



2026

MALAWI

SYNTHESIS REPORT

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



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

#CAM2026



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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 used to compute statistics.

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)	83	91	95	95	97	97
1b	% of districts with completeness of facility reporting >= 90	47	72	85	87	91	95
1c	% of districts with no missing values for the 4 forms	93	97	100	100	100	99
2. Extreme outliers (mean of ANC, delivery, immunization)							
2a	% of monthly values that are not extreme outliers (national)	99	100	100	100	100	100
2b	% of districts with no extreme outliers in the year	86	93	96	96	93	93
3. Consistency of annual reporting							
3a	Ratio anc1/penta1	1.21	1.33	1.07	1.04	1.02	1.00
3b	Ratio penta1/penta3	1.02	1.04	1.04	1.05	1.03	1.03
3c	% district with anc1/penta1 in expected ranged	31	62	59	48	41	38
3d	% district with penta1/penta3 in expected ranged	69	76	86	90	79	86
4	Annual data quality score	73	84	89	88	86	87

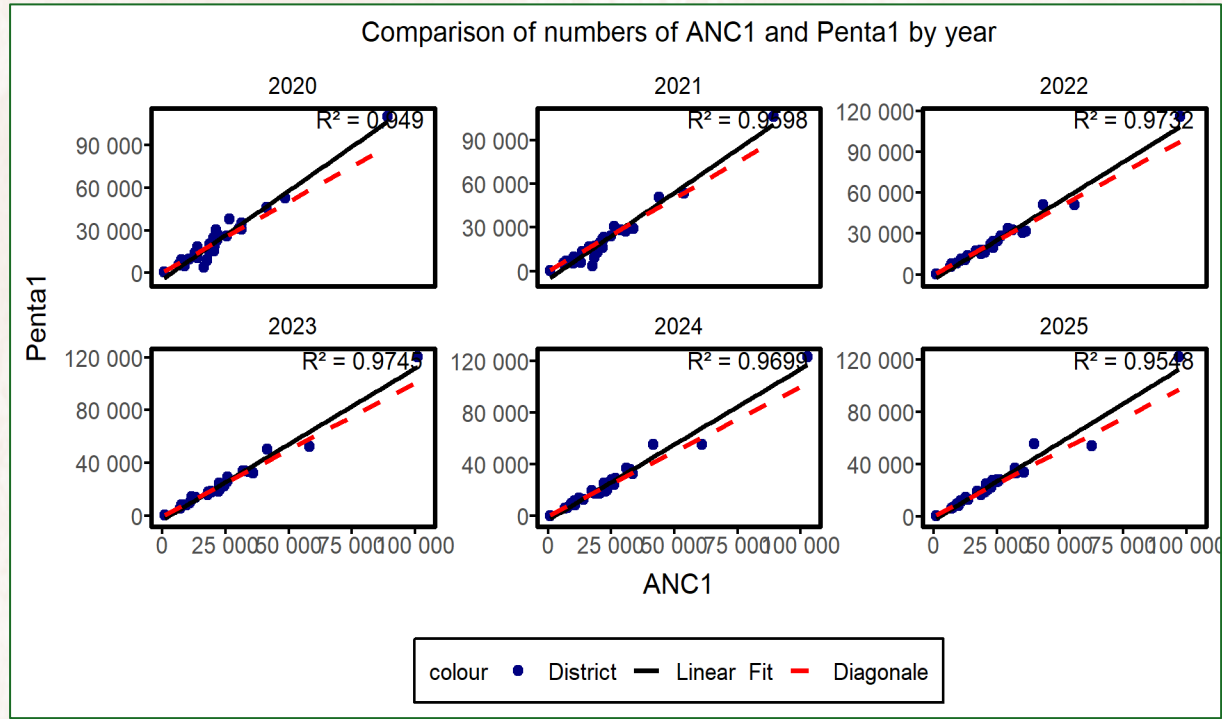
Overall data quality improved from 73% (2020) to 89% (2022) and remained high at 86–87% (2024–2025), indicating generally good-quality DHIS2 data.

Reporting quality improved steadily over time. Completeness increased from 83% to 97%, likely reflecting recovery from COVID-19 disruptions and strengthened reporting systems.

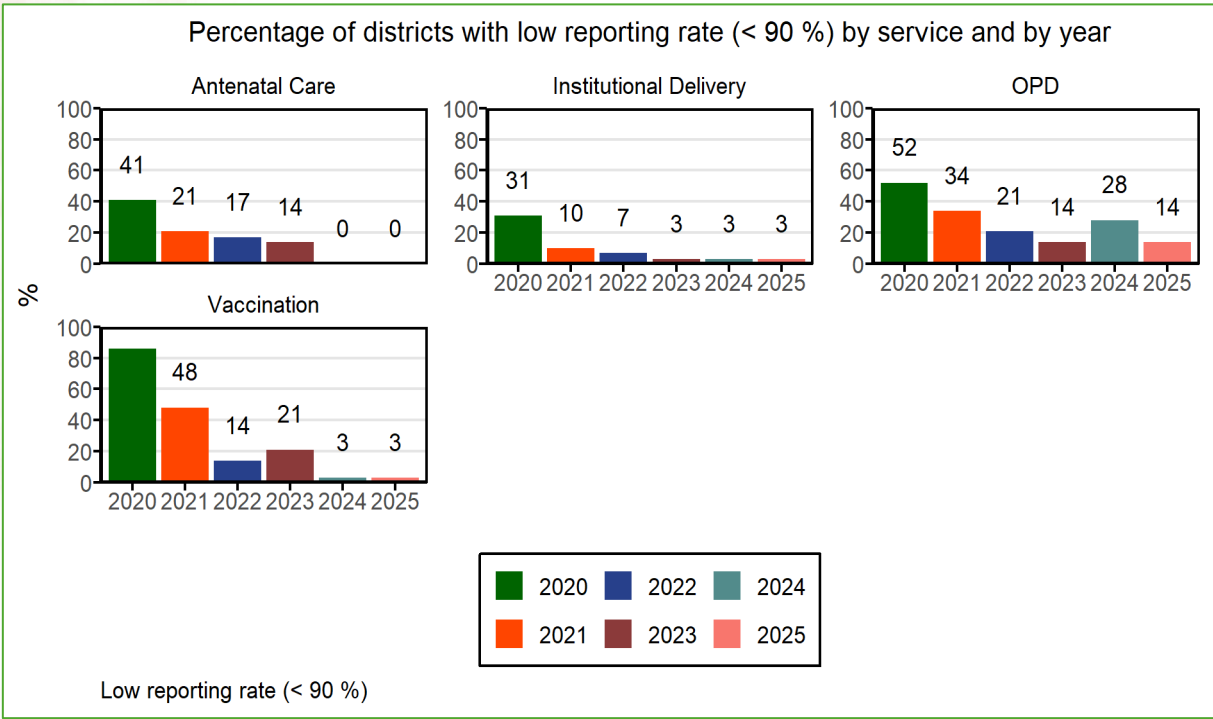
Most districts improved reporting completeness, but data inconsistency can be observed throughout the reporting period with more districts having ANC1/Penta1 ratios outside the expected range and not meeting the cutoff of 90%, suggesting persistent data issues in some districts.

Consistency improved, with the ANC1/Penta1 ratio decreasing from 1.33 (2021) to 1.00 (2025). Remaining inconsistencies may reflect over-reporting of ANC1, under-reporting of immunization, or data entry/reporting errors.

