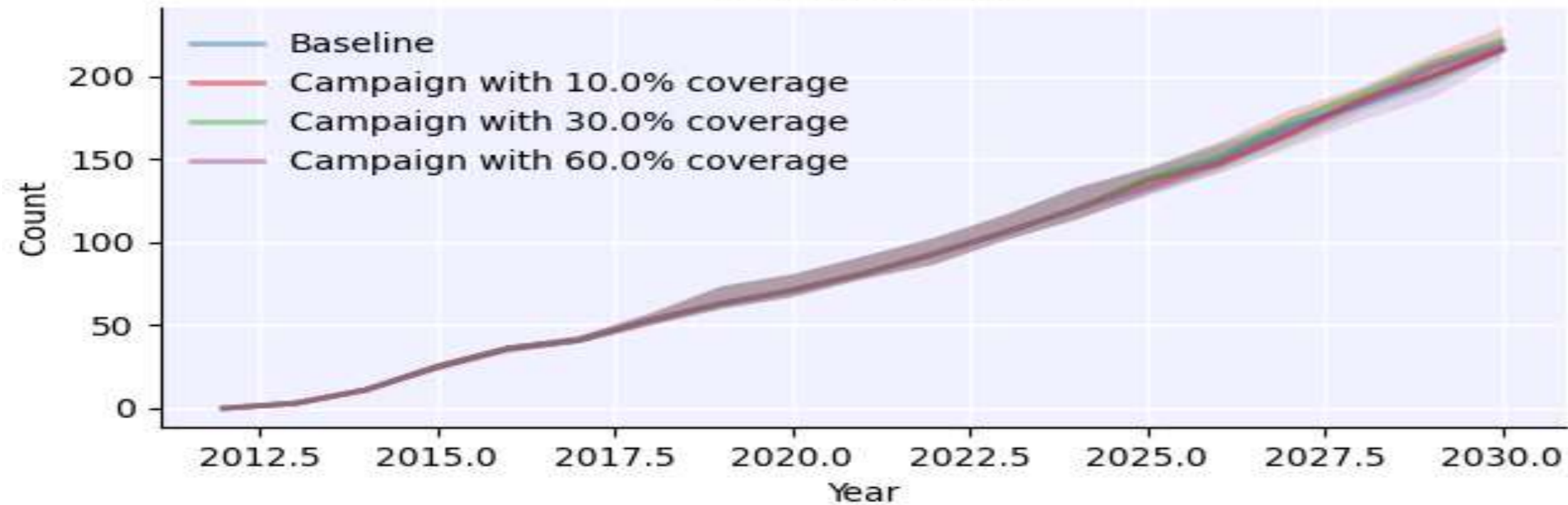
Stillbirths



