



ZAMBIA

SYNTHESIS REPORT

2026

Analysis of Reproductive, Maternal, Newborn, Child and Adolescent Health Indicators for 2020-2025



Countdown to 2030 in partnership with Zambia's Ministry of Health, Global Financing Facility, WHO, WAHO & UNICEF

#CAM2026



Team Members

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KEY FINDINGS

1. Health facility data quality assessment: numerators and denominators

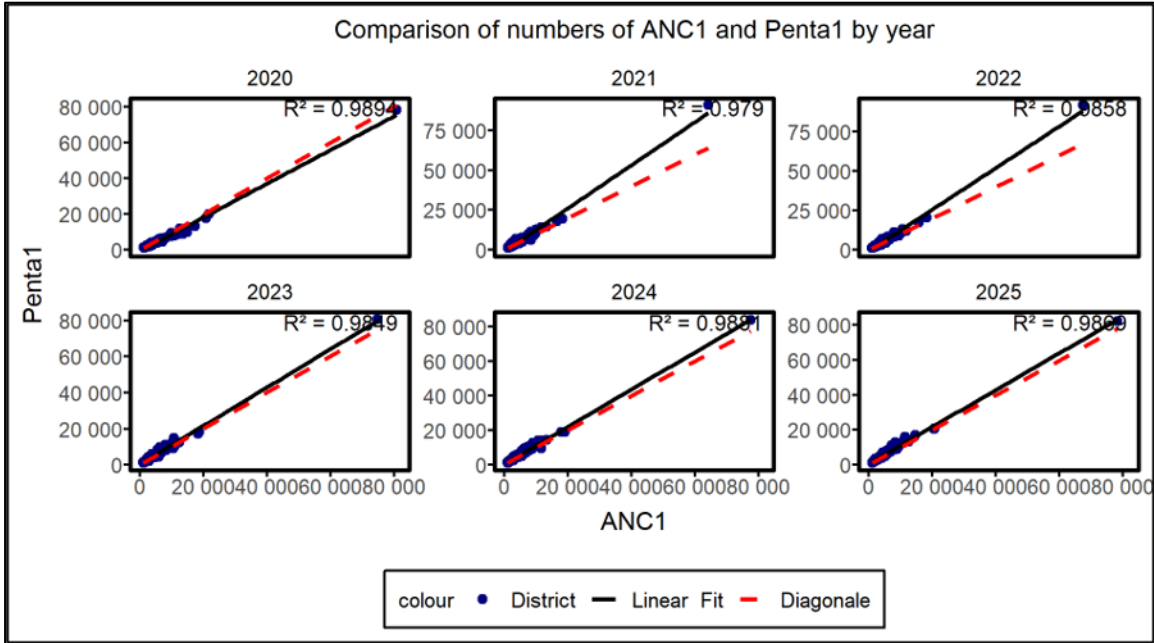
NUMERATORS: Routinely reported health facility data are an important data source for health indicators. The data are reported by health facilities on events such as immunizations given, or live births attended. As with any data, quality is an issue. Data are assessed for completeness of reporting by health facilities, extreme outliers and internal consistency. Appropriate adjustments are made to the data before the analysis.

Summary of reported health facility data quality, DHIS2, 2020-2025

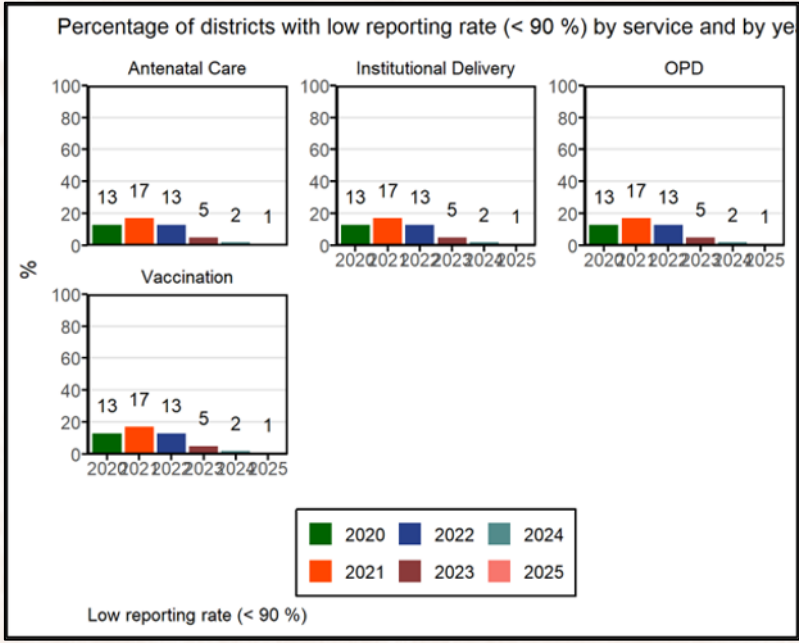
Data Quality Metrics		2020	2021	2022	2023	2024	2025
1. Completeness of monthly facility reporting (mean of ANC, delivery, immunization)							
1a	% of expected monthly facility reports (national)	96	95	95	98	99	99
1b	% of districts with completeness of facility reporting >= 90	87	83	87	95	98	99
1c	% of districts with no missing values for the 4 forms	85	84	85	86	86	86
2. Extreme outliers (mean of ANC, delivery, immunization)							
2a	% of monthly values that are not extreme outliers (national)	96	100	100	100	100	97
2b	% of districts with no extreme outliers in the year	84	89	92	92	90	87
3. Consistency of annual reporting							
3a	Ratio anc1/penta1	1.20	0.88	0.85	0.87	0.86	0.84
3b	Ratio penta1/penta3	1.05	1.07	1.06	1.05	1.01	1.00
3c	% district with anc1/penta1 in expected ranged	90	18	9	19	10	4
3d	% district with penta1/penta3 in expected ranged	78	88	80	75	64	49
4	Annual data quality score	88	80	78	81	78	75

- Despite consistently high reporting completeness, the overall annual data quality score has been declining from 88% in 2020 to 75% in 2025
- The monthly reporting rate have gradually increased from 96% in 2020 to 99% in 2024–2025, and this improvement can also be seen in the % of districts achieving at least 90% completeness increasing from 87% to 99%.
- However, missing values remained persistent, with only 84–86% of districts reporting complete data across four forms.
- Western province was particularly problematic with annual data score of 68% in 2025
- Adjustments were made using a k-factor of 0.25 for each of the services as we estimate that non-reporting facilities provided 25% of the volumes of reporting facilities
- There is poor consistency between ANC1 and Penta1. The ANC1/Penta1 ratio declined from 1.20 in 2020 to 0.84 in 2025. From 2021 onwards, the ratio remained below 1, meaning reported Penta1 doses were higher than reported ANC1 visits.

Poor consistency between ANC1 and Penta1, with % districts in expected range decreasing to 4% in 2025

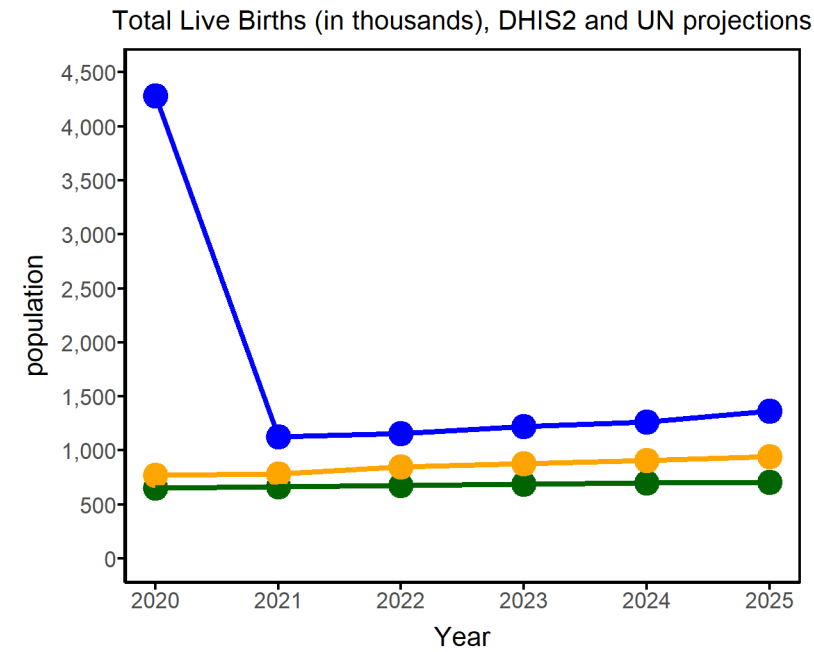


Improvement in the % of districts in with reporting rate <90%, reducing from 13% to 1% in 2025



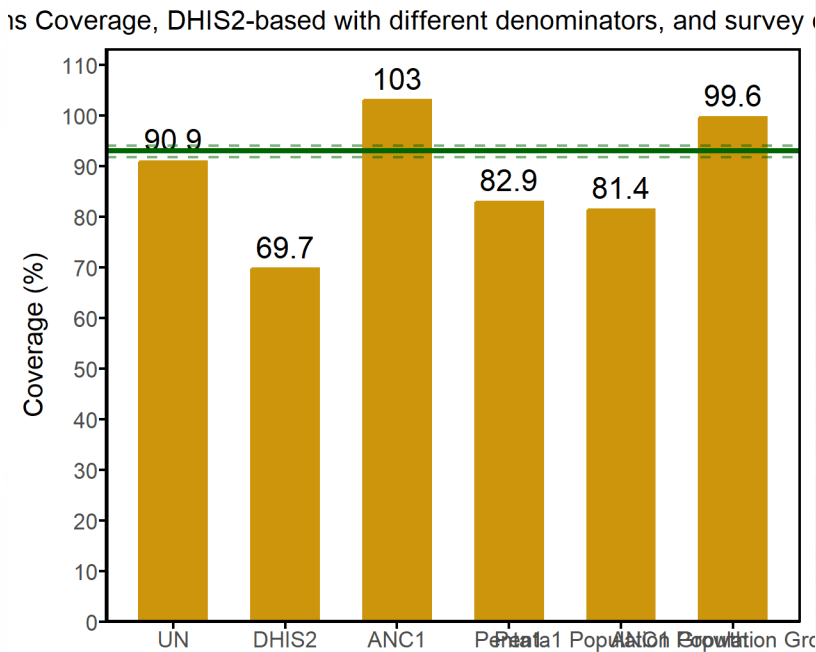
DENOMINATORS: Service coverage is defined as the population who received the service (numerator) divided by the population who needed the services: (the denominator). We test four options for denominator measures using institutional live births and Pent-3 immunization coverage (Figures 2c and 2d). The quality of the population projections in DHIS2 is assessed through consistency over time and comparison with the UN projections. Two denominators are also derived using near universal service such as ANC-1 and Penta-1. The most plausible is identified for use to generate other statistics.

