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# **Access, Service Readiness, and Use of Facility-based Delivery Care in Haiti**

A study linking health facility data and population data

Wenjuan Wang  
Michelle Winner  
Clara Burgert  
Josh Colston

The DHS Program, ICF International

Global Maternal and Newborn Health Conference

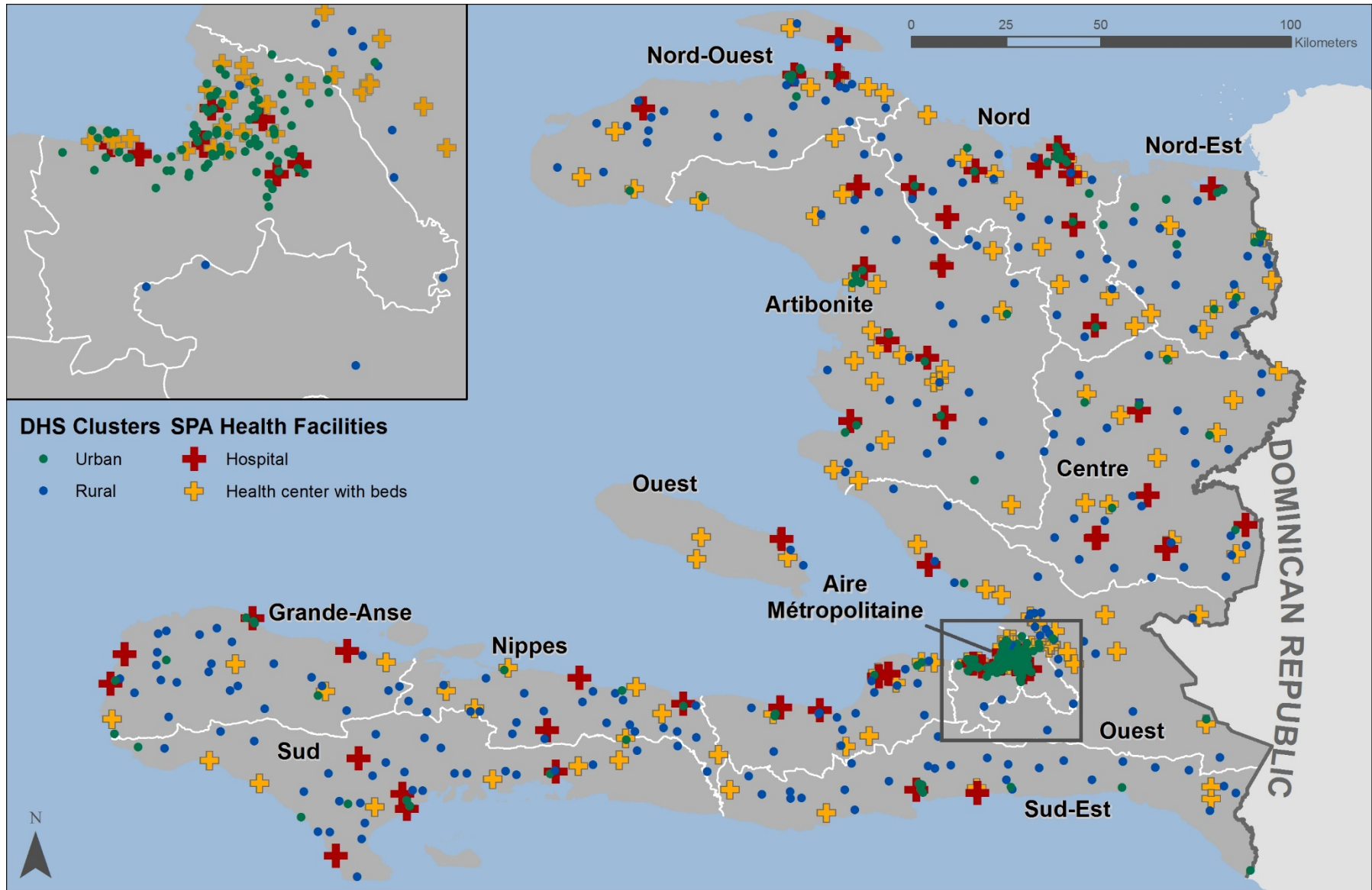
# Background

- In Haiti only 36% of births take place in health facilities, putting women at high risk of maternal mortality.
- Limited access and poor quality of delivery care provided in health facilities may contribute to the low use of facility-based delivery care.
- Health facilities data and population data are linked to estimate the influence of the obstetric service environment on Haitian women's use of facility delivery care.

