

# In-Country Working Session: FASTR Implementation & RMNCAH-N Service Monitoring Analysis

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January 27-30, 2026 | Lusaka

*GFF FASTR Team*

# Agenda

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## Day 1 -- Laying the Foundation: Introducing FASTR and Configuring the Analytics Platform

Time	Agenda	Facilitator/Presenter
<b>Opening Session</b>		
08:30-09:00	Participant registration	MoH team
09:00-09:10	Welcome and opening remarks	MoH team
09:10-09:20	Icebreakers/Introductions	MoH team
09:20-09:35	Overview of agenda, workshop objectives	GFF FASTR team
<b>Session 1: Overview of the FASTR approach</b>		
09:35-10:30	Overview: FASTR Approaches	GFF FASTR team
<b>Session 2: HMIS data extraction</b>		
10:30-11:30	Data extraction: Rationale and methods	GFF FASTR team
<b>Session 3: Introduction to the FASTR analytics platform</b>		
11:30-12:30	Introduction to the FASTR analytics platform	GFF FASTR team
12:30-14:00	<i>Lunch Break</i>	
14:00-14:30	Getting participants into the platform	GFF FASTR team
<b>Session 4: Configuring the FASTR analytics platform</b>		
14:30-16:30	Configuring the analysis platform	GFF FASTR team

# Agenda

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## Day 2 -- Building the Analysis: Applying FASTR Methods and Generating Outputs

Time	Agenda	Facilitator/Presenter
09:00-09:15	Overview of Day 2 agenda	GFF FASTR team
<b>Session 5: Overview of FASTR methods and analytical outputs</b>		
09:15-10:15	Data quality, service utilization, coverage	GFF FASTR team
<b>Session 6: Creating a project</b>		
10:15-11:15	Project creation and settings	GFF FASTR team
<b>Session 7: Creating visualizations</b>		
11:15-12:30	Creating and editing visualizations	GFF FASTR team
12:30-14:00	<i>Lunch Break</i>	
<b>Session 8: Creating reports</b>		
14:30-16:30	Practice creating and editing reports	GFF FASTR team

# Agenda

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## Day 3 -- From Analysis to Action: Interpreting Results and Using FASTR for Decision-Making

Time	Agenda	Facilitator/Presenter
09:00-09:15	Overview of Day 3 agenda	GFF FASTR team
<b>Session 8: Interpretation of visualizations</b>		
09:15-10:15	Approaches to support interpretation	GFF FASTR team
<b>Session 9: Creating a Q4 2025 report</b>		
10:15-12:30	Creating short and long reports with country context	GFF FASTR team
12:30-14:00	<i>Lunch Break</i>	
<b>Session 9 (cont'd): Creating a Q4 2025 report</b>		
14:00-15:00	Continue report creation with country context	GFF FASTR team
<b>Session 10: Presenting reports</b>		
14:30-15:30	Present reports, group feedback	GFF FASTR team

# Agenda

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## Day 4 -- Designing the Health Facility Assessment

Time	Agenda	Facilitator/Presenter
09:00-09:15	Overview of Day 4 agenda	GFF FASTR team
<b>Session 12: Overview of FASTR HFA phone survey</b>		
09:15-10:15	HFA overview and questionnaire adaptation guidelines	GFF FASTR team
<b>Session 13: Questionnaire adaptation to the Zambian context</b>		
10:15-12:30	Review questionnaire + hands-on adaptation	GFF FASTR team
12:30-14:00	<i>Lunch Break</i>	
<b>Session 14: Questionnaire adaptation (cont'd)</b>		
14:00-15:00	Continue questionnaire adaptation (in groups)	GFF FASTR team
<b>Session 15: Discussion: HFA adapted questionnaire</b>		
14:30-15:30	Discuss adapted questionnaire in plenary	GFF FASTR team
<b>Session 16: Discussion: HFA priorities and data use</b>		
15:30-16:30	HFA priorities and data use case in Zambia	GFF FASTR team
<b>Session 17: Action planning and wrap-up</b>		
16:30-17:00	Key messages and wrap-up	GFF FASTR team

# Workshop Objectives

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- Prepare MoH for participation in the multi-country workshop
- Strengthen capacity for disruption analysis and data extraction
- Configure the FASTR analytics platform for Zambia
- Produce the first quarterly report
- Adapt the phone survey questionnaire to the Zambian context
- Use data downloader tools for DHIS2

# Scope of Work

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## | Disruption Analysis Activities

- Data extraction and configuration of analytics platform
- Produce first quarterly report
- Review results and contextualize findings (with relevant program teams)

## | Phone Survey Activities

- Adaptation of questionnaire (with program input)

## | Capacity Building

- Training on data downloader for all with DHIS2 access
- Hybrid format: face-to-face and online

# Expected Outputs

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- Adapted phone survey questionnaire
- First quarterly report draft
- Trained MoH team on data downloader tools
- Roadmap for participation in Abuja workshop

# **Session 1: Overview of the FASTR approach**

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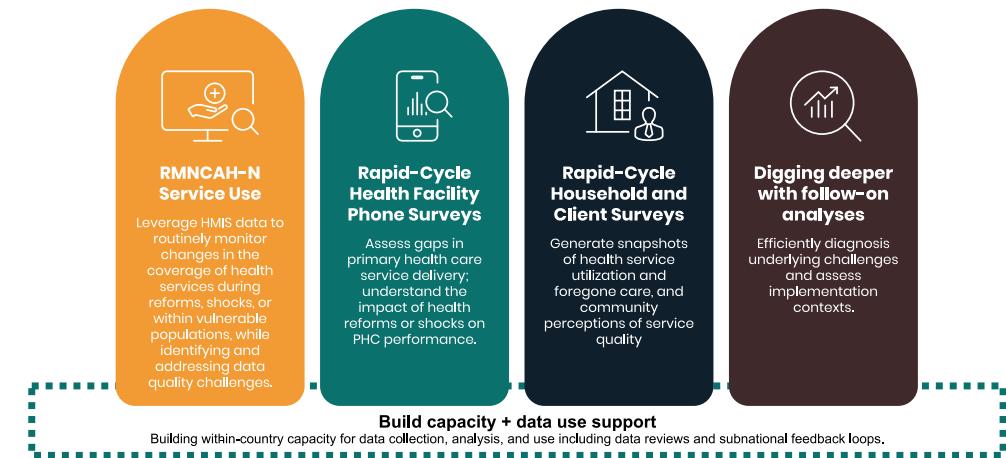
# Introduction to FASTR

The Global Financing Facility (GFF) supports country-led efforts to strengthen the use of timely data for decision-making, with the goal of improving primary healthcare (PHC) performance and RMNCAH-N outcomes.

**Frequent Assessments and Health System Tools for Resilience (FASTR)** is the GFF's rapid-cycle analytics framework for monitoring health system performance using high-frequency data.

FASTR brings together four complementary technical approaches:

1. Routine HMIS data analysis
2. Health facility phone surveys
3. High-frequency household phone surveys
4. Follow-on, problem-driven analyses



# What FASTR does with routine HMIS data

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FASTR works directly with Ministries of Health to transform routine HMIS data into actionable evidence for policy and program management.

Using facility-level data, the approach focuses on three core analytic functions:

## **Assess data quality**

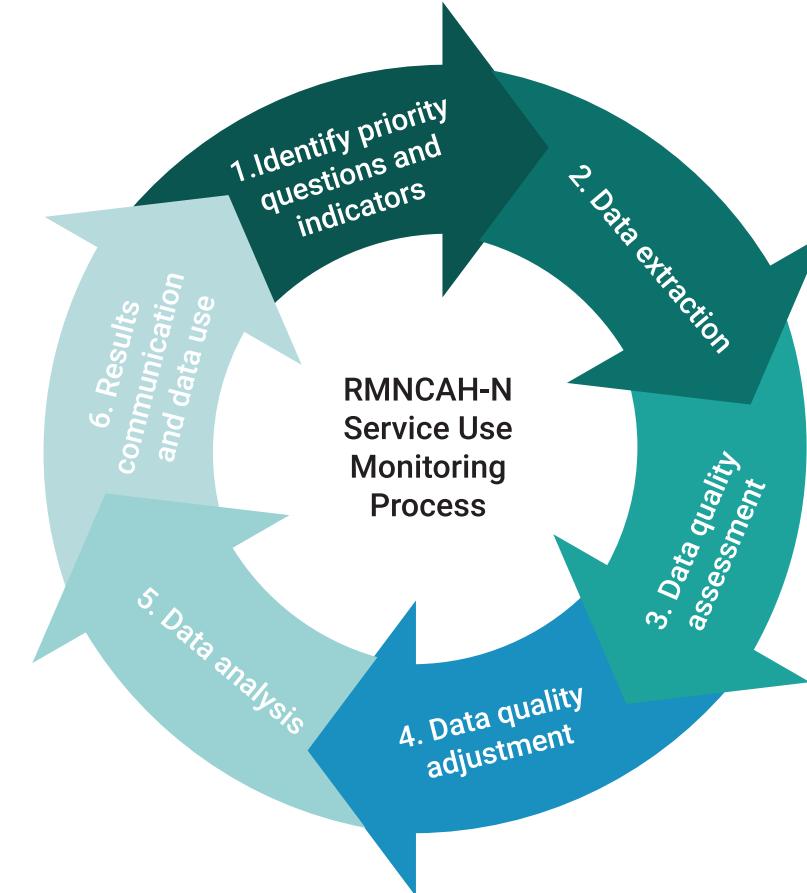
Identify key issues related to completeness, outliers, and internal consistency.