Total Livebirths



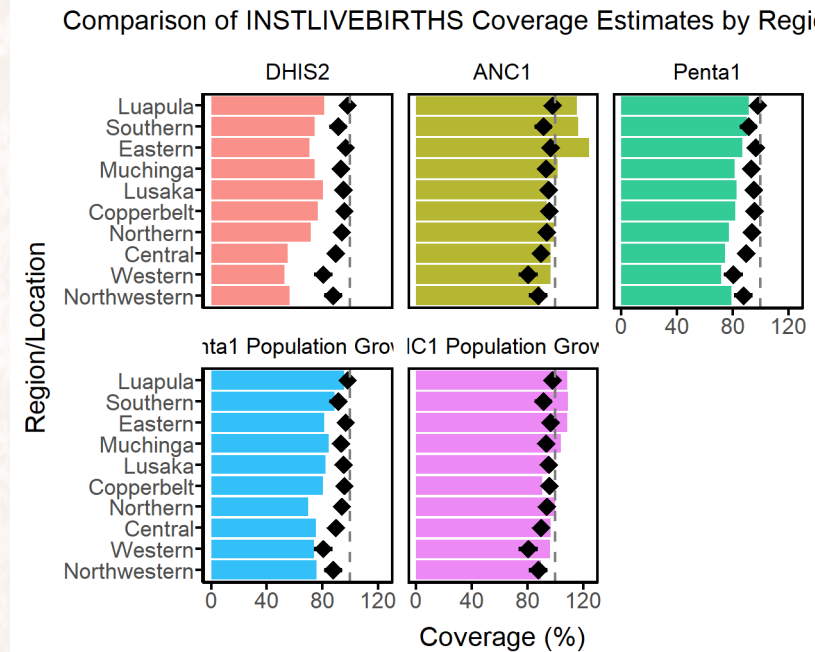
Live Births (in 1000) DHIS-2 Live Births Projection (in 1000) DHIS-2 Total Population Projection (in 1000)

National Institutional Live Births



Coverage survey, national Facility-based coverage (%)

Subnational Institutional Live births



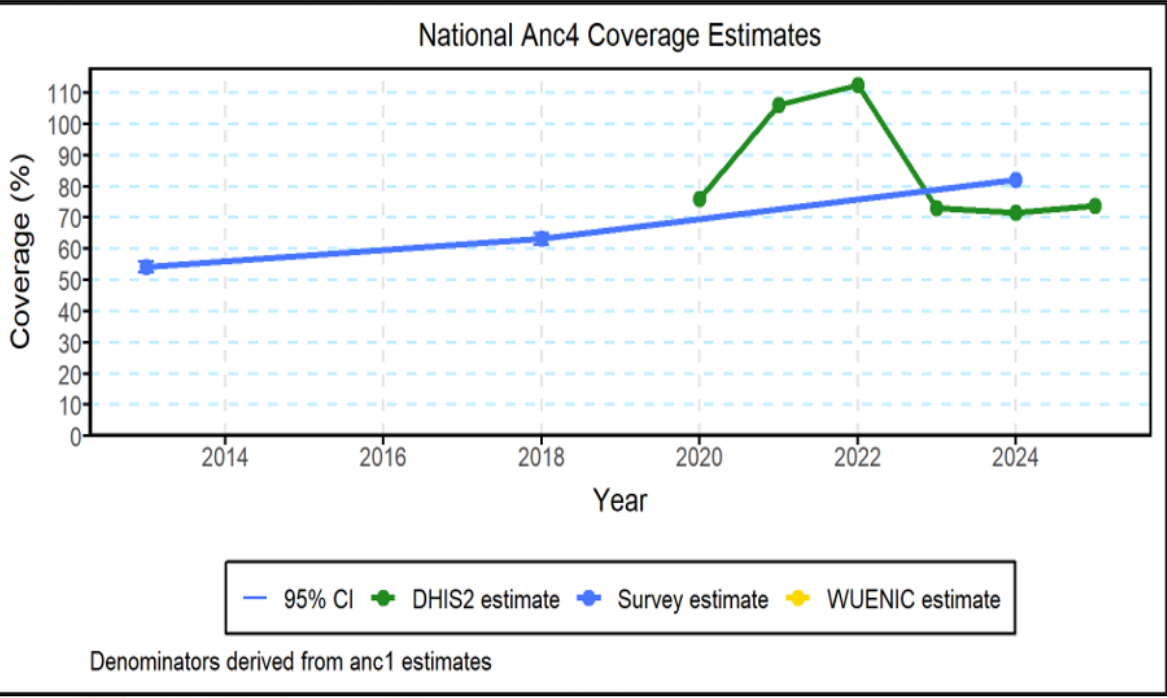
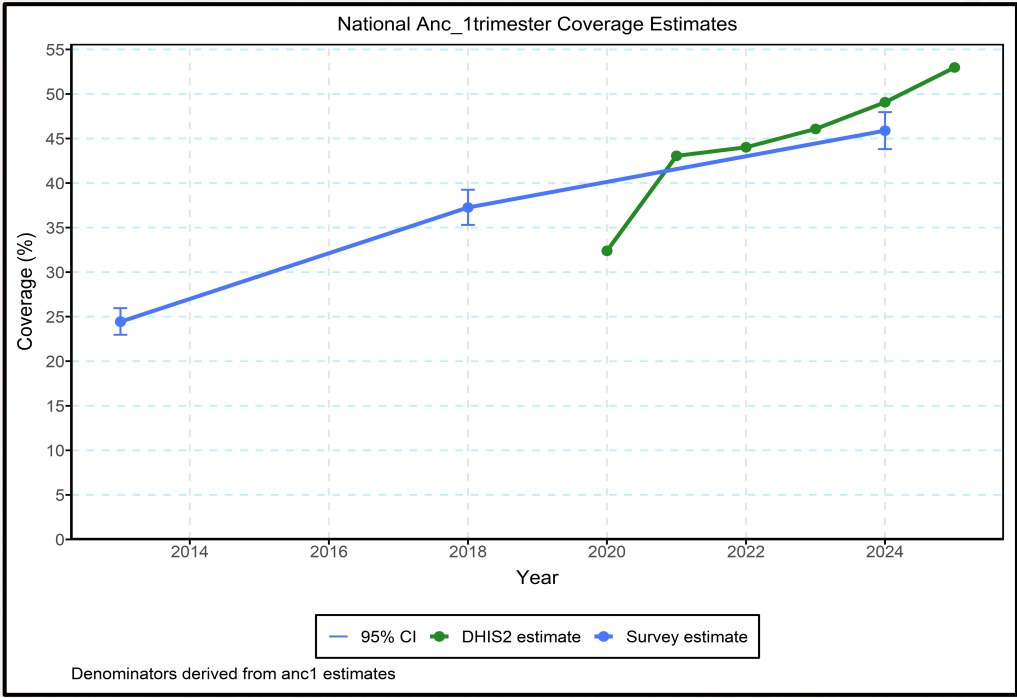
Estimate DHIS2 ANC1 Penta1 Penta1 Population Growth

Interpretations

- Population Trend:** From 2020 – 2025, the live births projections are consistent and close to the UN projections with both data sources showing a steady increase in population over time. The DHIS2 live births projections are consistently higher than the UN estimate, rising from about 780,000 in 2020 to nearly 950,000 in 2025.
- Denominator selection:** Close evaluation revealed that **penta1** denominator produced reliable estimates at both national and sub-national level for vaccination indicators. On the other hand, ANC1 derived denominators produced reliable national estimates for some maternal indicators (Early ANC, ANC4) while Penta1 derived denominator produced better national estimates for institutional levels and PNC48hrs and at subnational level.

