Operationalising routine data to support health system performance and accountability of childbirth care in low resource settings

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Background

Globally a higher burden of maternal & newborn mortality attributable to poor quality of care.
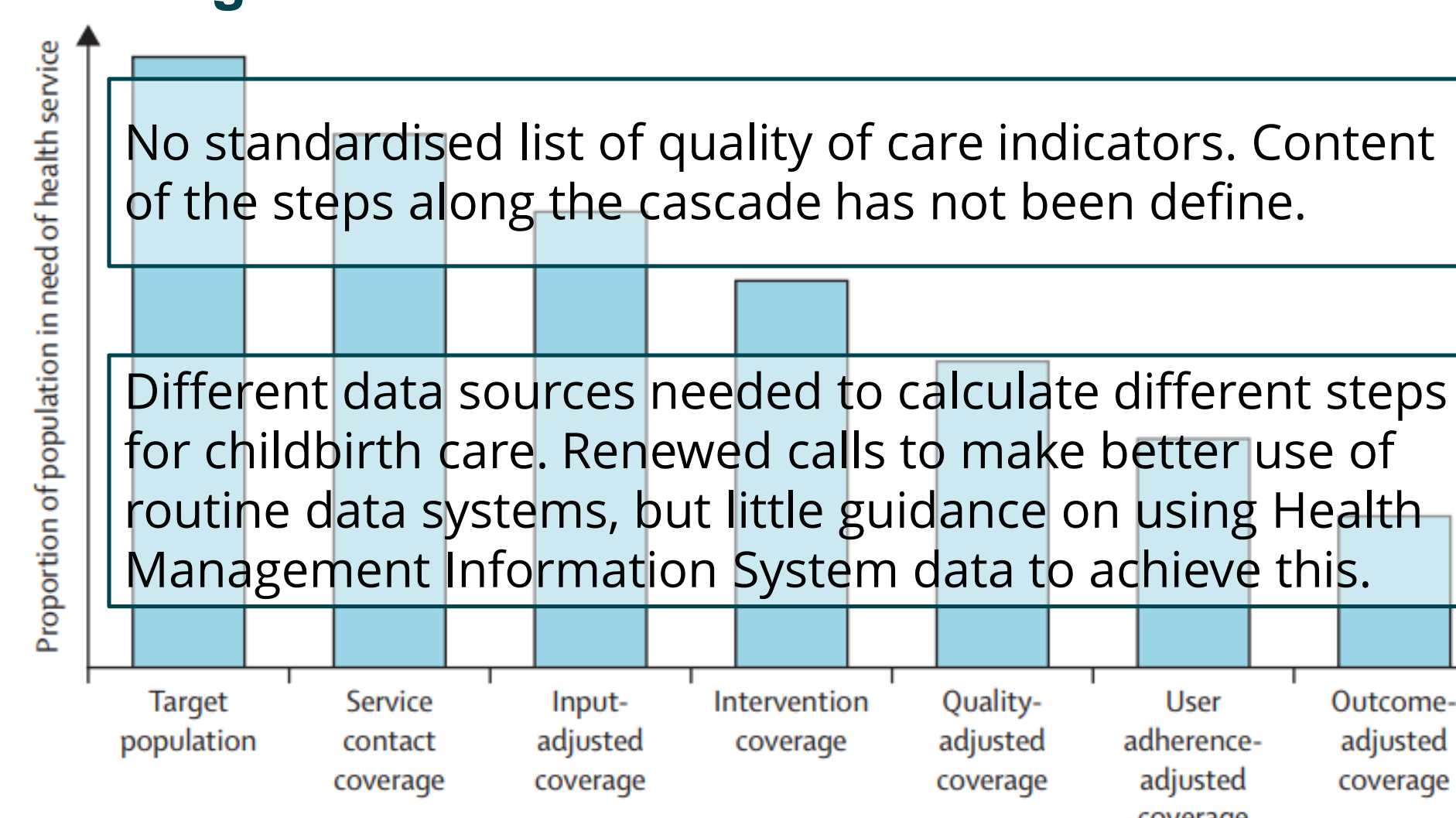
A pivot from 'contact' to 'effective coverage' that accounts for quality of care is recommended to assess health impact performance.

