

ANALYTICAL REPORT • 2005–2024

# Global Leprosy Challenges and Trends

New-case detection, treatment-registration records, grade-2 disability  
and missing surveillance data, 2005–2024

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**Strategic focus:** LEARN-HOA — Leprosy Electronic and Active Registry Network for the Horn of Africa

Target countries: Ethiopia and Somalia

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Source: WHO leprosy indicators, Power BI dashboards

# Two decades of data — big progress but sustained burden

4,269,853

Cumulative reported  
new cases (2005–2024)

2,246,392

Values recorded as  
“cases registered for treatment”

147,745

New cases with  
grade-2 disability (G2D)

3.46 / 100

G2D records per 100  
new-case records

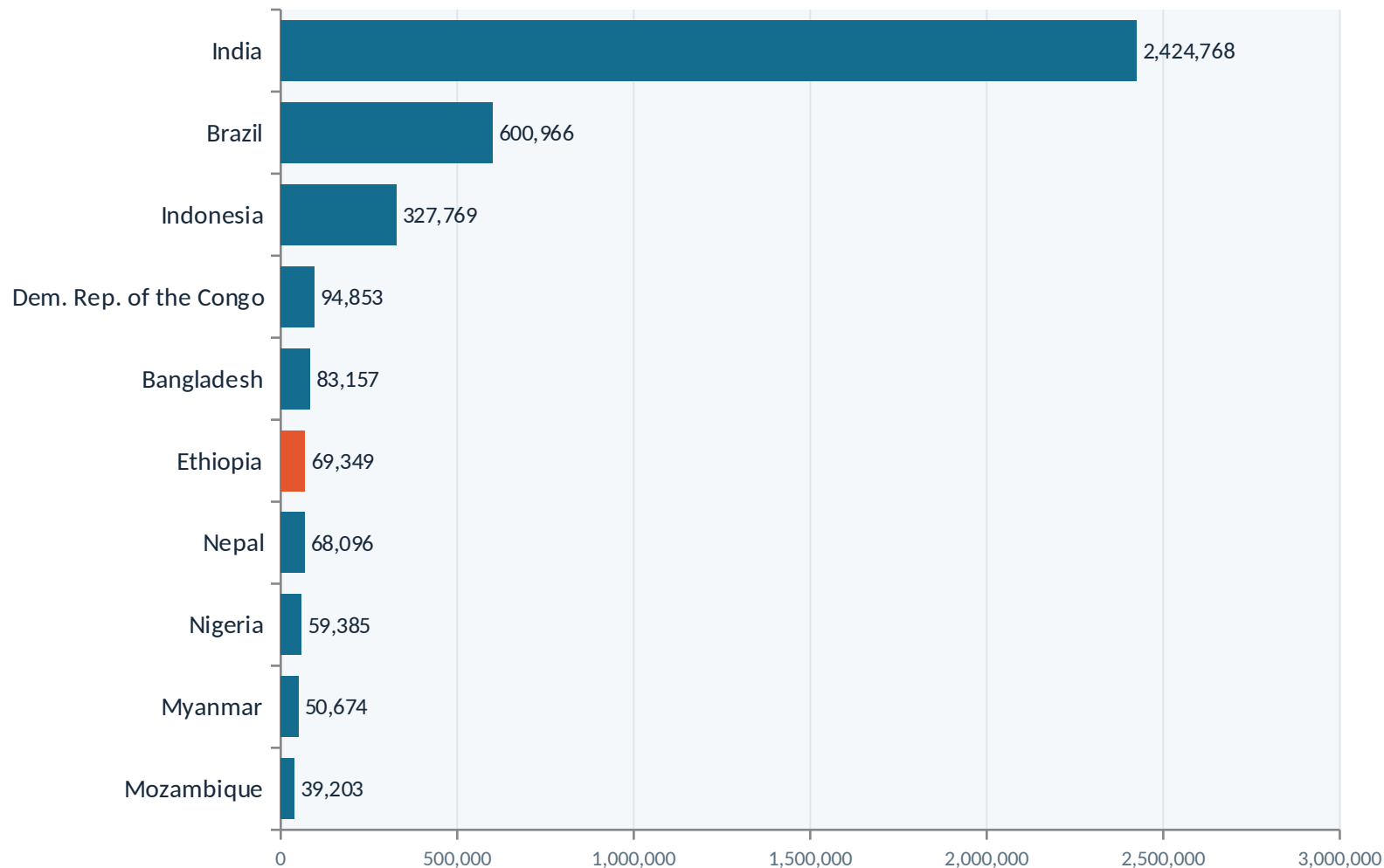
The WHO data-derived dashboards show leprosy remained a sustained global and regional public-health challenge throughout 2005–2024. Regional trend graphs indicate a long decline followed by stagnation and pandemic-era disruption, rather than a smooth path to elimination. Ethiopia and Somalia stand out for both recorded burden and data-system concerns, making them priority targets for the LEARN-HOA registry.



