TANZANIA

GLOBAL FINANCING FACILITY

APHRC
African Population and Health Research Center

Countdown to 2030
Women's Children's & Adolescent's Health

Analysis of reproductive, maternal, newborn, child and adolescent health indicators

2019-2023

chartbook with main results and interpretations

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General Introduction

This Chartbook summarizes the results for key indicators of reproductive, maternal, newborn, child and adolescent health (RMNCAH) that were produced by the country team at a Countdown analysis workshop in Kigali, April 22-26, 2024.

The analysis is based on routine district health facility data for 2019-2023, recent national surveys, health system data and global estimates, much attention is paid to data quality.

This Chartbook describes and interprets the results, which should be a critical input for the monitoring of country RMNCAH and health sector plans.

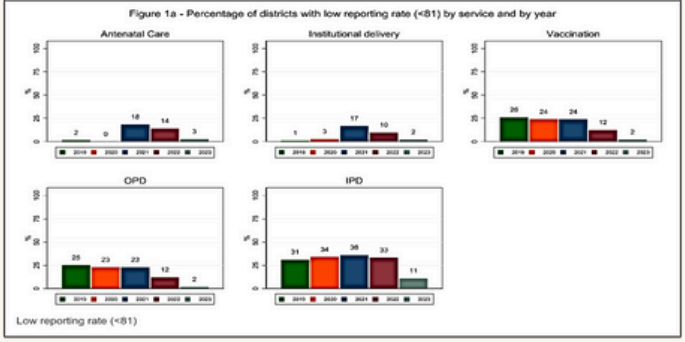
For each of the sections there are selected graphs and tables on key indicators with interpretations made by the country team during the workshop.

1 Facility data quality assessment: numerators 1

Table 1: Summary of reported health facility data quality, DHIS2, 2019-2023

	Data quality metrics	2019	2020	2021	2022	2023
1	**Completeness of monthly facility reporting (mean of ANC, delivery, immunization, OPD)**					
1a	% of expected monthly facility reports (national)	91	91	87	89	95
1b	% of districts with completeness of facility reporting >= 81%	83	83	76	84	96
1c	% of districts with no missing values for the 4 forms	95	95	95	95	95
2	**Extreme outliers (mean of ANC, delivery, immunization, OPD)**					
2a	% of monthly values that are not extreme outliers (national)	99	99	99	99	97
2b	% of districts with no extreme outliers in the year	91	91	91	91	83
3	**Consistency of annual reporting**					
3a	ANC1 to penta1 ratio in the reported data (national)	1.1	1.2	1.2	1.1	1.1
3b	Penta1 to penta3 ratio in the reported data (national)	1.1	1.1	1.1	1.1	1.0
3c	% of districts with ANC1-penta1 ratio in expected range	73	73	69	71	63
3d	% of districts with penta1-penta3 ratio in expected range	84	85	88	82	67
4	**Annual data quality score (mean 1a, 1b, 2a,2b, 3c,3d)**	87	87	85	86	83

Figure 1a: Percentage of districts with low reporting rate (<81%) by service and year



- Overall data quality score in Tanzania is above 85% except for the year 2023 (dropped to 83%)
- Completeness of facility reporting for ANC, delivery, immunization, and OPD improved with time (to 96% in 2023)
- The proportion of districts with completeness of facility reporting above the threshold (>=81%) was the lowest (76%) in 2021
  - There was a change of reporting RCH tools/datasets in 2021
- Good consistency of reported ANC1 and Penta1 numbers, and Penta1 & Penta3 numbers (correlation>0.9)

1 Facility data quality assessment: numerators 2

Figure 1b: Ratio of number of facility reported ANC1 to Penta1, and Penta1 to Penta3, compared to expected ratios

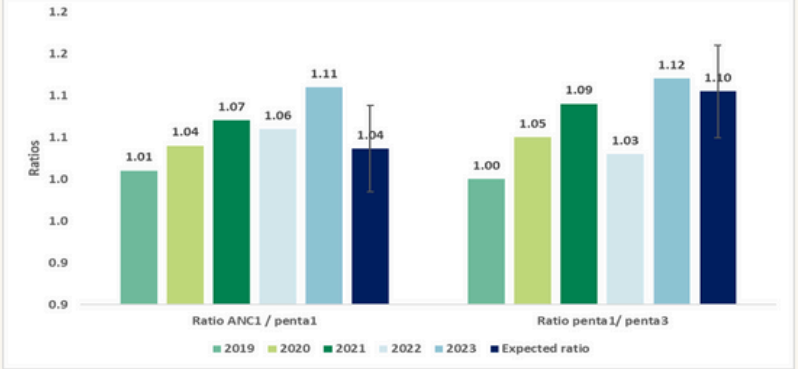
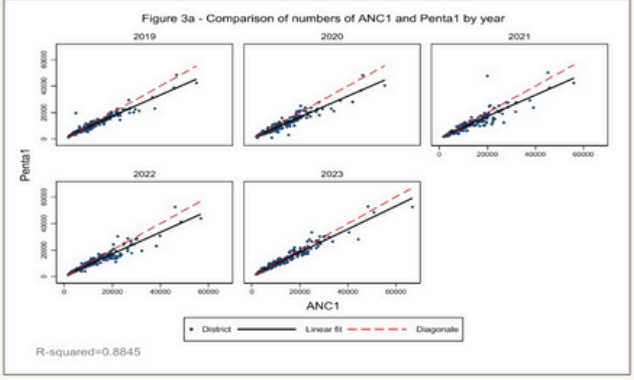


Figure 1c: Comparison of numbers of ANC1 and Penta1 reported by health facility, by year



- Good consistency between ANC1 and Penta1 numbers, and Penta1 and Penta 3 with ratio ranging from 1.0 to 1.1
- Proportion of districts with adequate ANC1 - Penta1 ratio ranged from 63% to 73%, More than 80% of districts had adequate Penta1 - Penta3 ratio across all years

Health facility data adjustment: numerators

Figure 1b: Comparison of live births before and after adjustment for completeness and outliers

