COLUMBIA | VAGELOS COLLEGE OF PHYSICIANS & SURGEONS
PROGRAM FOR EDUCATION IN GLOBAL AND POPULATION HEALTH

Mapping Women's Access to Reproductive Health and HIV Services in Zambia

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Research Question: How does travel time to nearest health facility impact accessibility of modern contraception and HIV services in Zambia?

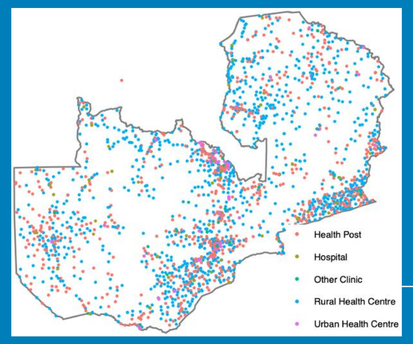
BACKGROUND

There have been numerous calls for the integration of reproductive health services with HIV care in order to enhance the reproductive rights of women living with HIV, increase accessibility of modern contraception, and improve HIV outcomes.[1] Past studies have shown differential uptake of HIV care based on physical distance to nearest health facility.[2,3,4,5] This study aimed to investigate geographic accessibility of HIV and reproductive care services in Zambia using data from ZAMPHIA (Zambia Population-Based HIV Impact Assessment) 2016, a nationally representative cross-sectional household survey.

DESCRIPTION OF ORGANIZATION

The Population-Based HIV Impact Assessment (PHIA) project conducts nationally-representative surveys to estimate the burden of HIV in most-affected countries. PHIA is carried out by ICAP at Columbia University, the Centers for Disease Control and Prevention (CDC), and Ministries of Health in participating countries.

GEOSPATIAL DATA



2842 Health Facilities

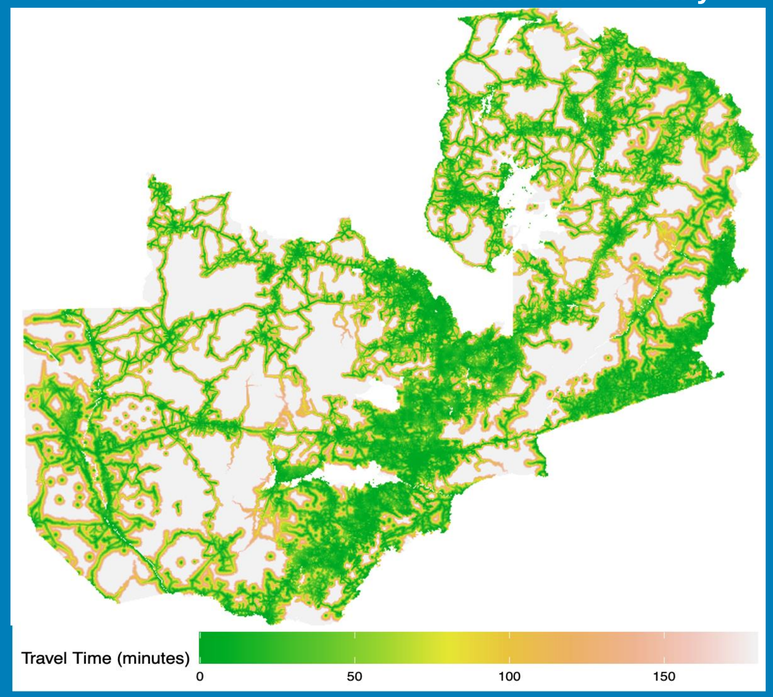
2211 Geolocation data available

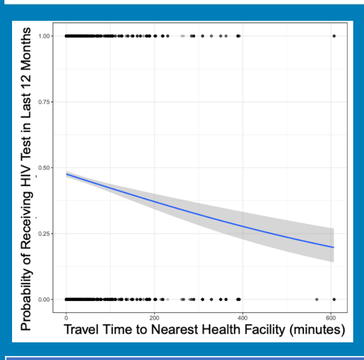
2168 Located in boundaries of country

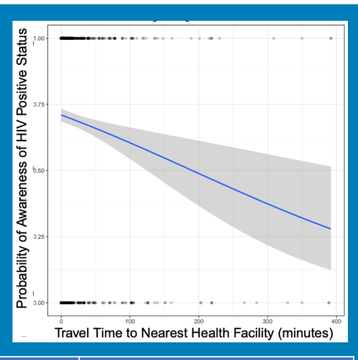
Data source : CDC

RESULTS

Estimated Travel Time to Nearest Health Facility







Outcome	Travel time > 1 hr, adjusted odds ratio
Tested for HIV in last 12 months	0.75 [0.643 - 0.876]
Aware of HIV+ status	0.53 [0.337 - 0.833]
Currently using modern contraception	0.784 [0.661 - 0.931]
Current unmet need for contraception	1.192 [1.003 - 1.417]

METHODS

13,024 women ages 15-49 were identified from the ZAMPHIA 2016 data set. Geomasked enumeration area centroids were used as an approximation for household location.

Travel time to nearest health facility was estimated using the AccessMod software. AccessMod calculates travel time using a "cost" surface, taking into account land cover, elevation, and modes of transit. Logistic regression was used to model the relationship between travel time and HIV and reproductive health outcomes, adjusting for age, wealth quintile, and current marital status. Four outcomes were assessed: (1) uptake of HIV testing, (2) awareness of HIV status among HIV-positive women, (3) modern contraceptive prevalence, and (4) unmet need for contraception.

13% of women lived over an hour from the nearest health facility.
Women living farther from health facilities were less likely to access HIV services and more likely to have an unmet need for contraception.

DISCUSSION

Women living at a distance greater than 1 hour were less likely to have received an HIV test in the last 12 months, and those who were HIV positive were less likely to be aware of their HIV status. Women living over 1 hour from a health facility were also less likely to be using modern contraception and were more likely to have an unmet need for contraception. This study underscored the need for increased access to healthcare for remote, underserved populations.

REFERENCES

[1] Wilcher, Rose, and Willard Cates. "Reproductive choices for women with HIV." *Bulletin of the World Health Organization* 87 (2009): 833-839.
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