**Interpretation note — read every figure in this deck with this caveat**

Dashboard totals are sums of reported annual indicator values. They are not prevalence, unique persons, incidence estimates, or treatment-coverage percentages. Treatment-registration figures already exceed new-case totals for several countries, so they cannot be divided by new cases as a coverage measure — and a blank report must never be treated as zero disease.

# Ten countries account for most of the reported burden



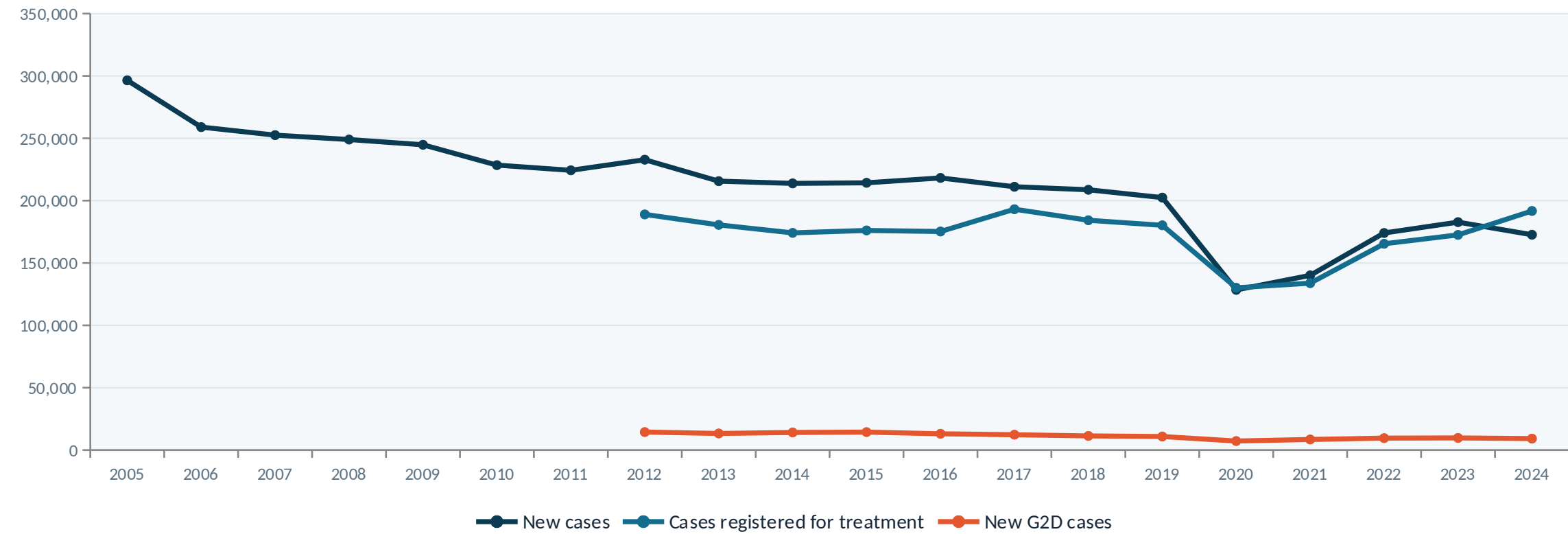
Top-10 share

**3,818,220**  
cumulative new cases in  
the top-10 countries

**89.4%**  
share of the 4,269,853  
global cumulative total

**Why Ethiopia matters**  
Ethiopia ranks 6th globally and 2nd in the African Region with 69,349 cumulative new-case records — a sustained volume that justifies subnational surveillance strengthening.