Numerator: facility data quality

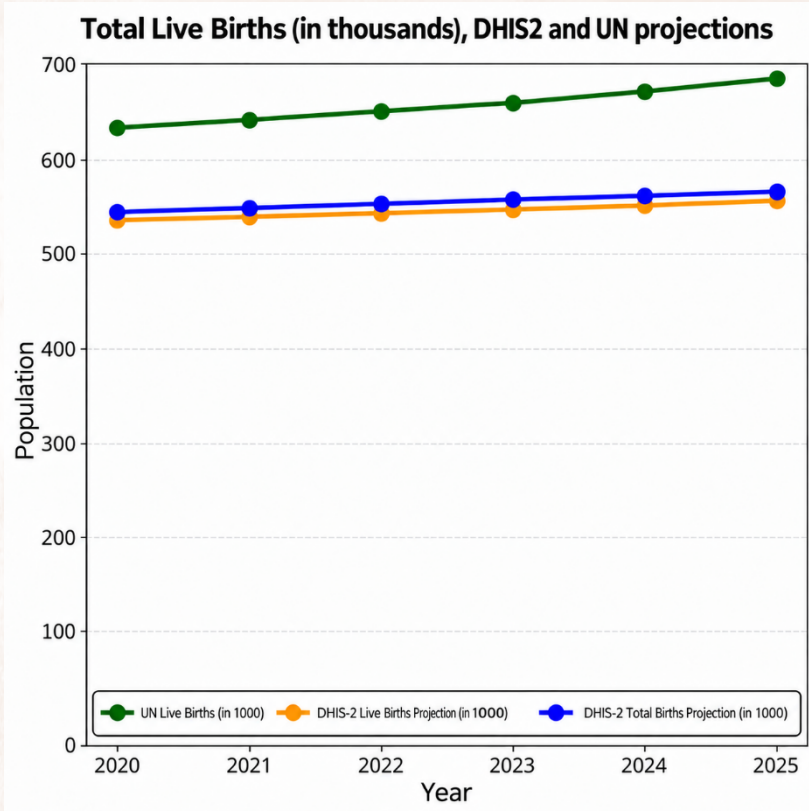


Numerator: facility data quality

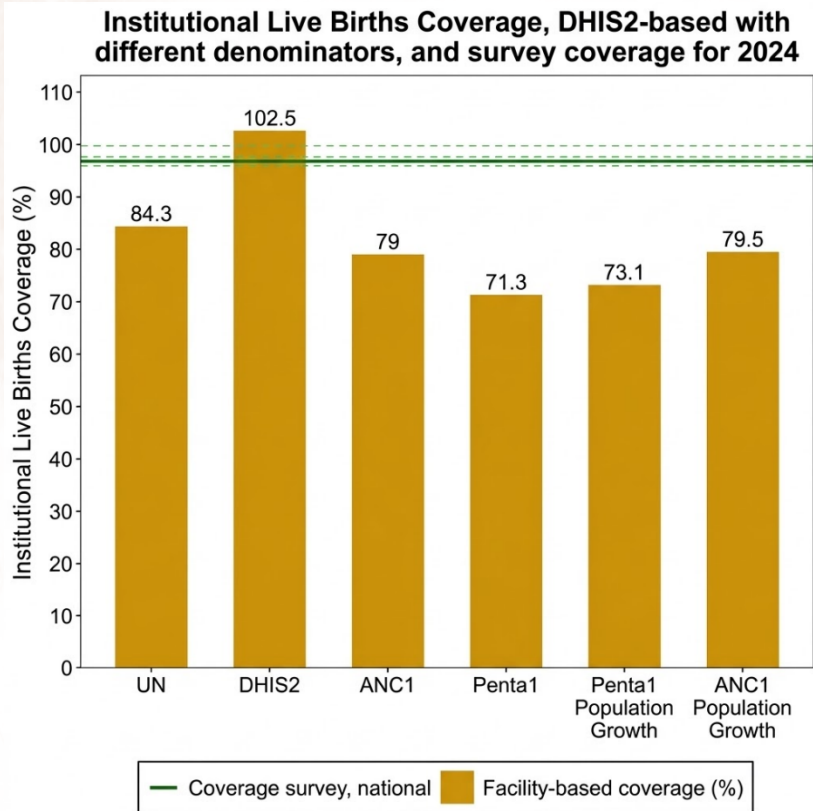


DENOMINATORS: The plausibility of denominator estimates was assessed using consistency between ANC1 and Penta1 counts and reporting completeness by service. ANC1 and Penta1 showed a strong correlation ($R^2 = 0.95\text{--}0.98$) across all years, while the proportion of districts with low reporting rates declined substantially, particularly for antenatal care and vaccination services. These findings suggest that ANC1- and Penta1-derived denominators provide robust and reliable estimates for generating coverage statistics, especially where population projections may be uncertain.

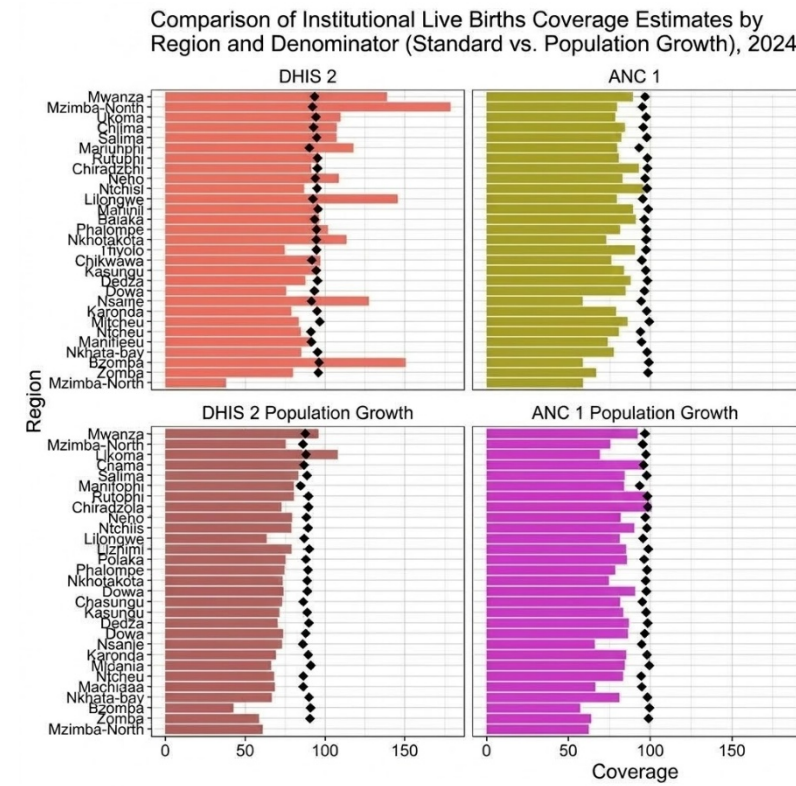
Total Livebirths



National Institutional Live Births



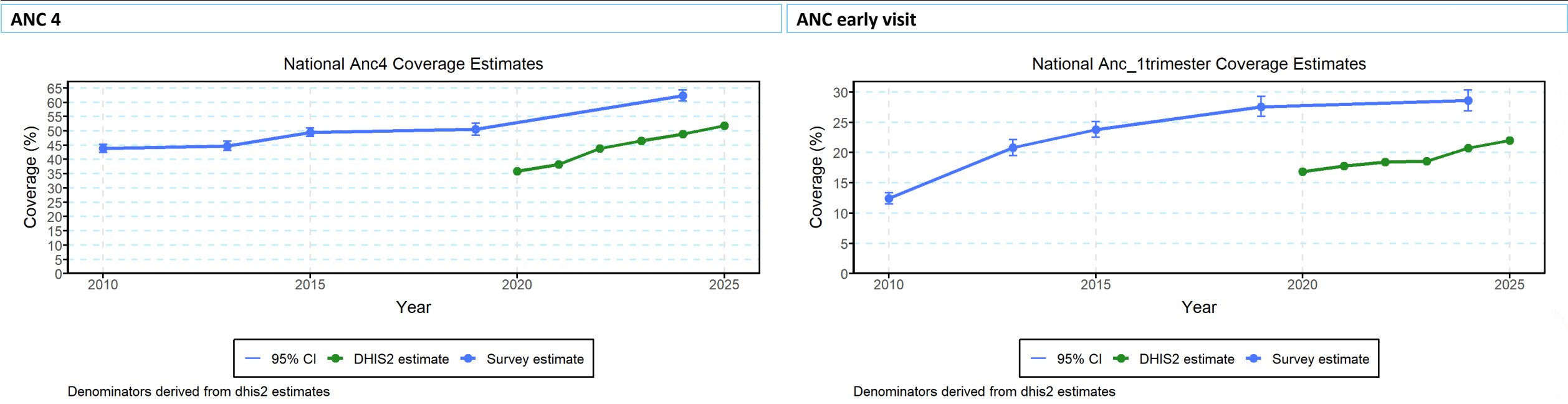
Subnational Institutional Live births



- The DHIS2 and UN projections show a similar increasing trend from 2020 to 2025. However, DHIS2 projects fewer births (540,000–560,000) than the UN (640,000–690,000). Thus, DHIS2 captures the trend well but underestimates total births.
- For institutional live births, the DHIS2 live birth projection denominator performed best. For Penta3 coverage, the Penta1-derived denominator produced the most plausible estimates. The ANC1 and population growth denominators generally underestimated coverage.
- The DHIS2 live birth projection denominator was selected for institutional live births. The Penta1-derived denominator was selected for Penta3 coverage. These denominators were chosen because they produced the most plausible national and subnational estimates.

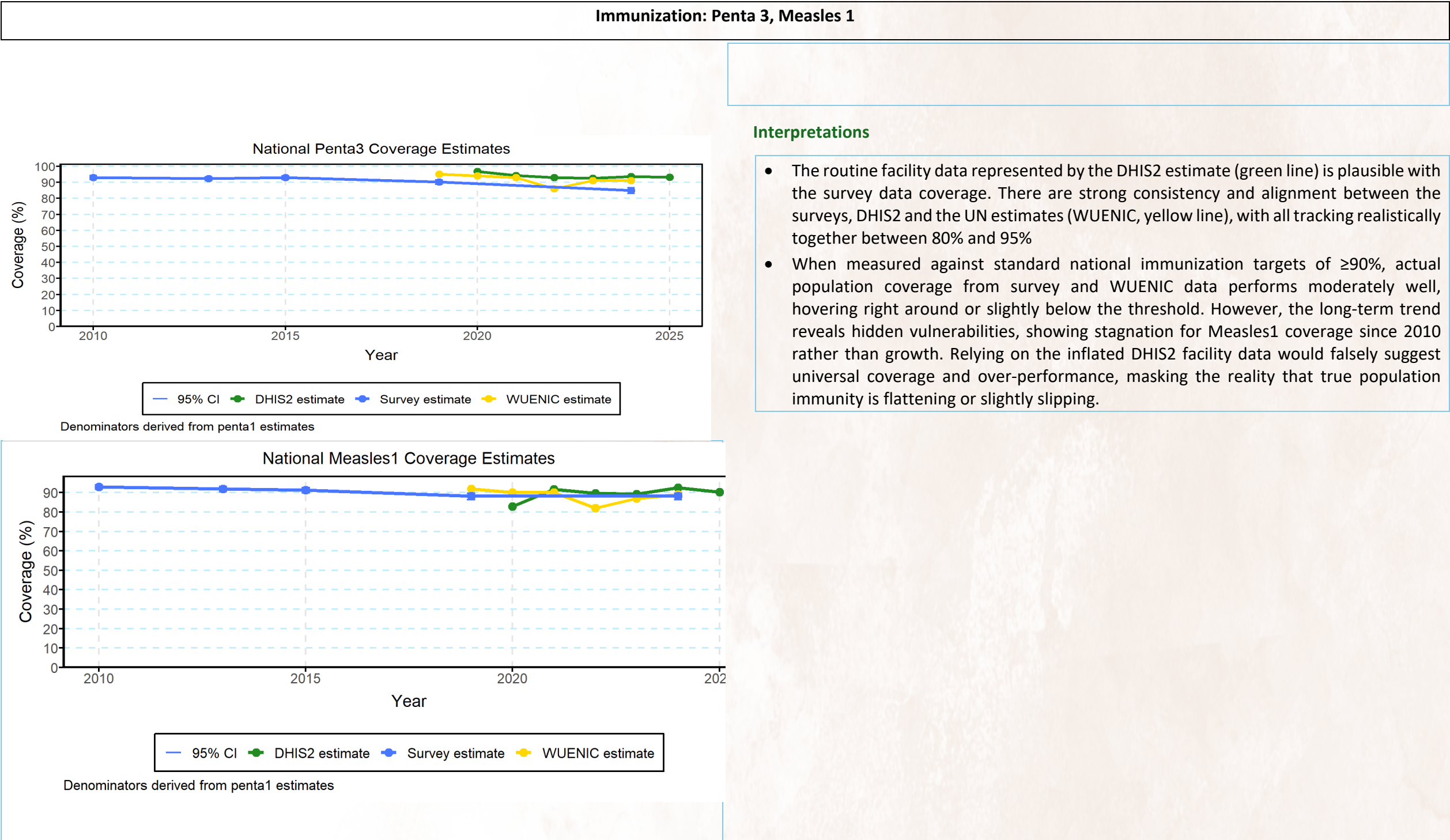
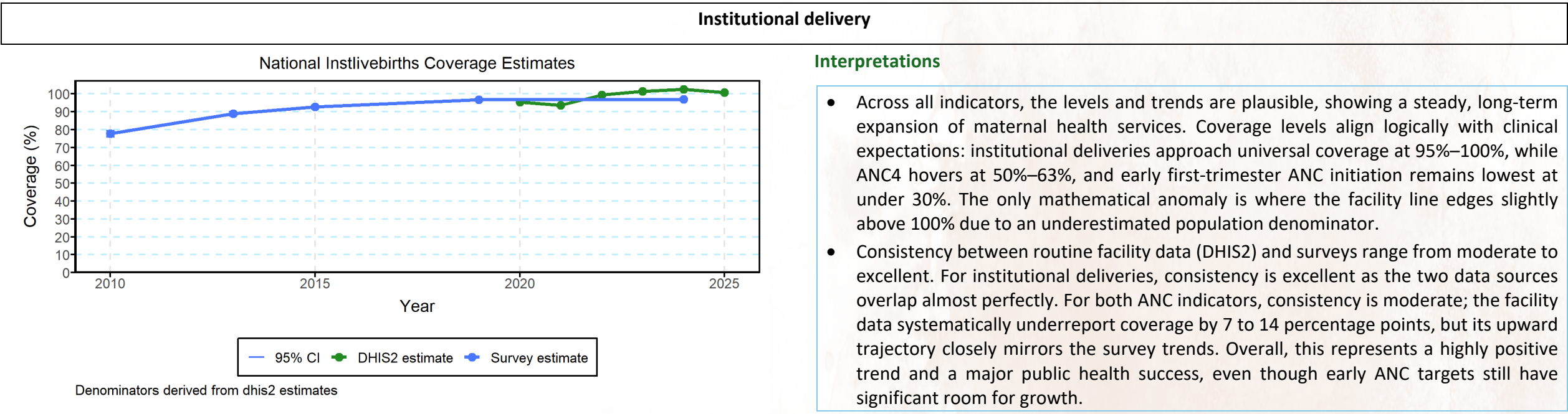
National coverage trends: facility data and surveys