2. National coverage trends: facility data and surveys

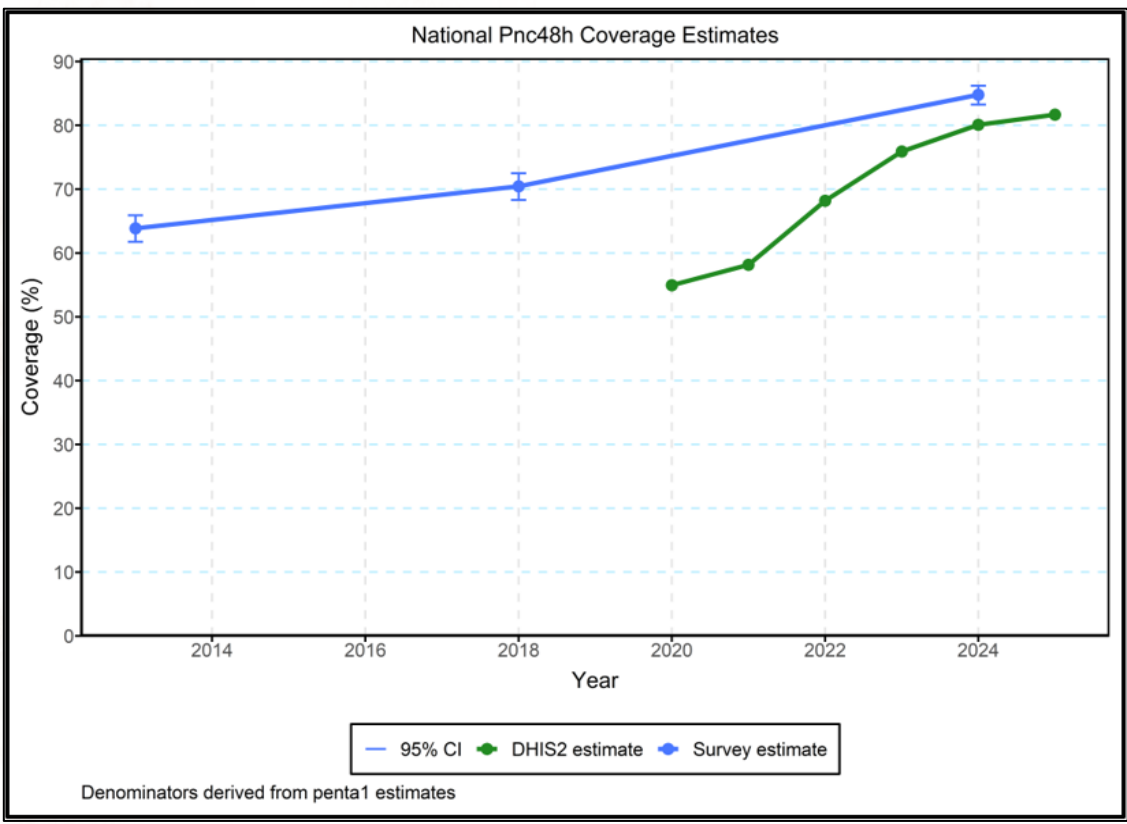
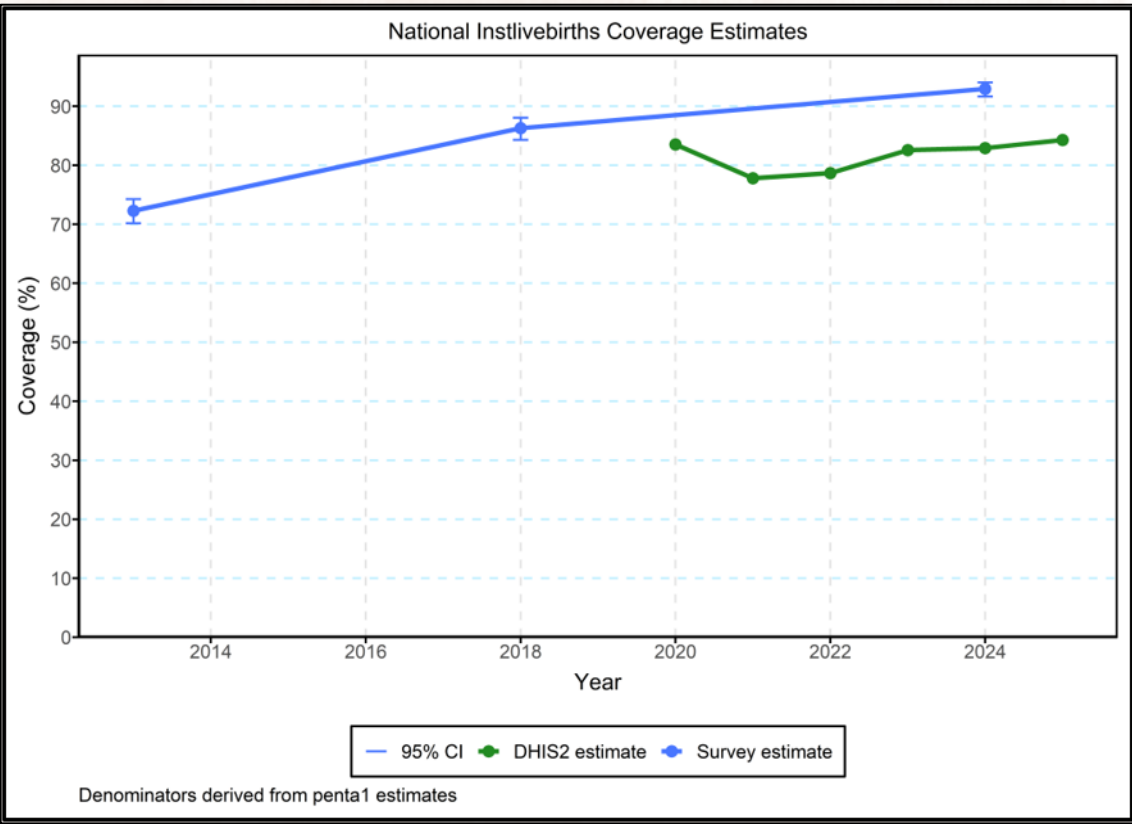
Antenatal care: ANC4, ANC early visit, first trimester of pregnancy



Early ANC in the first trimester shows an upward trend with DHIS2 estimating coverage at 53% in 2025. Good consistency is observed between health facility data (DHIS2) and the survey estimate (ZDHS).

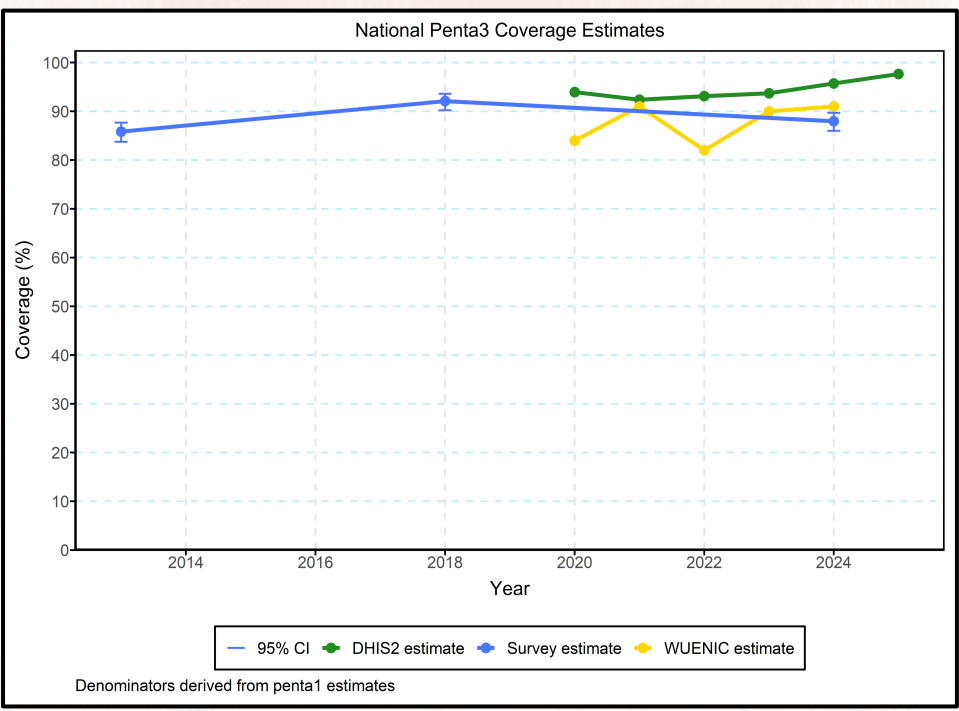
ANC4 estimates from survey data shows a steady upward trend while facility data estimates seem unstable with estimates increasing from 75% in 2020 to 110% in 2022. Thereafter, a sharp decrease from 110% to 70% in 2023 is observed. Changes in how ANC4 data is collected led to consistent estimates between the two data sources from 2023 (70% vs 80%).

Institutional delivery



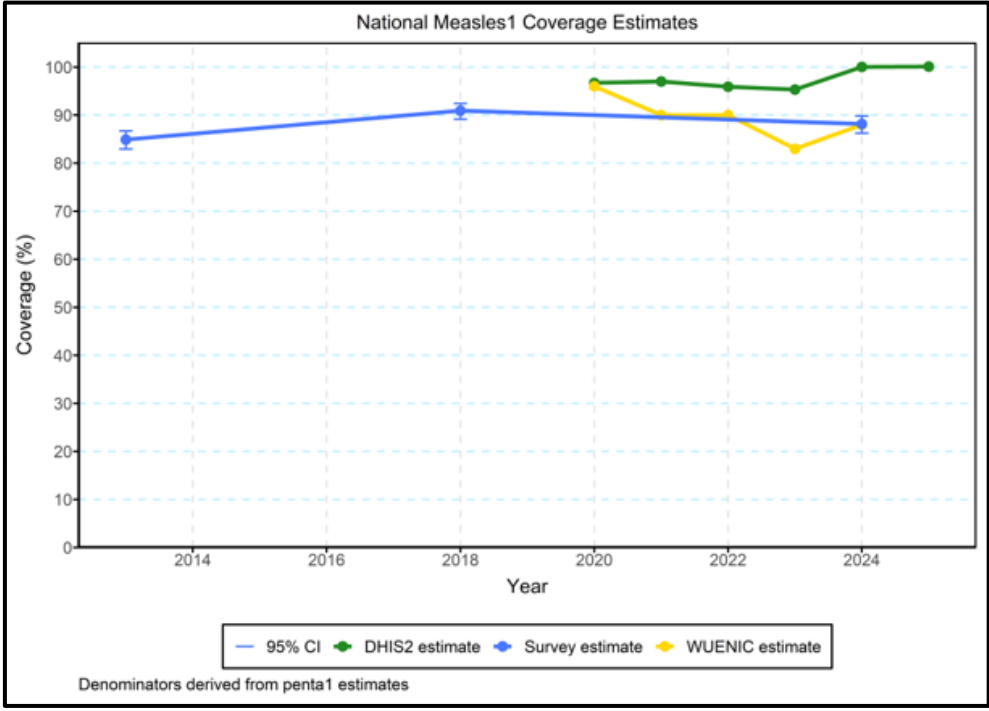
Institutional delivery coverage is high and improving according to survey data. While DHIS2 shows moderately high but lower coverage with only slight improvement after 2021. In 2024, the survey estimate is around 93%, while the DHIS2 estimate is around 83%, a difference of about 10 percentage points. This suggests that DHIS2 may be underestimating institutional live birth coverage, even when Penta1-based denominators are used. Good consistency is observed between institutional deliveries estimates and PNC48hrs estimates (82% vs 81%).