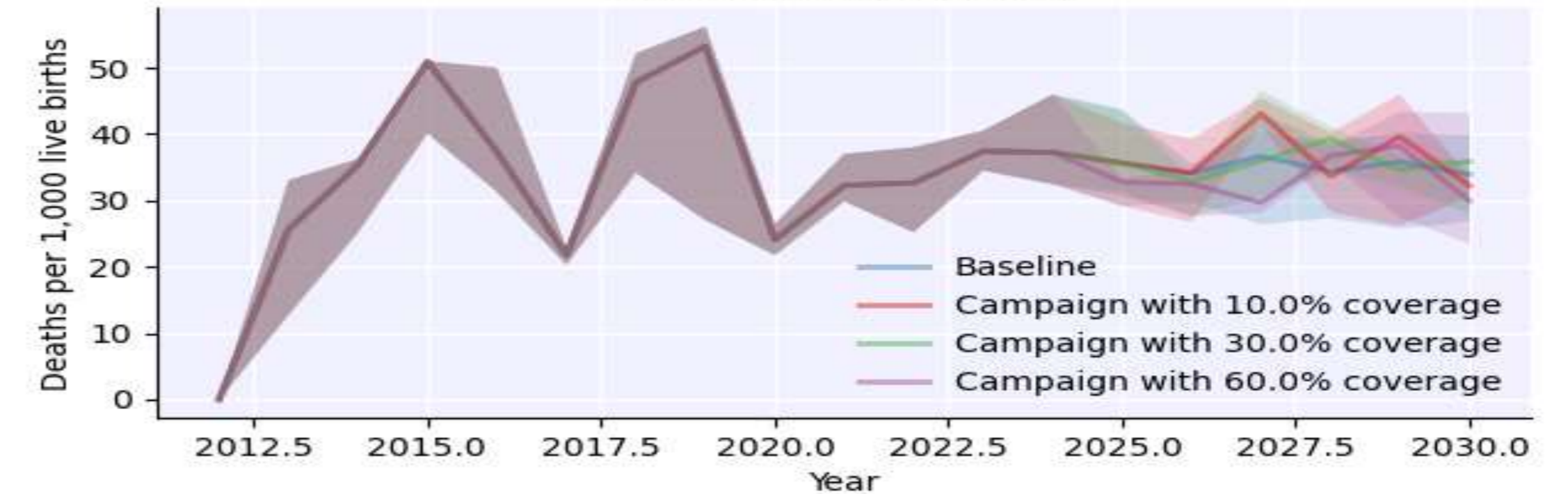
Maternal deaths



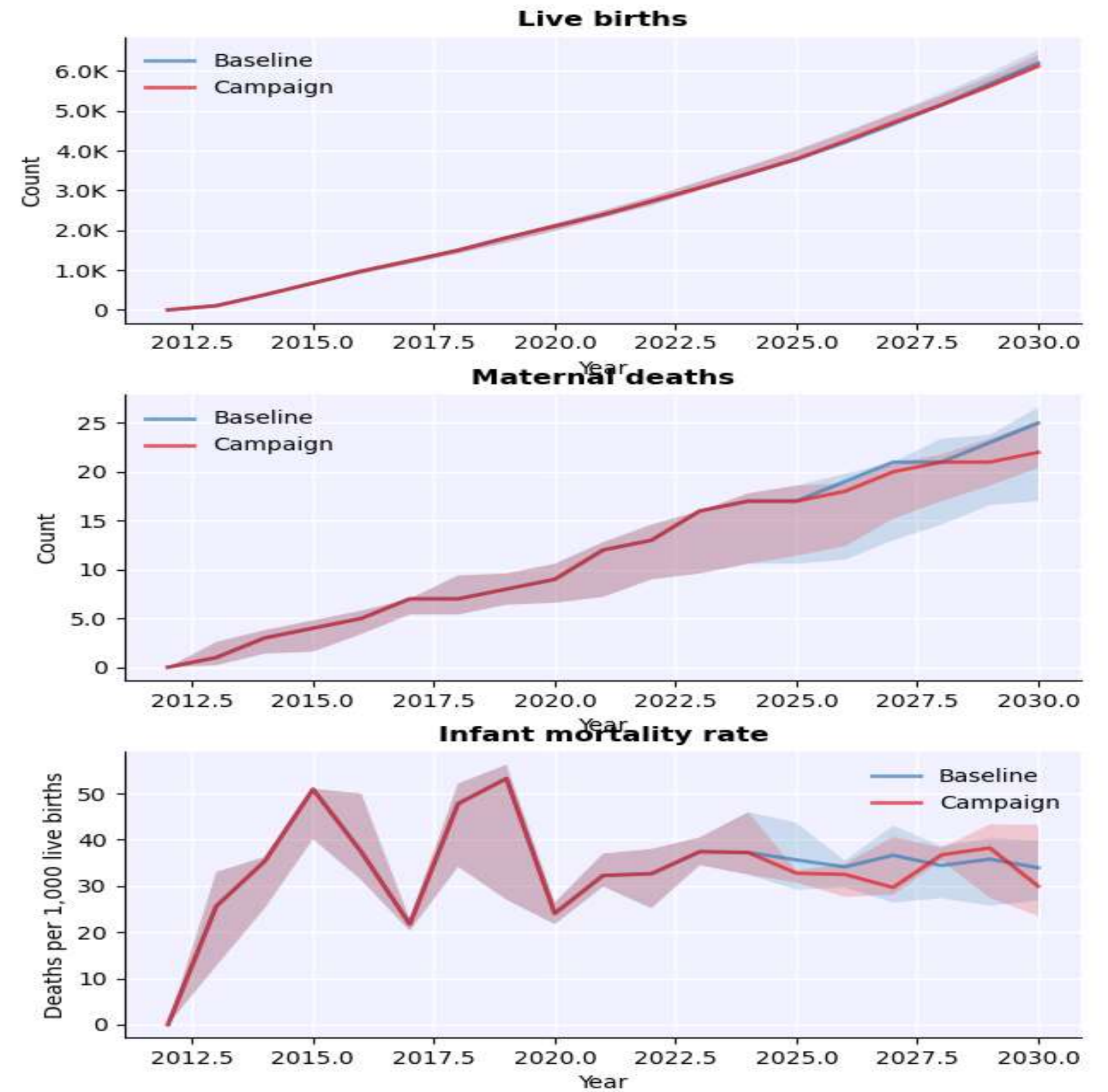