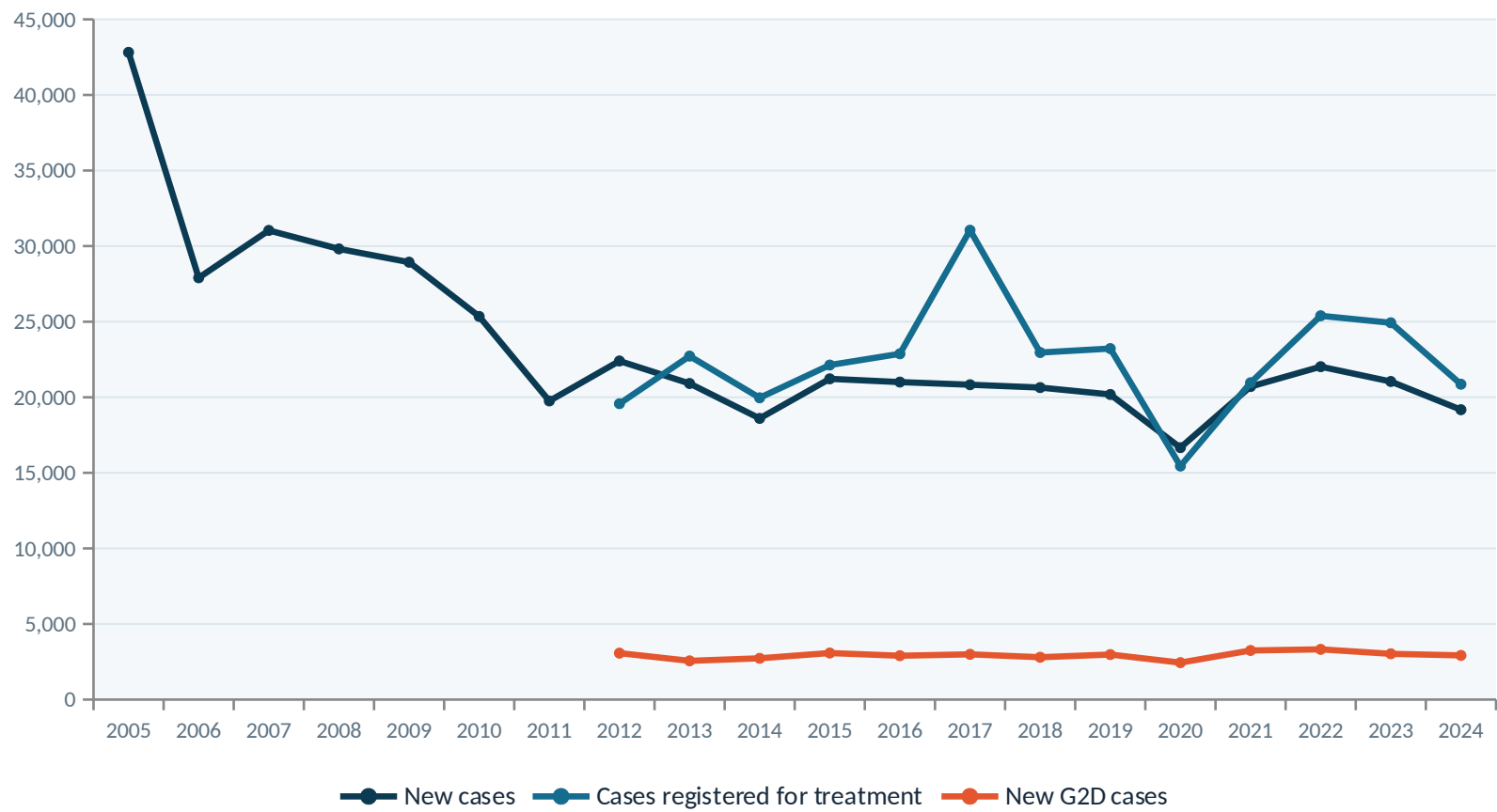
# A long decline, then stagnation and pandemic-era disruption



### 2020-2021 must be flagged as structurally disrupted years

The visible trough is consistent with pandemic-related interruption of diagnosis, outreach and reporting — not necessarily a fall in transmission. Treatment-registration and G2D series are only available in the dashboards from 2012 onward.