Immunization: Penta 3, Measles 1

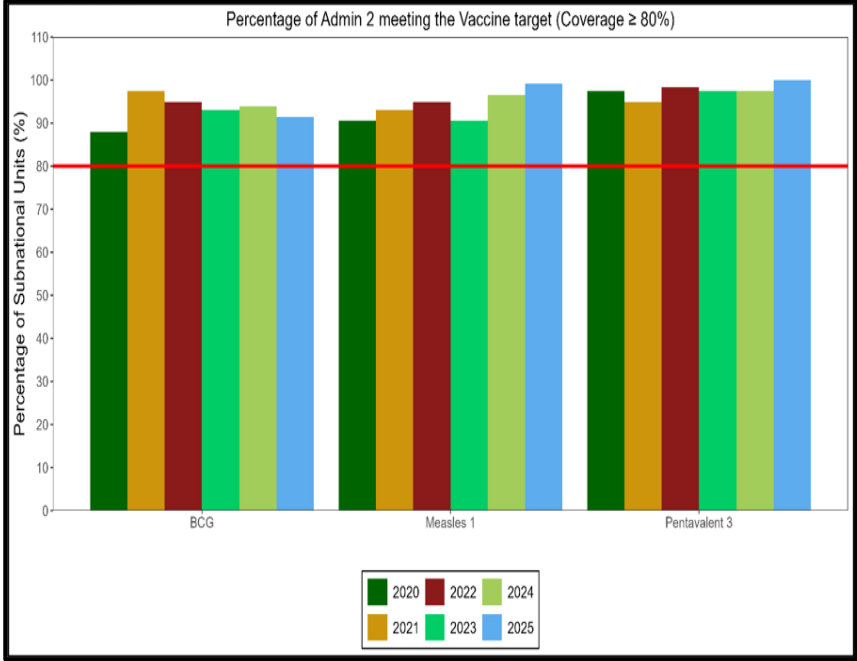
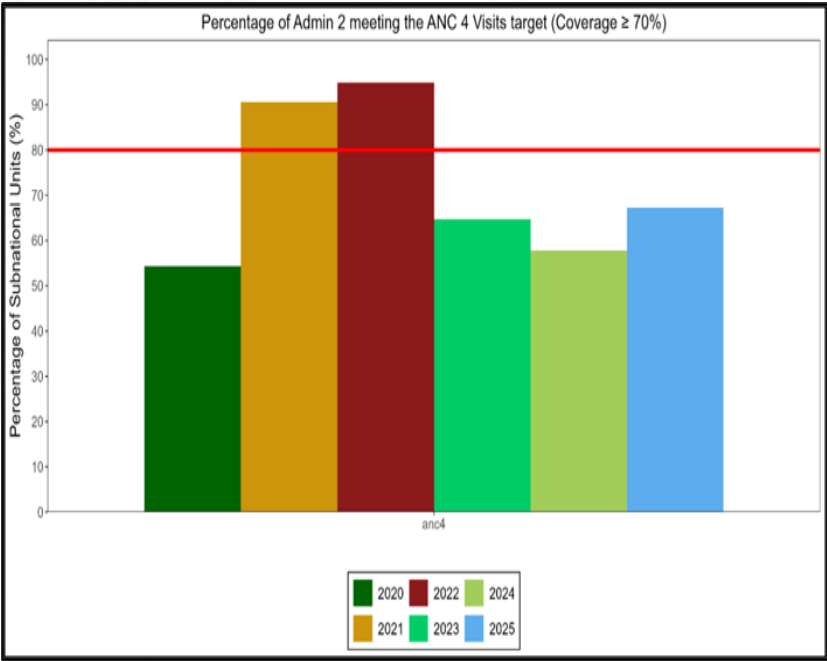


Pentavalent 3 coverage in Zambia is high, generally above 80% across the period shown. However, the level and trend differ by data source with WUENIC estimates showing more variability.

Measles1 coverage is high, with most estimates, despite the source being above 85%. Both vaccination indicators reach 100% in 2025, suggesting very strong program performance, but it should also be interpreted cautiously because it may reflect denominator underestimation, or over-reporting.



Percent of districts achieving high coverage targets



ANC4 coverage at district level appears uneven with only 68% of the districts achieving a coverage of ≥70% by 2025.

**Achievements seen in 2021 and 2022 should be interpreted cautiously due to data quality issues in those years.*

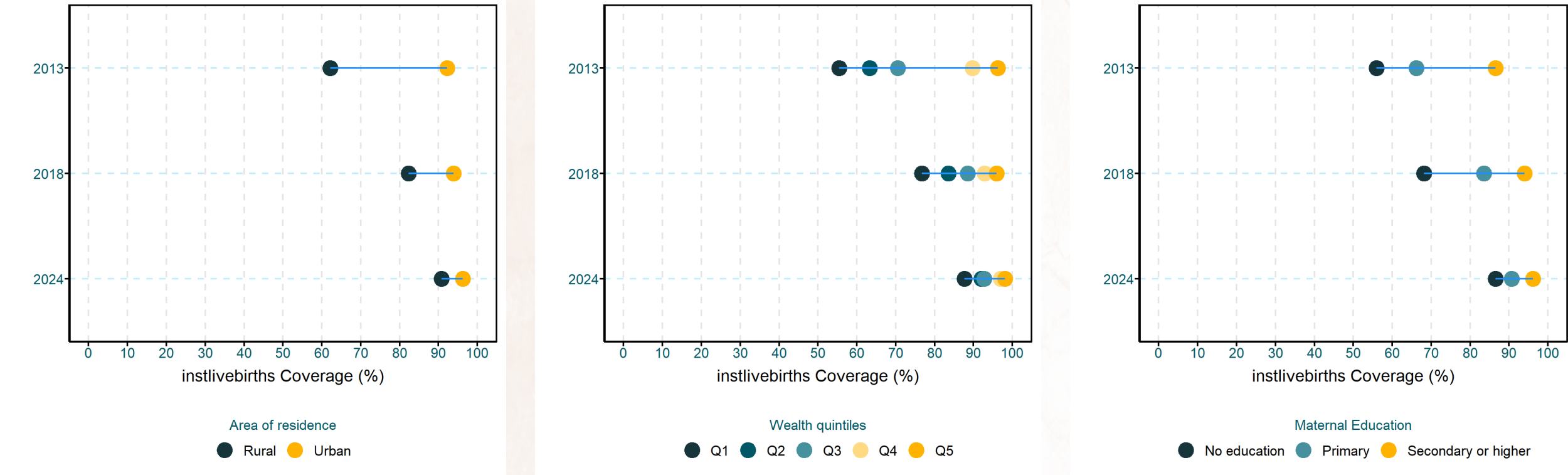
Overall, vaccine performance is **consistently strong** across all three antigens. In every year, the percentage of districts meeting the target is above the 80% benchmark.

This reflects strong program performance at both national and district level

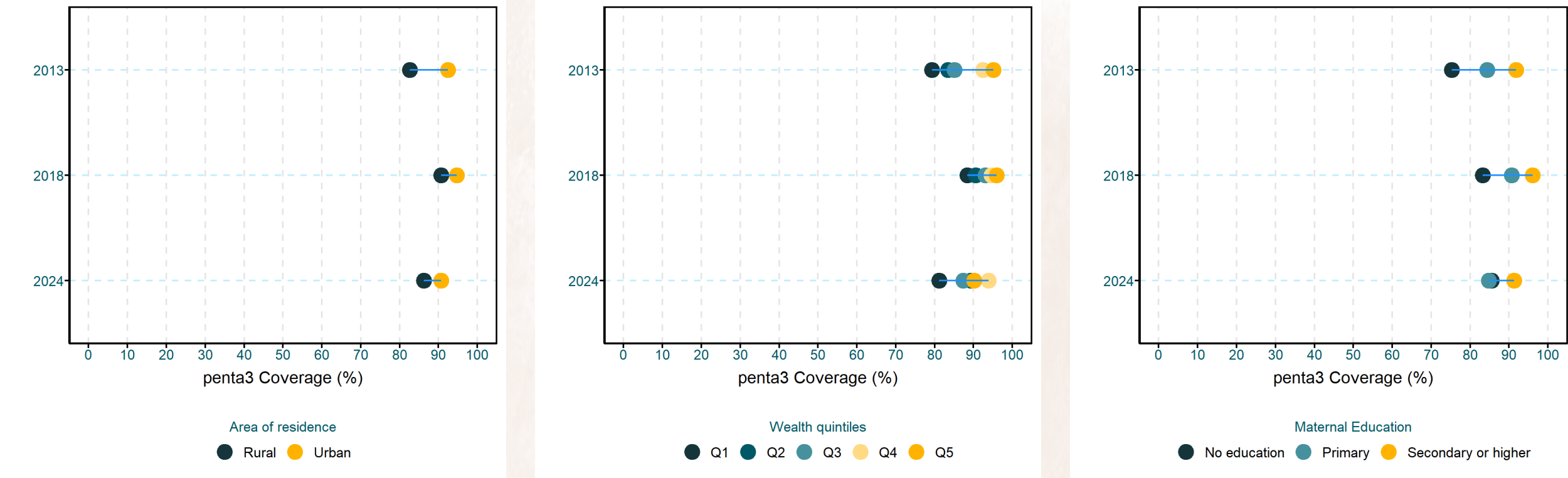
3. Equity

Equity by wealth, education, rural-urban residence (from surveys)

Institutional Live Births



Pentavalent 3rd Dose



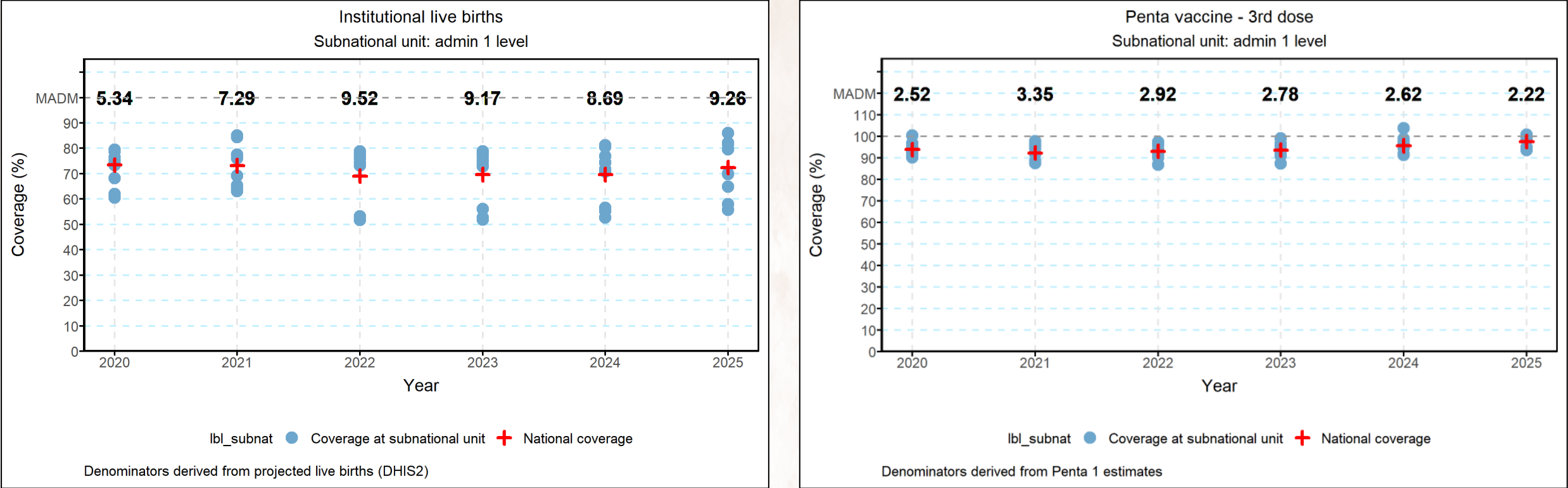
Interpretations

- Institutional live birth** coverage showed the greatest improvement in reducing inequalities among all subgroups (residence, wealth and education) by 2024 compared to 2018 and 2013
- Penta3 coverage** remained between 80-95% for all groups, although the coverage for the poorest and rural women reduced in 2024 compared to 2018, with the gap widening in 2024
- Progress plateaued for Pent3 between 2018 and 2024 for all subgroups, and although inequalities remained relatively small, children from advantaged groups continued to have higher vaccination
- Targeted strategies are needed to reach underserved populations and eliminate the remaining equity gaps.