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



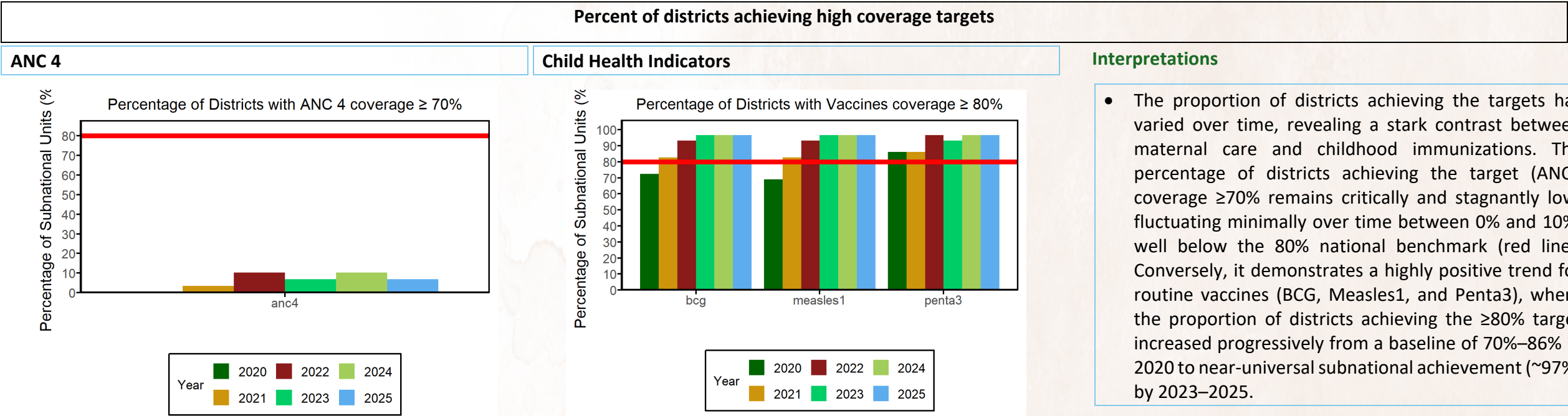
Interpretations

- The levels and trends across both indicators are plausible, as they show steady, long-term increases in maternal care coverage, with expectedly lower percentages for early first-trimester initiation compared to achieving four or more total visits. There is moderate consistency between the two data sources: while the facility-based DHIS2 data (green line) shows a parallel, upward trajectory aligning well with the survey trends from 2020 onward, it exhibits a systematic underestimation, lagging approximately 7 to 14 percentage points below the survey estimates (blue line) due to typical routine data challenges like inflated denominators or missing private-sector facility logs.



Interpretations

- The routine facility data represented by the DHIS2 estimate (green line) is plausible with the survey data coverage. There are strong consistency and alignment between the surveys, DHIS2 and the UN estimates (WUENIC, yellow line), with all tracking realistically together between 80% and 95%
- When measured against standard national immunization targets of $\geq 90\%$, actual population coverage from survey and WUENIC data performs moderately well, hovering right around or slightly below the threshold. However, the long-term trend reveals hidden vulnerabilities, showing stagnation for Measles1 coverage since 2010 rather than growth. Relying on the inflated DHIS2 facility data would falsely suggest universal coverage and over-performance, masking the reality that true population immunity is flattening or slightly slipping.

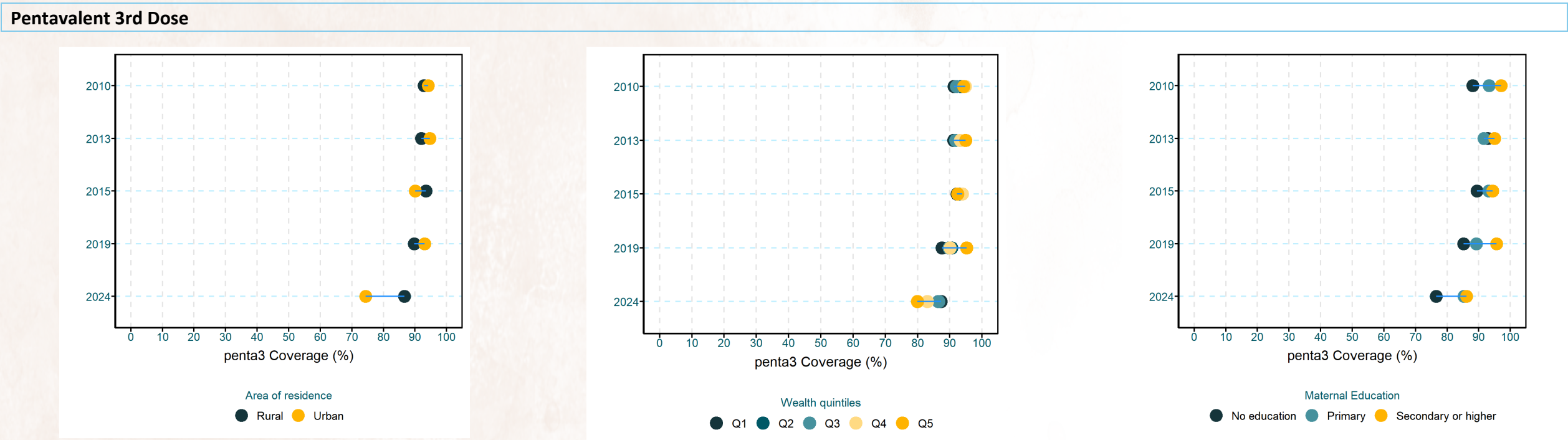
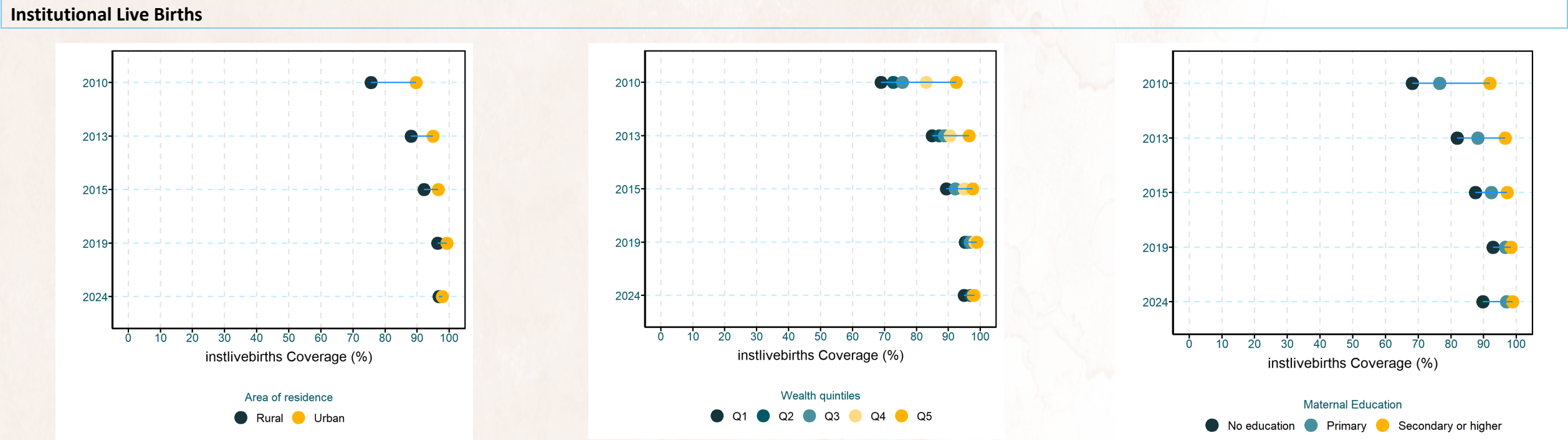


Interpretations

- The proportion of districts achieving the targets has varied over time, revealing a stark contrast between maternal care and childhood immunizations. The percentage of districts achieving the target (ANC4 coverage $\geq 70\%$) remains critically and stagnantly low, fluctuating minimally over time between 0% and 10%, well below the 80% national benchmark (red line). Conversely, it demonstrates a highly positive trend for routine vaccines (BCG, Measles1, and Penta3), where the proportion of districts achieving the $\geq 80\%$ target increased progressively from a baseline of 70%–86% in 2020 to near-universal subnational achievement (~97%) by 2023–2025.