# Africa: sharp early decline, then a decade of stagnation



**470,986**  
cumulative new-case records

**62.0 / 100**  
treatment-registration ratio

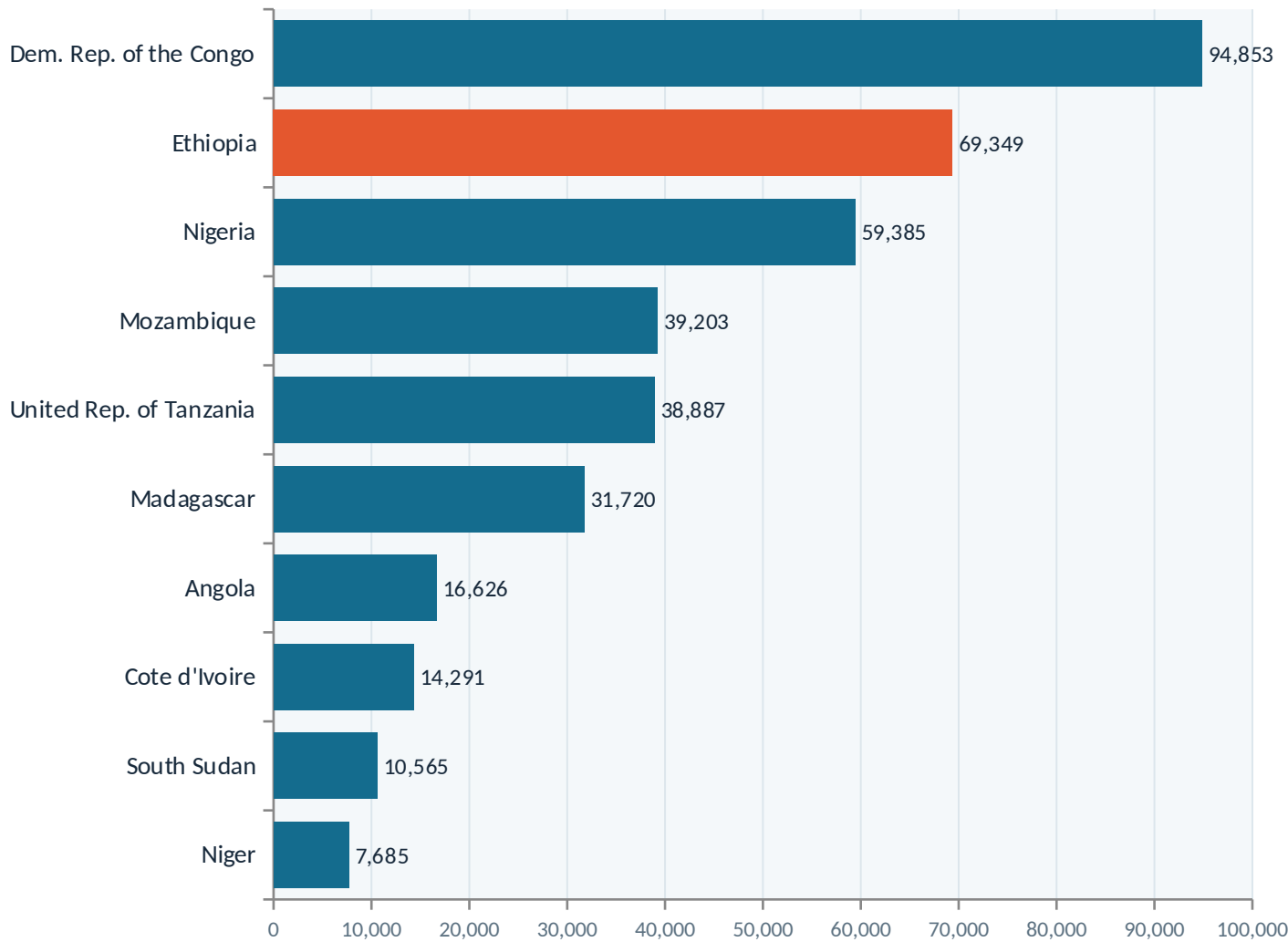
**8.08 / 100**  
G2D diagnostic ratio



### Reading the curve

New cases fall from ~43,000 (2005) to ~19,700 (2011), then stagnate near 20,000–22,000. A 2020 trough near 17,000 rebounds through 2021–2023.

# Ethiopia ranks second across the African Region



## ETHIOPIA SPOTLIGHT

Cumulative new cases

69,349

2nd in Africa · 14.7% of regional total

Treatment registrations

113,104

Exceeds new cases by 43,755 — not a coverage measure

Displayed “No data”