Effective coverage is defined as "the proportion of a population in need of a service that resulted in a positive health outcome from the service".[1]

Quality-adjusted coverage is the preferred measure of effective coverage of routine childbirth care.

However, there are few examples of how effective coverage cascades can be operationalized in priority countries.

Figure 1: Proposed cascade for measuring effective coverage[1,2]

No standardised list of quality of care indicators. Content of the steps along the cascade has not been define.

Different data sources needed to calculate different steps for childbirth care. Renewed calls to make better use of routine data systems, but little guidance on using Health Management Information System data to achieve this.

Study description

Aims: examine feasibility & utility of constructing effective coverage of childbirth care using data typically available to decision makes in a low resource setting.

Setting: study conducted in the context of a 10-year partnership led by Gombe State Primary Health Care Development Agency, which aimed to improve maternal and newborn health services. Gombe State, northeast Nigeria, is characterized by high maternal & newborn mortality.

IDEAS study: worked with partners in Gombe to generate the data needed to make data-informed decisions there to improve health programmes.[3,4]

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Key messages:

- Effective coverage of childbirth care can be measured using routine data (DHIS2) combined with national level population surveys (DHS) in Gombe, northeast Nigeria.

- However, gaps in our ability to accurately measure steps beyond input-adjusted coverage in routine data.

- Needs advocacy to promote the inclusion of indicators in routine data sources to capture all components of effective coverage.

Estimating effective coverage of childbirth care in Gombe State, northeast Nigeria, using NDHS and two different facility data sources

Figure 2: Effective coverage of routine childbirth care in Gombe, northeast Nigeria
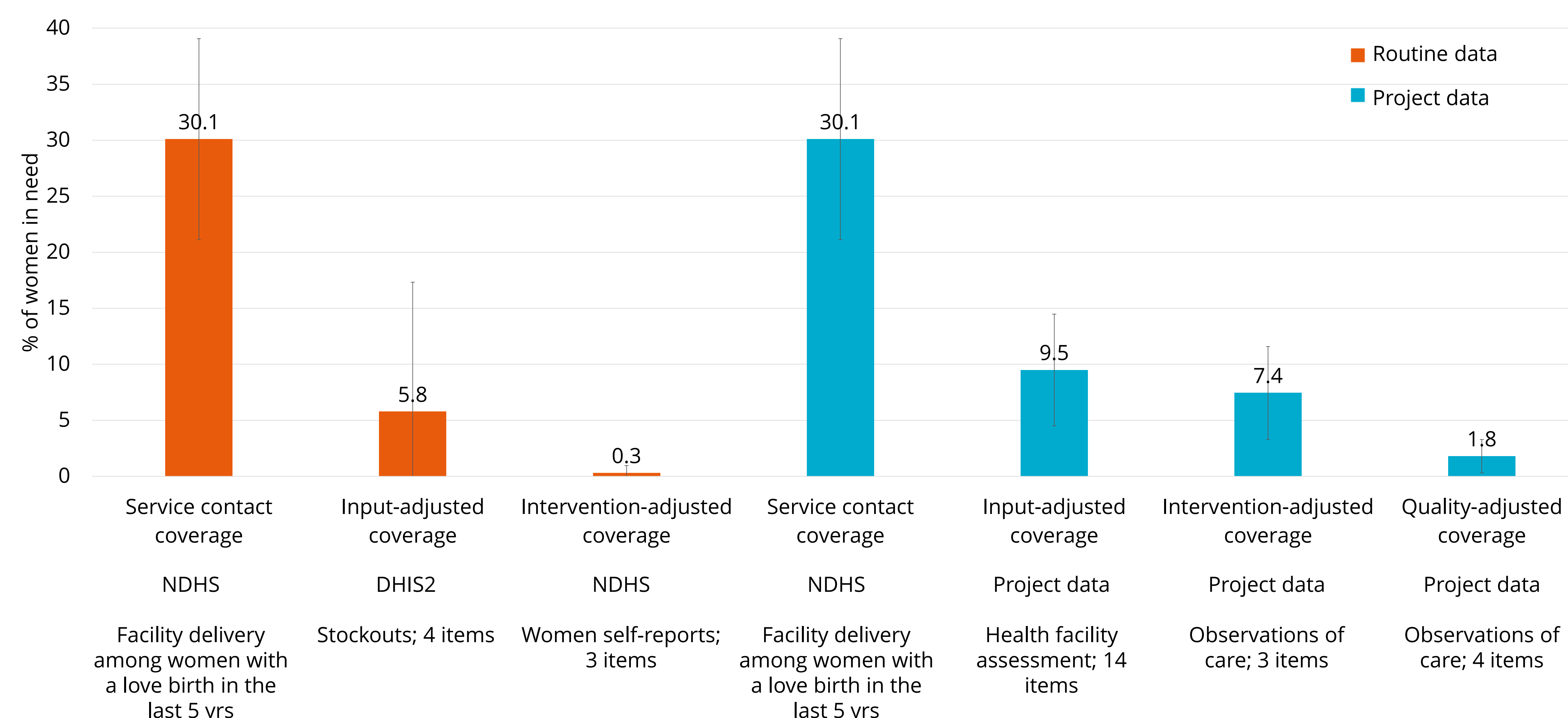
Analysis included 822 women with a recent live birth.