3. Equity

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



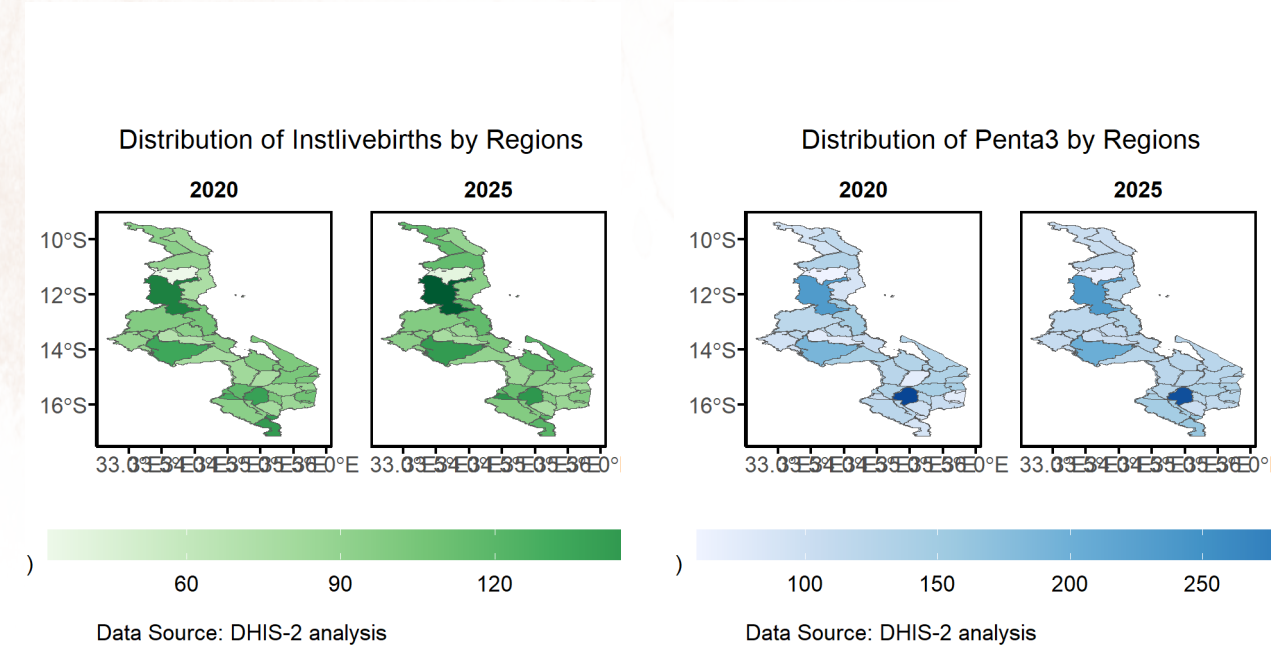
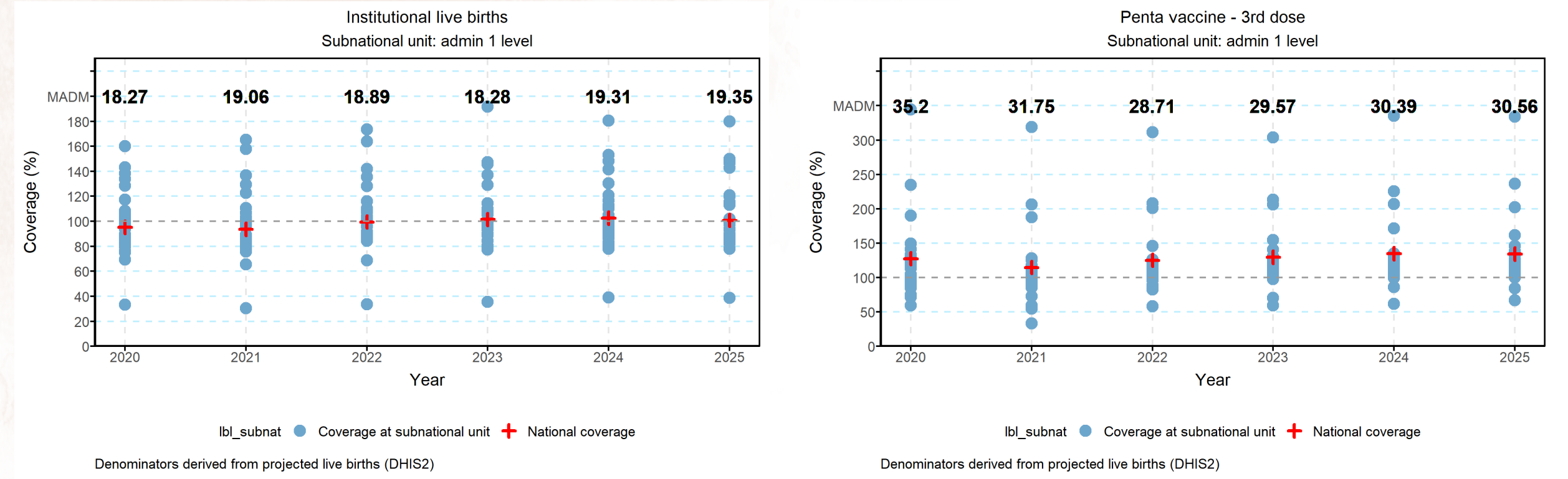
Interpretations

- Historically, institutional births left behind rural, poor and uneducated women, but near-universal equity was achieved by 2024. In contrast, 2024 Penta3 data show an inverted systematic gap: urban and wealthy children are now the ones left behind, while children of uneducated mothers lag only slightly behind.
- Inequality patterns transitioned from traditional linear gradients to top-heavy exclusion. In 2010, institutional deliveries displayed a predictable wealth of gradient and a bottom-heavy exclusion for uneducated mothers. By 2024, Penta3 data reveals a top-heavy pattern where the wealthiest quintile (Q5) uniquely plummeted to 80% coverage while all other quintiles clustered much higher.
- The pace of change varied significantly by group. Disadvantaged cohorts achieved rapid catch-up growth for institutional births, surging from under 70% in 2010 to over 95% in 2024 to close the equity gap. Conversely, the recent Penta3 downturn was driven by an abrupt, rapid decline among urban and affluent cohorts, while rural and lower-wealth subgroups decreased at a much slower pace.
- While institutional birth gaps successfully closed over time, vaccine inequalities are widening and shifting in a negative direction. To counter this emerging urban vaccine gap, public health strategies must pivot from traditional rural outreach toward targeting urban private clinics, extending city clinic hours for working parents, and addressing urban-specific vaccine hesitancy.

Geographical inequalities: Health facility data

InstituionalLive Births

Pentavalent 3rd Dose



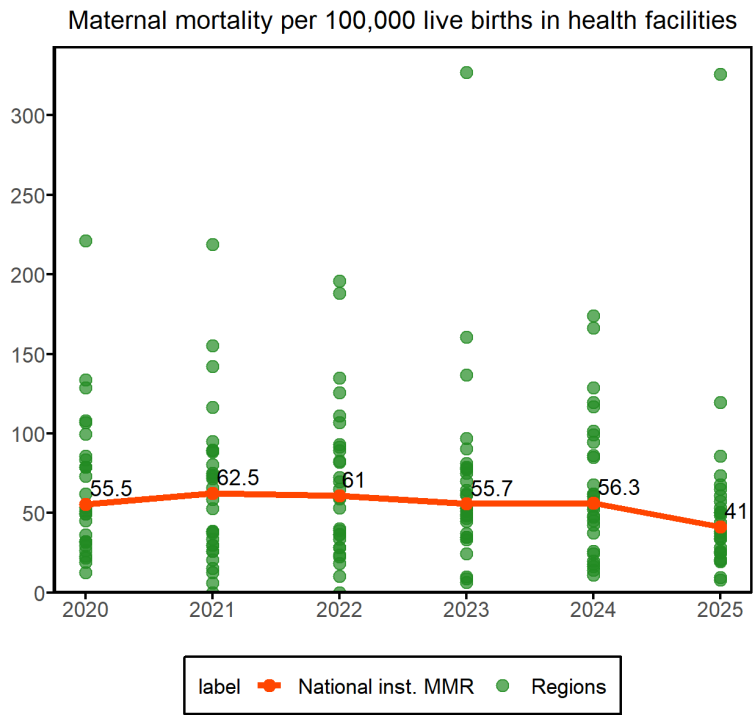
Interpretations

- National coverage for institutional deliveries remained stable between 95% and 101% from 2020 to 2025. Penta3 vaccine coverage dipped to 115% in 2021 before rebounding and stabilizing between 125% and 135%. Values exceeding 100% across both indicators point to systematically underestimated population denominators in routine tracking.
- District-level inequality is widening slightly for births but decreased overall for immunizations. The MADM for institutional births rose from 18.27 to 19.35, showing increased data dispersion over time. Conversely, Penta3 inequality compressed as its MADM fell from 35.2 in 2020 to 28.71 in 2022, before stabilizing around 30.56 by 2025
- For institutional births, the central-western region is the best performer >120%, while the central-northern pocket remains the worst <60%. For Penta3, the southern tier centered around Blantyre heavily over-performs at over 250%, whereas the central-eastern lakeshore pocket is the poorest performer