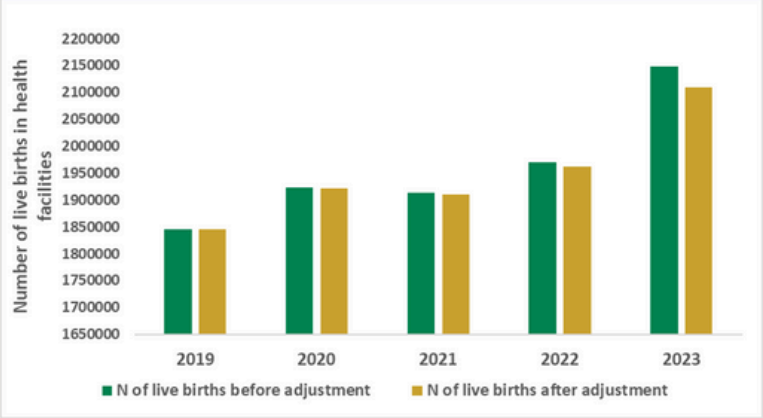
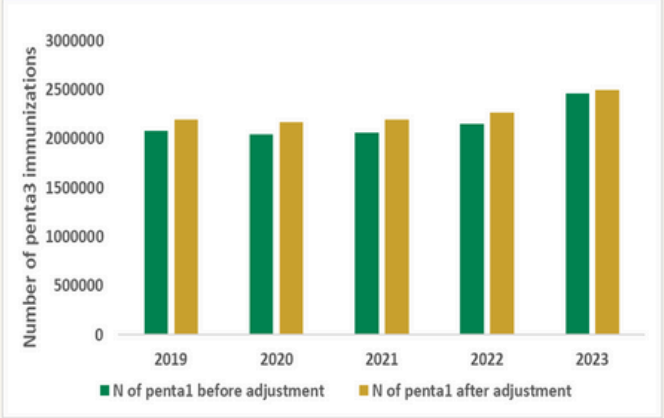


Figure 1c: Comparison of Penta1 vaccination before/after adjustment for completeness and outliers



- We adjusted for vaccination services (k=0.50), OPD (k=0.50), and IPD service utilization numbers (k=0.25), with the assumption that facilities with low reporting rate provided half and and a quarter of services compared to reporting facilities, respectively.
- Minimal change (10%)on number of live births and Penta1 vaccinations for all years after the adjustment

2 Health facility data denominator assessment

Figure 2a: Annual population (in thousands), DHIS2 and UN projections

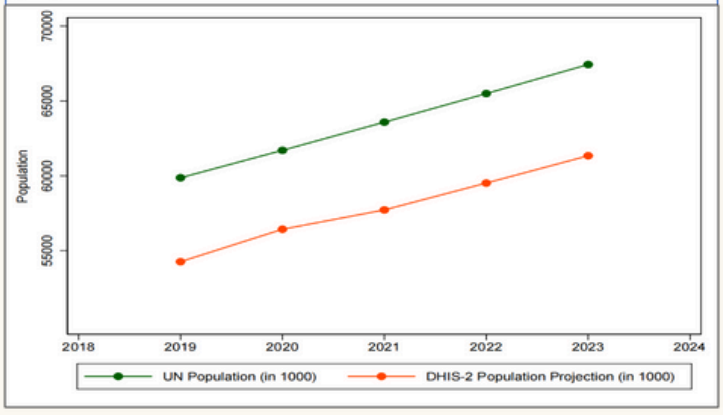
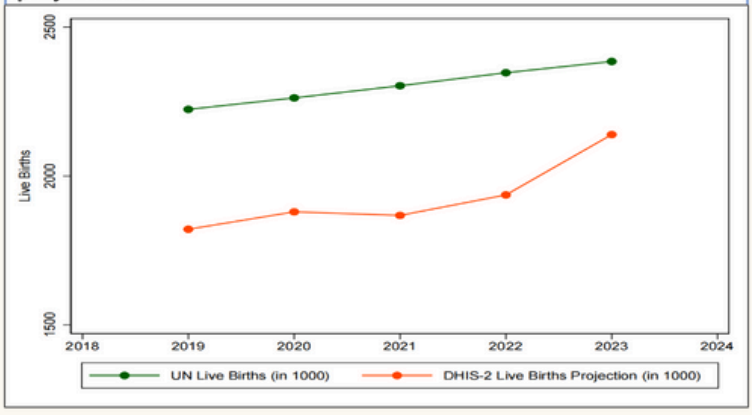


Figure 2b: Total Live Births (in thousands), DHIS2 and UN projections



- 9% absolute difference between DHIS2 population projections and UN estimates

- Consistently lower numbers of livebirths in DHIS2 data compared to UN estimates (15% difference on average)

2 Health facility data denominator selection

Fig 2c: National Institutional birth coverage, DHIS2-based with different denominators, and survey coverage

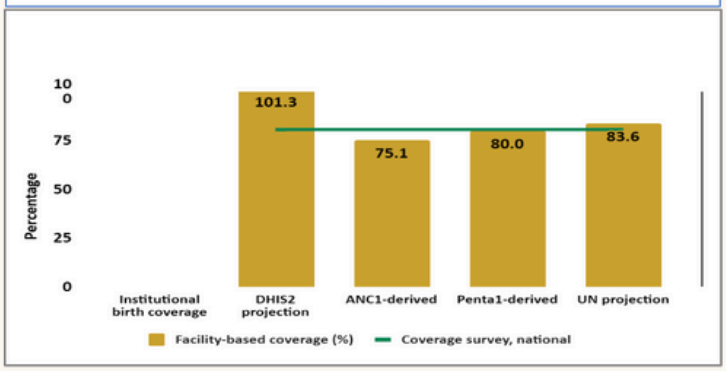
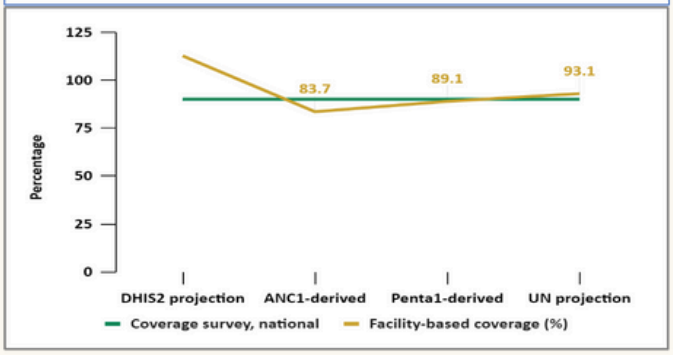