# Data

- **2012 Haiti Demographic and Health Survey (HDHS)**
  - Data on women's use of facility delivery and their socio-demographic characteristics
  - Household sample survey with two-stage sampling
  - GPS data of sampled clusters were displaced
  - Data on 4,921 women from 392 clusters were analyzed
- **2013 Haiti Service Provision Assessment (HSPA) survey**
  - Data on service availability and readiness at health facilities
  - A census of formal-sector health facilities
  - GPS data of facilities were not displaced
  - Data on 195 hospitals and health centers (HC) with beds were analyzed. All provide normal delivery services

# Geographic distribution of HDHS clusters and HSPA facilities included in the analysis



# Steps to link clusters and health facilities

1. Create a distance matrix between every DHS cluster and every facility.
2. Identify facilities within a 5-km “buffer” zone from an urban cluster and a 10-km “buffer” zone from a rural cluster.
3. Summarize facility-level variables from the facilities within the buffer to the cluster level to measure the cluster’s service environment.

# Key variables

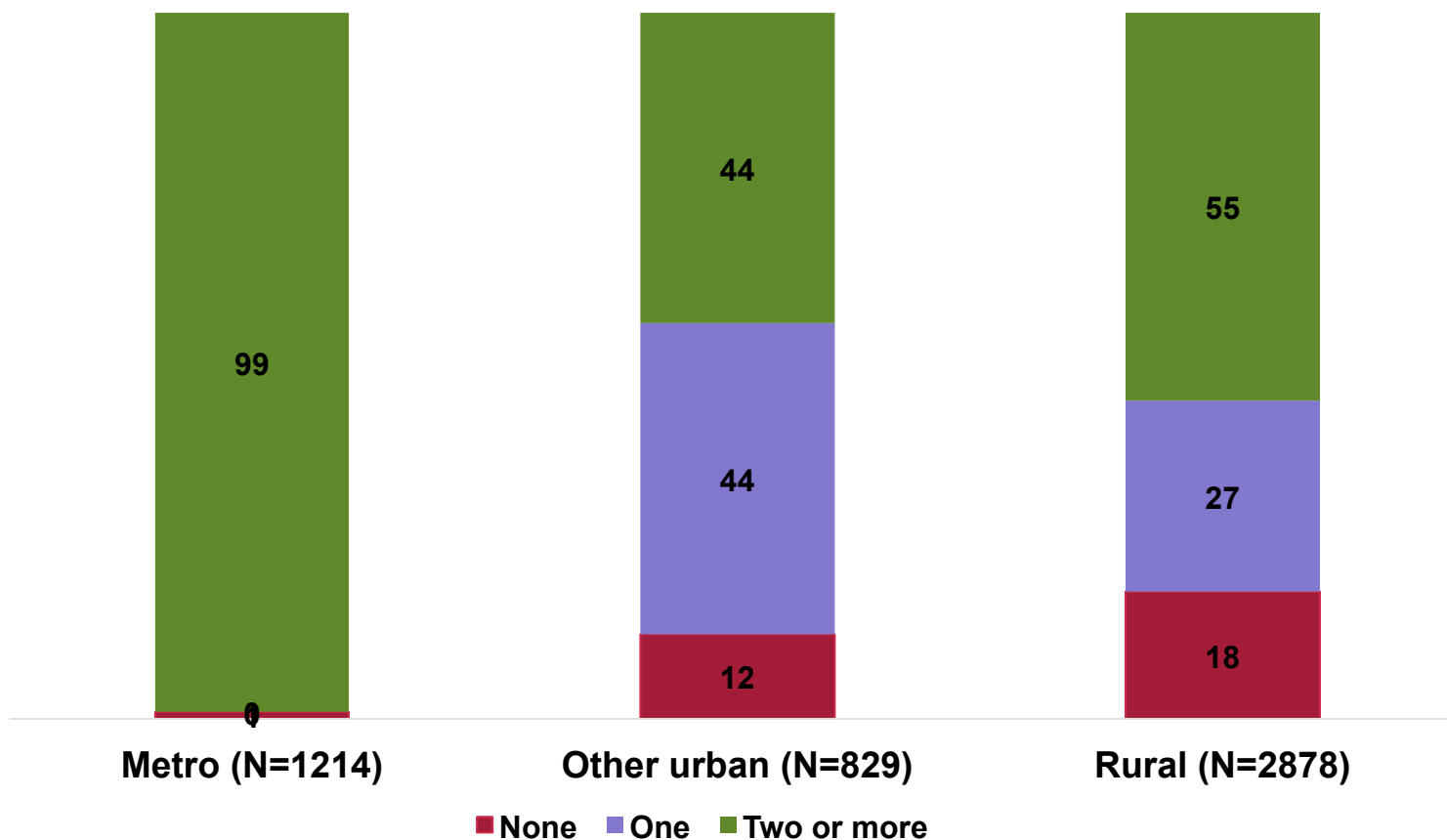
- **Outcome:** if delivered the most recent birth at a facility;
  - Measured at the individual level
  - Dichotomous
- **Key predictors:** Measured at the DHS cluster level
  - Access: number of hospitals or HC with beds within the buffer zone (none vs. any)
  - Facilities' readiness to provide quality delivery care:
    - Compute a score using PCA based on a number of service readiness indicators from HSPA (see handouts)
    - Measure overall readiness with the median score of the facilities within the buffer
    - Classify clusters into three groups with low-, medium-, and high- level readiness based on score terciles.