## **Adjust for data quality limitations**

Apply transparent, indicator-specific methods to improve the reliability of trend analysis.

## **Analyze service use and coverage trends**

Track changes in priority RMNCAH-N services and compare progress against country priorities and benchmarks.



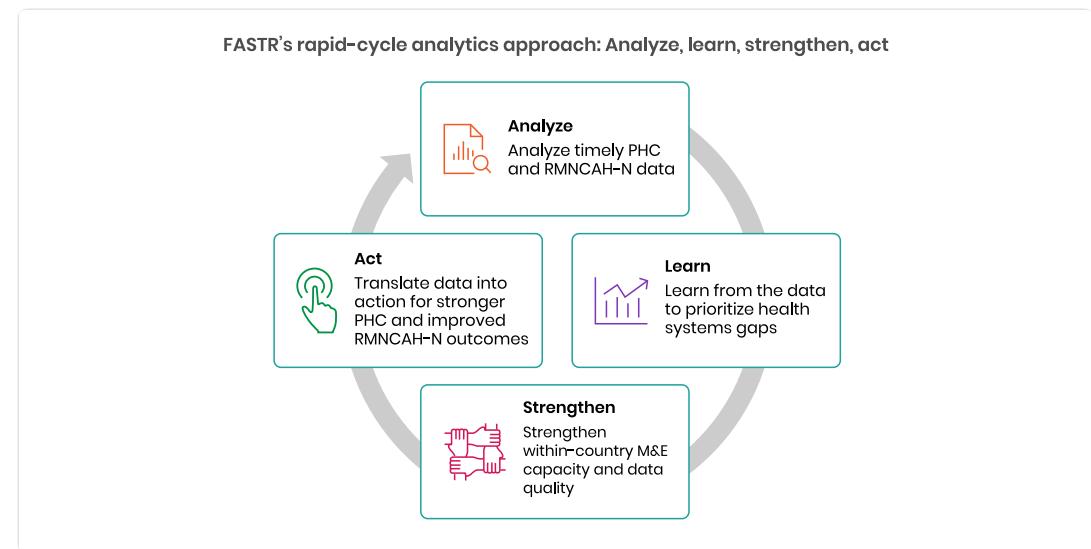
# Why rapid-cycle analytics?

Routine health information systems are a critical source of data, but they are often underused due to concerns about data quality and long delays between data collection and analysis. Traditional household and facility surveys, while essential, are resource-intensive and infrequent.

FASTR's rapid-cycle analytics address this gap by providing:

- Timely insights aligned with country decision cycles
- Continuous learning rather than one-off assessments
- Direct feedback loops between data, analysis, and action

During the COVID-19 pandemic, this approach was applied in over 20 countries to monitor disruptions to essential RMNCAH-N services and inform response and recovery planning.



# Focus of the analysis

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## Core indicators

FASTR prioritizes a core set of RMNCAH-N indicators that:

- Represent key service delivery contacts across the continuum of care
- Have relatively high reporting completeness and volumes
- Serve as proxies for broader service delivery performance

Outpatient consultations are included as a proxy for overall health service use. The indicator set can be expanded to reflect country-specific priorities.

## Core data quality metrics

Analysis is anchored in a standardized set of data quality metrics, including:

- Reporting completeness
- Extreme value (outlier) detection
- Consistency across related indicators

These metrics are summarized into an overall data quality score to support interpretation and comparison across areas.

# **FASTR approach to routine data analysis**

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The FASTR approach follows a three-step workflow:

## **1. Assess data quality**

Identify issues related to completeness, outliers, and internal consistency at national and subnational levels.

## **2. Adjust for data quality limitations**

Apply transparent, indicator-specific corrections to improve the reliability of trend analysis.

## **3. Analyze service delivery**

Quantify changes in priority service volumes and compare coverage trends against country targets.

This enables continuous, subnational monitoring while data quality is systematically improved.

## **Session 2: HMIS data extraction**

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# Why extract data from DHIS2?

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## | Data quality adjustment

The FASTR approach focuses on data quality adjustments to expand the analyses countries can do with DHIS2 data and to generate more robust estimates.

The FASTR methodology includes specific approaches to:

- Identify and adjust for outliers
- Adjust for incomplete reporting
- Apply consistent data quality metrics

These adjustments require processing that cannot be done within DHIS2's native analytics.

# Why extract data from DHIS2?

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## | Analysis complexity

The FASTR approach uses more advanced statistical methods, such as regression analysis, which are not available in DHIS2. While DHIS2 can plot trends over time using raw data, FASTR can go further by:

- Identifying significant increases or decreases in service volume
- Adjusting for data quality issues
- Accounting for expected seasonal variations
- Comparing key periods, such as before and after a reform

The choice between DHIS2 and the FASTR approach should be guided by the specific purpose of your analysis.

# Data format and granularity

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Data should be downloaded for each **indicator of interest**, at **facility level**, and **monthly** for the period of interest.

- Data should be saved in **long format** meaning each row represents a single observation or measurement
- Data should be saved in **.csv format** and can be saved in either a single .csv file or multiple .csv files

## | Why monthly facility level data?

We want to use the most granular data we have access to in order to make more fine tuned assessments for data quality. Using monthly facility level data allows us to conduct the most robust analysis.

# Key variables

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The data extracted should include the following required elements:

Element	Description
Org units	Organizational unit identifier
Period	Time period of the data
Indicator name	Name of the indicator
Total/count	The aggregated value

# How much data?

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## | Initial FASTR analysis

- Download approximately **five years** of historical data
- Exact period depends on data availability and consistency in indicator definitions

## | Routine update to FASTR analysis

- Download new data covering the most recent months not previously included (usually **three months** for quarterly implementation)
- Include the **three preceding months** as recent data is often subject to changes due to late reporting or data quality adjustments

# Data extraction tools

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We offer two tools for bulk DHIS2 data extraction:

## **API Script** (Google Colab)

- Input login credentials, specify timeframes, indicators, and administrative levels
- Download data as a .csv file

## **Data Downloader**

- More intuitive, streamlined interface
- Recommended for most users

Both tools enable efficient data extraction, and we provide training resources to support their use.

# DHIS2 Data Downloader

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The Data Downloader is a desktop application for extracting data from DHIS2.

## Key features:

- Connect to any DHIS2 instance
- Browse and select data elements and indicators
- Download facility-level data in CSV format
- Maintain download history

## Download from GitHub:

<https://github.com/worldbank/DHIS2-Downloader/releases/>

*Facilitator will demonstrate the Data Downloader*

# **Session 3: Introduction to the FASTR analytics platform**

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# Introduction to the FASTR Analytics Platform

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The FASTR analytics platform is a web-based tool for data quality assessment, adjustment, and analysis of routine health data.

## Key features:

- Upload and analyze data from DHIS2 and other sources
- Built-in statistical methods for data quality adjustment
- User-friendly interface for running analyses
- Flexible visualization and export options

In this session, we will provide a conceptual walkthrough of the platform and its capabilities.

# Live Demo: Platform Access & Roles

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In this demo, we will:

- Navigate to the FASTR platform
- Explore user roles: Administrator, Editor, Viewer
- Review user management and permissions
- Understand the workflow for uploading data and making analytical decisions

*Facilitator will demonstrate in the live platform*



## Lunch Break

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90 minutes

Back at 14:00

# **Session 4: Configuring the FASTR analytics platform**

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# Activity: Setting Up Admin Areas

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In this hands-on session, we will configure:

- Admin areas (regions, districts)
- Facility structure
- Indicator definitions

*Participants will work directly in the platform*

# Activity: Importing Data

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In this hands-on session, we will:

- Review data format requirements
- Walk through the import process
- Handle validation and error checking

*Participants will import their country's data*

# Activity: Installing and Running Modules

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In this hands-on session, we will:

- Review available analysis modules
- Install required modules
- Run initial analyses

*Participants will configure and run modules on their data*

# Day 2

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# Recap

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On Day 1, we covered:

- The FASTR approach and rapid-cycle analytics methodology
- Data extraction from DHIS2 using the Data Downloader
- Introduction to the FASTR Analytics Platform
- Platform configuration: admin areas, data import, modules

# Day 2 Focus

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Today we will:

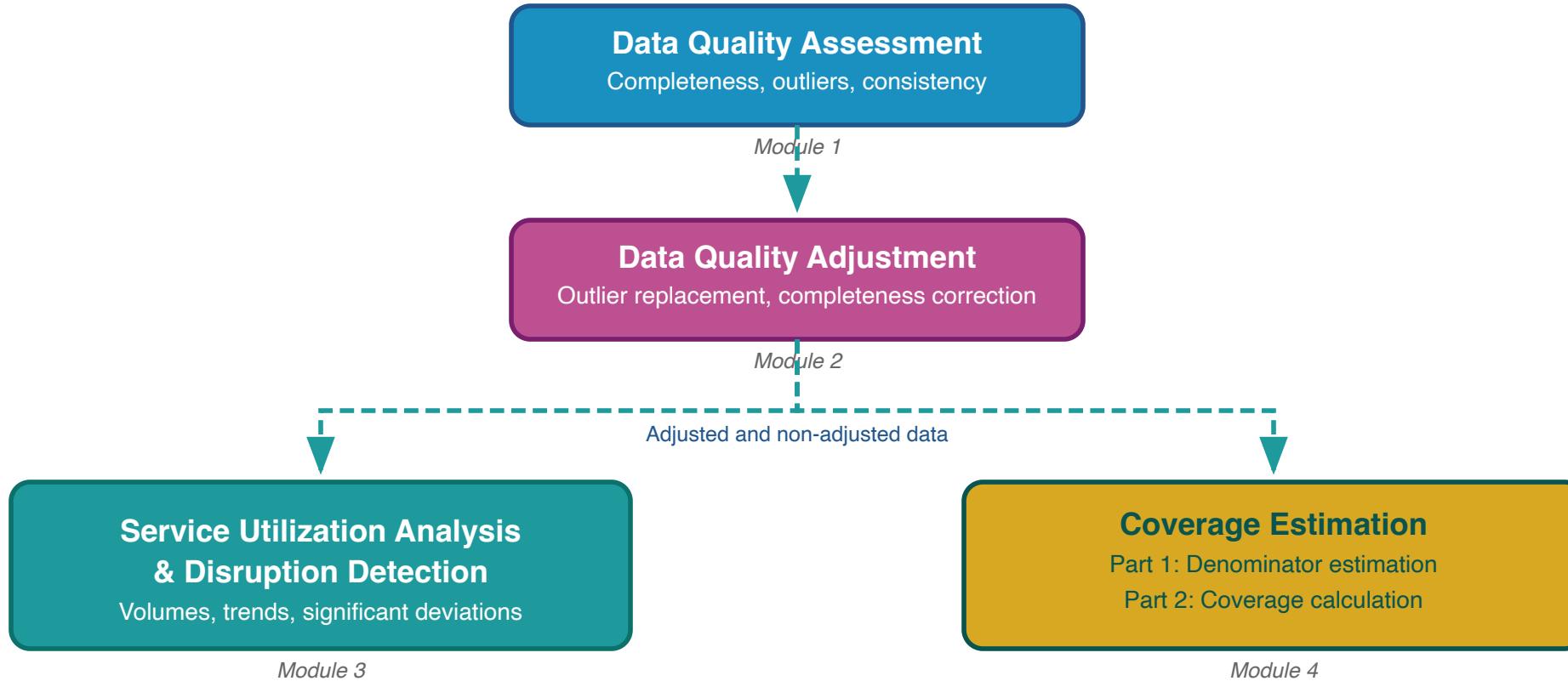
- Explore FASTR methods for data quality and analysis
- Create and configure projects
- Build visualizations
- Generate reports

# **Session 5: Overview of FASTR methods and analytical outputs**

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# FASTR Analytical Pipeline

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The components are interdependent: first assess data quality, then apply adjustments, then use the adjusted data for analysis.

# Data quality assessment

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Understanding the reliability of routine health data

# Why talk about data quality?

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**The challenge:** Health facilities report data every month, but sometimes:

- Numbers seem too high or too low
- Facilities forget to report
- Related numbers don't match up

**The impact:** Bad data leads to bad decisions

- We might think services are improving when they're not
- We might miss real problems in certain areas
- Resources might go to the wrong places

**FASTR's solution:** Check data quality systematically, fix what we can, and be transparent about limitations

# Objectives of FASTR Data Quality Assessment

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## Objective 1: Analytical adjustment

Assessing data quality allows you to adjust for data quality issues, improving the ability to use DHIS2 data for decision-making

## Objective 2: Monitor data quality over time

Key learning questions include:

- **What is the quality of data for different indicators in DHIS2?** (can inform indicators you select for analysis)
- **Which areas report higher vs. lower quality data?** (can inform targeted data quality validation and supportive supervision)
- **How has data quality improved over time?** (can assess the result of data quality investments, training, etc.)

# Three simple questions about data quality

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## 1. Are facilities reporting regularly?

- Completeness: Did we get reports from facilities this month?

## 2. Are the numbers reasonable?

- Outliers: Are there any suspiciously high values?

## 3. Do related numbers make sense together?

- Consistency: Do related services show expected patterns?

These three questions help us understand if we can trust the data for decision-making.

## **Question 1: Are facilities reporting?**

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# Completeness: Did we get reports?

## What we're checking:

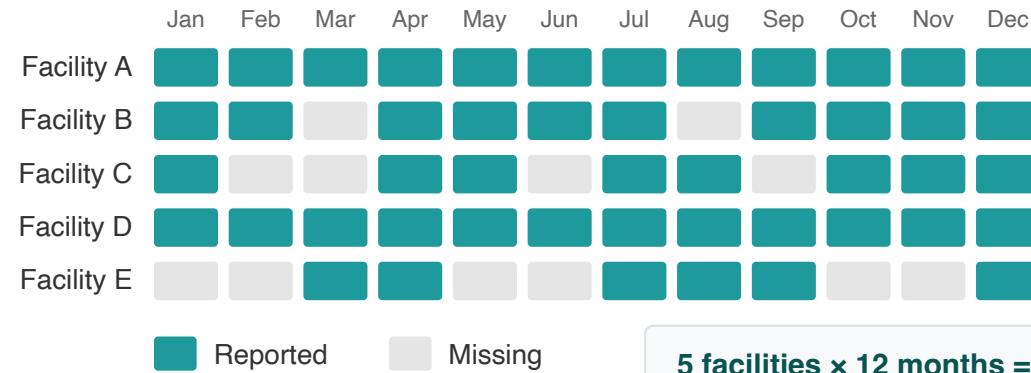
Each month, are facilities sending in their reports?

## Why it matters:

- Missing reports = incomplete picture
- Apparent drops may just be missing data

## Region A: Indicator Completeness

5 health facilities reporting monthly on ANC1



5 facilities × 12 months = 60 expected  
48 reported → 80% completeness

# What's good completeness?

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It depends on your health system:

- 90%+ is excellent
- 80-90% is good
- Below 80% means we're missing a lot of information

**Important:** Even 100% completeness doesn't mean we have the full picture - some services might happen outside facilities or some facilities might not be in the reporting system.

**What to look for:** Is completeness improving over time? Which areas have low completeness?

# Completeness: FASTR output

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## Indicator Completeness

Percentage of facility-months with complete data, Jan 2022 to Apr 2025

	Antenatal care 1	Antenatal care 4	Institutional delivery	Postnatal care 1 (newborns)	Postnatal care 1 (mothers)	BCG vaccine	Penta vaccine 1	Penta vaccine 3	Outpatient visit
District 001	93.9%	90.3%	83.3%	70.8%	82.8%	92.3%	91.9%	90.4%	94.9%
District 002	88.5%	85.9%	82.0%	64.2%	79.8%	90.8%	88.6%	88.1%	88.4%
District 003	89.8%	87.0%	85.4%	53.4%	78.5%	86.2%	86.3%	85.5%	88.3%
District 004	90.7%	82.6%	84.5%	67.6%	82.1%	89.1%	90.4%	89.7%	90.4%
District 005	89.7%	84.0%	81.3%	60.4%	80.9%	84.3%	84.2%	83.6%	89.5%
District 006	85.5%	79.4%	74.5%	56.8%	74.5%	85.3%	82.9%	79.2%	85.6%
District 007	97.2%	93.8%	91.8%	73.5%	90.8%	91.3%	95.2%	87.9%	97.0%
District 008	93.1%	87.6%	85.5%	44.6%	71.8%	79.9%	87.2%	87.5%	95.0%
District 009	95.7%	75.8%	85.0%	34.9%	77.6%	83.5%	92.2%	78.1%	95.9%
District 010	99.2%	99.6%	95.8%	98.4%	94.2%	94.6%	93.2%	88.7%	100.0%
District 011	98.0%	95.2%	94.4%	66.6%	91.7%	96.1%	95.4%	91.8%	98.2%
District 012	92.6%	86.4%	83.7%	64.5%	84.7%	84.7%	87.2%	86.7%	92.6%
District 013	93.4%	90.8%	90.7%	77.1%	88.2%	90.3%	90.8%	87.7%	93.1%
District 014	88.8%	79.1%	81.2%	77.9%	81.2%	90.0%	89.8%	86.3%	91.2%
District 015	93.0%	88.2%	85.3%	63.9%	83.1%	86.7%	88.8%	88.7%	93.1%
District 016	96.0%	85.1%	92.0%	65.7%	91.6%	96.1%	95.5%	88.6%	96.8%
District 017	90.1%	84.8%	90.4%	53.4%	83.0%	72.7%	79.3%	76.0%	89.5%
District 018	97.1%	95.9%	93.2%	79.8%	92.3%	95.4%	95.8%	92.9%	97.9%

- 90% or above
- 80% to 89%
- Below 80%

Higher completeness improves the reliability of the data, especially when completeness is stable over time. Completeness is defined as the percentage of reporting facilities each month out of the total number of facilities expected to report. A facility is expected to report if it has reported any volume for each indicator anytime within a year. A high completeness does not indicate that the HMIS is representative of all service delivery in the country, as some services may not be delivered in facilities, or some facilities may not report.