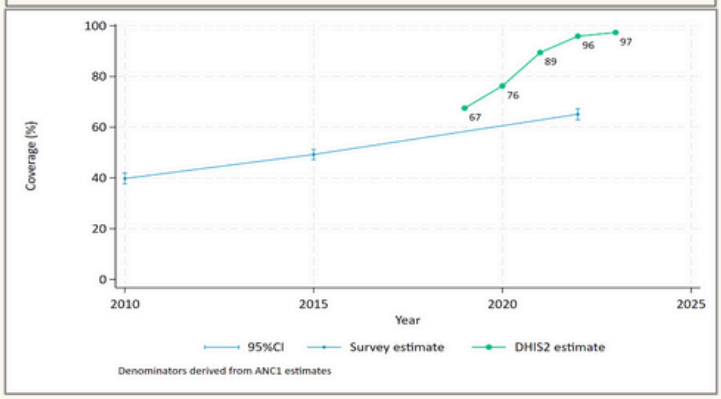
Fig 2d: National Penta3 coverage, DHIS2- based with different denominators, and survey coverage



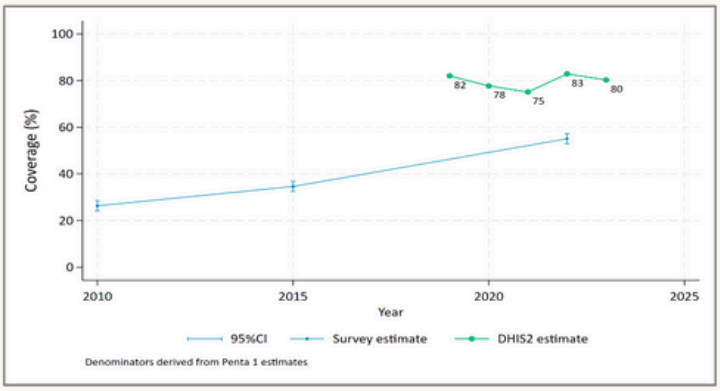
- Penta1 derived denominator performed best at the national level for maternal indicators and child health indicators
- At subnational level , ANC1 derived denominator was selected for maternal indicators and Penta1 derived denominator for child health indicators (Vaccination)

3 National coverage trends: Antenatal Care

Figures 3a: Coverage trends in antenatal fourth visit



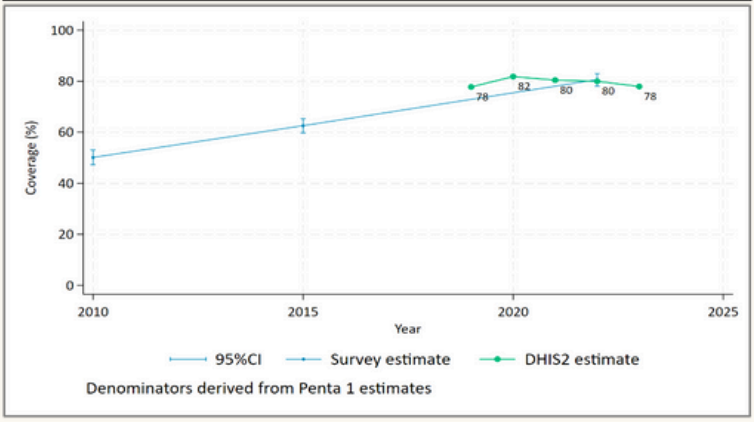
Figures 3b: Coverage trends in IPT2



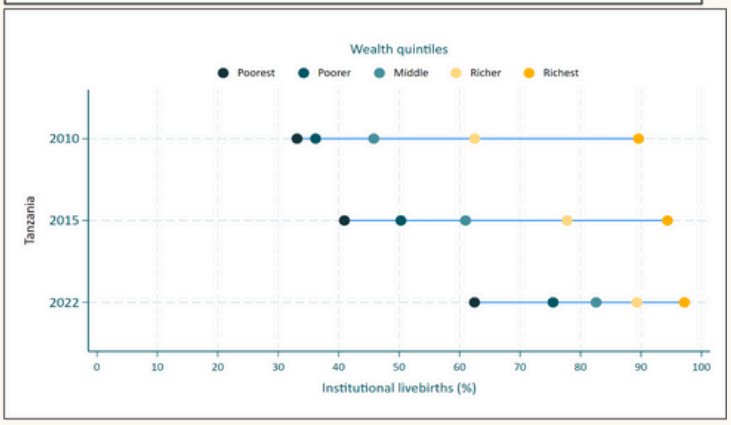
- Gap between ANC4 coverage in DHIS2 and Survey estimates, higher numbers in facility data (up to 97% in 2023)
- Divergence between facility data estimates and survey data for IPT2 coverage, higher coverage in facility data (ranging between 75% to 83%), compared to 60% in the latest survey

3 National coverage trends: delivery care

Figures 3c: Coverage trends in institutional live birth



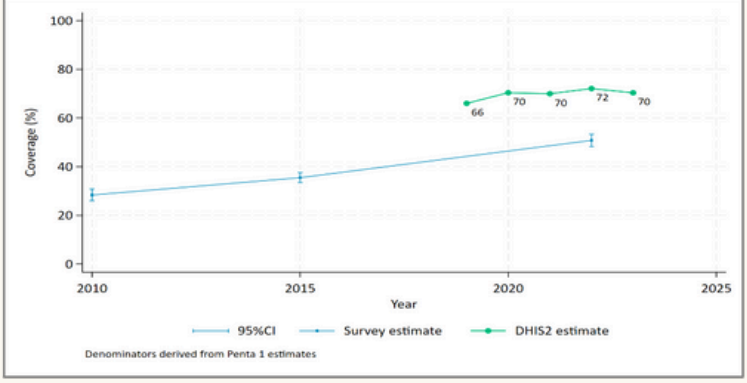
Figures 3d: Inequalities of institutional live births coverage by wealth quintiles