# Analytical methods

- Separate analyses for three residential areas: the metropolitan, other urban, and rural areas
- Two random intercept logistic regressions:
  - Model 1: test the effect of access on facility delivery (not applied to the metro area)
  - Model 2: test the effect of service readiness after adjusting for # of facilities
    - Clusters linked to no facilities were dropped in Model 2
  - Both models adjust for covariates: mother's age at birth, woman's education, household wealth, birth order, number of antenatal care visits, and region

# Results: Access to facilities with delivery care

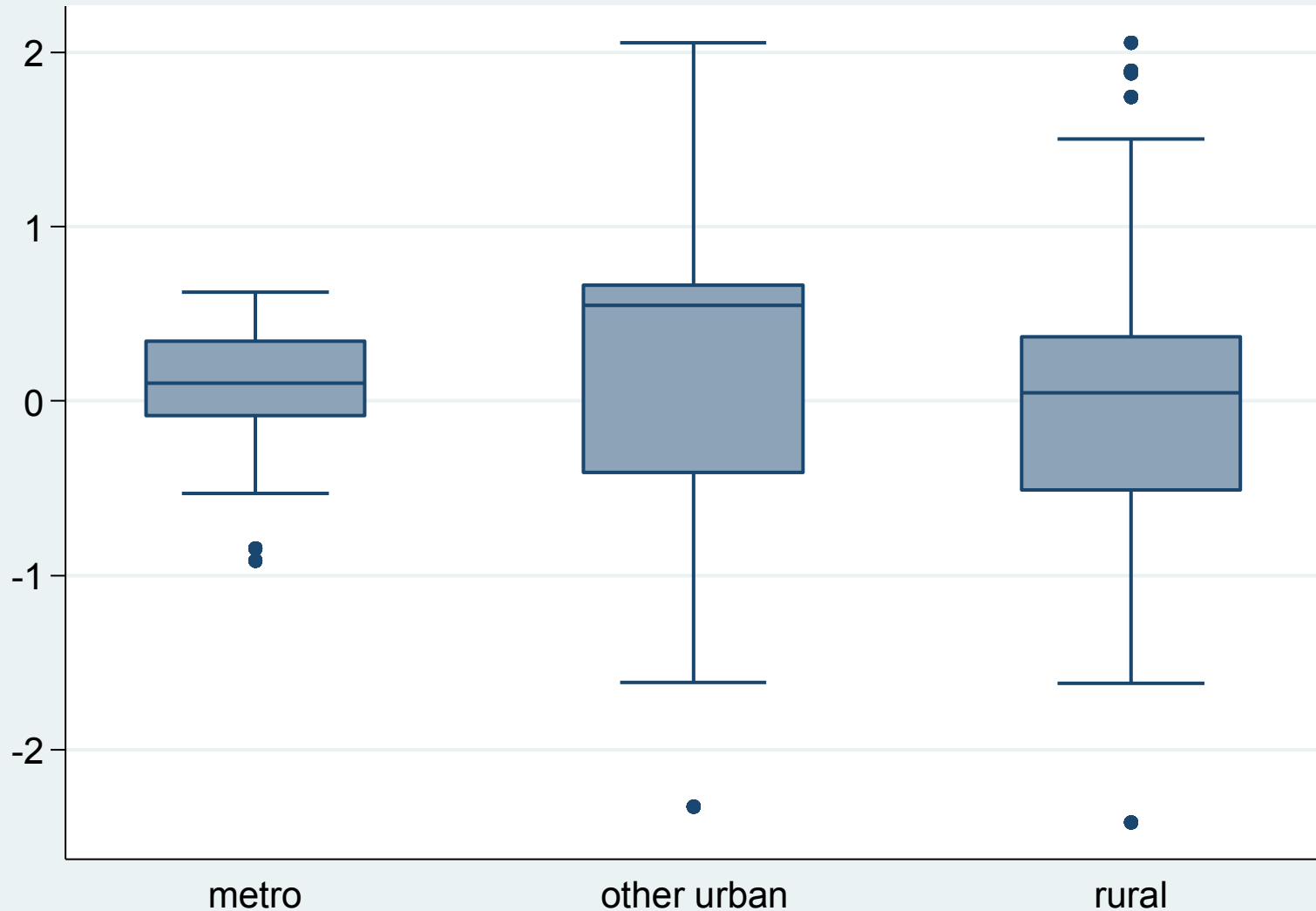
Percent distribution of women by access to number of facilities providing delivery services