36,657

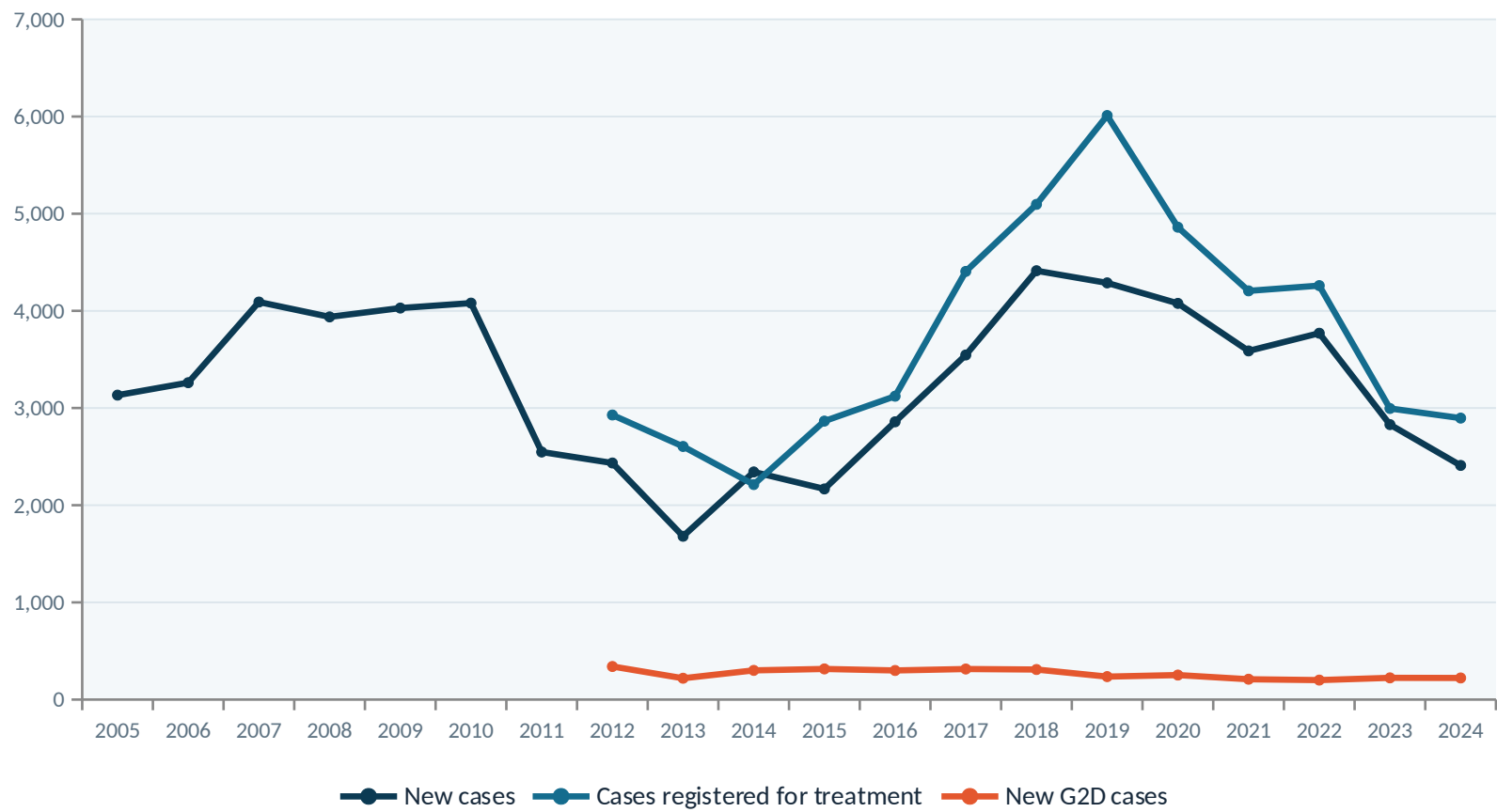
3rd-largest missingness signal after DRC & Nigeria

2024 detection change

-19.3%

Linked partly to worsening security and access, not confirmed transmission decline