Geographical inequalities: Health facility data

Institutional Live Births

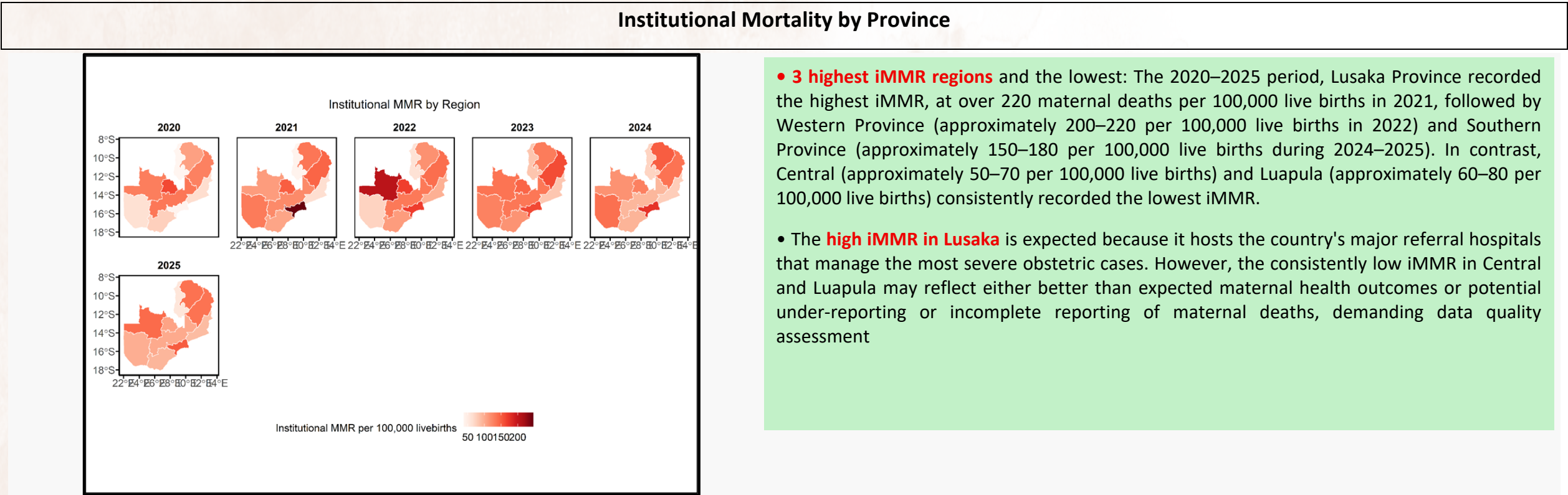
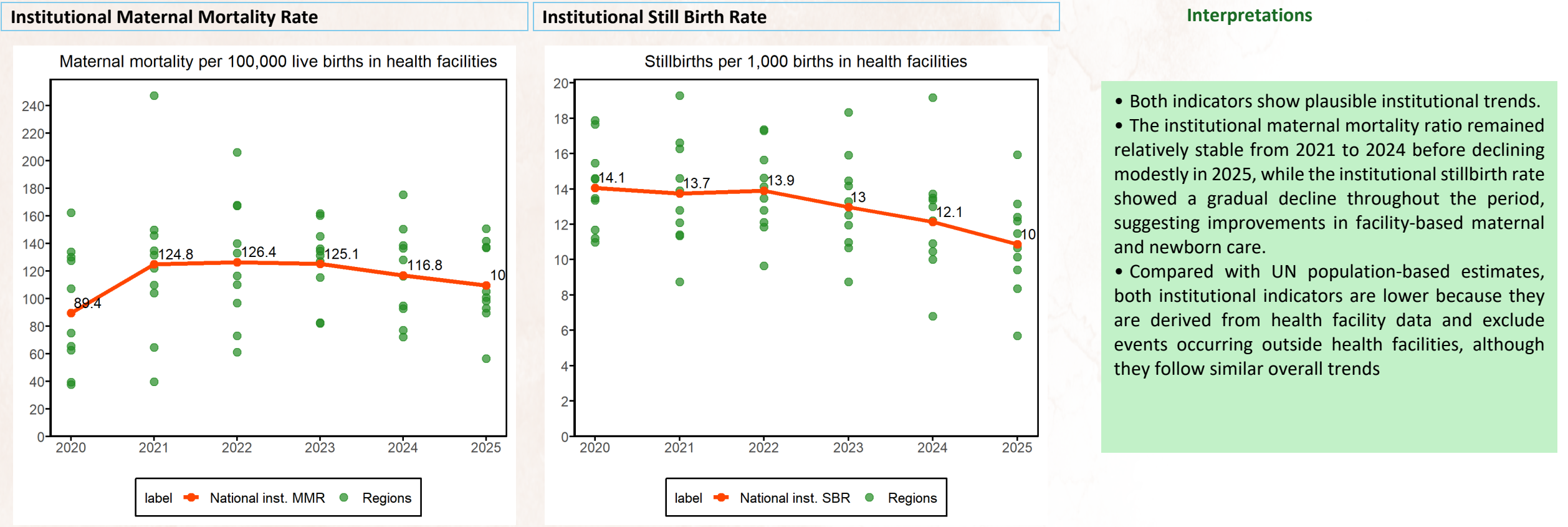
Pentavalent 3rd Dose



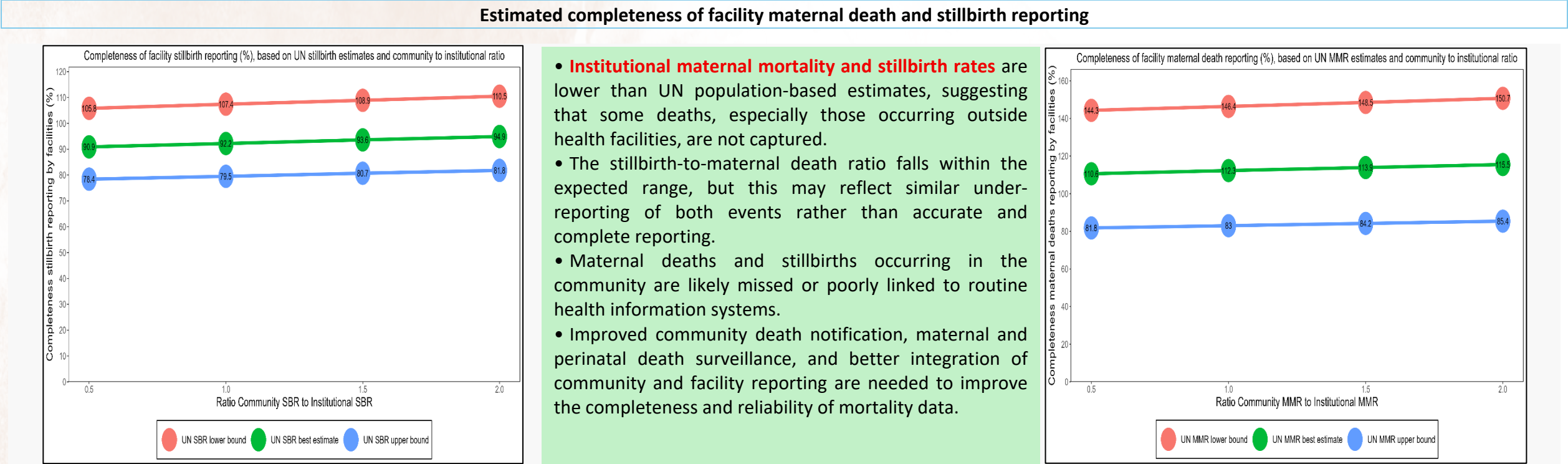
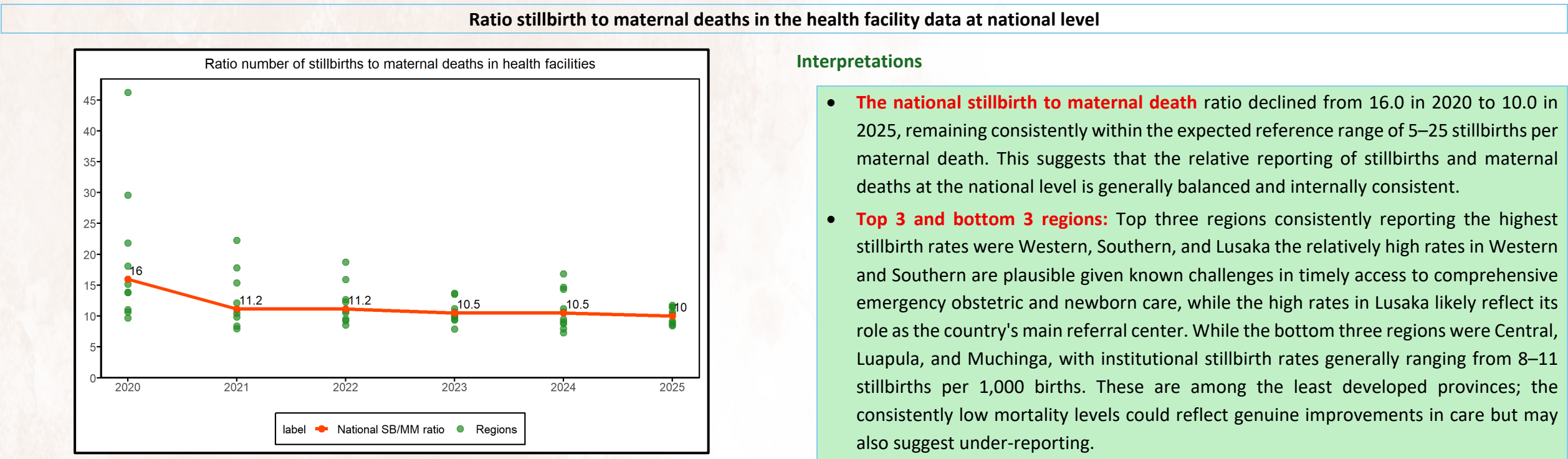
- Institutional live birth** coverage is **relatively stable** nationally but uneven across provinces. Coverage was around 73–74% in 2020–2021, declined slightly to about 69–70% between 2022 and 2024, and then increased modestly to about 72–73% in 2025.
- At subnational level, there is **clear variation between provinces**. Some provinces consistently reported coverage above the national average, while others remained much lower.
- The MADM values increased from 5.34 in 2020 to 9.52 in 2022 and remained relatively high through 2025.
- Penta3** coverage is **strong, stable, and fairly equitable** across provinces. Estimates suggest that inequalities reduced over time with majority meeting the targets
- The MADM values are low, ranging from 3.35 in 2021 to 2.22 in 2025, showing limited inequality across provinces.