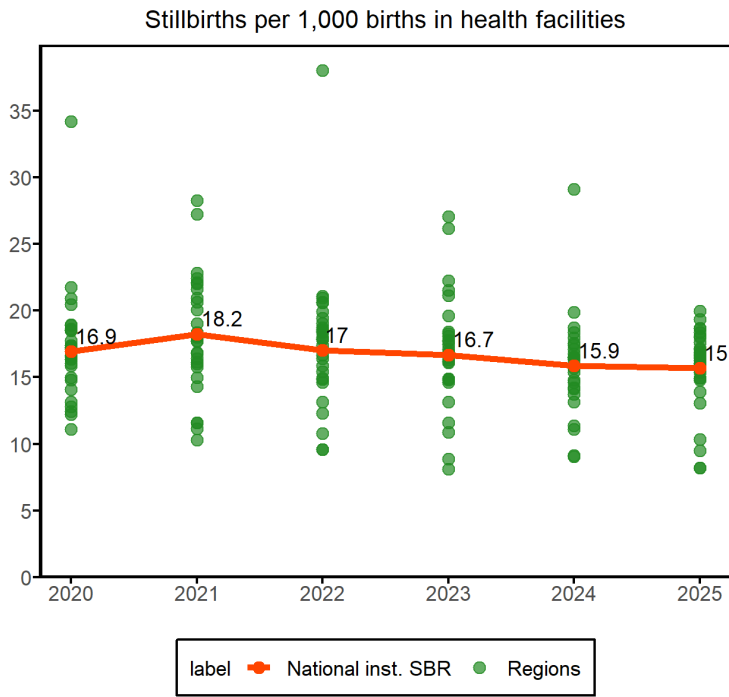
4. Institutional mortality

Institutional Mortality trends (iMMR, iSBR)

iMMR



iSBR

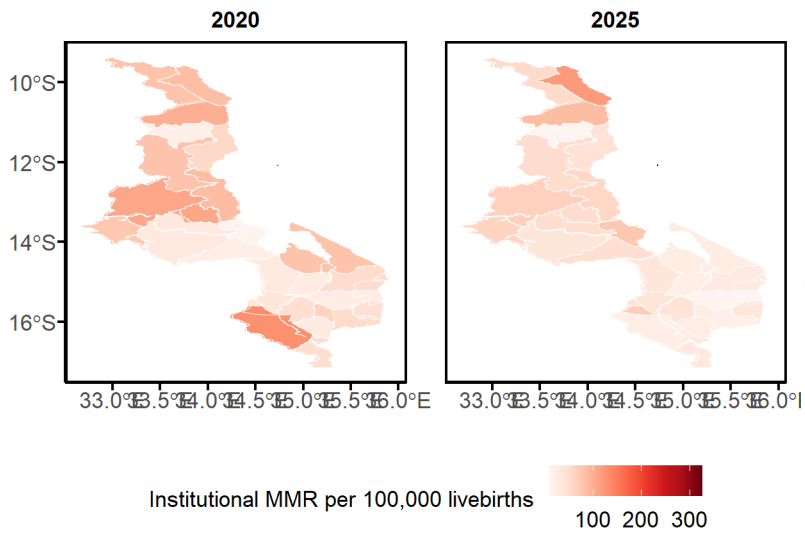


Interpretations

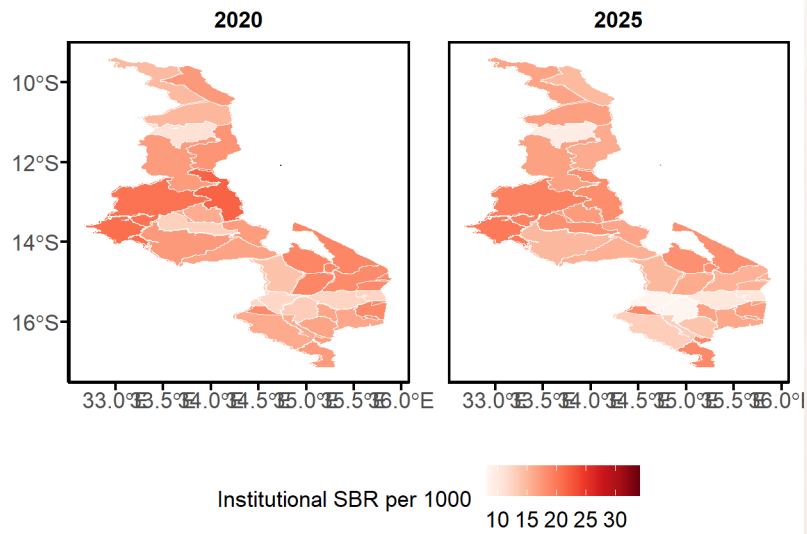
- Both the institutional MMR and SBR are relatively stable across the time period. MMR declines from 2020 to 2024, at about 56-63 to 41.3 death per 100,000 livebirths. The district with very high MMR (300+) is a statistical outlier from a very small district and it should be used with caution. SBR remains constant at 15-18 per 1000 total births. Maternal deaths decreased in 2025, while stillbirths remain the same.

Institutional Mortality by admin1 units

Institutional MMR by Region



Institutional SBR by Region

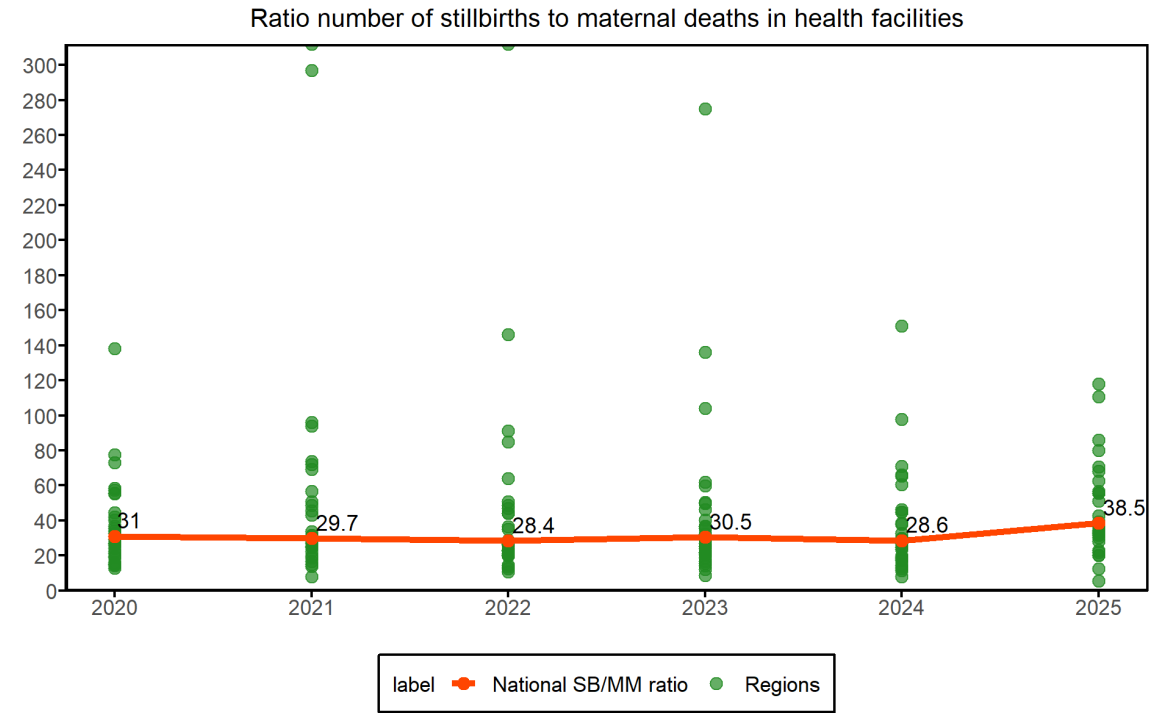


Interpretations

- For maternal mortality, the three highest reported iMMR zones in 2020 were the far North, Central-West, and South-West. By 2025, only the far Northern tip remained elevated. Conversely, the lowest iMMR areas are concentrated in the Southern region and Central-East lakeshore, which show near-zero reported deaths. For stillbirths, the lowest iSBR pockets appear primarily in the Central-Northern corridor and parts of the Southern region.
- These trends strongly signal severe data quality issues rather than actual clinical success. The exceptionally low mortality rates are found in less-developed, resource-constrained rural belts where true maternal mortality is expected to be higher. The near-zero iMMR figures in these regions indicate major underreporting and failure to record facility deaths. Meanwhile, the higher rates observed in the North likely reflect stronger surveillance and more transparent data capture rather than poorer clinical care.

Data quality metrics

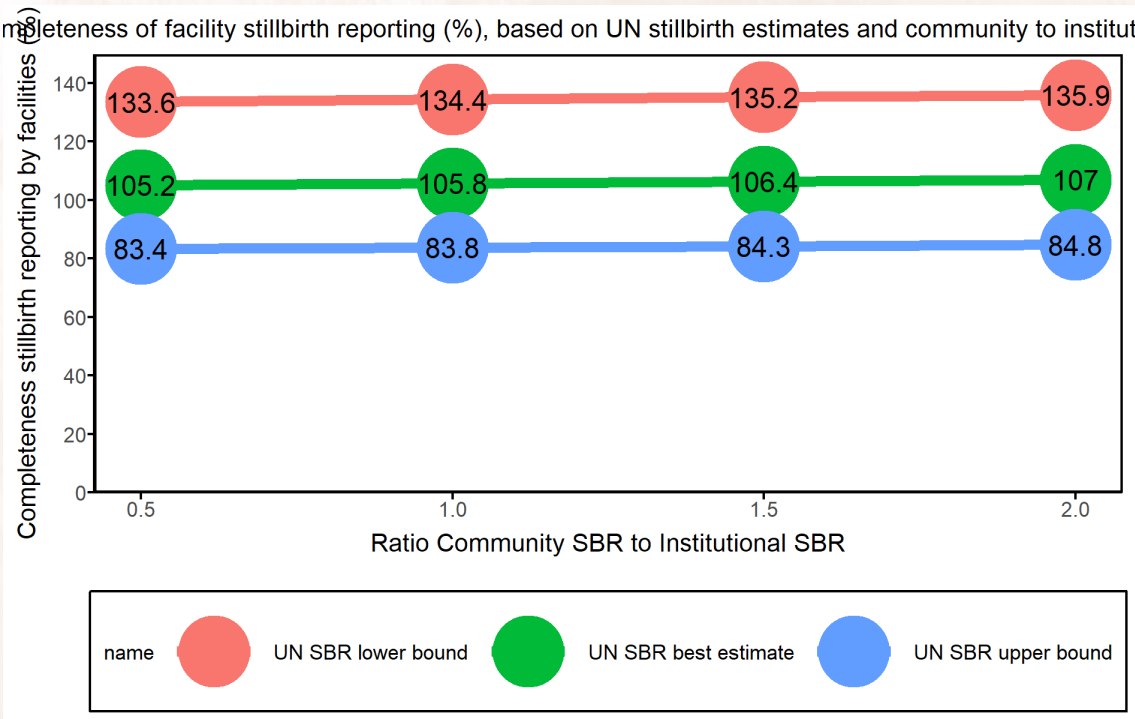
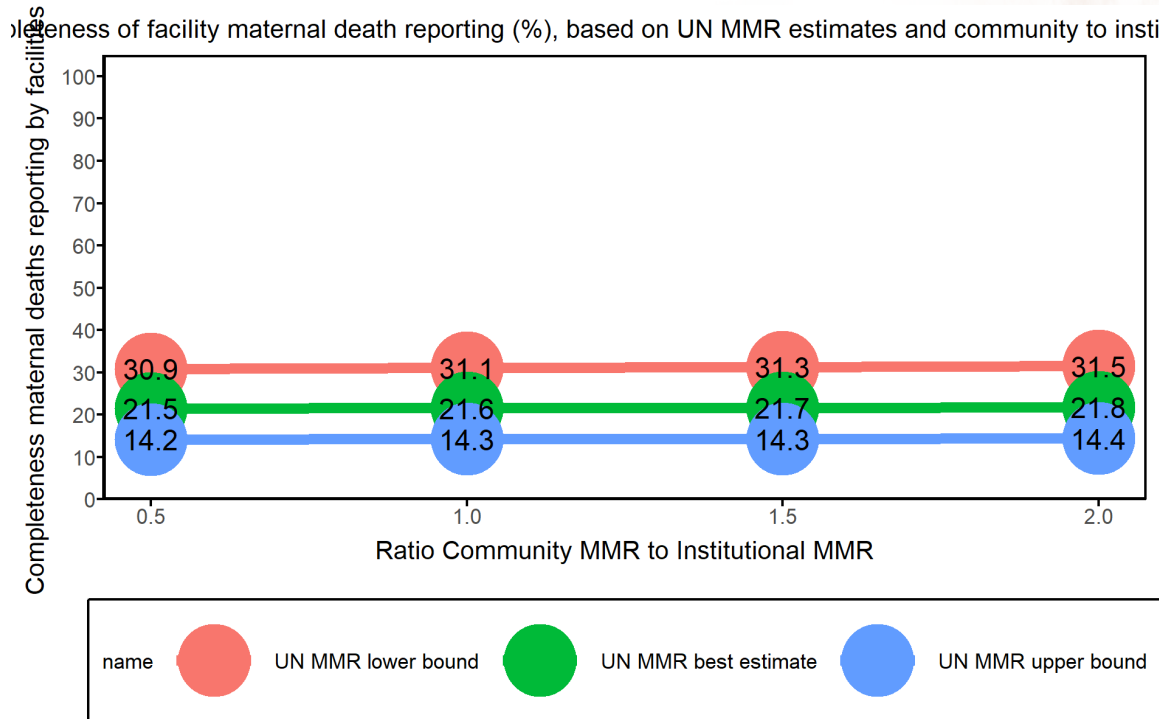
Ratio stillbirth to maternal deaths in the health facility data at national level