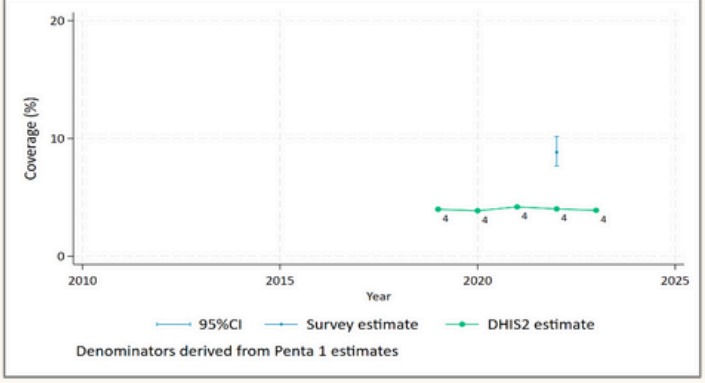
- Institutional live births coverage is above 75% on average, similar to what is observed in the national surveys
- Inequalities of institutional live births coverage by wealth quintiles decreased over time;
  - This indicates that Health Promotion Services interventions are working (e.g CHW, Media)
- Wealth inequalities exist: The poorest are lagging behind compared to the richest (60% versus >90% coverage, in the latest period)

3 National coverage trends: postnatal care and low birth weight

Figures 3e: Coverage trends in postnatal care within 48 hours



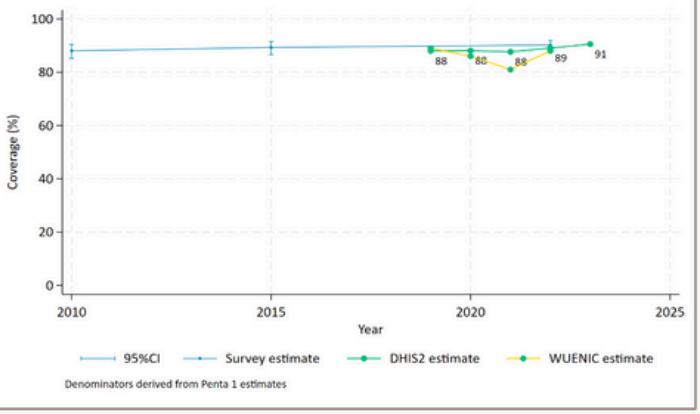
Figures 3f: Coverage trends in percent of newborns with low birthweight



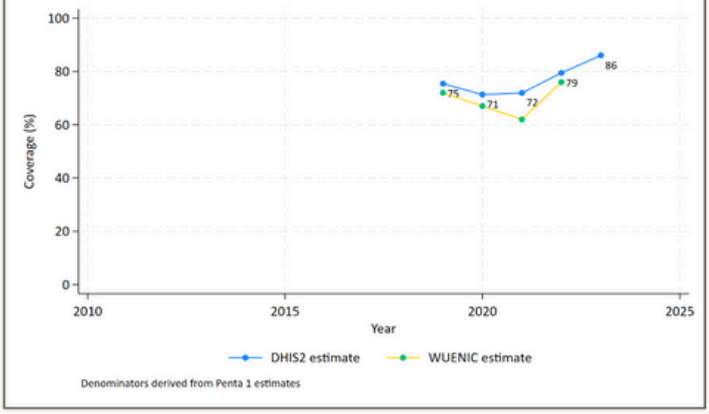
- The coverage of Postnatal care within 48 hours in facility data is consistent over time however there is a gap when compared to survey estimates
- Low birth weight rates are (<5%) across all years- lower compared to the rates observed in Sub-Saharan Africa (13.9%)- Likely underreporting of low birth weight data in the facility data

3 National coverage trends: immunization indicators

Figures 3g : Coverage trends in Penta3



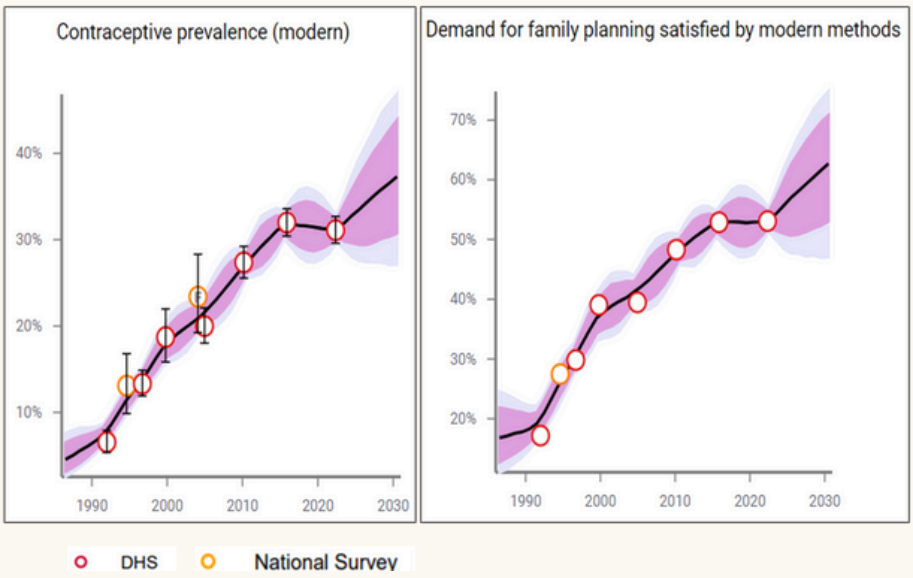
Figures 3h: Coverage trends in Measles 2



- The levels and trends of Penta3 coverage are plausible and consistent with survey data over time.
- The UN estimates are consistent with facility data for both Penta3 and Measles 2 vaccines

3 National coverage trends: family planning

Figures 3i and 3j: Trends in modern contraceptive use and in the FP coverage (demand satisfied for modern methods of family planning) from FPET and survey estimates



- Current projections from survey data suggest an increase in FP indicators
  - mCPR increased to 32% in 2020, expected to increase to 39% by 2030
  - mDFPs increased to 52% in 2020, expected to increase to 60% in 2030
- With current trends, Tanzania's Health Sector Strategic Plan (HSSP V) 2025 target of (62% for mDFPs)may not be reached.