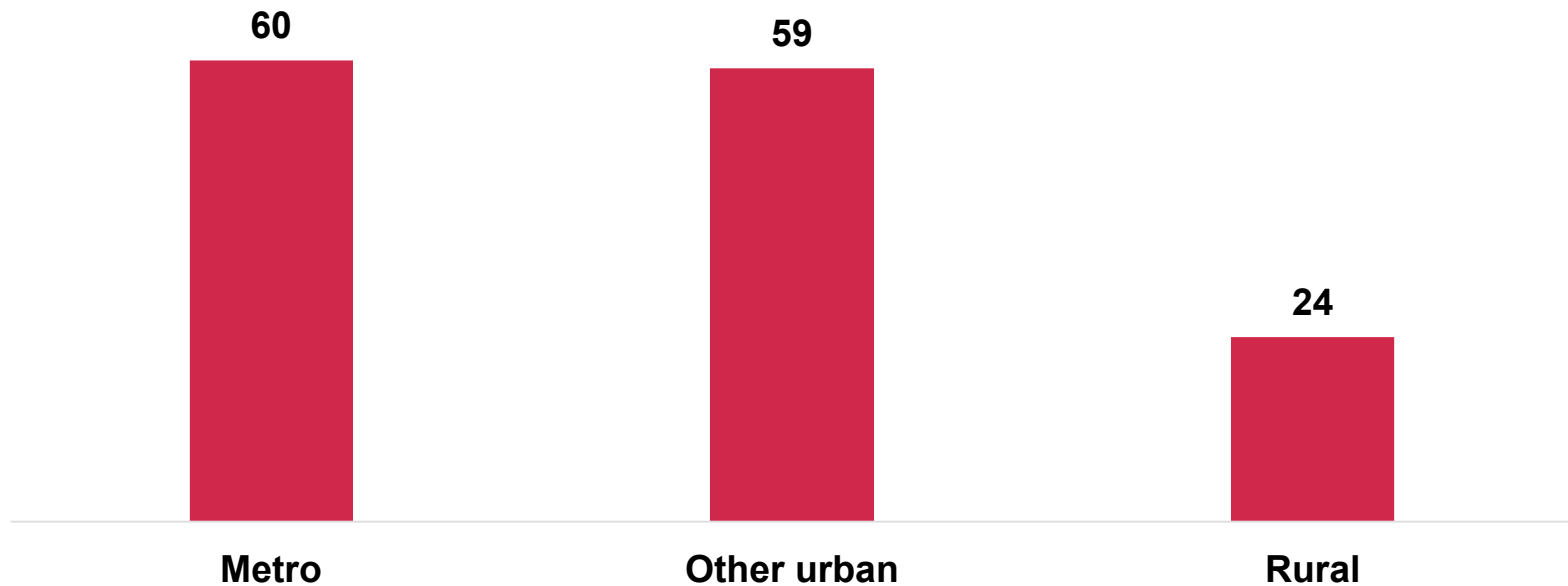
# Results: service readiness at facilities