# EMR: volatility driven by access, conflict and reporting



**65,480**  
cumulative new-case records

**74.0 / 100**  
treatment-registration ratio

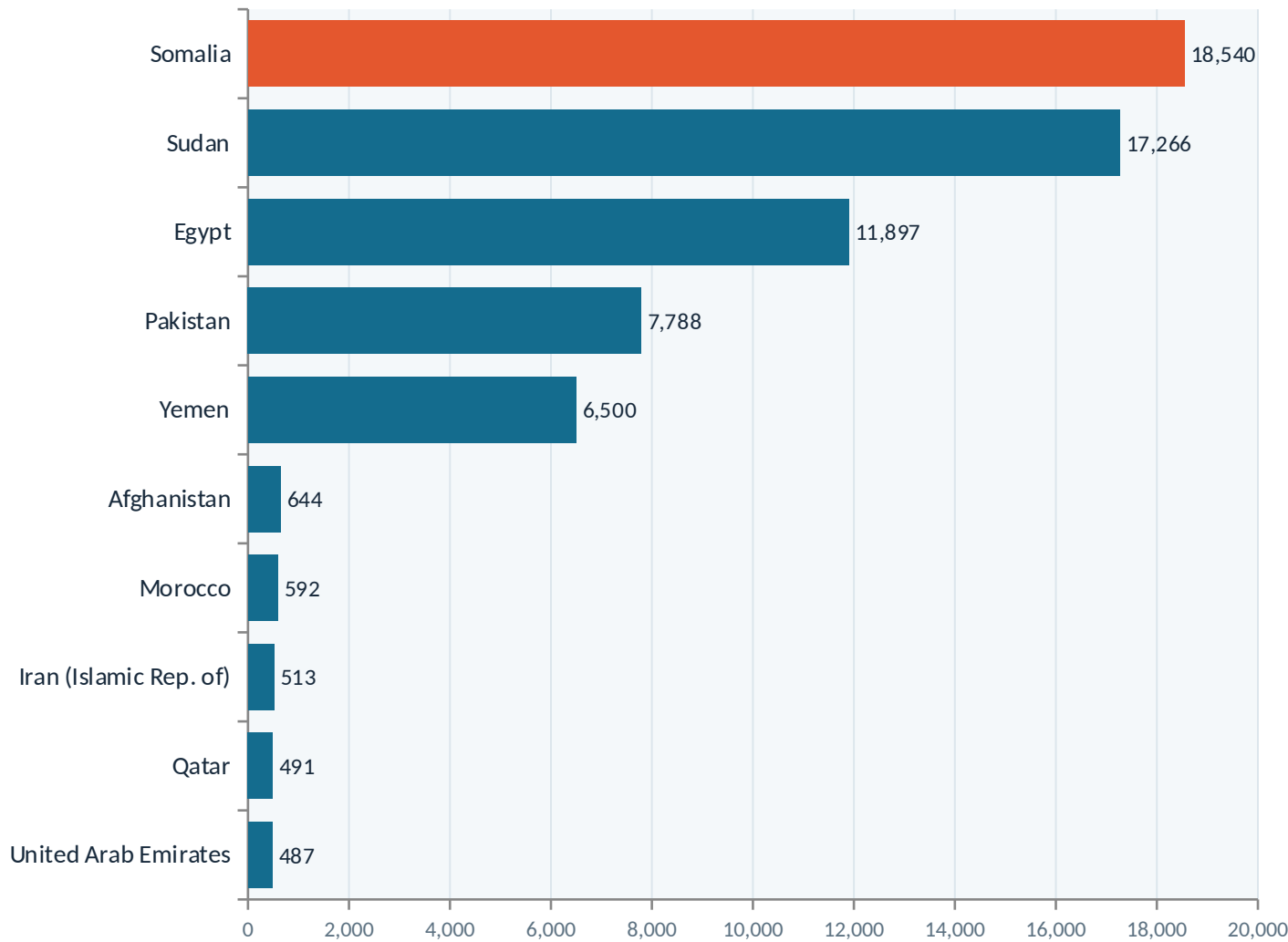
**5.25 / 100**  
G2D diagnostic ratio



### Reading the curve

New cases swing from ~4,100 (2007–10) down to ~1,700 (2013), back above 4,000 (2018–20), then decline to ~2,400 by 2024 — volatility, not a steady trend.

# Somalia ranks first across the Eastern Mediterranean Region



## SOMALIA SPOTLIGHT

Cumulative new cases

18,540

1st in EMR • 28.3% of regional total

Treatment registrations

35,957

1st in EMR • exceeds new cases by 17,417

Displayed “No data”

