



# Big Data for Reproductive Health

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## Basis of our Work

One-third of women who begin using a modern method of contraception in low-income countries discontinue within the first year, and half within the first two years, putting them at risk for unintended pregnancies as well as maternal morbidity and mortality.<sup>1</sup>

Comprehensive data on discontinuation exist, but they are inaccessible to non-technical users. We developed a platform that curates freely available data on reproductive health so that users such as researchers, advocates, and government officials, can develop fresh insights around the factors that influence contraceptive use and discontinuation.

## Data Sources

1. Contraceptive prevalence and discontinuation data from the Demographic & Health Surveys (DHS) contraceptive calendar reported in monthly intervals over a retrospective 5 year period.
2. Publicly available reproductive health and social indicator data from the World Bank, World Health Organization and World Population Prospects reported in 5 year intervals.

## Tools:



R, R Shiny



Google Sites

## Objectives

1. Identify existing tools for visualizing contraceptive discontinuation and analyze gaps.
2. Build an open access, interactive platform to visualize data on contraceptive discontinuation that addresses these gaps in resources available.
3. Develop a dissemination plan that includes soliciting feedback from target users and key stakeholders.

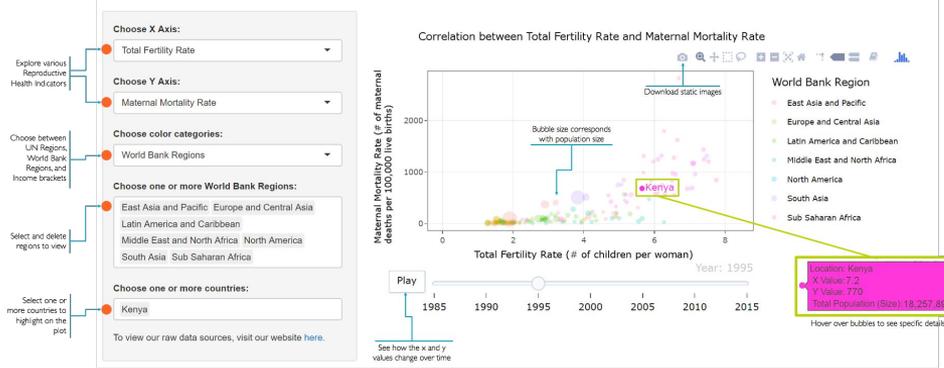
## Future Work

The 2018-2019 Bass Connections team will continue to build upon the visualization platform and collect user feedback from key stakeholders in the NC Triangle area. We also plan to incorporate machine learning to make inferences about contraceptive use behaviors and conduct a literature review of big data in reproductive health.

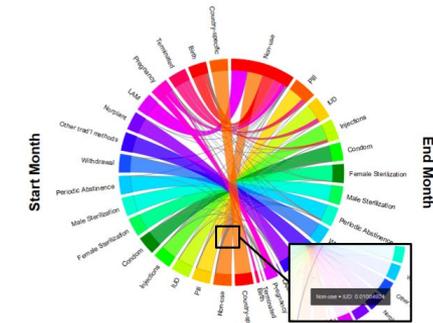
<sup>1</sup><http://www.familyplanning2020.org/microsite/contraceptive-discontinuation>



### Scatterplot: Explore Correlations Over Time



### Chord Diagram: Explore Contraceptive Switching and Stopping



### Line Graphs: Explore Yearly & Monthly Trends



### Heat Map: Explore Data Geographically