Interpretations

- The national ratio of stillbirths to maternal deaths is not within the expected range, fluctuating between 28.4 and 38.5 from 2020 to 2025. Because the national average stays consistently above 25, it reveals that maternal deaths are far more underreported in routine facility registries than stillbirths.
- The subnational regions (green dots) display extreme, unnatural dispersion. The top regions feature massive outlier ratios climbing from 140 to over 300, signaling localized structural failures where maternal deaths are almost entirely unrecorded. Conversely, the bottom regions drop below a ratio of 5, indicating that stillbirth tracking is severely neglected in those specific areas.
- While ratios above 25 confirm disproportionately weaker maternal death capture across most districts, ratios below 5 identify pockets where stillbirths are missed. For any regional dots falling within the "plausible" 5 to 25 window, earlier comparisons to UN estimates confirm that overall mortality levels remain artificially low meaning a normal ratio here simply indicates that both maternal deaths and stillbirths are equally underreported.

Estimated completeness of facility maternal death and stillbirth reporting

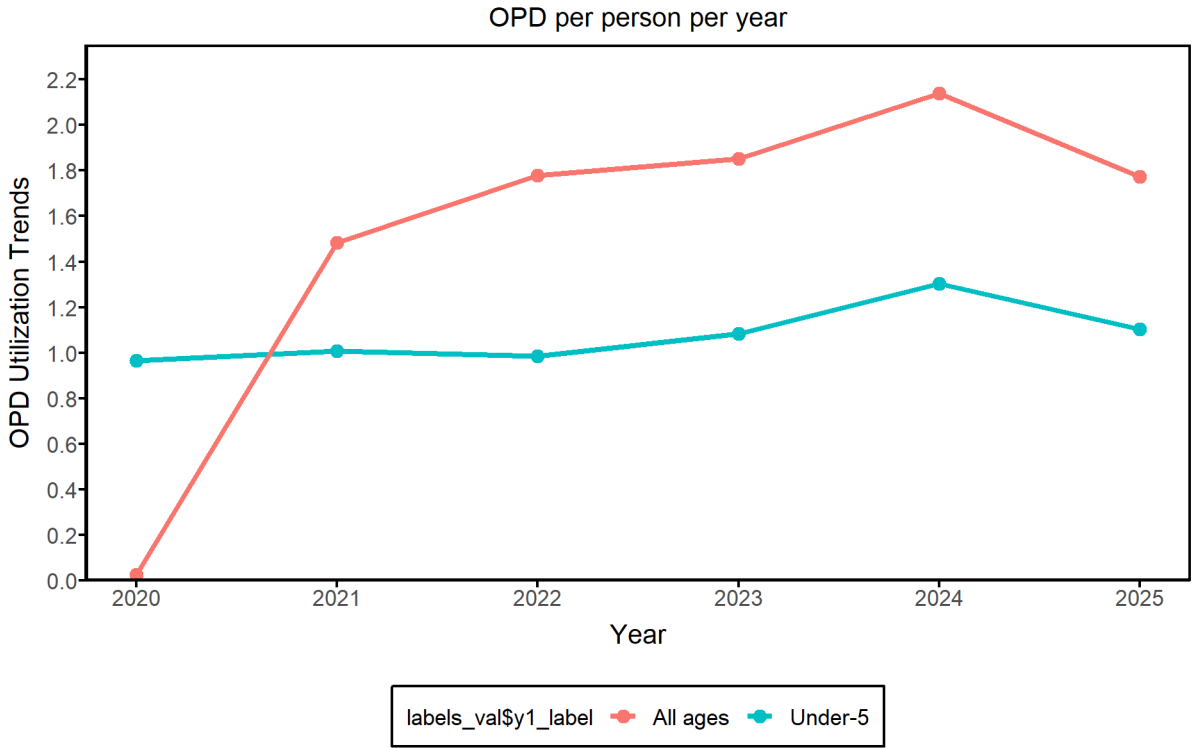


Interpretations

- Routine facility tracking captures maternal deaths with extreme inadequacy compared to stillbirth records. Based on UN best estimates, maternal death reporting completeness hovers at a critically low 21.5% to 21.8%, demonstrating that routine registries miss or misclassify roughly 78% of expected maternal deaths. In stark contrast, facility stillbirth reporting is highly complete and robust, tracking slightly above expected numbers at 105.2% to 107.0% completeness. Furthermore, varying the assumed community-to-institutional ratio has a negligible impact on these figures, proving that this stark data discrepancy is driven entirely by systemic underreporting of maternal outcomes within health facilities rather than the location where deaths occur.

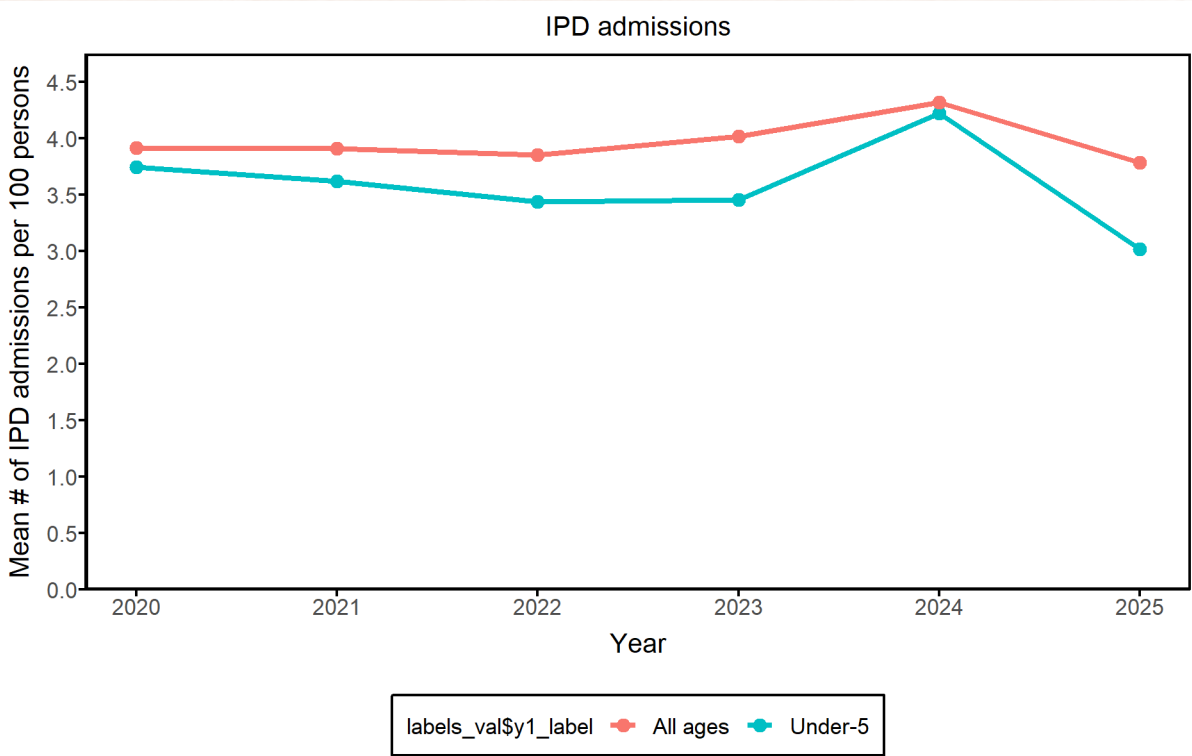
5. Curative health service utilization for sick children