15,994

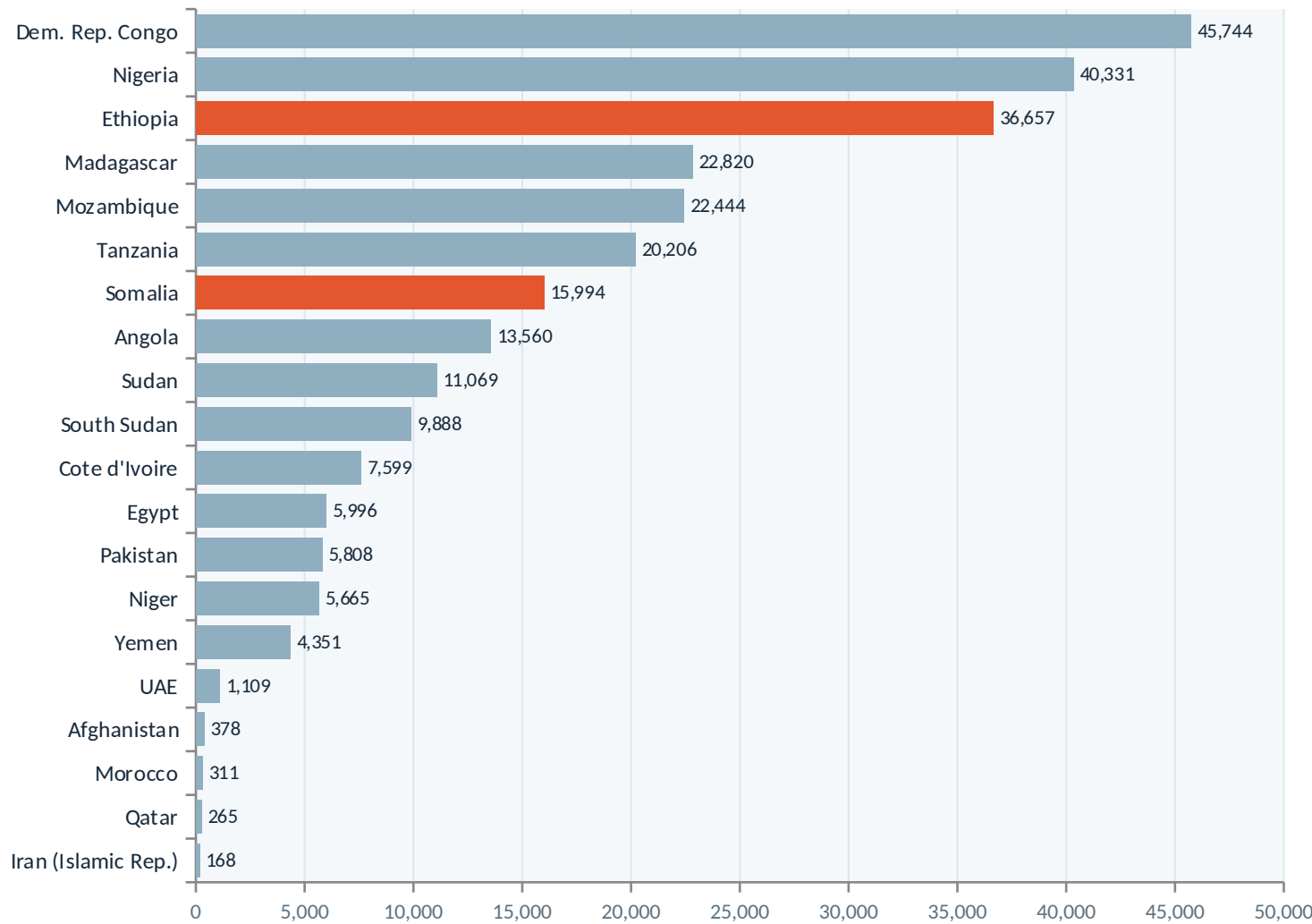
Largest missingness signal among EMR countries shown

2024 detection change

-34.2%

May reflect worsening security and access rather than reduced transmission

# Missing data is a core finding, not a footnote



## Ethiopia & Somalia lead on missingness

The dashboards display 36,657 “No data” values for Ethiopia and 15,994 for Somalia in the treatment/disability missingness analysis. The exact unit must be verified — missing country-year observations should normally be counted as observations, not summed as case values. Regardless of unit, both countries show that elimination planning is constrained by incomplete information.

*A blank must never be treated as zero disease.*

### Recommended missing-data taxonomy (Appendix / §7)

- 0** Verified zero — report received, no event
- NA** Not applicable — field doesn't apply
- UNK** Unknown — event may have occurred, value unknown
- NR** Not reported — expected submission absent
- SYS** System unavailable — collection/sync failed

# Five cautions before any figure in this deck is quoted

1

## Not a coverage measure

Treatment-registration exceeds new cases for several countries — it is not a same-cohort numerator and must not be labelled treatment coverage.

2

## Incomplete reporting years

Years visible for treatment and G2D are incomplete compared with the new-case series; comparisons must use common reporting years.

3

## “No data” unit unverified

Missingness bar values are too large to represent counts of missing country-years alone; the aggregation logic requires audit.

4

## No population adjustment

Country rankings use absolute cumulative counts. Rates per million, child population and reporting completeness are needed for fair comparison.

5

## Key fields absent

The dashboards do not provide sex, age, child cases, MB classification, contacts, SDR-PEP, MDT completion, reactions, relapse or exact diagnosis-to-treatment intervals.

# From dashboard to active electronic registry

LEARN-HOA is a surveillance-and-action network, not a visualization project. It must create a longitudinal evidence chain from suspicion to diagnosis, treatment, disability care, contacts and outcome. Every alert must be assigned, acted on and closed.

1

## Validate

Reconcile facility registers, district summaries and DHIS2/WHO data; resolve duplicates and indicator definitions.

2

## Stratify

Combine recent cases, child cases, G2D, diagnostic delay, contact-screening gaps and reporting silence.

3

## Prioritize

National programmes select feasible hotspots and data-silent communities; an algorithm never decides alone.

4

## Screen & confirm

Trained teams, private examination, national diagnostic guidelines and documented referral.

5

## Link & follow

Initiate MDT promptly, manage reactions/disability, record contacts and approved prevention, verify completion.

6

## Learn

Review monthly performance, investigate missingness, return findings to facilities and communities, adapt.