3 National coverage trends: MNH indicators: Proportion of births by place of delivery

Figure 3k: Proportion of births by place of delivery (DHS 2004/05-2022)

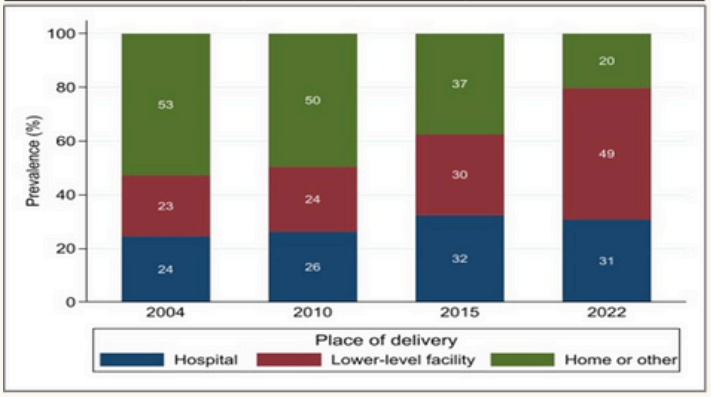
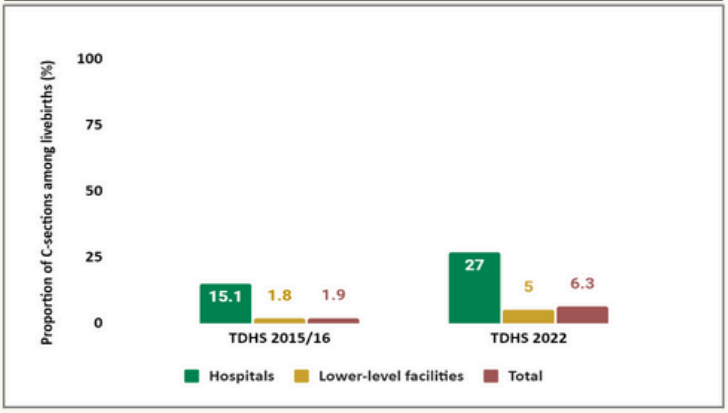


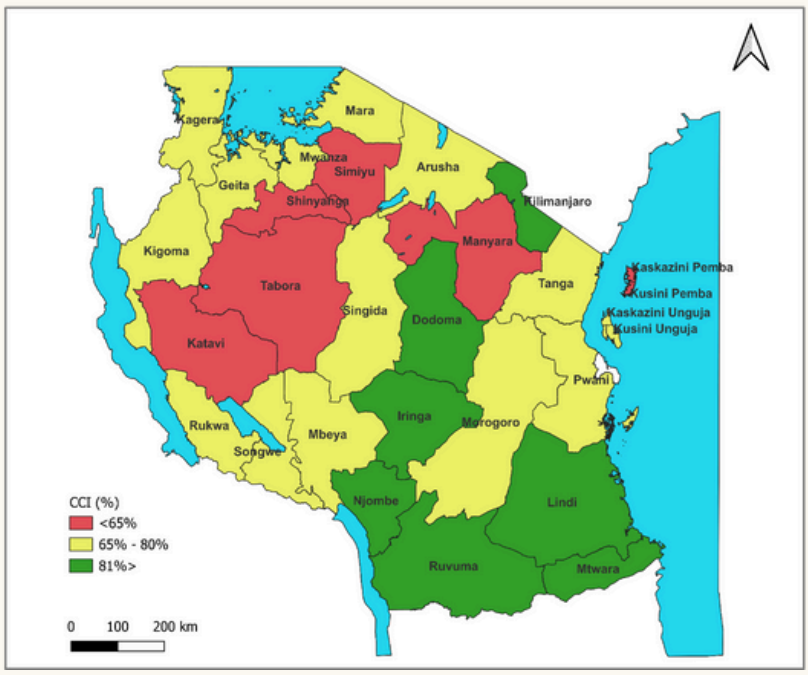
Fig 3l: Proportion of C-section by place of delivery



- Proportion of women delivering in health facilities (hospitals & lower level facilities) increased over up to 80% in 2022
  - Women delivering in lower level facilities doubled from 23% in 2004/05 to 49% in 2022 survey
- Proportion of C-sections among all births increased from 2% to 6% from 2015-2022 survey
  - In 2022, Majority of c-sections (>15%) occur in hospitals compared to only 5% occuring in lower level facilities

4 Equity: subnational coverage trends: Composite coverage index for Maternal and child health indicators in Tanzania

Fig 4a: Regional variation of composite coverage index for RMNCAH indicators in Tanzania (2022 TDHS)



- We calculated coverage index as an average in seven mother and child health indicators: ANC4, institutional live birth coverage, SBA, IPT2, postnatal care, pentavalent and measles vaccination coverage from 2022 TDHS
- Coverage index ranged from 52% in Katavi to 90% in Iringa region
- Regions with coverage index <65% are Katavi, Tabora, Shinyanga, Simiyu and Manyara

Increased efforts are needed for regions lagging behind

4 Equity- Subnational coverage trends: Assessment of regions and districts that have reached international targets in Tanzania

Fig 4c: Assessment of targets by Regions

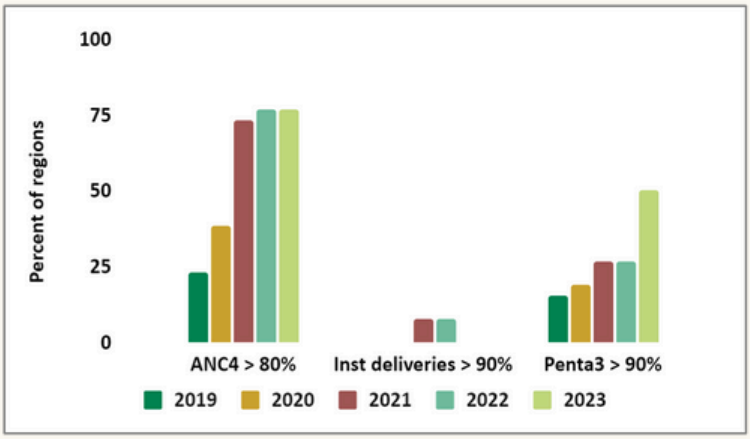
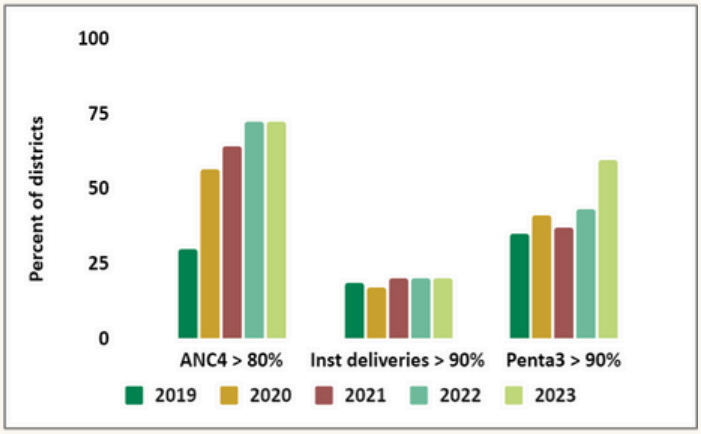