Outpatient and inpatient service utilization

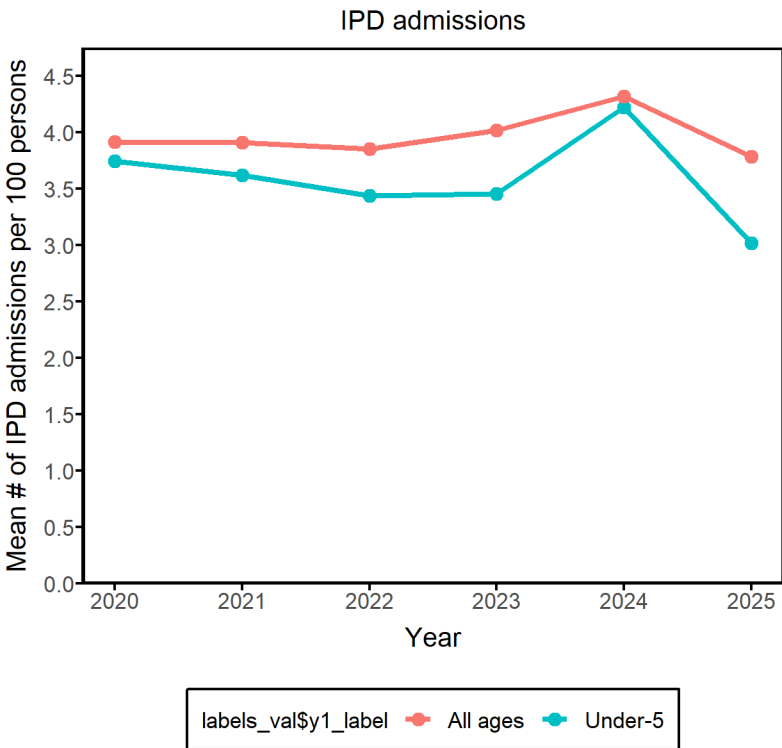
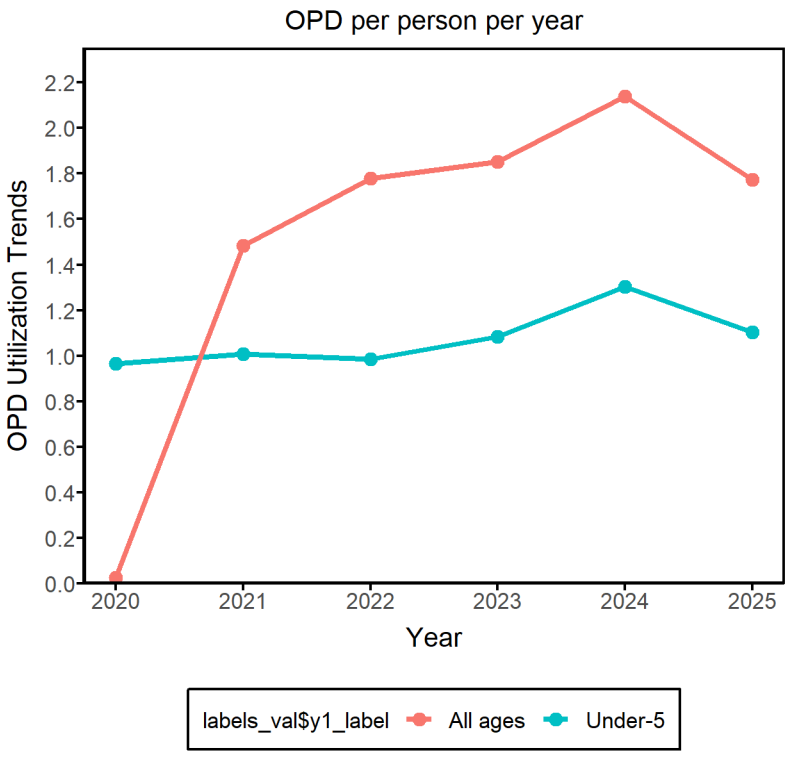


Interpretations

- In 2024, outpatient department (OPD) visits per under-five child peaked at 1.3 visits per year, rising from a stable baseline of ~1.0 visit between 2020 and 2022, before dropping to 1.1 in 2025. Because utilization remained at or above 1.0 visit per year throughout, the data does not suggest low healthcare access under that benchmark.
- The data displays severe reporting inconsistencies rather than true clinical shifts. For example, the "All ages" OPD rate tracks at an impossible near-zero level in 2020 before abruptly jumping to 1.5 in 2021, revealing a massive initial data capture failure. Additionally, both OPD and IPD metrics show sharp, unnatural spikes in 2024 followed by steep declines in 2025, signaling reporting anomalies or system data clean-ups.
- Inpatient department (IPD) admissions per 100 under-five children hovered between 3.4 and 3.7 from 2020 to 2023, spiked sharply to 4.2 in 2024, and dropped to 3.0 in 2025. The trend was largely stable before the 2024 peak. Because rates remained well above the threshold of 2 admissions per 100 children throughout the period, inpatient access is not considered critically low under this benchmark.
- The provided files show only national-level temporal trends stratified by age groups. Because they contain no regional or provincial breakdowns, performance gaps between the top and bottom regions cannot be evaluated.



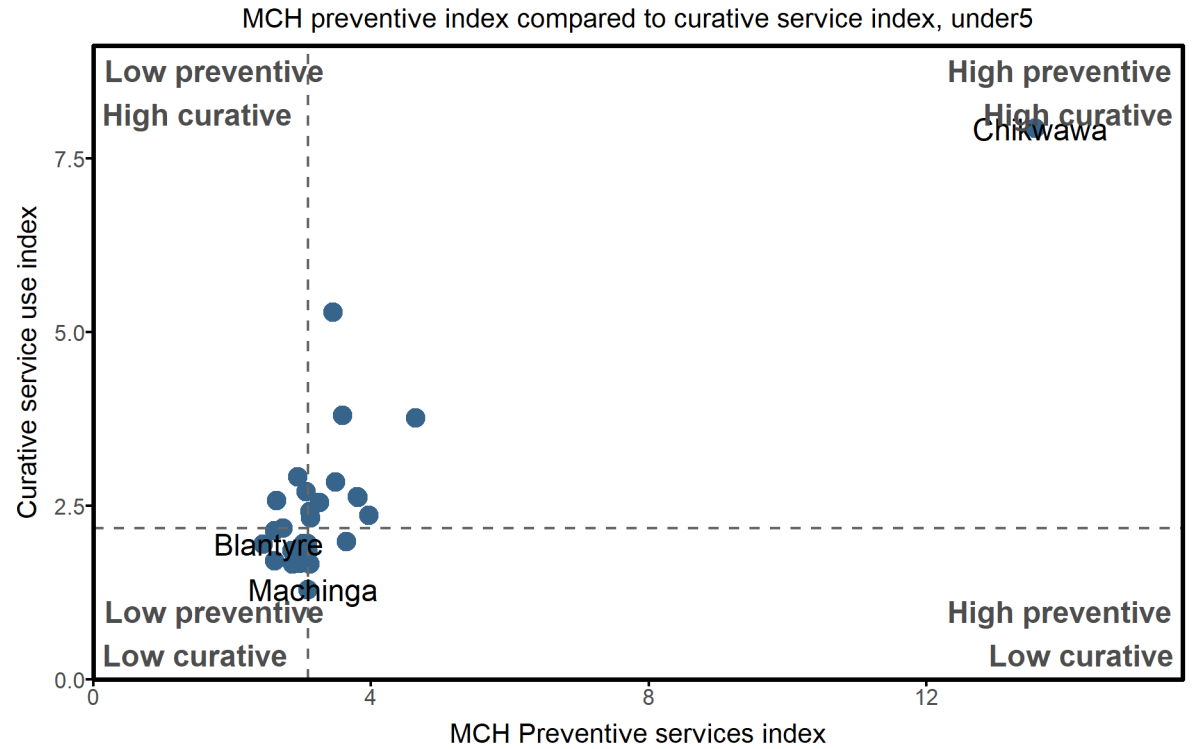
Regional/provincial service utilization



Interpretations

- The provided files exclusively display aggregated national-level temporal trends for OPD and IPD utilization across age categories, but do not contain any subnational, regional, or provincial breakdowns or values. Consequently, specific regional names, regional performance values, or localized data quality anomalies cannot be identified or interpreted from these particular figures.

MCH Preventive vs Curative Index



Interpretations

- The scatter plot maps each district's under-five preventive service index against its curative use index. Most districts, including Blantyre and Machinga, cluster heavily in the bottom-left quadrant, representing low utilization across both sectors. Conversely, Chikwawa acts as an isolated, extreme outlier in the top-right quadrant with exceptionally high scores for both indices, which strongly points to distinct data reporting anomalies, denominator inflation, or localized structural differences unique to that district.
- From a public health perspective, this widespread low-utilization cluster underscores major systemic gaps in both community outreach and facility access. A successful primary healthcare model should ideally drive districts into the bottom-right quadrant where highly effective preventive interventions lower the clinical burden and necessity for acute curative services. The complete absence of districts in this high-preventive, low-curative zone indicates that current preventive health measures lack the scale or clinical efficacy needed to reduce the population's demand for curative care.

6. Health system progress and performance

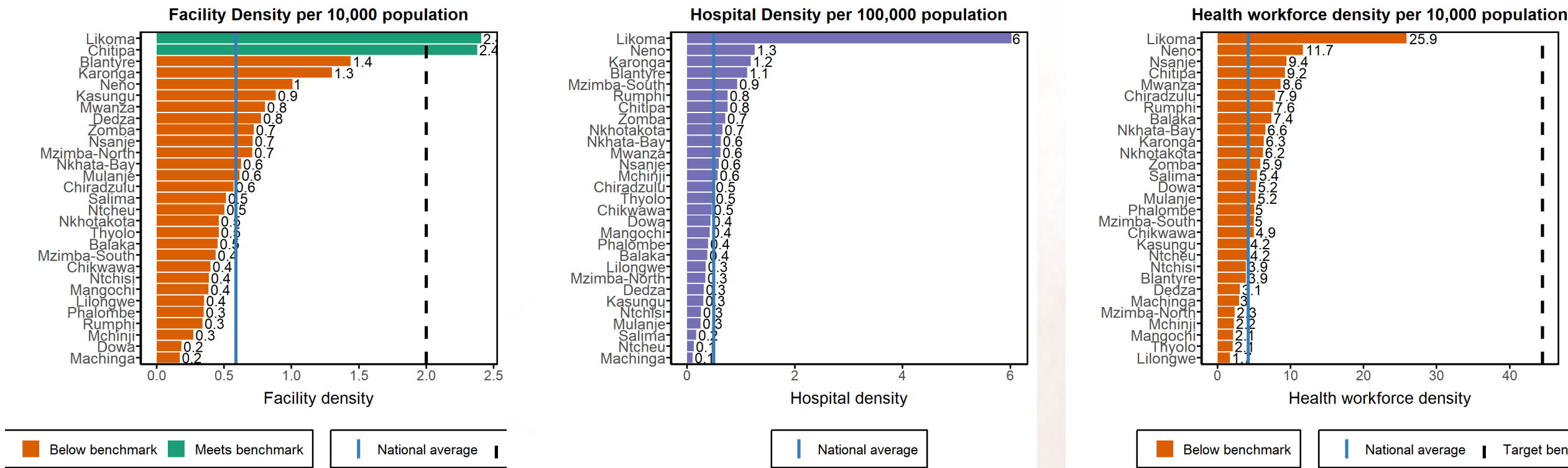
Health system inputs

2024		
Indicator	Value	Unit
Health infrastructure		
Health facility density	0.6	per 10,000
Share of facilities that are hospitals	8.4	%
Hospital density	0.5	per 100,000
Inpatient bed density	6.6	per 10,000
Health workforce		
Health workforce density	4.2	per 10,000
Skills mix ratio nurse-midwives per physician	14.7	
Role of private sector		
Share of Private facilities	46.7	%
Share of NGO facilities	15.7	%