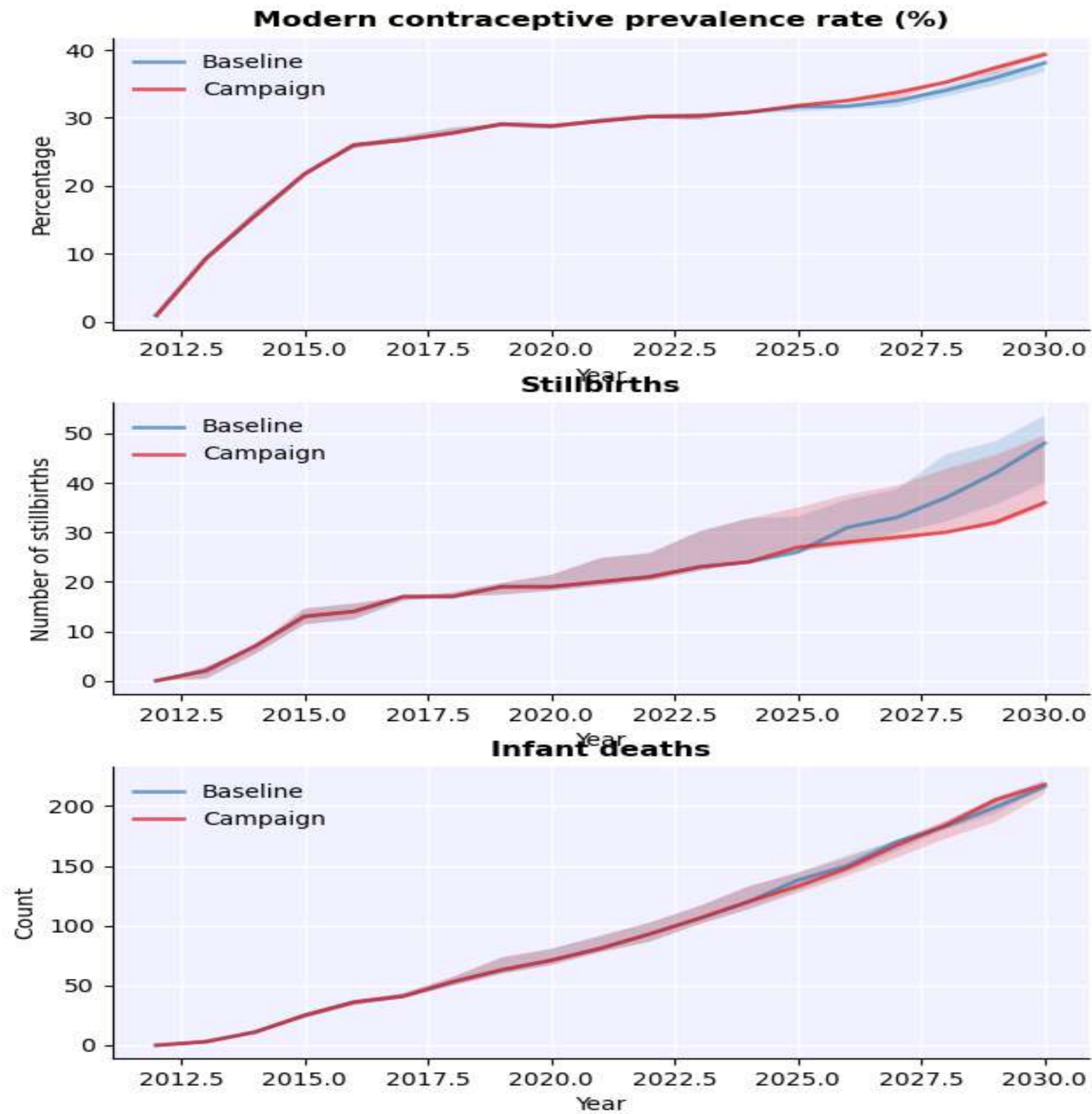
Infant deaths