## **Question 2: Are numbers reasonable?**

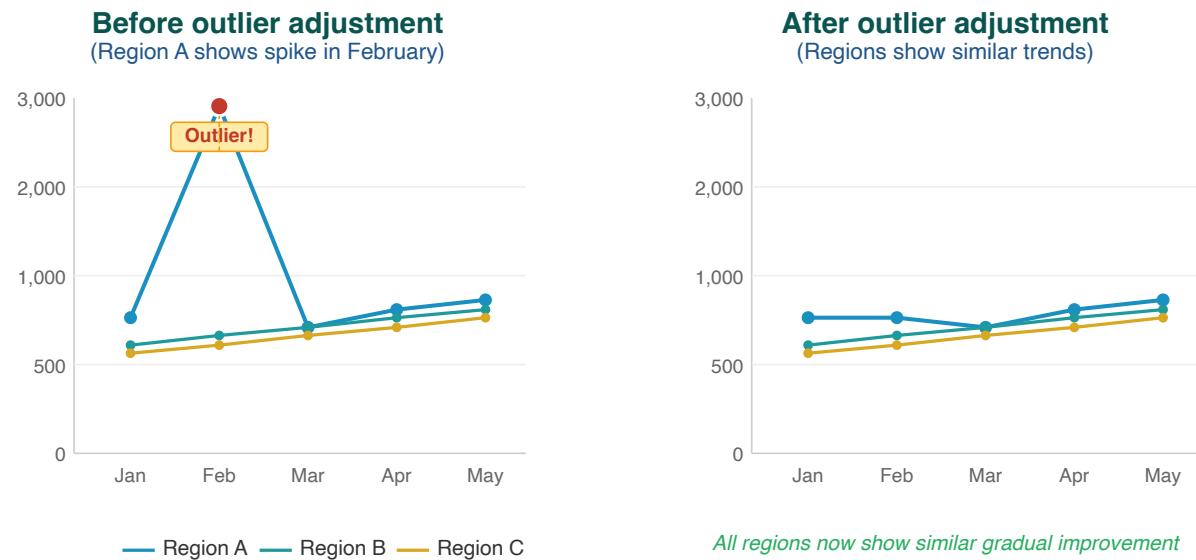
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# Outliers: Spotting suspicious numbers

## In this example:

Region A shows a spike in February that's far higher than the other regions.

This is likely a data entry error - after adjustment, all regions show similar gradual trends.



## How we spot outliers

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Outliers are identified by assessing the within-facility variation in monthly reporting for each indicator.

A value is flagged as an outlier if it meets EITHER of two criteria:

1. A value greater than 10 times the Median Absolute Deviation (MAD) from the monthly median value for the indicator, OR
2. A value for which the proportional contribution in volume for a facility, indicator, and time period is greater than 80%

AND for which the count is greater than 100.

# Outlier example

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Health Center B - Malaria tests:

Month	Tests Reported	Normal?
January	245	Normal
February	267	Normal
<b>March</b>	<b>2,890</b>	<b>Outlier</b>
April	256	Normal

**What happened?** Probably someone entered "2890" instead of "289" (extra zero)

**Impact if we don't fix it:** March would show a huge "spike" in malaria that didn't really happen.

# Outliers: FASTR output

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## Outliers

Percentage of facility-months that are outliers, May 2024 to Apr 2025

	Antenatal care 1	Antenatal care 4	Institutional delivery	Postnatal care 1 (newborns)	Postnatal care 1 (mothers)	BCG vaccine	Penta vaccine 1	Penta vaccine 3	Outpatient visit
Region 001	0.6%	0.2%	0.2%	1.9%	1.2%	0.6%	0.9%	0.6%	0.9%
Region 002	0.6%	0.0%	1.2%	1.0%	1.8%	0.2%	0.2%	0.1%	2.7%
Region 003	0.5%	0.4%	0.1%	0.0%	0.1%	0.1%	0.4%	0.6%	1.4%
Region 004	0.4%	0.0%	0.0%	0.8%	0.0%	0.5%	0.8%	0.9%	0.1%
Region 005	0.5%	0.9%	0.5%	0.8%	0.5%	0.6%	0.8%	0.3%	3.3%
Region 006	0.4%	0.0%	0.1%	0.3%	0.1%	1.3%	2.3%	2.5%	0.6%



Outliers are reports which are suspiciously high compared to the usual volume reported by the facility in other months. Outliers are identified by assessing the within-facility variation in monthly reporting for each indicator. Outliers are defined observations which are greater than 10 times the median absolute deviation (MAD) from the monthly median value for the indicator in each time period, OR a value for which the proportional contribution in volume for a facility, indicator, and time period is greater than 80%. Outliers are only identified for indicators where the volume is greater than or equal to the median, the volume is not missing, and the average volume is greater than 100.

## **Question 3: Do related numbers match up?**

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# Consistency: Do related services make sense together?

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## What we're checking:

Health services are related - certain patterns are expected.

## Example 1 - ANC visits:

- More women should get their **1st** ANC visit (ANC1)
- Fewer should complete all **4** visits (ANC4)
- We expect: ANC1  $\geq$  ANC4

## Example 2 - Vaccinations:

- More babies should get their **1st** Penta dose (Penta1)
- Fewer should complete all **3** doses (Penta3)
- We expect: Penta1  $\geq$  Penta3

If these relationships are backwards, something's wrong with the data.

# Why check consistency at district level?

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**Patients move between facilities:**

- Woman might get ANC1 at Health Center A
- But deliver at District Hospital B
- If we only look at each facility separately, numbers might not match

**Solution:** Check consistency at district level

- Add up all ANC1 visits in the district
- Add up all ANC4 visits in the district
- Compare the totals

This accounts for patients visiting different facilities for different services.

# Consistency example

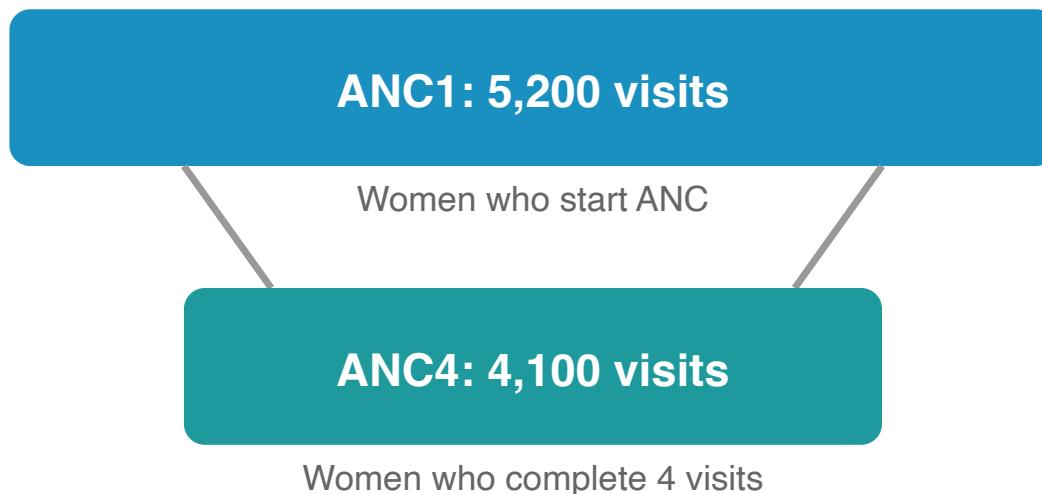
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This passes the consistency check:

- More women started ANC (5,200) than completed 4 visits (4,100)
- This is logical - not everyone completes all visits

If it was reversed (ANC4 > ANC1), we'd know there's a data quality problem.

## District X - ANC Services



Passes consistency check (ANC1 > ANC4)

# Consistency: FASTR output

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## Internal consistency

Percentage of sub-national areas meeting consistency benchmarks, May 2024 to Apr 2025

	ANC1 is larger than ANC4	Delivery is approximately equal to BCG	Penta1 is larger than Penta3
Region 001	100.0%	0.0%	97.2%
Region 002	100.0%	0.0%	100.0%
Region 003	100.0%	45.8%	83.3%
Region 004	100.0%	37.5%	87.5%
Region 005	100.0%	0.0%	87.5%
Region 006	100.0%	49.0%	84.4%



Internal consistency assesses the plausibility of reported data based on related indicators. Consistency metrics are approximate - depending on timing and seasonality, indicator definitions, and the nature of service delivery and reporting, values may be expected to sit outside plausible ranges. Indicators which are similar are expected to have roughly the same volume over the year (within a 30% margin). The data in this analysis is adjusted for outliers.