# Aligned with the WHO Global Leprosy Strategy 2021–2030



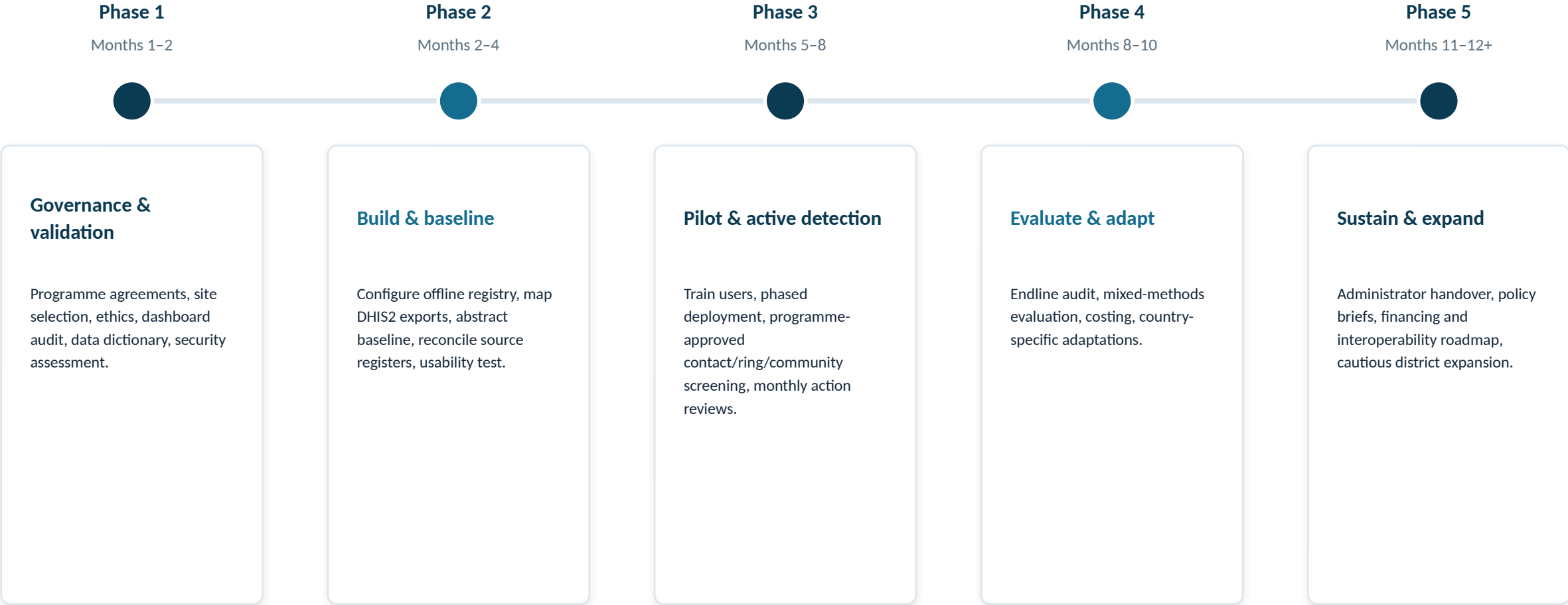
Global 2030 elimination targets



**LEARN-HOA's contribution**

LEARN-HOA can improve the validity and actionability of these indicators through auditable, person-level surveillance — but a short pilot cannot itself claim interruption of transmission or elimination. Those require sustained epidemiologic and programmatic evidence assessed through WHO frameworks.

# A 12-month implementation roadmap for Ethiopia and Somalia



## PRIORITY RECOMMENDATIONS

- 1 Validate WHO indicator definitions, units, reporting years and Power BI aggregation rules before publishing any ratio or country comparison.
- 2 Pilot LEARN-HOA as an offline-capable, country-owned case/contact registry in selected high-burden and data-silent districts.
- 3 Replace the ambiguous “registered for treatment” comparison with a patient-level cascade: confirmed → MDT started → retained → completed → verified.
- 4 Treat missing, zero, not applicable, not reported and unknown as distinct coded states; monitor field completeness monthly.
- 5 Use child cases, G2D at diagnosis, delayed treatment, contact gaps and surveillance silence to prioritize active case-finding.
- 6 Share only de-identified aggregate indicators across countries; retain identifiable records under national governance.

## CONCLUSION

The 2005–2024 dashboards show substantial progress from mid-2000s notification levels, but also stagnation, disruption, persistent G2D and major information gaps.

Ethiopia and Somalia remain priority settings: sustained recorded burden combined with missing or internally inconsistent data. Recent declines cannot be read as reduced transmission without accounting for security, access and reporting completeness.

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*LEARN-HOA — built as a country-owned surveillance-and-action network — would make hidden gaps visible, support earlier diagnosis and treatment, strengthen accountability, and generate more credible evidence toward interruption of transmission and elimination.*