Distribution of median readiness scores by residence



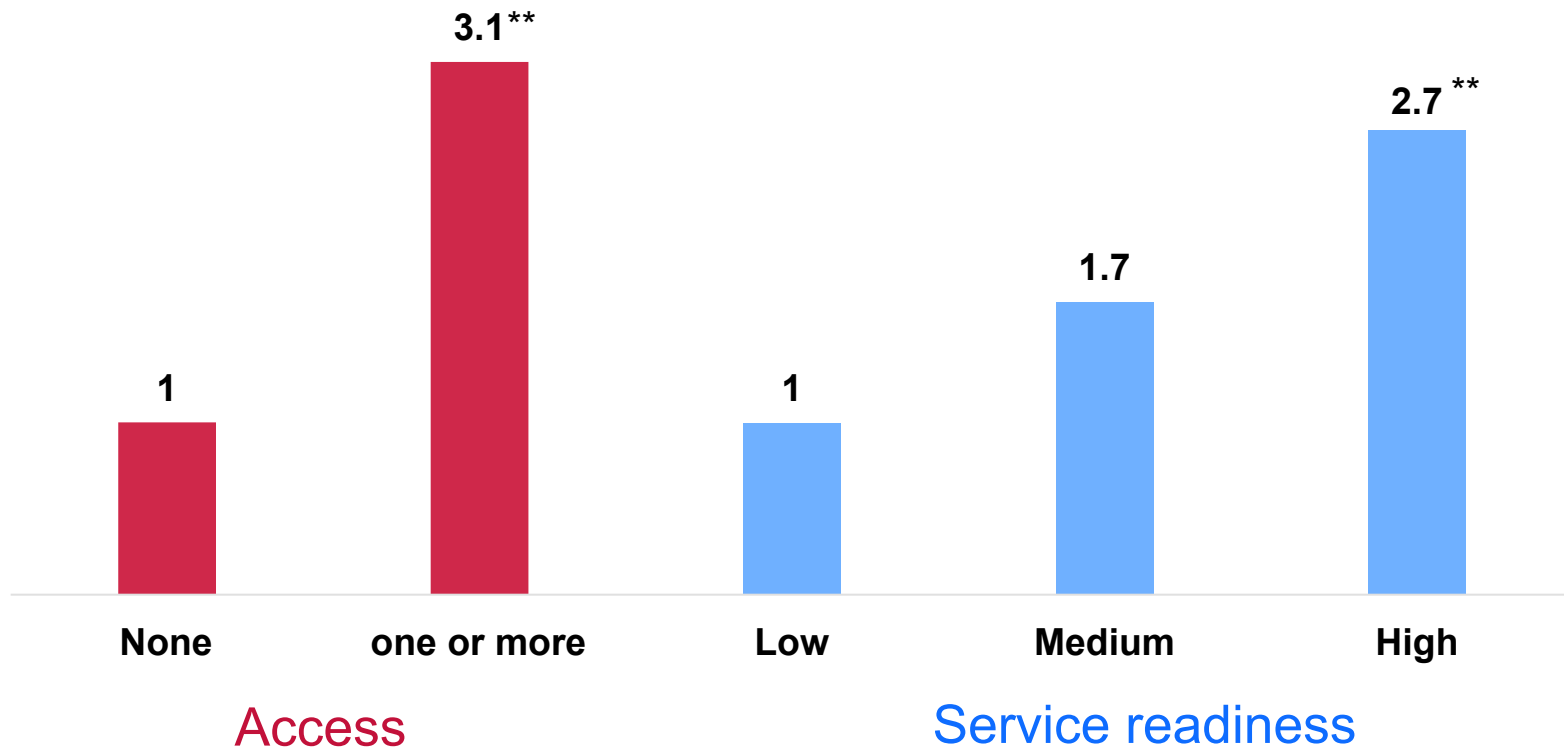
# Use of facility-based delivery care

Percentage of women who delivered their most recent birth at a health facility



# Regression results in other urban

Odds ratios of access and service readiness variables in multivariate regressions