## **Putting it all together: Overall data quality**

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# Overall quality score

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For each facility and month, we combine all three checks:

1. **Complete:** Did the facility report?
2. **No outliers:** Are the numbers reasonable?
3. **Consistent:** Do related numbers make sense?

**Binary DQA Score:**

- `dqa_score = 1` if ALL three checks pass
- `dqa_score = 0` if ANY check fails

**DQA Mean:** Average of completeness-outlier score and consistency score

**This helps us:**

- Decide which data to use for analysis
- Identify facilities needing support

# Overall DQA score: FASTR output

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## Overall DQA score

Percentage of facility-months with adequate data quality over time

	2022	2023	2024	2025
Region 001	60.8%	76.6%	76.4%	84.4%
Region 002	55.3%	61.2%	58.2%	52.0%
Region 003	69.3%	73.4%	60.6%	47.0%
Region 004	54.6%	70.7%	70.0%	84.9%
Region 005	57.9%	69.5%	56.6%	55.4%
Region 006	74.0%	84.7%	72.2%	71.7%



Adequate data quality is defined as: 1) No missing data or outliers for OPD, Penta1, and ANC1, where available 2) Consistent reporting between Penta1/Penta3 and ANC1/ANC4.

# Mean DQA score: FASTR output

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## Mean DQA score

Average data quality score across facility-months

	2022	2023	2024	2025
Region 001	90.2%	95.5%	95.5%	96.5%
Region 002	87.3%	89.0%	88.2%	85.6%
Region 003	92.8%	94.8%	91.0%	84.3%
Region 004	88.0%	93.9%	93.0%	97.0%
Region 005	89.5%	93.6%	91.1%	88.6%
Region 006	93.2%	96.3%	93.4%	93.4%

80% or above

70% to 79%

Below 70%

Items included in the DQA score include: No missing data for 1) OPD, 2) Penta1, and 3) ANC1, where available; No outliers for 4) OPD, 5) Penta1, and 6) ANC1, where available; Consistent reporting between 7) Penta1/Penta3, 8) ANC1/ANC4, 9)BCG/Delivery, where available.

## **Approach to data quality adjustment**

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The FASTR analytics platform provides an option for adjusting data for outliers, indicator completeness, or both.

# Adjustment for outliers

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Each outlier is replaced using the facility's own historical data through a **6-month rolling average**.

**Method depends on position in time series:**

Position	Method	Example (outlier in June)
Middle	Centered average	Average of Mar-Apr-May + Jul-Aug-Sep
End	Backward average	Average of Jan-Feb-Mar-Apr-May-Jun (excluding outlier)
Start	Forward average	Average of Jul-Aug-Sep-Oct-Nov-Dec

If rolling averages unavailable: same month from previous year, then facility mean.

# Adjustment for completeness

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Missing values are imputed using the same 6-month rolling average approach.

**Method depends on position in time series:**

Position	Method	Example (missing in June)
Middle	Centered average	Average of Mar-Apr-May + Jul-Aug-Sep
End	Backward average	Average of Jan-Feb-Mar-Apr-May
Start	Forward average	Average of Jul-Aug-Sep-Oct-Nov-Dec

This prevents reporting gaps from creating artificial drops to zero.

## Service utilization analysis

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Monitoring changes in the volume of priority health services over time.

# What we assess

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## Service utilization trends:

- Absolute yearly/quarterly volume for selected services
- Percent change over time
- Comparison across regions

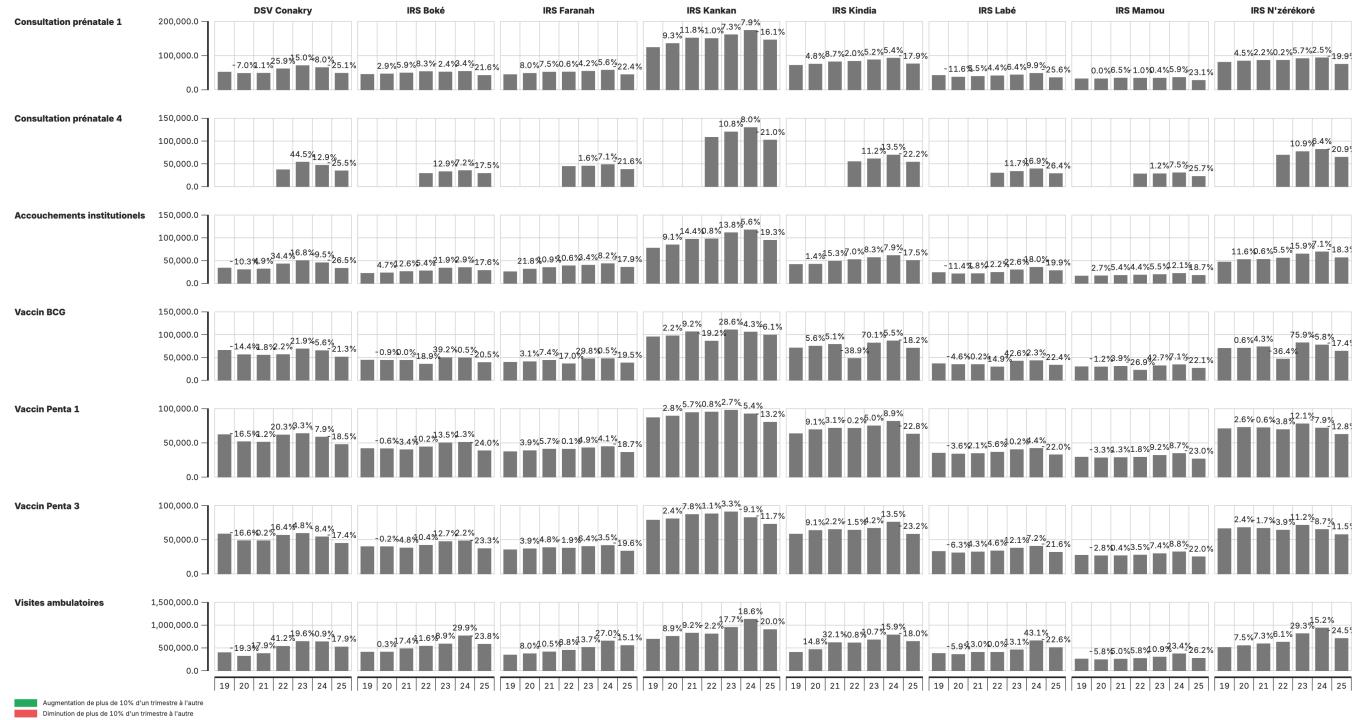
Any year with more than a **10% change** compared to the previous year is flagged for review.

Data can use: raw values, outlier-adjusted, completeness-adjusted, or both adjustments.

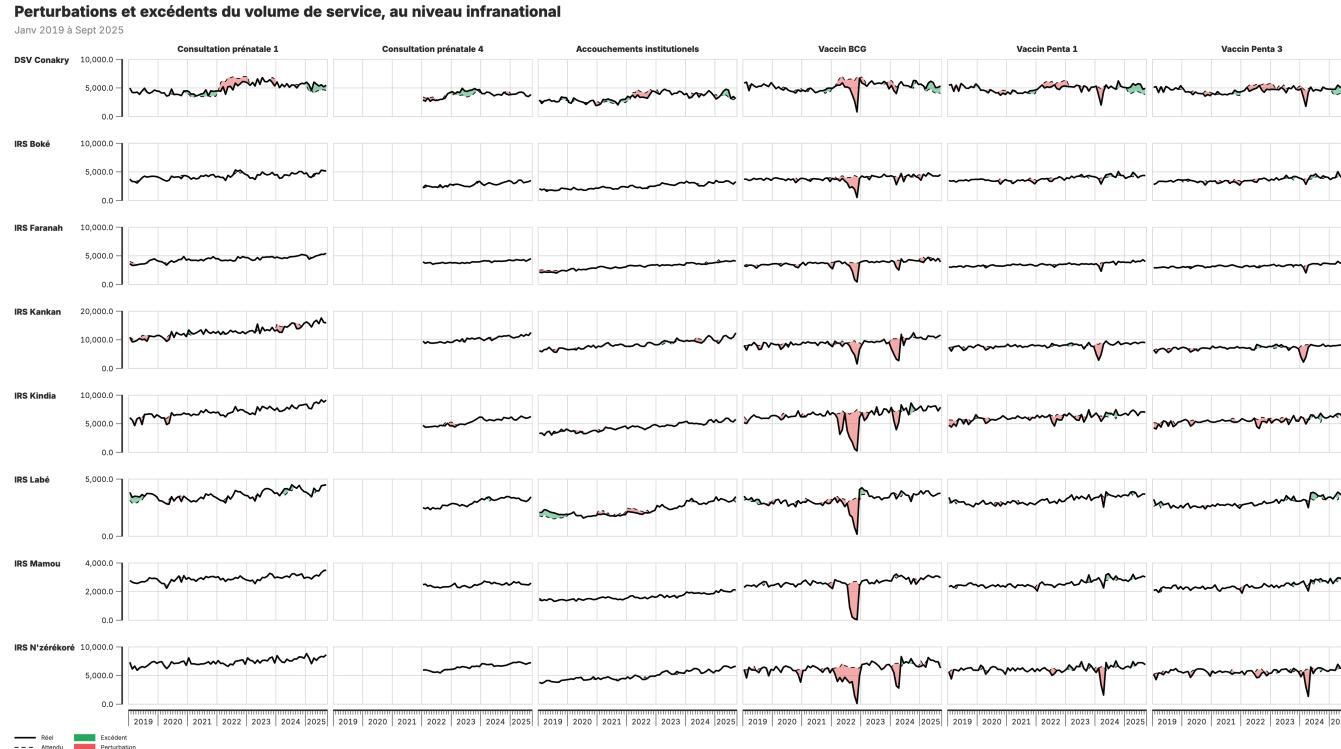
# Service utilization: FASTR outputs

## Service volume by year & year-on-year change

Janv 2019 à Sept 2025



# Service utilization: Subnational



## DHIS2 vs FASTR comparison

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Aspect	DHIS2	FASTR
Data quality	Raw data	Adjusts for outliers and/or completeness
Visualization	Standard trend charts	Percent change to flag meaningful fluctuations
Analysis	Trends only	Trends + disruption quantification

# Disruption analysis

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Beyond simple trends, FASTR can detect and quantify service disruptions.

