Building an Effective Coverage Cascade for Antenatal Care Services in Low-and Middle-Income Countries: Ecological Linking of Household Surveys and Health Facility Assessments

Safia S. Jiwani, Saqib Rana, Abdoulaye Maiga, Elizabeth Hazel, Emily Wilson, Agbessi Amouzou.

The Countdown to 2030 Data & Analysis Center for Effective Coverage
Department of International Health
Johns Hopkins Bloomberg School of Public Health

BACKGROUND

- Antenatal care (ANC) is critical to prevent pregnancy-related complications.
- Pregnant women do not always receive ANC with expected quality to prevent or treat these complications.
- An effective coverage cascade helps to understand gaps between facility use and quality of care.
- We estimated readiness-adjusted ANC coverage and built an effective coverage cascade in eight low-and middle-income countries with available data.

METHODS

- We used data from latest household surveys and health facility assessments in eight countries accounting for 28,925 women respondents and 8,621 health facilities surveyed.
- We generated an ANC service readiness index using a simple summative aggregation method, based on key items needed to provide high quality ANC.
- We ecologically linked ANC coverage and content from the household surveys with ANC readiness scores from health facility data, by subnational region and facility type, to estimate readiness-adjusted ANC coverage for at least one ANC contact, as well as readiness-adjusted ANC content.
- We built a four-step ANC effective coverage cascade and calculated loss of coverage at each step.
- Readiness gaps reflected the absolute difference between service coverage and readiness-adjusted coverage; missed opportunities reflected the absolute difference between readiness-adjusted coverage and readiness-adjusted content.

Figure 1. Distribution of women's ANC facility use by facility type.

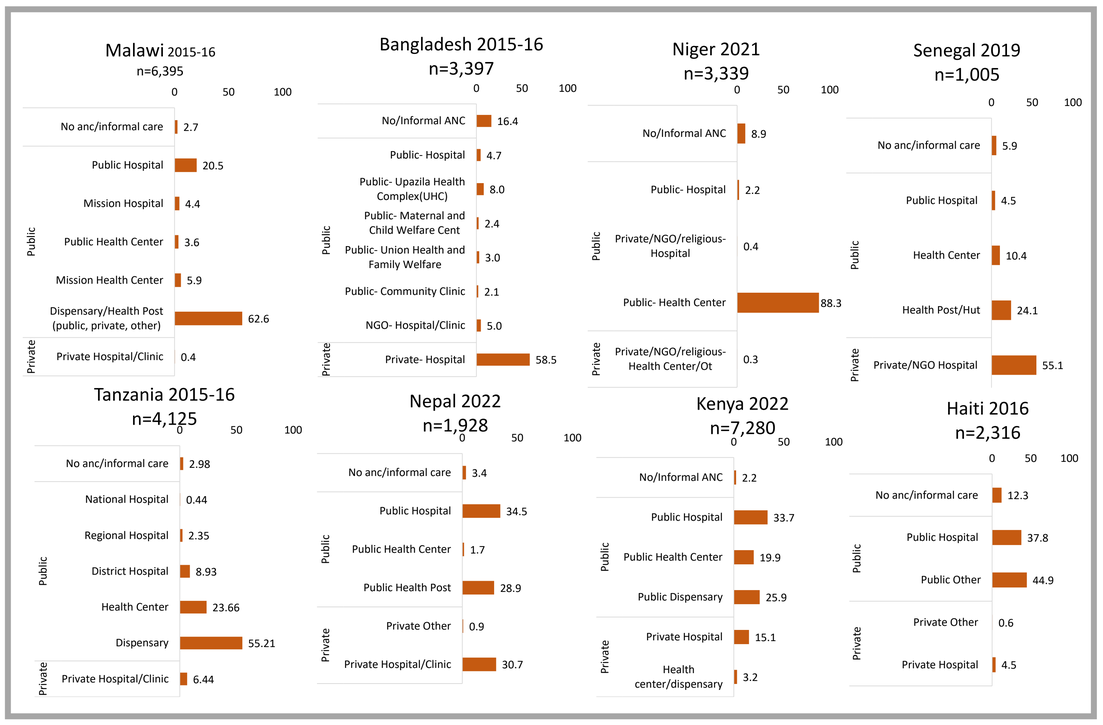


Figure 2. Antenatal care effective coverage cascade.