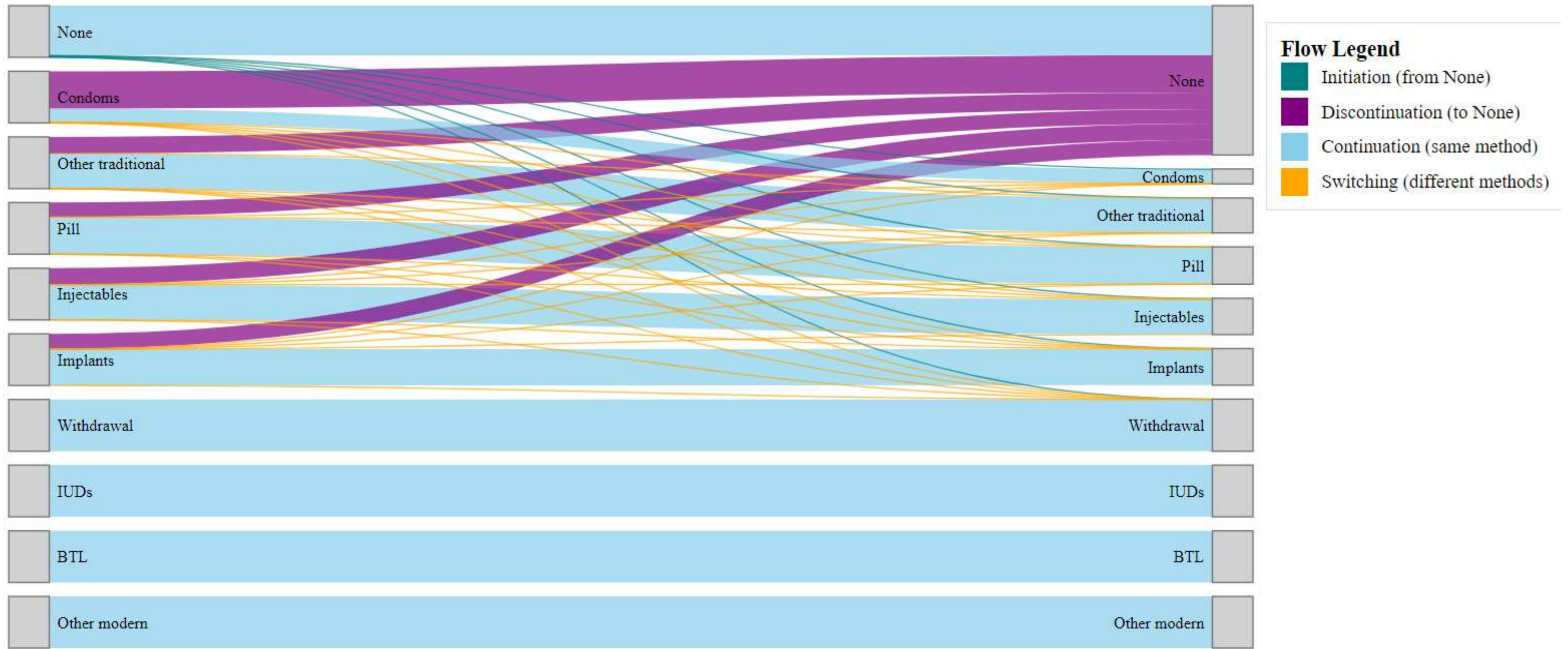
Infant mortality rate



Optimal campaign coverage

