CASSION · PROJECT REPORT

Ten supervision visits, and why each one

Vaccination coverage and dropout analysis

Organisation	District health office, 38 reporting facilities
Prepared for	District EPI supervisor
Updated	July 26, 2026
Sectors	Public Health
Standards and methodologies	UNICEF indicator definitions · Sustainable Development Goals (SDG)
Data	`routine-vaccination-coverage-2024`

> DECISION THIS INFORMS
>
> Which ten facilities receive a supervision visit next quarter.

Every dataset behind this report is synthetic. No record traces to a real person, and no figure here describes a real programme.

Read the project online at data-analysis.cassion.dev/projects/vaccination-coverage-analysis

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Context

The problem

Monthly coverage dashboards ranked facilities by reported coverage without adjusting for whether the facility reported at all, so supervision visits kept going to facilities whose only real problem was a late report.

1 Recommendation

Visit **FAC021, FAC035, FAC009, FAC015, FAC023, FAC034, FAC004, FAC006, FAC011 and FAC019** next quarter, in that order.

Fourteen of thirty-eight facilities fail at least one data check and ten visits are available, so the list is prioritised rather than filtered. Every facility carries the reason it is on the list, because a visit with no stated question is a wasted day.

Four facilities failed a check and did not make the list — **FAC026, FAC028, FAC030 and FAC036**, all at 66.7% reporting completeness. They are next quarter's first candidates. A supervisor who is not told about them will assume the list was exhaustive.

2 The defect this quarter's review corrects

The previous dashboard ranked facilities on doses divided by target population, summed over all twelve months whether or not the facility reported. A facility that submitted nothing appears in the extract as rows of zeroes, so a silent facility looked like a failing one.

District reporting completeness is **76.5%** — a quarter of the facility-months are missing. Ranking on the two denominators and comparing positions:

Facility	Reported-only	All months	Completeness	Rank change
FAC019	0.866	0.505	58.3%	+21
FAC021	0.876	0.511	58.3%	+21
FAC033	0.680	0.680	100%	−21
FAC001	0.767	0.703	91.7%	−19
FAC006	0.986	0.575	58.3%	+17
FAC004	1.015	0.592	58.3%	+16

Facilities move by up to twenty-one places, and **they move by how often they reported, not by how well they vaccinated.** Every facility that gains rank is at 58.3% completeness; every facility that loses rank is at 91.7% or 100%. That is the defect, isolated.

Full indicator definitions and the pro-rated denominator are in `docs/methodology.md`.

3 The visit list

Facility	Completeness	Dropout	Coverage	Reason
FAC021	58.3%	−29.6%	0.876	penta3 > penta1 on the year; reported 58% of months
FAC035	58.3%	−4.1%	1.121	penta3 > penta1 on the year; reported 58% of months
FAC009	66.7%	−5.7%	0.676	penta3 > penta1 on the year; reported 67% of months
FAC015	66.7%	−0.8%	0.692	penta3 > penta1 on the year; reported 67% of months
FAC023	66.7%	−11.1%	0.842	penta3 > penta1 on the year; reported 67% of months
FAC034	66.7%	−8.0%	0.844	penta3 > penta1 on the year; reported 67% of months
FAC004	58.3%	13.3%	1.015	reported 58% of months
FAC006	58.3%	13.4%	0.986	reported 58% of months
FAC011	58.3%	6.7%	0.774	reported 58% of months
FAC019	58.3%	23.8%	0.866	reported 58% of months

Over-reporting outranks low completeness. A facility reporting more third doses than first doses on the annual total is producing numbers that are *wrong*; a facility that did not report is producing numbers that are *absent*. Absent is recoverable by asking. Wrong has already entered the district total and the denominator of every figure derived from it.

Six facilities report more penta3 than penta1 across the year. That is not possible as a cohort and points at a tally-sheet or data-entry problem the visit should find.

4 A criterion that fired zero times

The dropout check — more than 25% between penta1 and penta3 — **caught nothing**. Median dropout is 14.2% and no facility exceeds 25% on the annual total.

This is reported rather than quietly dropped. A supervision list built on dropout alone would have been empty, and a criterion that disappears from the methodology cannot be seen to have been tested. **The threshold was not lowered to make it bind**: 25% is the conventional programmatic action level, and moving it to produce a list would be fitting the criterion to the desired output.

5 August and September are a district problem

Month	Completeness
July	81.6%
August	**28.9%**
September	**44.7%**
October	94.7%

Whatever happened in those two months affected most of the district at once. A supervision list built on that window would visit whoever happened to be quiet during a district-wide disruption, which is why this review uses annual figures.

The cause is not in this data. Whether it was a strike, a system outage or a change of reporting tool changes what the supervisor should ask, and it should be established before the visits.

6 What the list claims

It is a list of facilities whose **data** deserves a conversation. Whether the underlying service is failing is what the visit is for.

A facility on this list is not thereby a poorly performing immunisation service, and a facility off it is not thereby a good one. Facilities with high completeness and genuinely

low coverage are invisible to these three checks — a deliberate scope limit, because with an administrative denominator this data cannot separate low coverage from an overstated catchment.

Coverage above 1.0 at FAC004 and FAC035 is the visible symptom of that.

7 Recommended next steps

1. **Establish what happened in August and September** before the visits, so the supervisor is not asking each facility about a district-wide event.
2. **Take the tally sheets to the six over-reporting facilities.** penta3 above penta1 on an annual total is an arithmetic impossibility, and the source is findable on site.
3. **Name the four unvisited facilities in the quarterly minutes**, so the list is not read as exhaustive.
4. **Review the target populations** with the district statistician. Two facilities report coverage above 100%, which is a denominator problem no supervision visit can fix.

About this edition

This report is generated from the same source as the project page, so the two cannot drift. The online edition carries the analysis notebook, the dataset and any corrections issued since this file was produced.

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