## How it works:

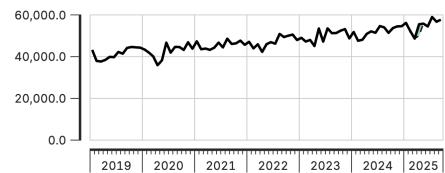
1. Model expected service volumes based on historical patterns and seasonality
2. Compare actual volumes to expected volumes
3. Quantify shortfalls or surpluses in absolute numbers

# Disruption outputs

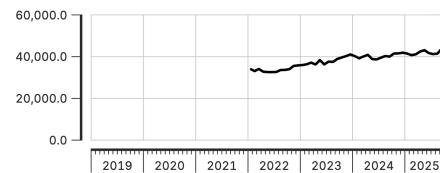
## Perturbations et excédents du volume de service, au niveau national

Janv 2019 à Sept 2025

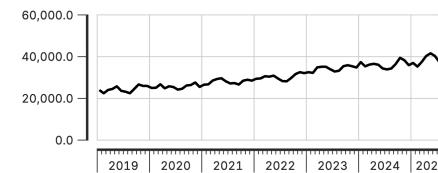
Consultation prénatale 1



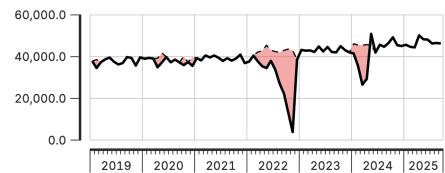
Consultation prénatale 4



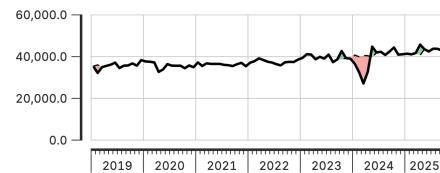
Accouchements institutionnels



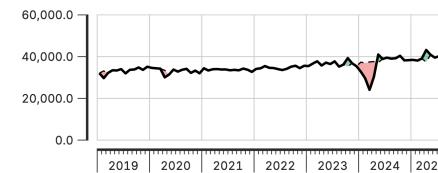
Vaccin BCG



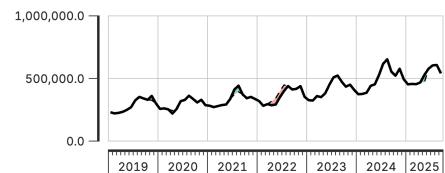
Vaccin Penta 1



Vaccin Penta 3



Visites ambulatoires



— Réel  
- - - Attendu

■ Excédent

■ Perturbation

Ce graphique quantifie les variations au niveau du volume de services, par rapport aux tendances historiques, en tenant compte de la saisonnalité. Ces signaux doivent être triangulés avec d'autres données et connaissances contextuelles, pour déterminer s'ils résultent d'une qualité de données inadéquate. Les variations inattendues de volume sont estimées en comparant le volume observé au volume attendu, selon les tendances historiques et la saisonnalité. Les variations inattendues importantes dans les données historiques sont exclues. Cette analyse repose sur une régression de séries chronologiques interrompues avec effets fixes au niveau des établissements.

## Service coverage estimates

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The Coverage Estimates module (Module 4 in the FASTR analytics platform) estimates health service coverage by answering: "**What percentage of the target population received this health service?**"

**Three data sources integrated:**

- 1.** Adjusted health service volumes from HMIS
- 2.** Population projections from United Nations
- 3.** Household survey data from MICS/DHS

## | Two-part process

### Part 1: Denominator calculation

- Calculate target populations using multiple methods (HMIS-based and population-based)
- Compare against survey benchmarks
- Automatically select best denominator for each indicator

### Part 2: Coverage estimation

- Override automatic selections based on programmatic knowledge
- Project survey estimates forward using HMIS trends
- Generate final coverage estimates

# What is service coverage?

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Coverage answers: *What percentage of the target population received this health service?*

$$\text{Service coverage} = \frac{\text{Population who received the service}}{\text{Population who need the service (target population)}}$$

Numerator comes from DHIS2 data, count of services adjusted for outliers

Several options for estimating the denominator

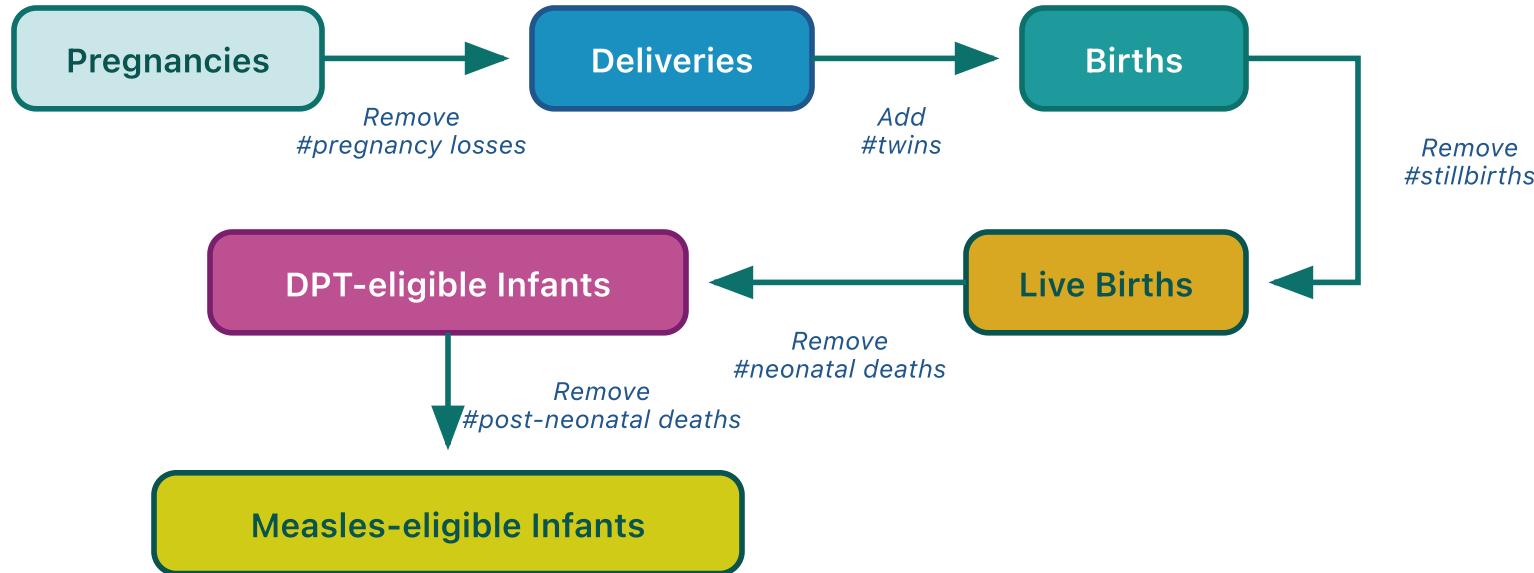
## Types of denominators for FASTR core analysis

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Type of service	Denominator
ANC	Pregnancies
Delivery	Live births
BCG	Live births
Penta1	Infants eligible for Penta (infants surviving 1+ months)
Penta3	Infants eligible for Penta (infants surviving 1+ months)

# Expected relationships which help with estimating denominators

Starting from pregnancies, apply demographic factors to estimate other denominators:



## Default values:

Pregnancy loss rate = 0.03 | Twin rate = 0.015 | Stillbirth rate = 0.02 | NMR = 0.03 | PNMR = 0.02

Use country-specific values for stillbirth rate, NMR, PNMR, and IMR when available from DHS/MICS.