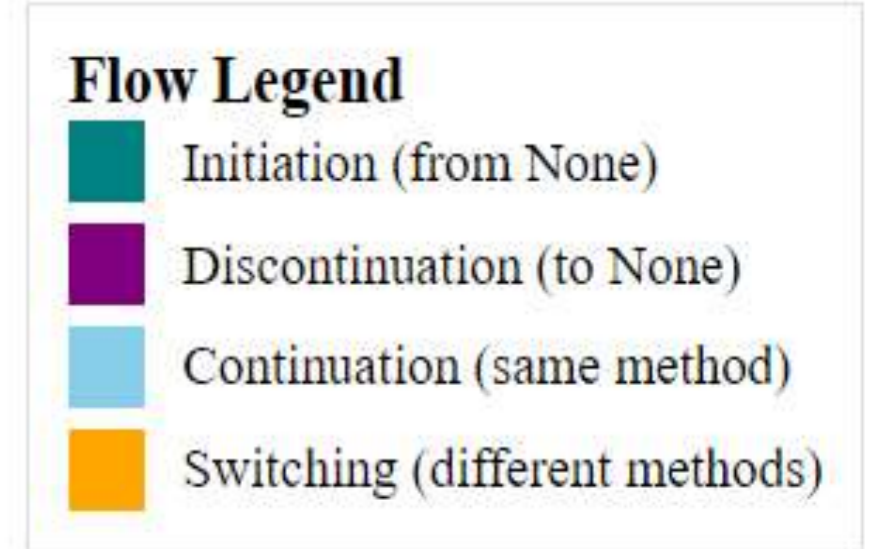
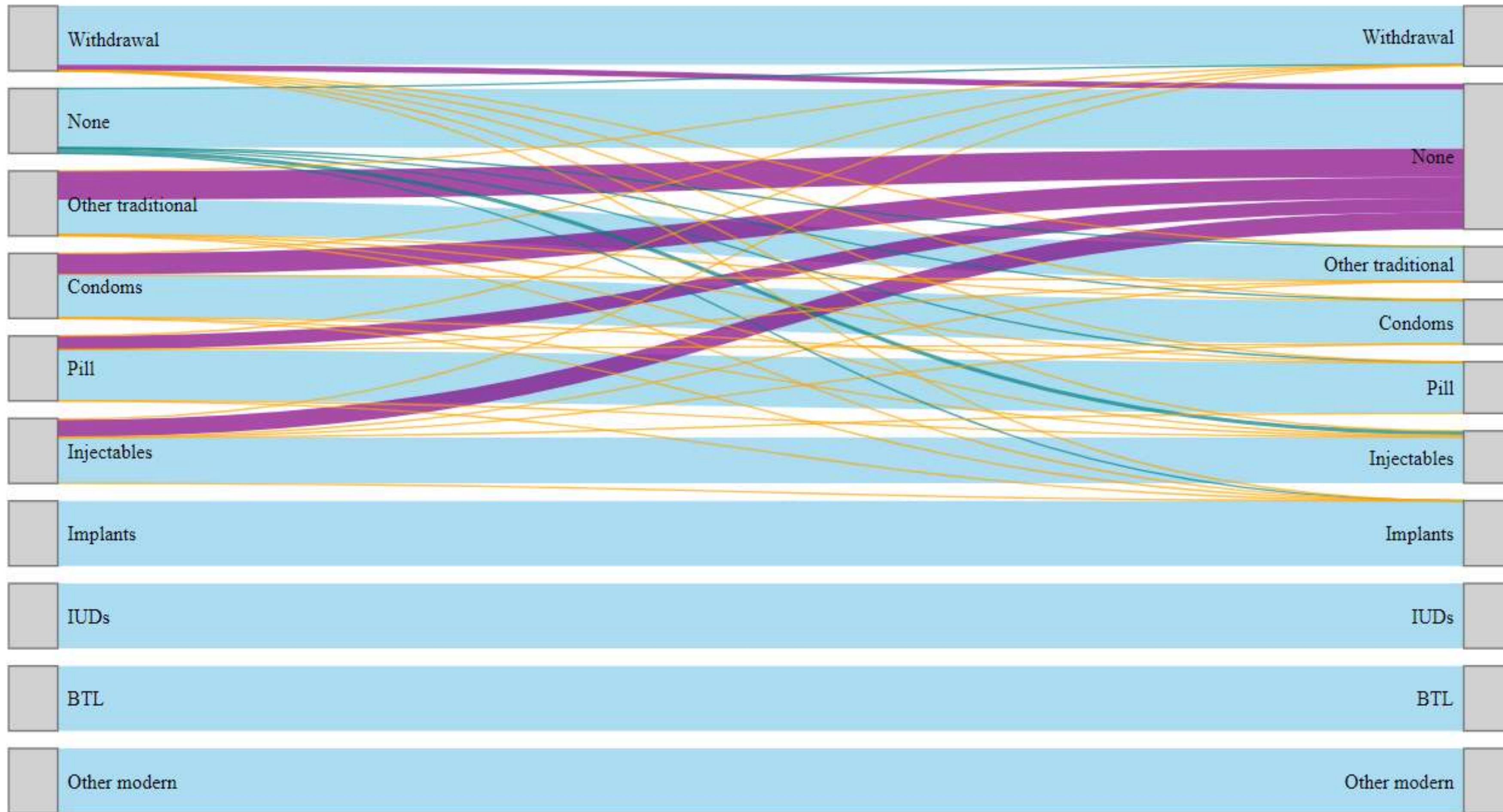