4. Institutional mortality

Institutional Mortality trends (iMMR, iSBR)

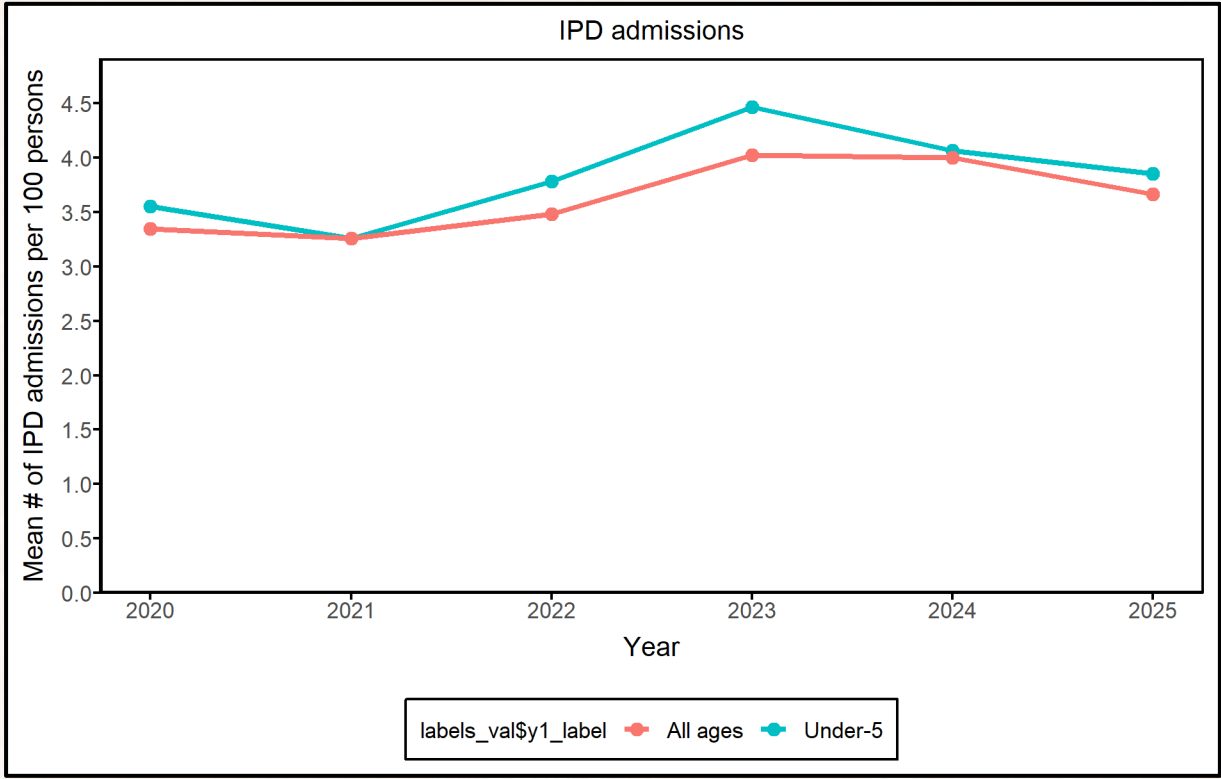
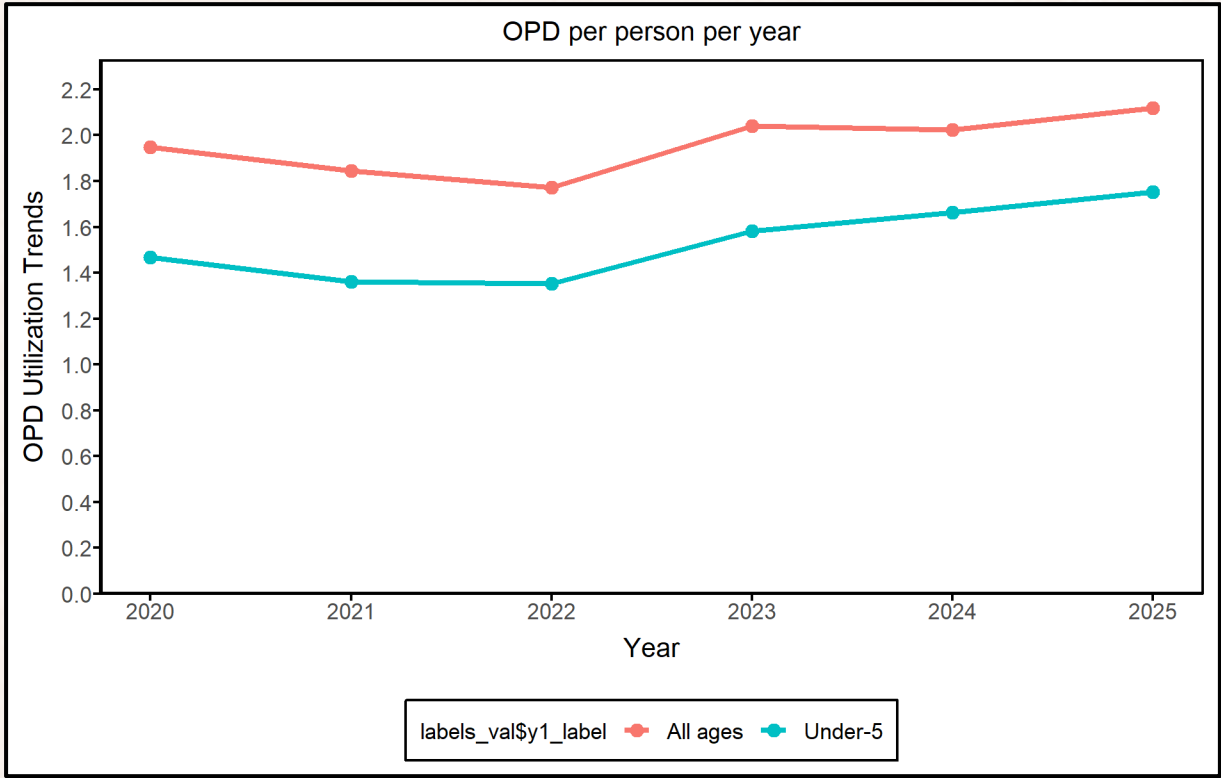


Data quality metrics



5. Curative health service utilization for sick children

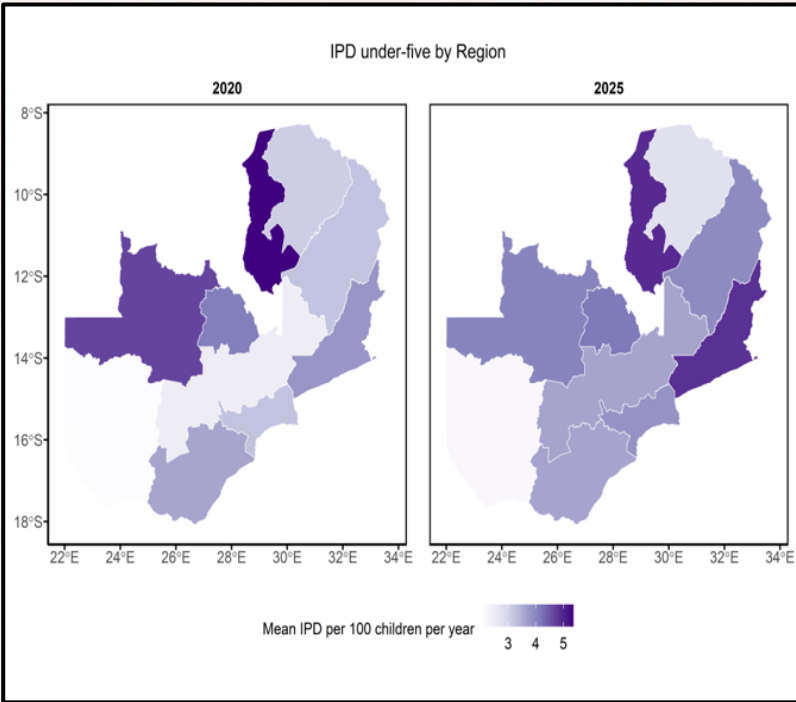
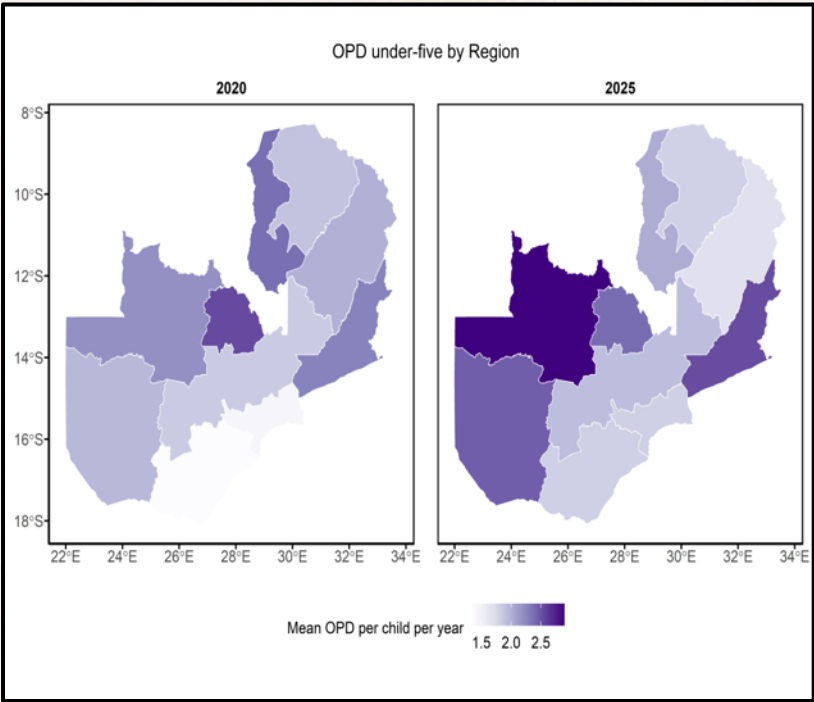
Outpatient and inpatient service utilization