Fig4b: Assessment of targets by Districts



- Up to 75% of regions and districts in Tanzania have achieved the global target of >80% coverage of ANC4
- Tanzania still lagging behind on Institutional delivery coverage at a national and district level

5 Maternal mortality in health facilities in Tanzania

Figure 5a: Maternal mortality per 100,000 live births in health facilities, based on the reported data in DHIS2, 2019-2023, national and regions

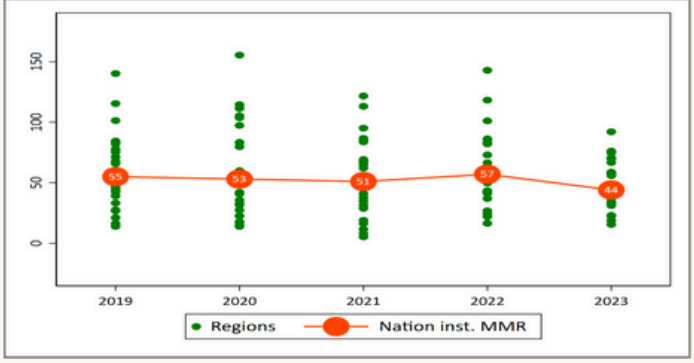
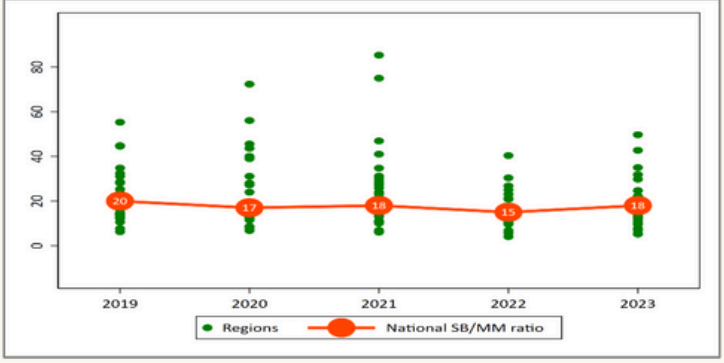


Figure 5b: Ratio of stillbirths to maternal deaths in health facilities, based on the reported data in DHIS2, 2019-2023, national (red line) and regions (blue dots)



- MMR is more likely underreported in facility data. There is wide variations across regions ranging from 19 to 150 per 100,000 live births. The lower MMR are not plausible (Highly underreporting).
- 17% of regions have MMR lower than 25/100,000 live births, 27% of regions had a very low SBR (<6/1000 live births) Most likely there is underreporting of death.
- The ratio of stillbirth to maternal deaths ranges from 15 - 20, More stillbirth are reported than maternal, however reporting of stillbirth is still low. This entails that underreporting of Maternal death is more severe than stillbirth.

5 Stillbirth rates in health facilities

Figure 5c: Stillbirths per 1,000 births in health facilities, based on the reported data in DHIS2, 2019-2023, national and regions

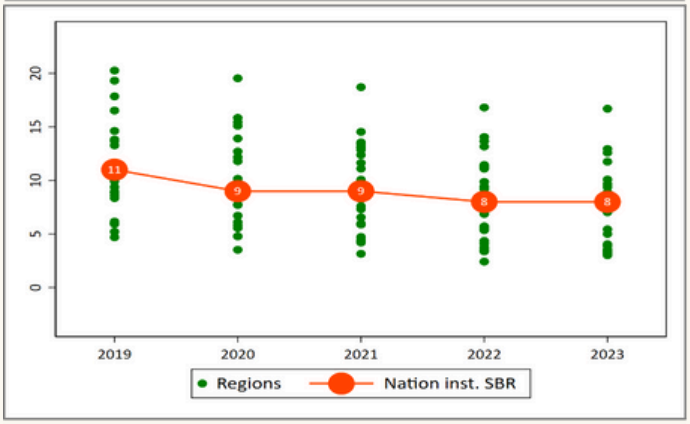
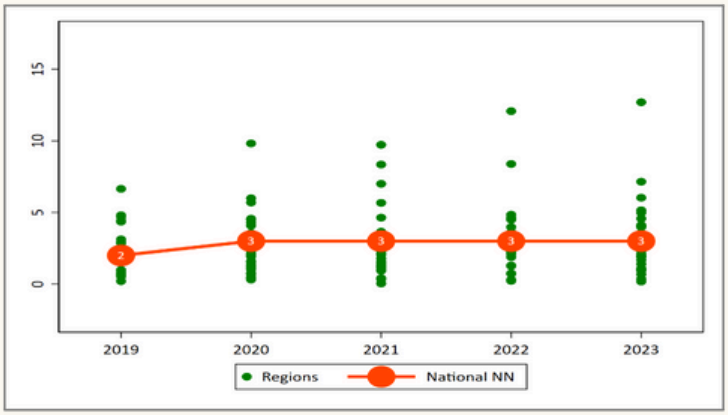


Figure 5d: Neonatal mortality before discharge per 1,000 live births in health facilities, based on the reported data in DHIS2, 2019-2023, national and regions



- Stillbirth rate from the facility data is lower than expected, regional variation ranges from 2 - 20 stillbirths per 1000 live births
- The neonatal mortality (before discharge) nationally ranges between 2-3 per 1000 live births. It is very low compared to the national estimate from the DHS survey (24/1000 live births). The facility rates are not plausible it is more likely there is underreporting

5 Underreporting of maternal deaths and stillbirths

Fig 5e: Completeness of facility maternal death reporting (%), based on UN MMR estimates and community to institutional ratio