Contraceptive switching



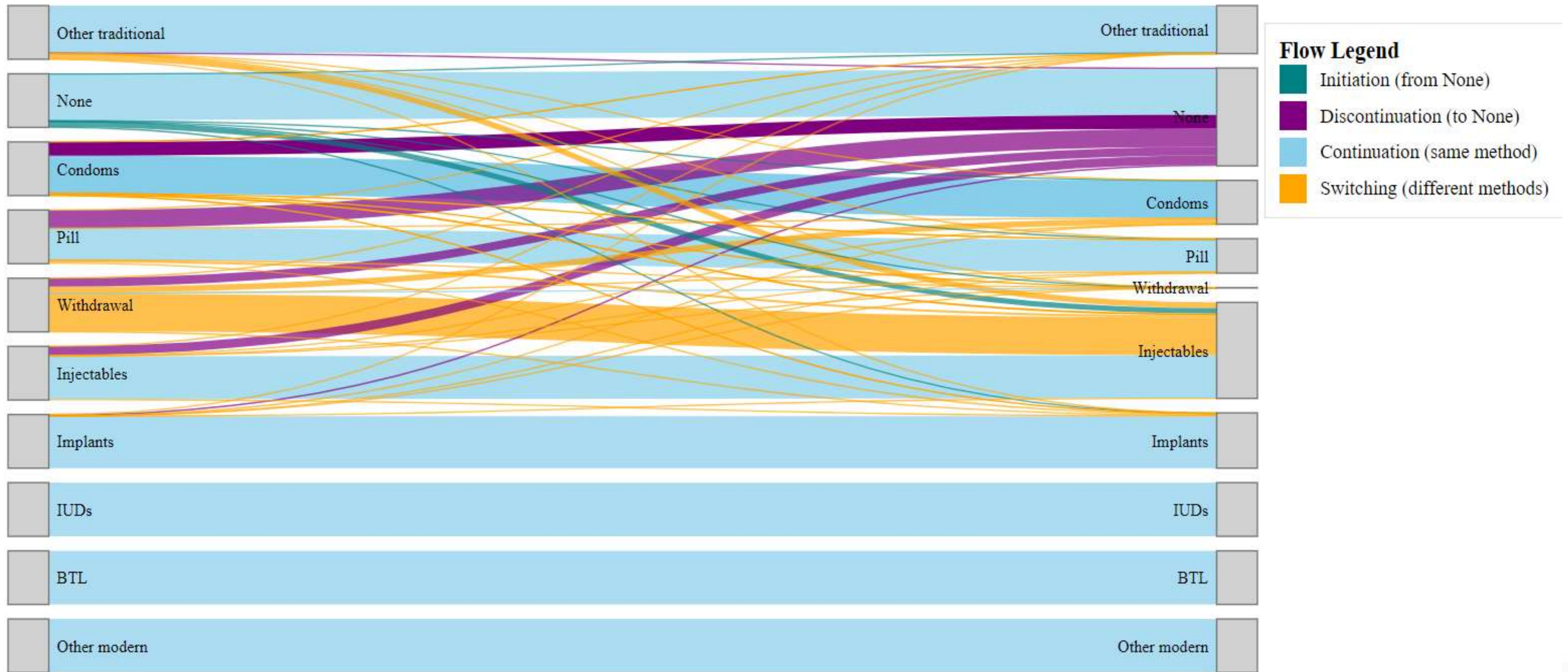
Age:15-19

Contraceptive switching



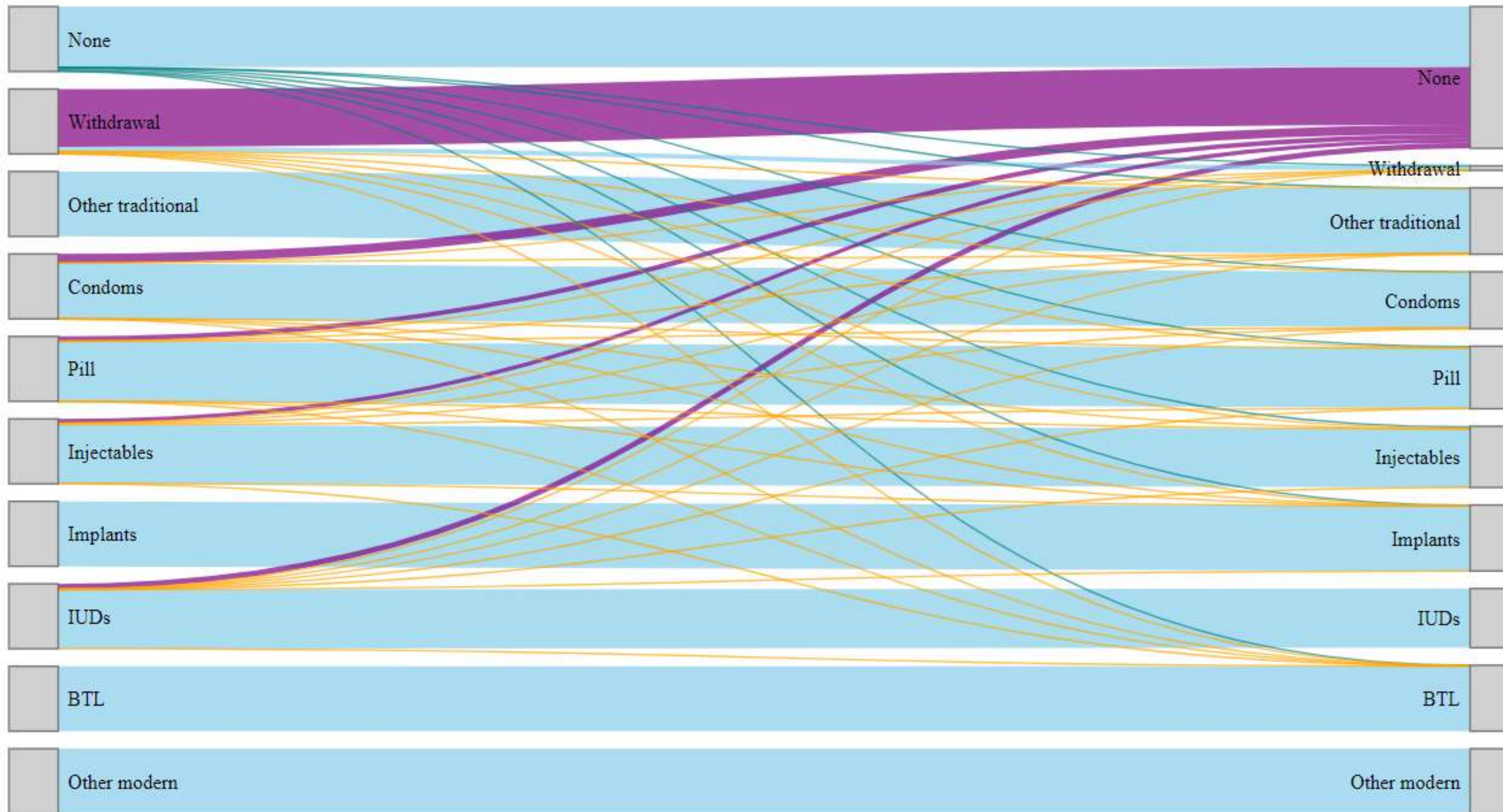
Age:20-24

Change in contraceptive use



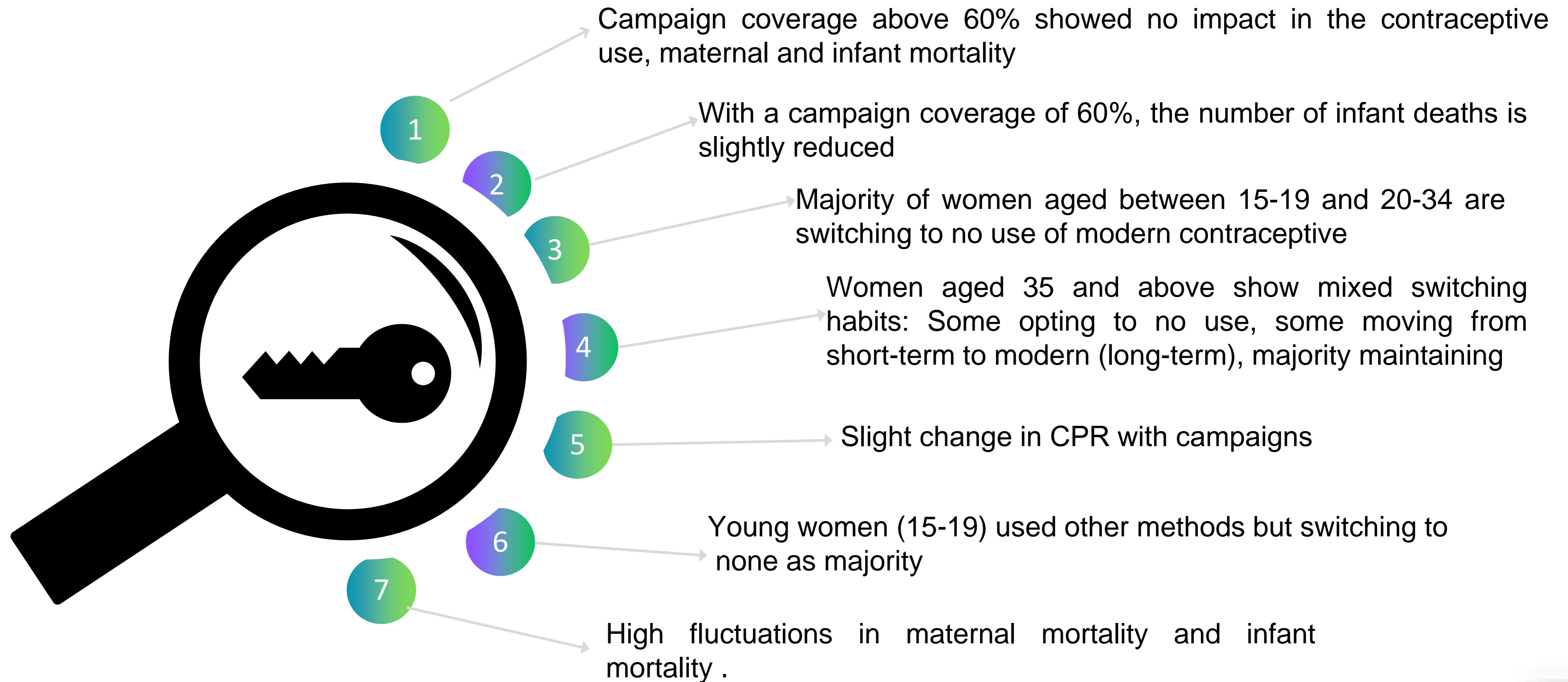
Age:25-34

Change in contraceptive use



Age: >=35

Key takeaways



Implication for policy



- **Health interventions:** Continued support for campaigns to maintain and improve contraceptive use.
- **Births:** Monitor and support maternal health to manage the increasing birth rates.
- **Stillbirths and maternal deaths:** Investigate factors contributing to stillbirths and maternal deaths.
- **Infant health:** Address the fluctuations and peaks by enhancing infant health interventions.
- **Benchmark:** Contribute to planning for healthcare in cities in Africa.

Conclusions

- This work is made possible by longitudinal survey conducted through NUHDSS
- There is reasonably high use of various contraceptive methods among women in the urban slums.
- Campaigns about fertility preferences improves the family planning outcomes in the urban slums of Nairobi.
- Women in the adolescent age prefer using none of the contraceptive methods with some using the short-term contraceptive methods like condoms.
- The analysis is essential for identifying marginalized segments of the population that may face disproportionate challenges related to maternal and infant mortality.
- The insights derived from this study can inform the development of targeted interventions, facilitating the efficient allocation of resources to address the unique needs of these vulnerable groups.

Next steps



- Implement the implications spouse involvement in decision making processes.
- Perform the experimental analysis and make the comparison between the data and the model output.
- Check the implications of health facilities to the maternal health and fertility preferences.
- Leverage spatial with ABM modelling to study the impact of locations on health outcomes.

Acknowledgement



**African Population and
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