Interpretations

- OPD utilization:** In 2024, children under five recorded approximately 1.7 outpatient visits per child per year, increasing from 1.4 visits in 2020–2022. This is above the threshold of one visit per child per year, suggesting that access to outpatient services for children under five is generally adequate and has improved over time after a slight decline during 2021–2022.
- Data quality of OPD and IPD:** Both OPD and IPD indicators demonstrate good data quality, with smooth and plausible year-to-year trends and no abrupt fluctuations that would suggest major reporting inconsistencies. OPD utilization declined slightly during 2021–2022, likely reflecting COVID-19 and this similar to IPD admissions.
- IPD admissions:** In 2024, children under five recorded approximately 4.1 inpatient admissions per 100 children, having increased from about 3.6 per 100 children in 2020 and rising at 4.5 per 100 children in 2023. Throughout the review period, admission rates remained well above the benchmark of 2 admissions per 100 children, suggesting that access to inpatient services was not unusually low

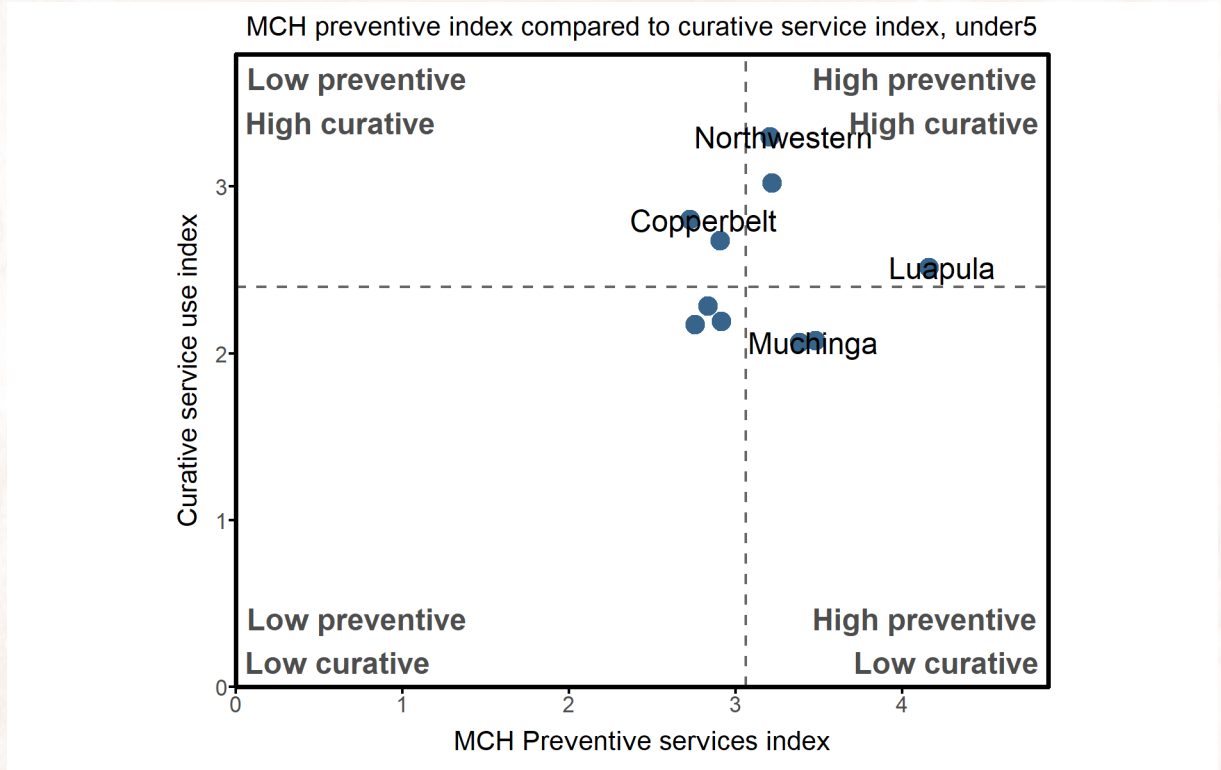
Regional/provincial service utilization



Interpretations

- The highest OPD utilization (approximately 2.1–2.8 visits per child per year), while Central, Muchinga, and Northern recorded the lowest (approximately 1.4–1.7 visits per child per year), representing a difference of about 1.2–1.4 visits per child.
- For IPD admissions, Luapula, Southern, and Western recorded the highest rates (approximately 4.5–5.5 admissions per 100 children per year), whereas Central, North-Western, and Muchinga recorded the lowest (approximately 2.5–3.5 admissions per 100 children per year), a gap of approximately 2–3 admissions per 100 children.
- These differences are plausible and likely reflect variations in disease burden, service availability, referral practices, and healthcare-seeking behavior, although persistently low utilization in some provinces may warrant further investigation for potential access or reporting issues.

MCH Preventive vs Curative Index



Interpretations

- **High preventive – High curative (top-right):** North-Western and Luapula perform above the national average for both preventive and curative services, indicating relatively balanced and strong primary health care performance. North-Western demonstrates the highest overall curative service index, while Luapula records the highest preventive service index.
- **Low preventive – High curative (top-left):** Copperbelt falls into this quadrant, suggesting comparatively strong curative service delivery but lower-than-average preventive service performance. This pattern may reflect greater emphasis on treatment services than preventive interventions.
- **High preventive – Low curative (bottom-right):** Muchinga is the only province in this quadrant, indicating good preventive service coverage but relatively weaker curative service performance. This suggests a need to strengthen diagnosis, treatment, and referral services while maintaining preventive programmes.
- **Low preventive – Low curative (bottom-left):** No province is clearly located in this quadrant, indicating that none performs below the national average for both preventive and curative services simultaneously.
- Most provinces cluster around the national average, with relatively modest variation. The absence of provinces in the low-preventive/low-curative quadrant indicates balanced service delivery.

6. Health system progress and performance

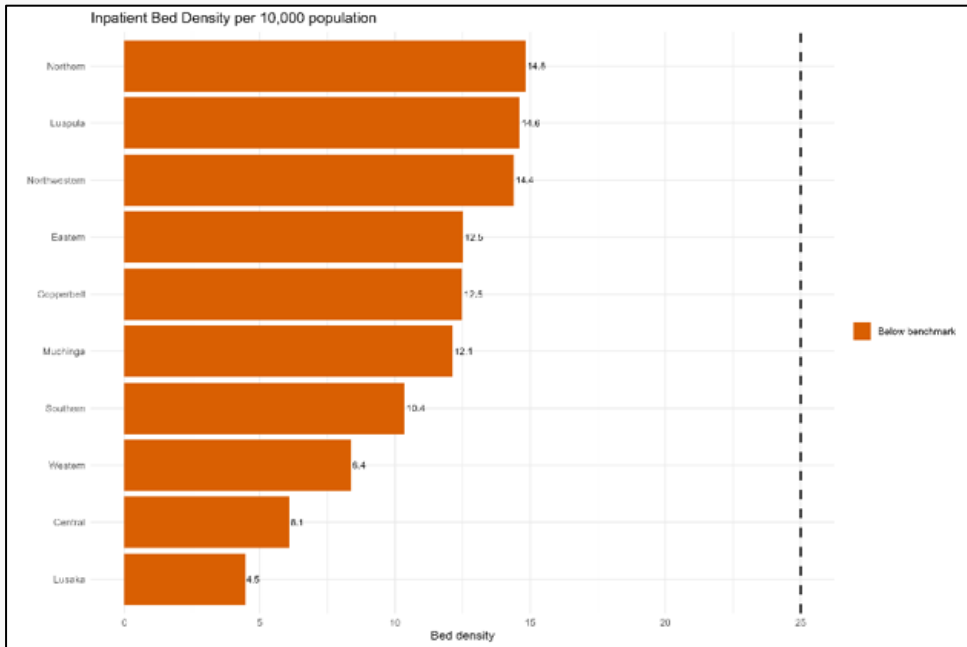
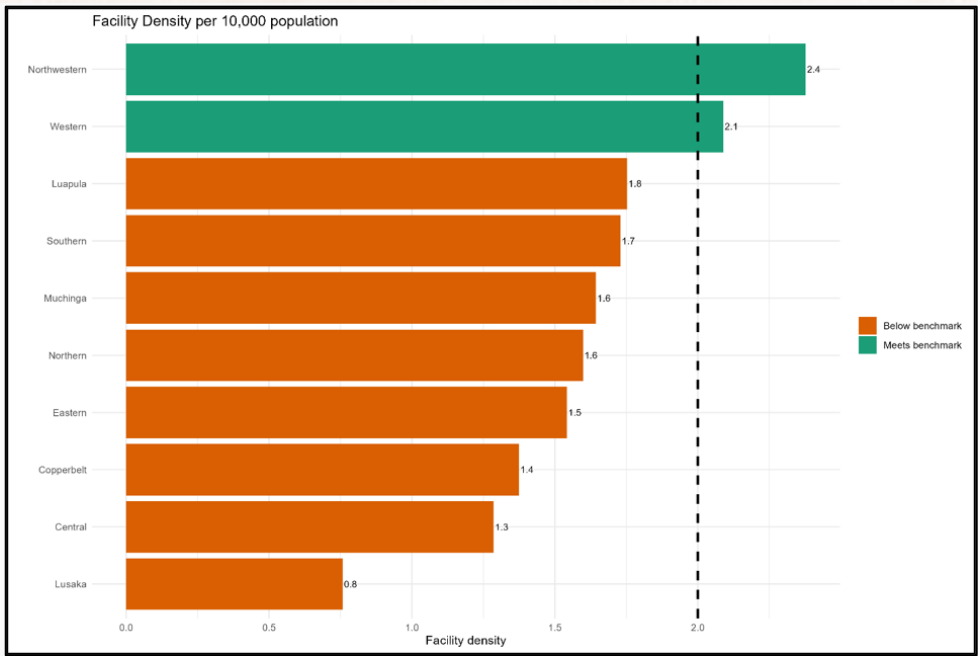
Health system inputs