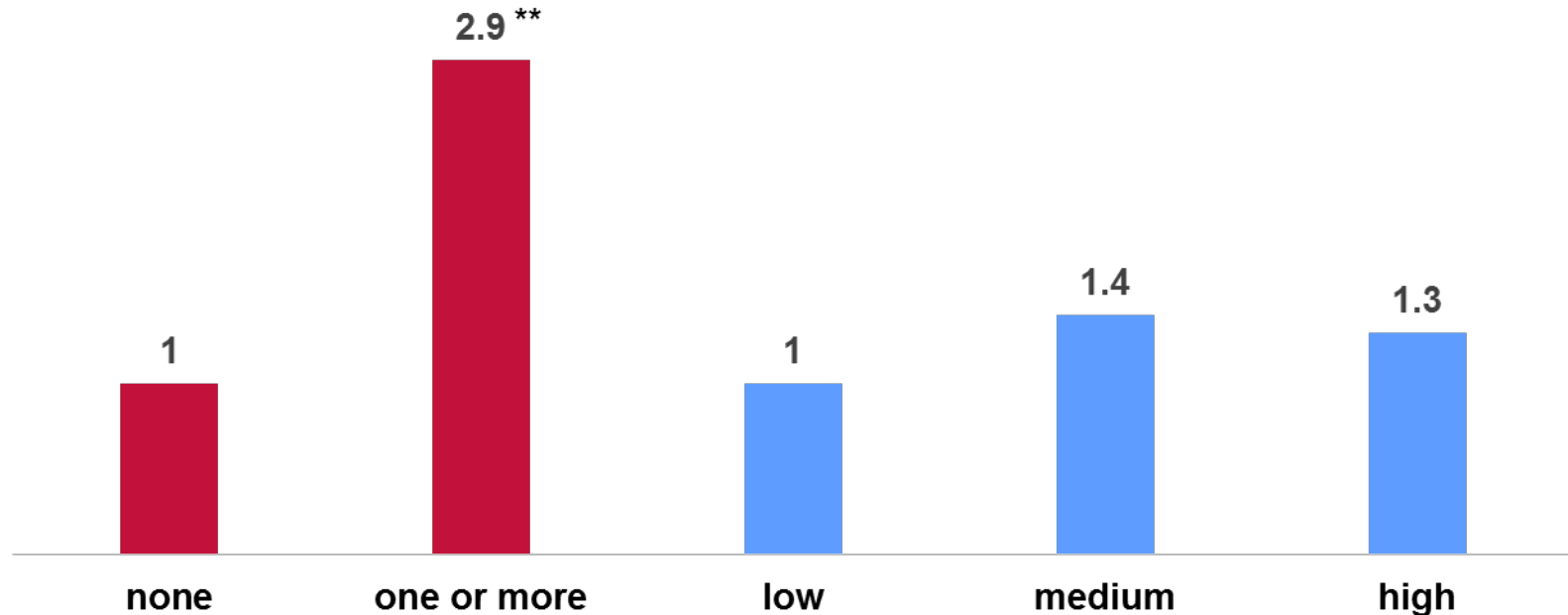


Regressions controlled for mother's age at birth, education, household wealth, regions, birth order, number of antenatal care visits

\*\* p<0.05

# Regression results in rural

## Odds ratios of access and service readiness variables in multivariate regressions



Access

Service readiness

Regressions controlled for mother's age at birth, education, household wealth, regions, birth order, number of antenatal care visits

\*\*  $p < 0.05$

# Conclusions

- Access to health facilities with normal delivery services remains inadequate in both urban and rural areas
- The level of service readiness shows significant impact on use of facility delivery care in urban but not in rural areas
- Lack of associations between service environment and use in the metropolitan area indicates the linkage methodology used may not be appropriate in areas with a high density of population and health facilities

# For more information, please read our paper

<http://dhsprogram.com/pubs/pdf/WP114/WP114.pdf>