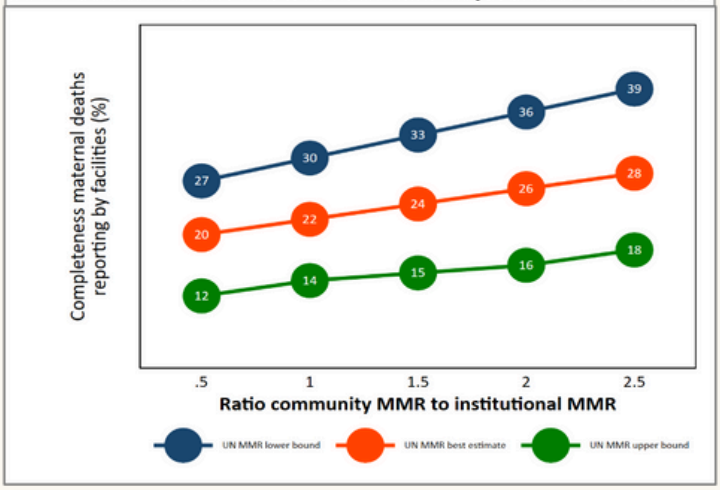
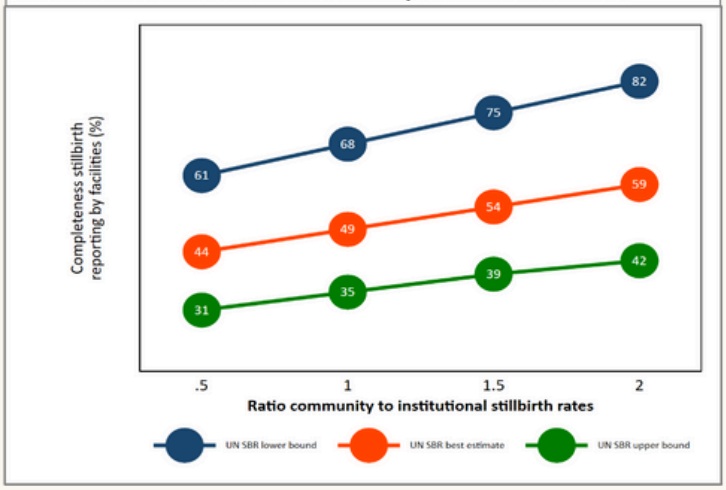


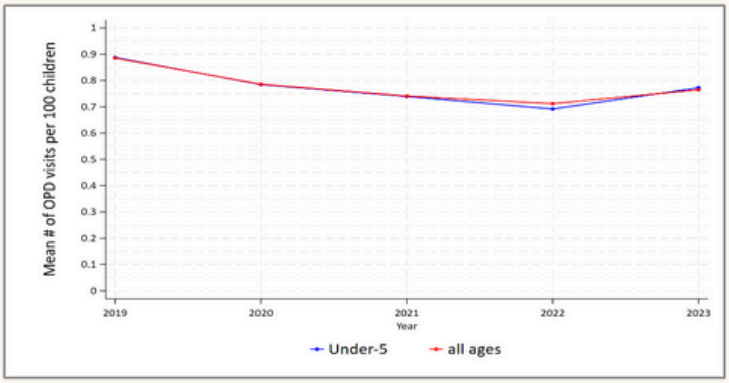
Fig 5f: Completeness of facility stillbirth reporting (%), based on UN stillbirth estimates and community to institutional ratio



- More plausible assumptions is community MMR is more than twice the institutional MMR. Using the lower bound, overall completeness of maternal deaths reporting is lower (36%) compared to stillbirths reporting (82%).

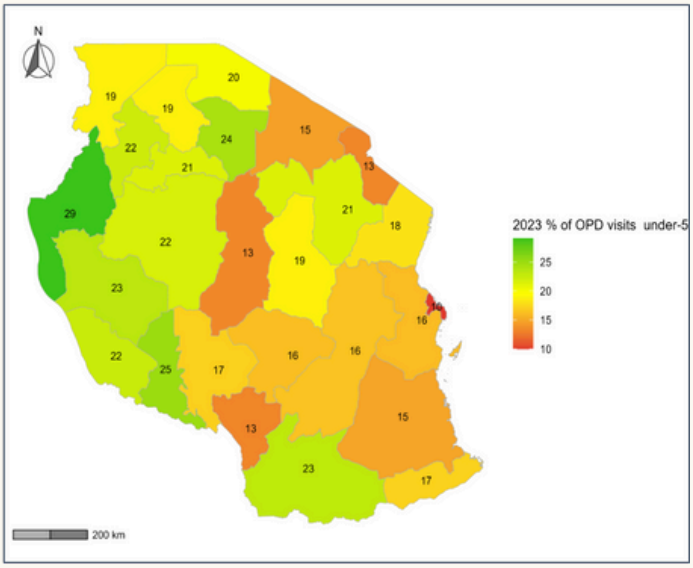
6 Curative Health services : OPD utilization among childrenunder-5

Figure 6a: OPD service use by children and all ages, national, 2019-2023



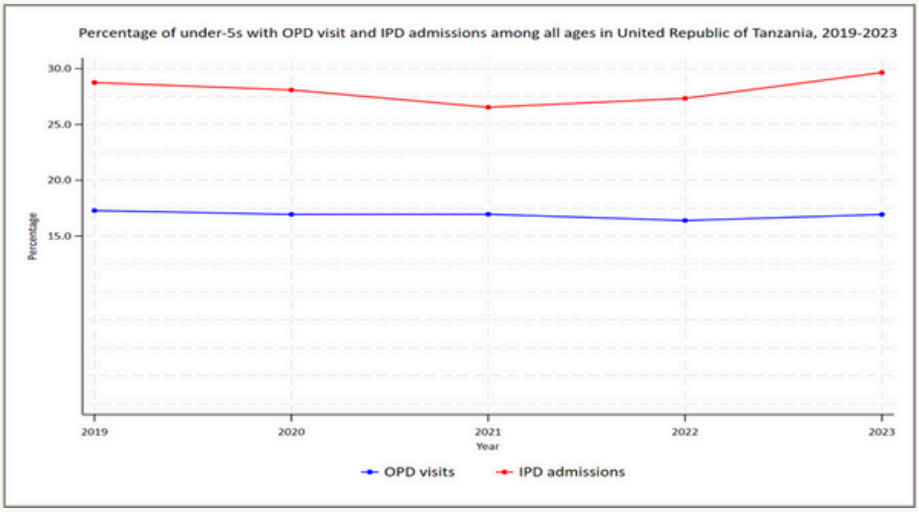
- Similar OPD utilization across all ages
- Variations on OPD utilization among under-5 children ranging between 10% in Dar es salaam - 29% in Kigoma regions.The western regions have better utilization compared to the southern regions.