## Estimating denominators from ANC-1

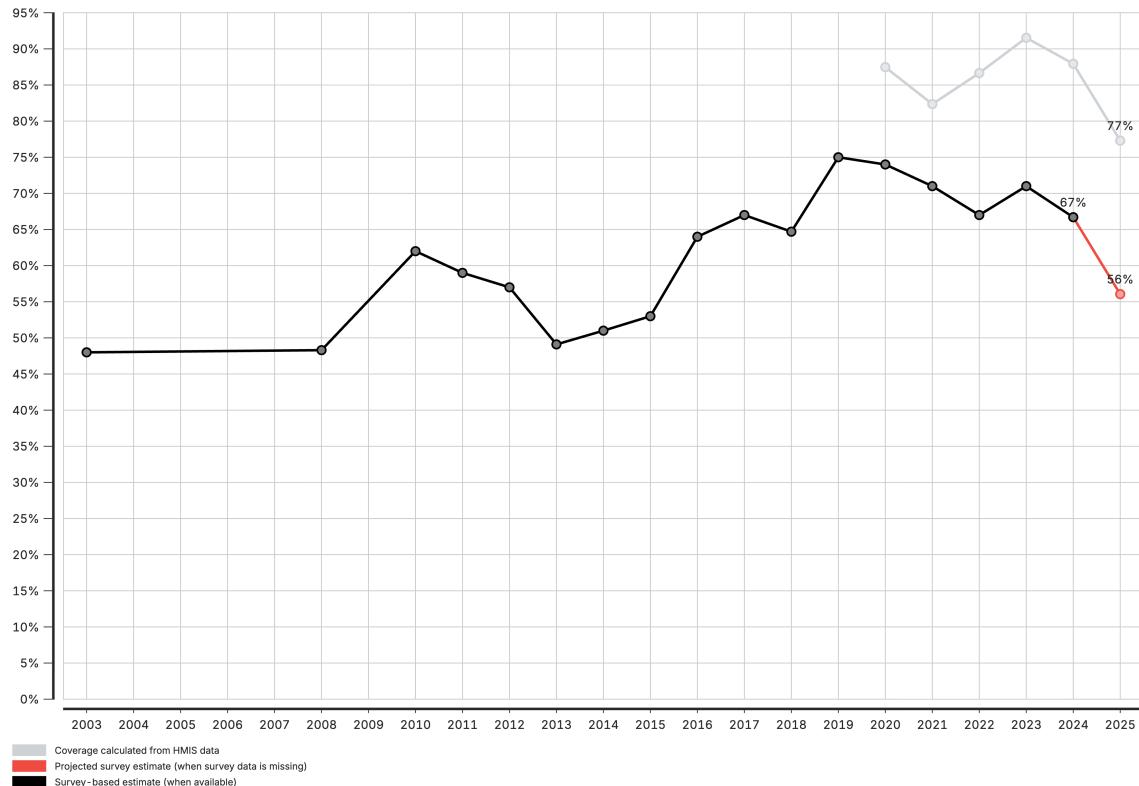
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Using survey coverage + DHIS2 counts to derive denominators:

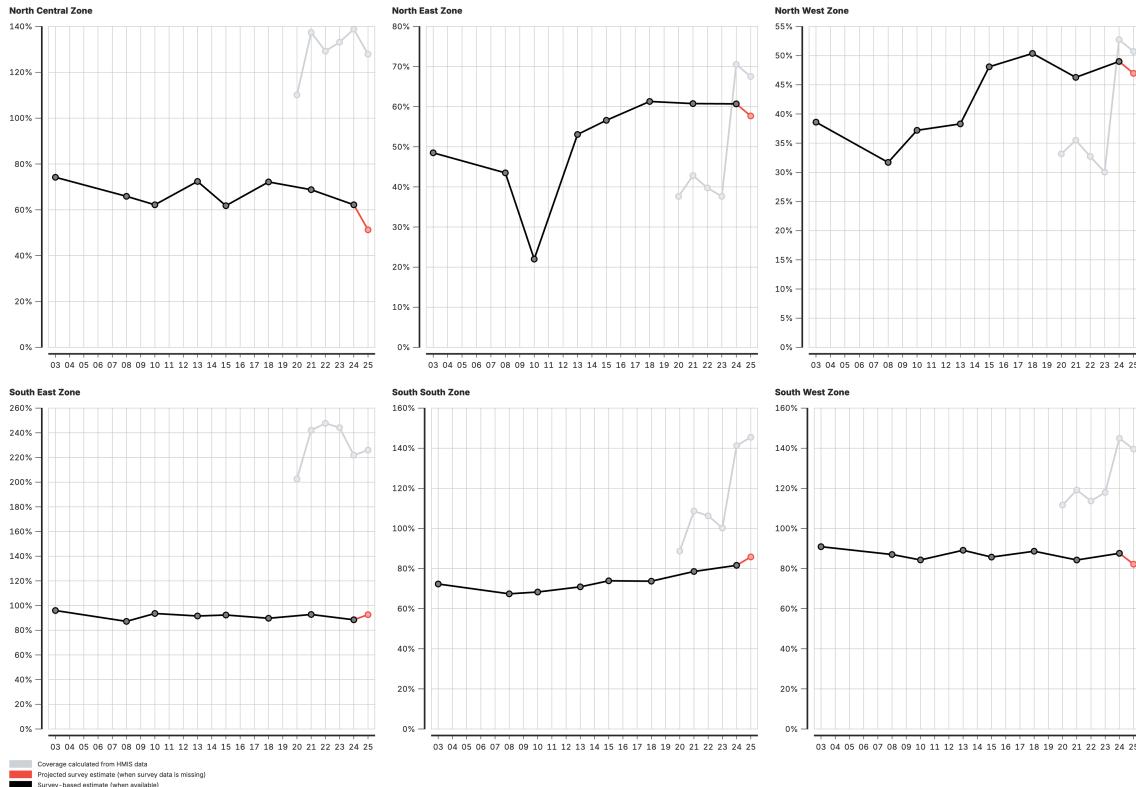
Step	Formula	Example
Pregnancies	$\text{ANC1 count} \div \text{ANC1 coverage}$	$100,000 \div 0.95 = 105,263$
Deliveries	$\text{Pregnancies} \times (1 - \text{stillbirth rate})$	$105,263 \times 0.97 = 102,105$
Live births	$\text{Deliveries} \times \text{survival rate}$	$102,105 \times 0.98 = 100,063$

# Coverage estimates: National level

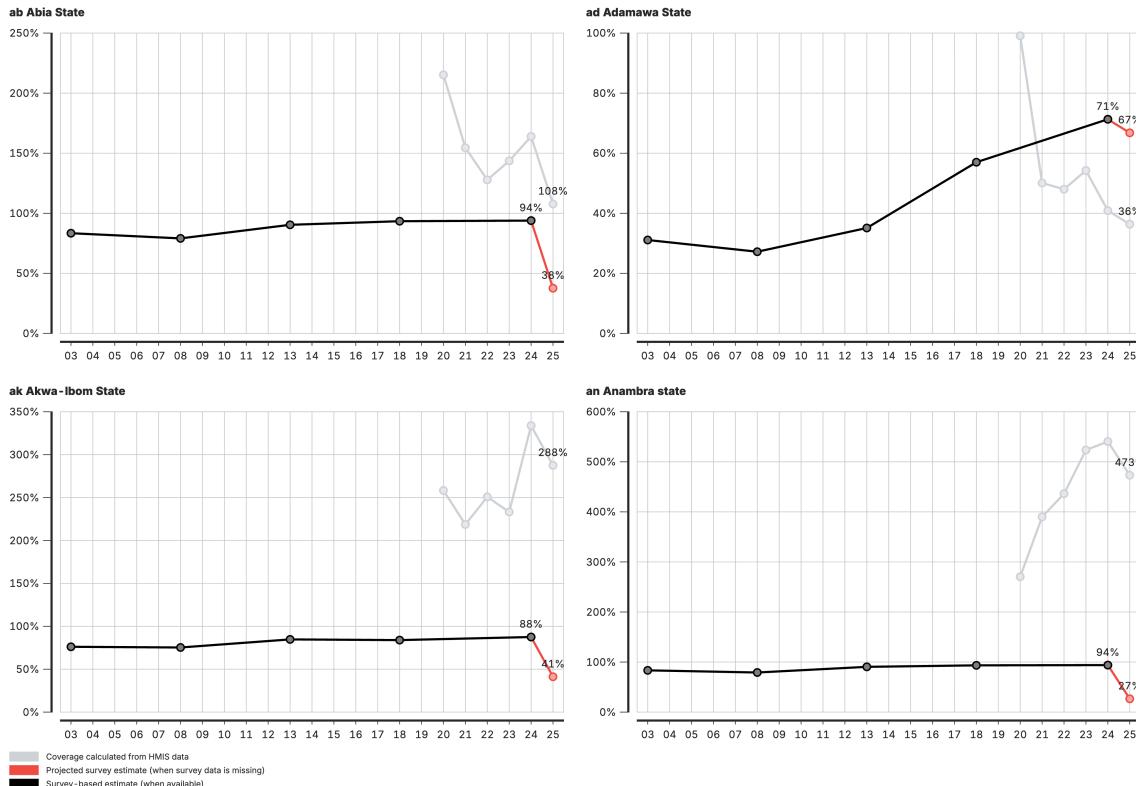
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# Coverage estimates: Admin area 2