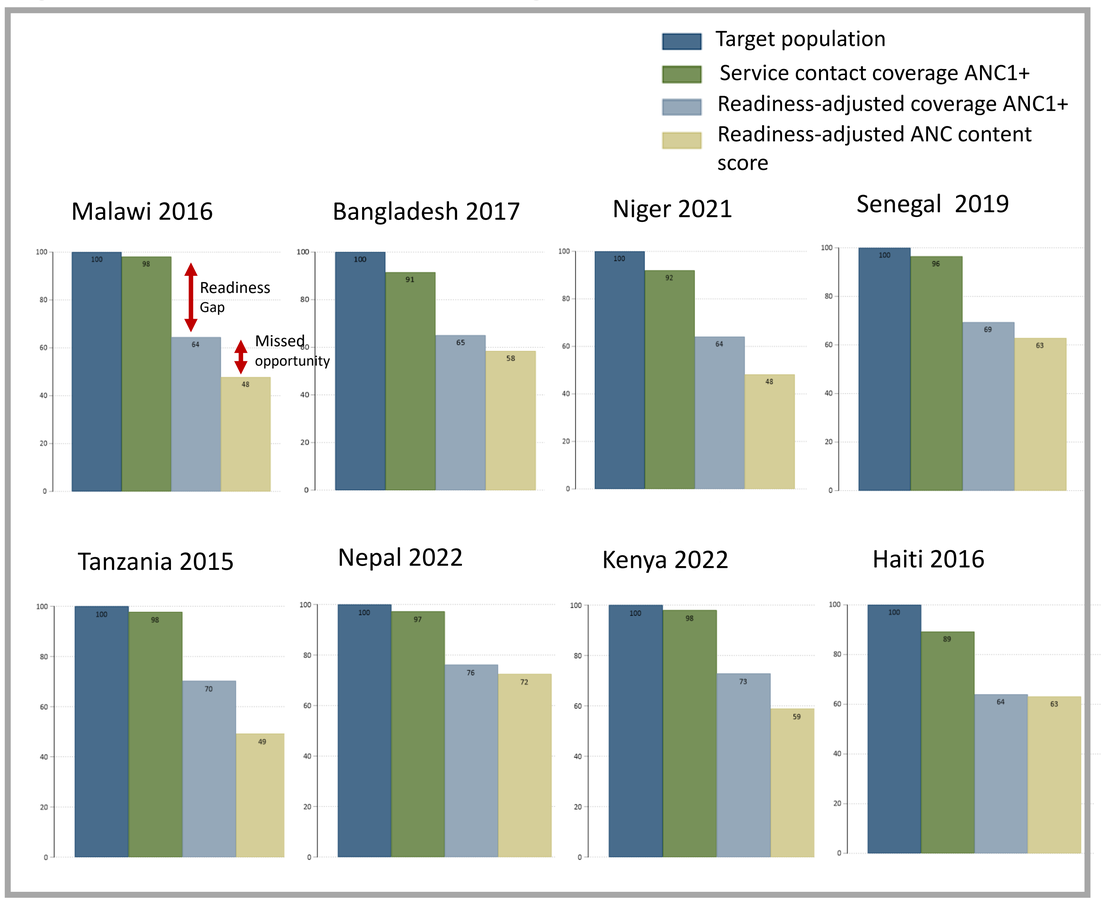
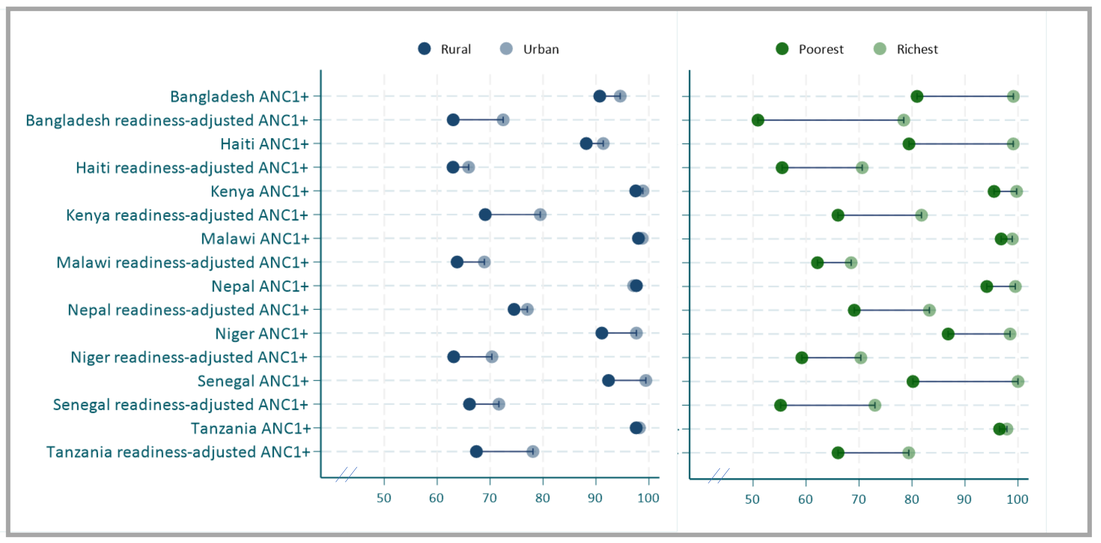


Figure 3. Inequalities in ANC1+ and readiness-adjusted ANC1+ coverage (%) by women's place of residence (blue) and wealth quintile (green).



KEY FINDINGS

- The majority of women sought ANC services in lower-level public facilities, except in Bangladesh, Nepal and Senegal (Figure 1). ANC readiness in these facilities was lower than that in hospitals.
- Poor diagnostic capacity and insufficient trained human resources drove the low ANC facility readiness across countries.
- While ANC1+ service coverage was high, ranging from 89.2% in Haiti (95% CI 87.2, 90.9) to 98.1% in Malawi (95%CI 97.5, 98.6), readiness-adjusted ANC1+ coverage was much lower, ranging from 64% in Haiti (95%CI 62.4, 65.5) to 76.2% in Nepal (95%CI 75.1, 77.2) (Figure 2).
- We estimated ANC readiness gaps as high as 33.7 percentage points in Malawi and missed opportunities of 21.1 percentage points in Tanzania (Figure 2).
- We found large inequalities in readiness-adjusted ANC1+ by women's socioeconomic status, favoring wealthier women and those living in urban areas (Figure 3).

CONCLUSIONS

- There are **large readiness gaps and missed opportunities** in ANC services in LMICs.
- **Women of low socioeconomic status and those living in rural areas are being left behind**.
- **Improving facilities' diagnostic capacity and availability of trained human resources** will enable facilities to offer **quality health services and ensure health gains, especially in lower-level facilities** where most women seek antenatal care.