Linking NDHS to DHIS2 feasible to measure intervention-adjusted coverage.

No data in DHIS2 to measure intervention or quality step; some process of care indicators are tracked in health facility registers that could be added to facility reports.

Linking NDHS to project data possible to estimate all four recommended steps.

For both approaches effective coverage estimated to be very low; point to same conclusion that quality of care was poor & availability of inputs, a foundation of high quality of care, had not yet been met.

Methods

Consistent with the Effective Coverage Think Tank Group, we defined effective coverage as the proportion of all women with a recent live birth who progressed through subsequent 4 steps: 1) attended a health facility for childbirth care; 2) that had appropriate inputs available; 3) where appropriate interventions were provided; and 4) where birth attendants followed recommended processes of care.

To define content of each step of cascade:

Systematic review of effective coverage of childbirth care

Selected most frequently cited items, that are also recommended by WHO

Mapped against data available in IDEAS project data sets

Agreed upon in collaboration with GSPHCDA

Replicated in data typically available in Gombe

To estimate effective coverage:

Secondary data analysis

Linked data on access from 2018 Nigerian DHS to two sources of health facility data: (1) routine facility data (DHIS2); & (2) facility data generated by IDEAS.

Calculated at State level using ecological linking methods accounting for facility type (PHC or referral)

1= Marsh, A. D., et al. (2020). "Effective coverage measurement in maternal, newborn, child, and adolescent health and nutrition: progress, future prospects, and implications for quality health systems." Lancet Glob Health 8(5): e730-e736.

2=Amouzou, A., et al. (2019). "Advances in the measurement of coverage for RMNCH and nutrition: from contact to effective coverage." BMJ Global Health 4(Suppl 4): e001297

3=Bhattacharya, A. A., et al. (2020). "Improving the quality of routine maternal and newborn data captured in primary health facilities in Gombe State, Northeastern Nigeria: a before-and-after study." BMJ Open 10(12): e038174.

4=Willey, B., et al. (2022). "Improving maternal and newborn health services in Northeast Nigeria through a government-led partnership of stakeholders: a quasi-experimental study." BMJ Open 12(2): e048877.