# Coverage estimates: Admin area 3



# **Session 6: Creating a project**

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# Activity: Creating a Project

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In this hands-on session, we will:

- Set up a new project
- Configure project settings
- Select indicators and time periods
- Apply best practices for project organization

*Participants will create their first project*

# Session 7: Creating visualizations

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# Activity: Creating Visualizations

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In this hands-on session, we will:

- Explore available chart types
- Create and customize visualizations
- Export charts for use in reports

*Participants will build visualizations from their analysis*



## Lunch Break

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90 minutes

Back at 14:00

# **Session 8: Creating reports**

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# Activity: Creating Reports

---

In this hands-on session, we will:

- Use report templates
- Generate automated reports
- Customize report content and layout

*Participants will create their first quarterly report draft*

# Day 3

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# Recap

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On Day 2, we covered:

- FASTR methods for data quality assessment and adjustment
- Creating and configuring projects in the platform
- Building visualizations from Zambia data
- Generating reports

# Day 3 Focus

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Today we move from analysis to action:

- Deep dive into interpretation of results
- Create the Q4 2025 quarterly report
- Present findings to the group
- Develop action plans for continued work

# **Session 8: Interpretation of visualizations**

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# Analytical thinking & interpretation

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*Content to be developed*

This section will cover:

- Frameworks for interpreting FASTR outputs
- Connecting data patterns to programmatic meaning
- Common interpretation pitfalls to avoid
- Building analytical thinking skills

# **Session 9: Creating a Q4 2025 report**

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# Generating quarterly reporting products

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## *Content to be developed*

This section will cover:

- Quarterly reporting workflow
- Using the FASTR platform for automated reports
- Quality assurance for reports
- Distribution and feedback mechanisms



## Lunch Break

---

90 minutes

Back at 14:00

# **Session 10: Presenting reports**

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# End user mapping

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End user mapping helps ensure that our outputs will meet the real needs of our end users.

## | Key questions

- 1. Who is my end user?**
- 2. What does this end user need to accomplish with the report?**
- 3. What information are they most interested in?**
- 4. What do they like/not like about current reports?**
- 5. How do they like to receive their information?**

# Day 4

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# Recap

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On Day 3, we covered:

- Interpretation of FASTR visualizations
- Creation of the Q4 2025 quarterly report
- Presentation of findings and group feedback
- Action planning for continued platform use

# Day 4 Focus

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Today we design the Health Facility Assessment:

- Overview of the FASTR HFA phone survey
- Review questionnaire structure
- Adapt questionnaire for Zambia context
- Plan HFA priorities and data use

# **Session 12: Overview of FASTR HFA phone survey**

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# **Health Facility Assessment Phone Survey**

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Complementing routine data with facility-level insights

# **Survey Objectives**

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The FASTR HFA phone survey is designed to:

- 1. Monitor** service availability, readiness, and functioning of PHC facilities over time (with emphasis on RMNCAH-N services)
- 2. Characterize** and assess effect of shocks on PHC functioning
- 3. Inform** and assess implementation of interventions for resilient PHC systems
- 4. Enhance timeliness** by supplementing large-scale in-person surveys with a rapid-cycle phone approach

# Tool Design

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## Framework alignment:

- Aligned with WHO/UNICEF Primary Health Care Measurement Framework (2022)

## Question sources:

- WHO Harmonized Health Facility Assessment
- WHO Service Availability and Readiness Assessment (SARA)
- World Bank Service Delivery Indicators (SDI)
- DHS Service Provision Assessment (SPA)
- USAID MOMENTUM

## Implementation:

- Phone-based survey to facility managers/Officers in Charge
- Target duration: 30 minutes
- Quarterly contacts
- Modular design for flexibility

# Why phone surveys?

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Routine HMIS data tells us *what* is happening:

- How many services were delivered
- Which facilities reported
- Where there might be data quality issues

But HMIS data can't tell us *why*:

- Is the facility actually open?
- Are essential supplies available?
- Are trained staff present?
- What challenges are facilities facing?

Phone surveys fill this gap by contacting facilities directly to understand context.

## What the survey covers

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1. Is the facility open and functioning?
2. Which services are currently available?
3. Are essential medicines in stock?
4. What staff are present today?
5. What challenges is the facility facing?

Results help explain *why* routine data might show certain patterns.

## Questionnaire adaptation guidelines

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# **Why adapt the questionnaire?**

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The standard FASTR questionnaire is a **starting point**, not a final product.

**Every country needs to:**

- Translate into local language(s)
- Use local health system terminology
- Focus on nationally relevant indicators
- Adjust for local facility types
- Match local supply/medicine names

# Adaptation principles

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## Keep what matters:

- Core questions on operational status
- Essential supply availability
- Basic service provision

## Adapt to context:

- Local terminology and naming
- Country-specific priority services
- Relevant response categories

## Don't add too much:

- Phone surveys should stay short (15-30 min)
- Focus on actionable information
- Avoid "nice to know" questions

# **Session 13: Questionnaire adaptation to the Zambian context**

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## Questionnaire structure and review

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*Note: Content generated with AI - human review needed*

## Survey blocks

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Block	Content
A	Health Facility and Respondent Information
B	Shocks
B.1	Resilience to Shocks
B.2	Challenges in Past Three Months
C	Services
D	Infrastructure
E	Financing
F	Workforce and Staffing
G	Supplies
H	Leadership and Coordination
I	Community Engagement
J	Quality Improvement Processes

# Review process

---

For each block, ask:

1. Is this question relevant for our context?
2. Is the wording clear in local language?
3. Are the response options complete?
4. Should we add country-specific items?
5. Can we remove anything non-essential?

**Goal:** A questionnaire that is locally relevant while maintaining comparability with the FASTR standard.

# Hands-on questionnaire adaptation

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*Note: Content generated with AI - human review needed*

# Activity overview

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## What we'll do:

Work in groups to adapt the standard FASTR questionnaire to our country context.

## Groups:

- Group 1: Blocks A-B (Facility info, Shocks, Resilience, Challenges)
- Group 2: Blocks C-D (Services, Infrastructure)
- Group 3: Blocks E-F (Financing, Workforce)
- Group 4: Blocks G-J (Supplies, Leadership, Community, QI)

## **Adaptation checklist**

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For each question in your block:

- [ ] Is the question clear in local language?
- [ ] Are response options appropriate?
- [ ] Should we add country-specific items?
- [ ] Can we simplify without losing information?
- [ ] Does skip logic make sense?

**Document your changes** for group discussion.

# Group discussion

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After working in groups, we'll:

- 1. Present adaptations** - Each group shares key changes
- 2. Discuss trade-offs** - What did we add vs. remove?
- 3. Reach consensus** - Agree on final adaptations
- 4. Plan pre-testing** - How will we test the adapted questionnaire?



## Lunch Break

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90 minutes

Back at 14:00

# **Session 16: Discussion: HFA priorities and data use**

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## HFA priorities and data use

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*Note: Content generated with AI - human review needed*

# Using survey results

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Phone survey results should inform:

## 1. Routine data interpretation

- Explain patterns in HMIS data
- Validate data quality concerns

## 2. Targeted support

- Identify facilities needing intervention
- Prioritize supervision visits

## 3. Supply chain management

- Track stockout patterns
- Inform distribution planning

# Linking survey to routine data

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Example use cases:

HMIS pattern	Survey question	Insight
Facility stopped reporting	Is facility open?	Closed vs. reporting failure
Sudden drop in services	Stock availability?	Stockout impact
Low immunization numbers	Vaccine in stock?	Supply vs. demand issue

**Goal:** Triangulate multiple data sources for better decision-making.

## Next steps for HFA implementation

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1. Finalize adapted questionnaire
2. Train enumerators
3. Establish call schedule
4. Conduct pilot round
5. Analyze and link to HMIS
6. Report and use findings

**Key question:** How will HFA results feed into your routine monitoring and decision-making processes?

# Next Steps & Action Planning

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Key actions to take after this working session:

- Finalize adapted phone survey questionnaire
- Complete first quarterly report draft
- Train remaining MoH team on data downloader tools
- Prepare roadmap for participation in Abuja workshop

# Quarterly Reporting Cycle

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Establish a sustainable reporting rhythm:

- Define quarterly report timeline and responsibilities
- Set up data extraction schedule
- Establish review and approval process
- Plan dissemination to stakeholders

# Continued Platform Usage

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Maintain momentum with the FASTR platform:

- Regular data updates and quality checks
- Expanding analysis to additional indicators
- Building capacity across MoH teams
- Documentation of lessons learned

# Workshop Closing

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Thank you for your participation!

Over the past four days, we have:

- Configured the FASTR platform for Zambia
- Created the first quarterly RMNCAH-N report
- Adapted the HFA questionnaire for local context
- Built capacity for ongoing analysis and reporting

# Stay Connected

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Continue the journey:

- Platform access and support
- Quarterly report submissions
- Multi-country workshop in Abuja
- Ongoing technical assistance from GFF team

# Thank You

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FASTR Working Session - Zambia  
January 27-30, 2026  
Lusaka

# Contact Information

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## FASTR Team

 Email:

 Website: <https://www.globalfinancingfacility.org/>