2024		
Indicator	Value	Unit
Health infrastructure		
Health facility density	1.5	per 10,000
Share of facilities that are hospitals	4.8	%
Hospital density	0.7	per 100,000
Inpatient bed density	0.0	per 10,000
Health workforce		
Health workforce density	33.9	per 10,000
Skills mix ratio nurse-midwives per physician	8.0	
Role of private sector		
Share of Private facilities	0.0	%
Share of NGO facilities	0.0	%

Interpretations

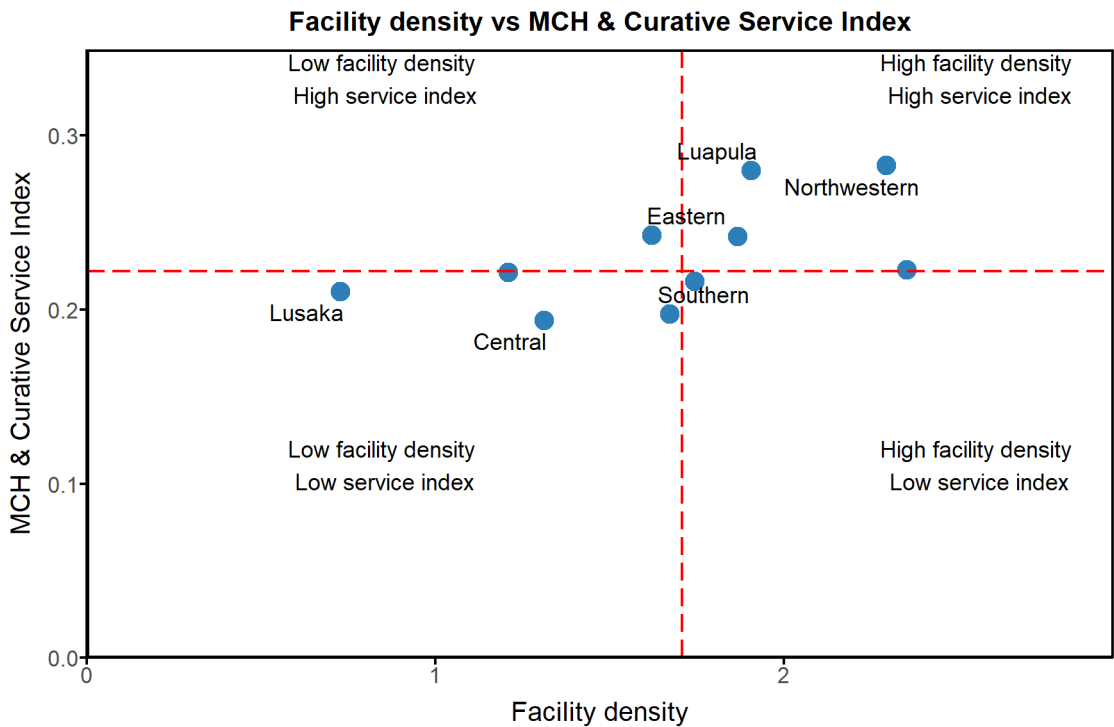
- **Health infrastructure remains limited**, with a health facility density of 1.5 per 10,000 population, only 4.8% of facilities being hospitals, and a hospital density of 0.7 per 100,000 population.
- The health workforce is relatively stronger, with **a density of 33.9 health workers** per 10,000 population and a skills mix of 8 nurse-midwives per physician, indicating reliance on nurses and midwives for service delivery.
- The reported inpatient bed density of 0.0 per 10,000 population likely reflects missing or unavailable data and should be interpreted with caution

Health system inputs by region/province



- Health facility density is **uneven across provinces**, with only Luapula and Western meeting or exceeding the national benchmark.
- All provinces **fall below the benchmark** for inpatient bed density, indicating inadequate hospital bed capacity nationwide.
- Marked regional inequalities exist in the distribution of health infrastructure across provinces.
- Targeted investments are needed to improve health facility and bed availability in underserved provinces and promote equitable access to care

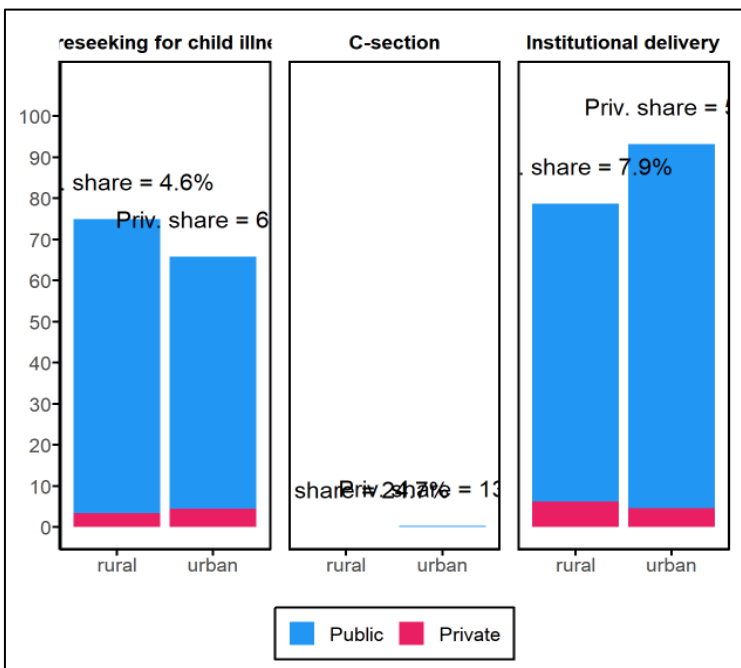
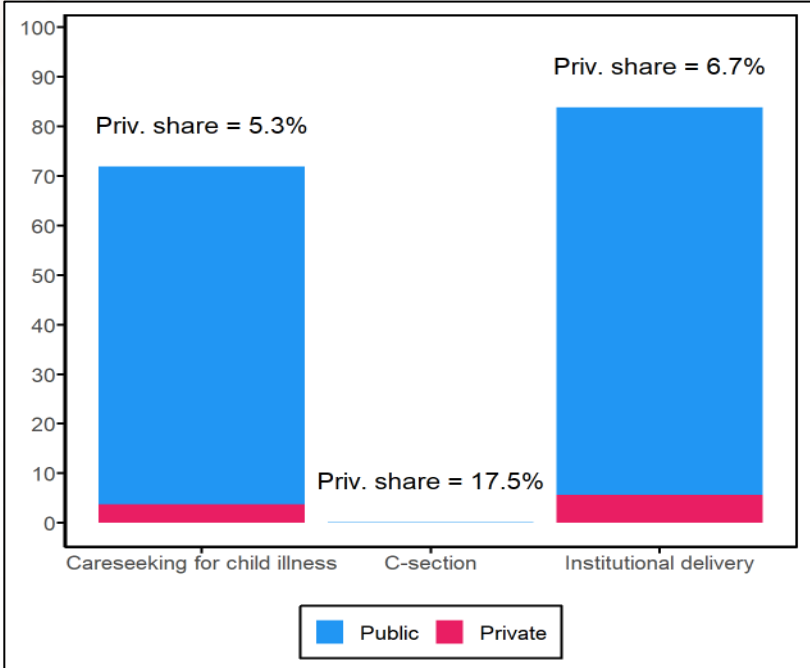
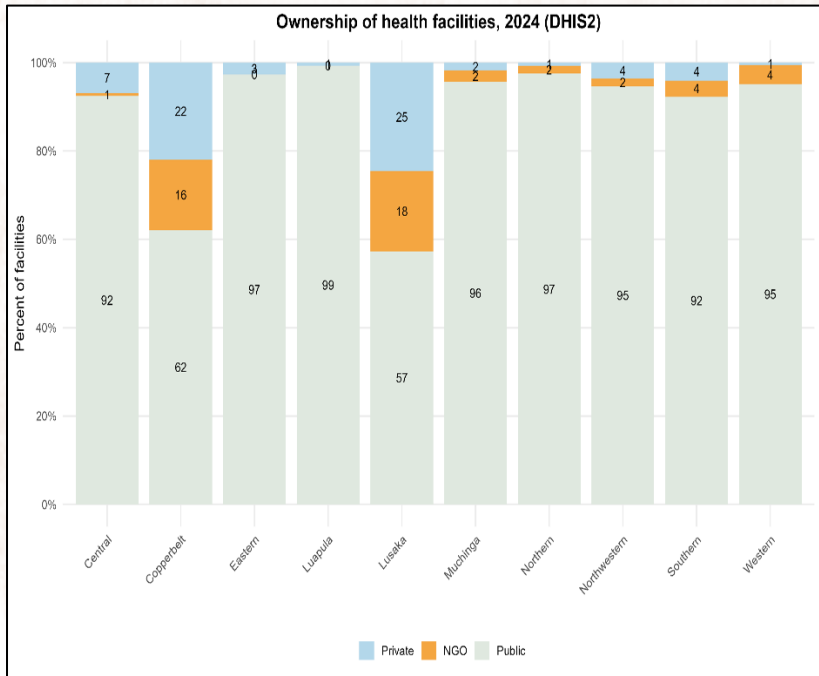
Health system outputs by inputs at the subnational level



Interpretations

- North-Western and Luapula are **the best-performing provinces**, combining high facility density with high maternal, child health (MCH) and curative service coverage.
- Lusaka and Central have low facility density and relatively low service performance, suggesting infrastructure constraints may be limiting service delivery.
- Eastern and Southern demonstrate better-than-expected service performance despite moderate facility density, indicating relatively efficient use of available resources.
- The **variation across provinces** suggests that both health system inputs and service delivery efficiency influence performance, highlighting the need for targeted investments in weaker-performing provinces while learning from high-performing regions.

Private sector and RMNCAH services



- **The public sector is the dominant provider** of RMNCAH services, with over 90% of health facilities publicly owned and delivering the majority of maternal and child health services.
- The private sector plays a limited but important role, contributing approximately 5.3% of care-seeking for child illness, 6.7% of institutional deliveries, and 17.5% of Caesarean sections, indicating greater private sector involvement in specialized obstetric care.
- Private sector utilization is generally higher in urban than rural areas, reflecting better availability of private health services in urban settings.
- Strengthening collaboration with the private sector, particularly for emergency obstetric care, could help improve access to RMNCAH services