Interpretations

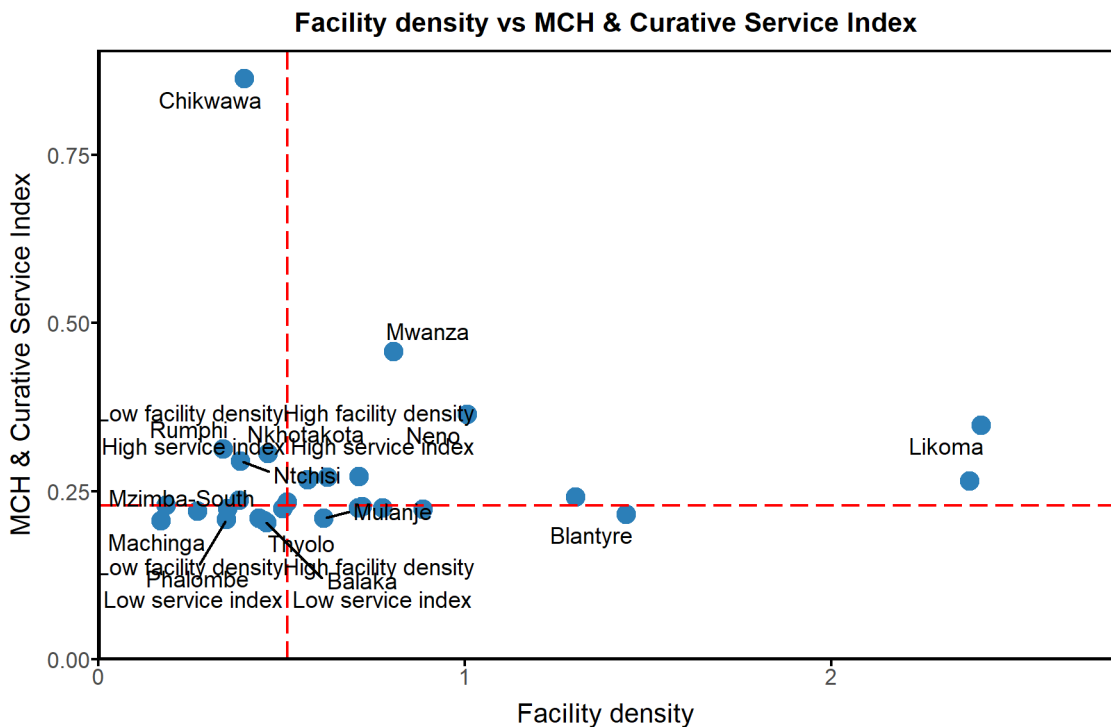
- The data provides a comprehensive, realistic overview of the national health system by fully incorporating non-state actors. Private facilities account for a substantial 46.7% of the total infrastructure, while NGO facilities make up 15.7%. Because over 62% of all health facilities fall outside the public sector, including these groups ensure that the data captures the country's entire operational health ecosystem rather than just public inputs.
- National health system inputs fall drastically short of established global benchmarks, highlighting severe infrastructure and human resource deficits. The health facility density (0.6 per 10,000) and inpatient bed density (6.6 per 10,000) both fail to meet their respective minimum targets of 2 and 25. Most critically, the health workforce density of 4.2 per 10,000 is far below the WHO milestone of 23 needed to reduce maternal and child mortality and covers less than a tenth of the 44.5 per 10,000 population threshold required to achieve universal health coverage.

Health system inputs by region/province



- Total health facility density varies dramatically across units, ranging from a low of 0.2 to a high of 2.5 per 10,000 population. Only two districts Chitipa (2.4) and Likoma (2.5) successfully reach or exceed the global benchmark of 2.0. Most districts remain clustered below this target, with more than half failing to even cross the national average line.
- Hospital density displays an even wider, highly skewed variation per 100,000 populations. Likoma represents an extreme outlier, peaking at a density of 6.0, whereas all other districts sit tightly compressed between 0.1 and 1.3. This steep inequality means that secondary or tertiary clinical infrastructure is overwhelmingly centralized or heavily skewed by small population denominators in single units rather than being equitably distributed.
- Health workforce density shows severe geographic disparities, spanning from 1.1 to 25.9 staff per 10,000 population. Mirroring the other indicators, Likoma is the sole district to surpass the global benchmark, reaching 25.9. Every other district falls critically short of the recommended threshold, with highly populated regions like Lilongwe sitting at the absolute bottom with just 1.1 health workers per 10,000 people.
- The extreme ends of the performance spectrum show remarkable consistency across all three indicators. Likoma is consistently the top-performing unit across facility, hospital, and workforce densities, primarily driven by its smaller island population denominator. Conversely, Machinga regularly anchors the bottom rankings, recording some of the absolute lowest facility densities (0.2) and hospital densities (0.1) nationwide.

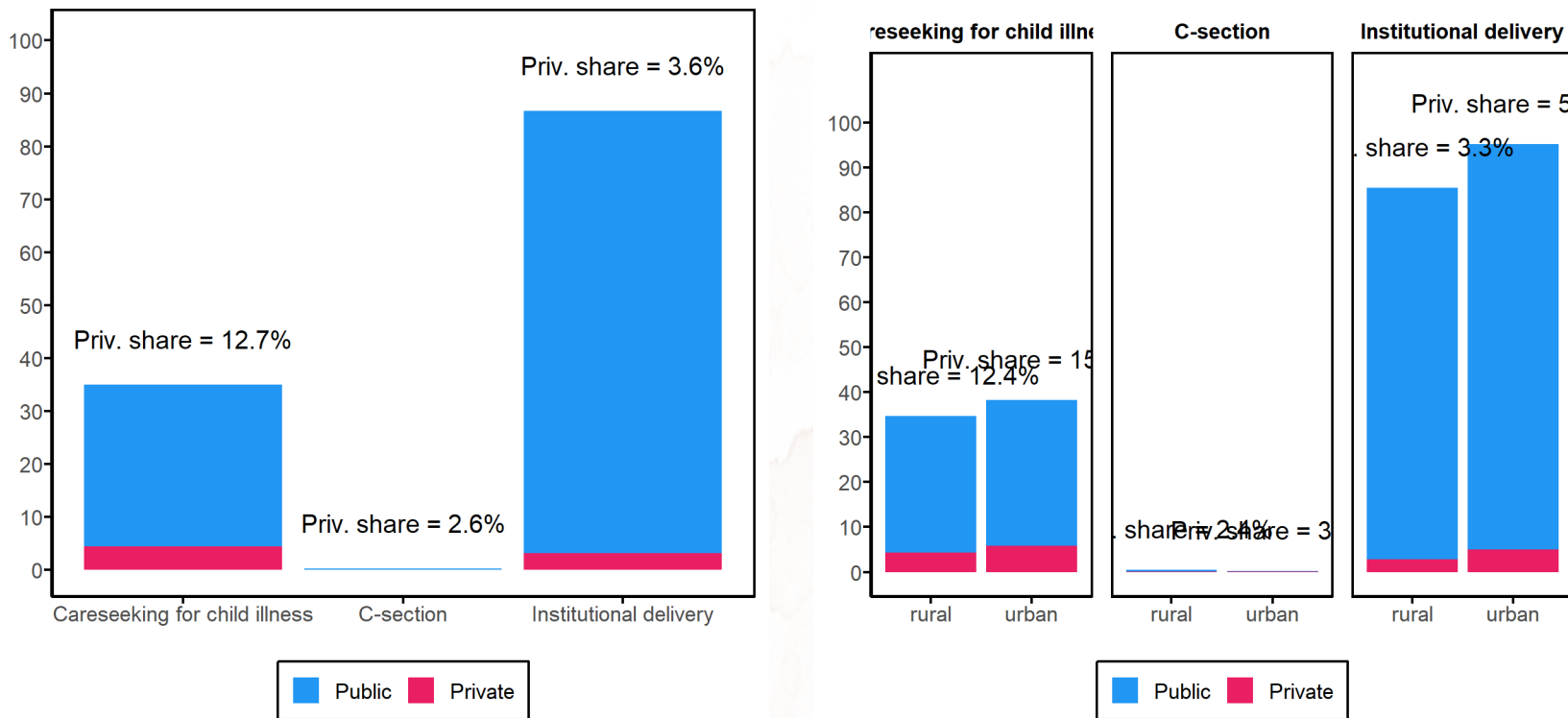
Health system outputs by inputs at the subnational level



Interpretations

- The plot shows anomalies that challenge its validity, as higher infrastructure does not consistently yield better service coverage. For instance, the developed hub of Blantyre reports high facility density but surprisingly low service utilization. Conversely, Chikwawa acts as an extreme outlier, securing the highest service score despite low facility density. This mismatch strongly points to data quality issues, such as distorted population denominators or uneven reporting.
- Good Performers: Mwanza and Likoma show stronger positions, utilizing higher facility densities to achieve better service index outcomes
- Poor Performers: A dense rural cluster anchors the bottom-left quadrant, suffering from both low facility density and low service use. This low-performing group includes Machinga, Phalombe, Mzimba-South, and Thyolo.

Private sector and RMNCAH services



Interpretations

- Malawi citizens primarily utilize the public sector for health services. The largest private sector share of services is for sick child care (12.7%), followed by institutional delivery (3.6%) and c-section (2.6%). There are minimal differences between urban and rural areas. Urban is a higher but by less than 5 percentage points for all services areas.