Figure 6b : map with OPD service use by children, by region, 2023



6 Curative health services: admission among children under-5

Figure 6c: Percentage of under 5 with OPD visit and IPD admissions among all ages in the united republic of Tanzania, 2019-2023



- More IPD admissions as compared to OPD visits

7 Health system performance assessment: indicators 1

Figure 7a: Density of health facilities by regions

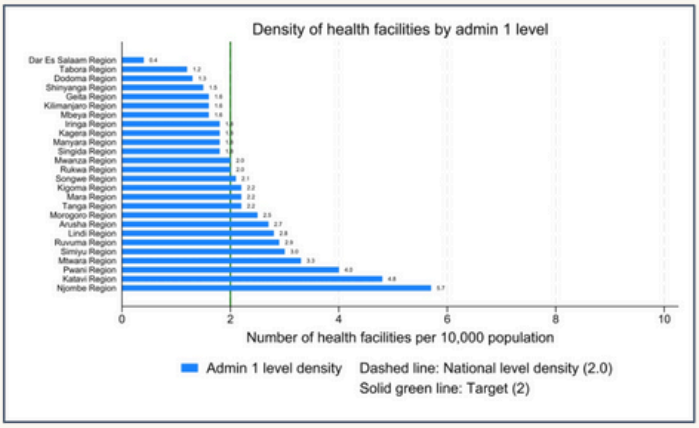
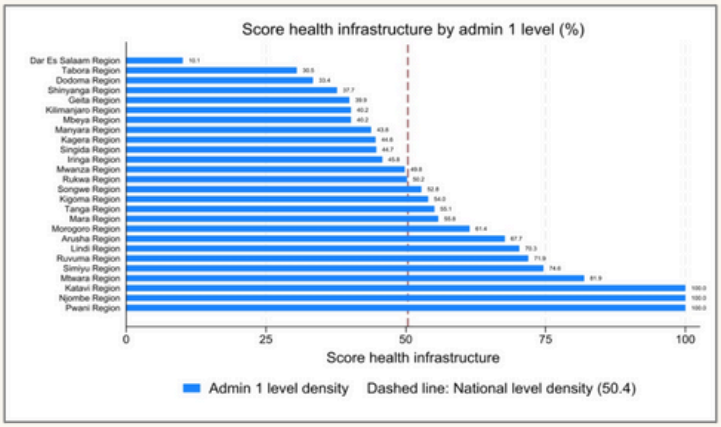


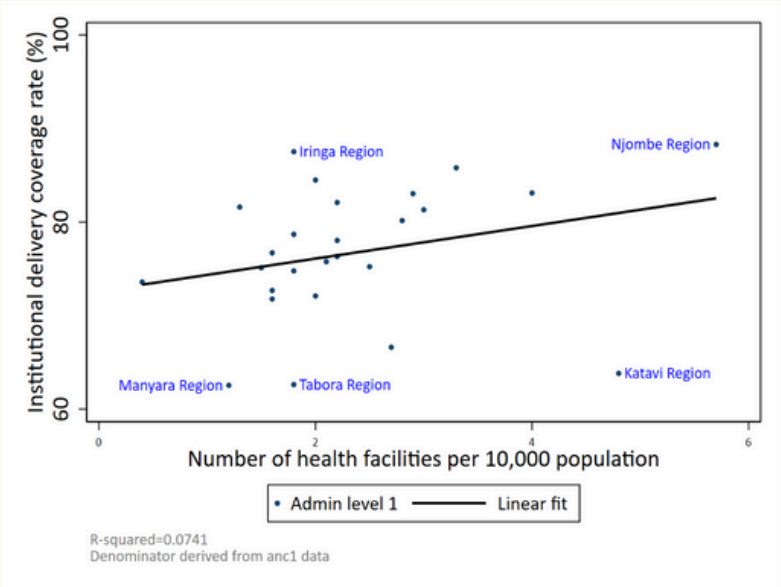
Figure 7b : Score health infrastructure by regions (%)



- More than half (56%) of regions have higher number of health facilities per population density >2 per 10,000 population
- Many regions still score lower than the national estimate showing a need to improve health infrastructure

7 Health system performance assessment: indicators 2

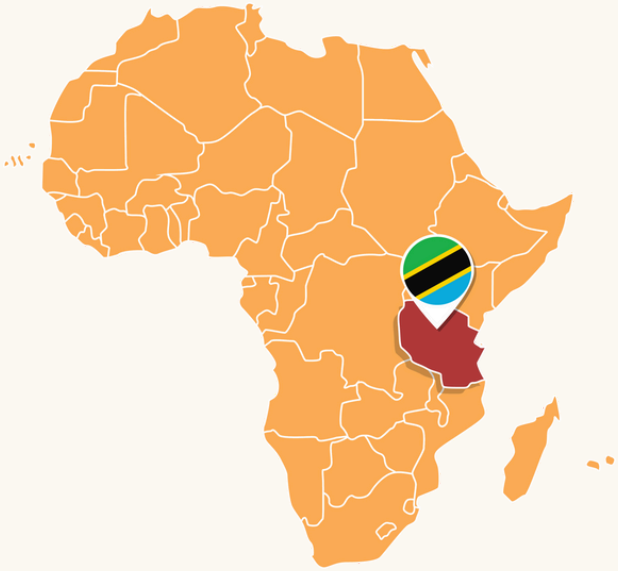
Figure 7e3: Institutional delivery coverage rate (%) by the health facilities density by regions



- Njombe region has high institutional birth coverage (>85%) with a high health facility density
- Unlike Katavi with high health facility density and a lower institutional birth coverage
- Manyara and Tabora are the poor performing regions with low health facility density (1.2) and a lower institutional birth coverage (<65%)
- Iringa region has low health facility density (<2%) with a high institutional birth coverage

Analysis of reproductive, maternal, newborn, child and adolescent health indicators

2019-2023



About Countdown 2030 in Tanzania

The Tanzania country collaboration includes Ifakara Health Institute, London School of Hygiene and Tropical Medicine, and the Institute for Global Health at the University of Manitoba. It aims to strengthen the analysis and synthesis of health data to inform national and local reviews of progress and performance in the context of the national health plans and Global Financing Facility (GFF) investment case for reproductive, maternal, newborn, child and adolescent health and nutrition.

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