Progress and Challenges with Achieving Universal Immunization Coverage

2024 WHO/UNICEF Estimates of National Immunization Coverage

Sources:

- Member State reports to WHO and UNICEF up to 25 June 2025
- World Bank. (2025, July 1). World Bank country classifications by income level for 2024–2025. Retrieved from https://datahelpdesk.worldbank.org/knowledgebase/articles/378834-how-does-the-world-bank-classify-countries
- United Nations, Population Division, 2024 revision

Estimates as of 15 July 2025

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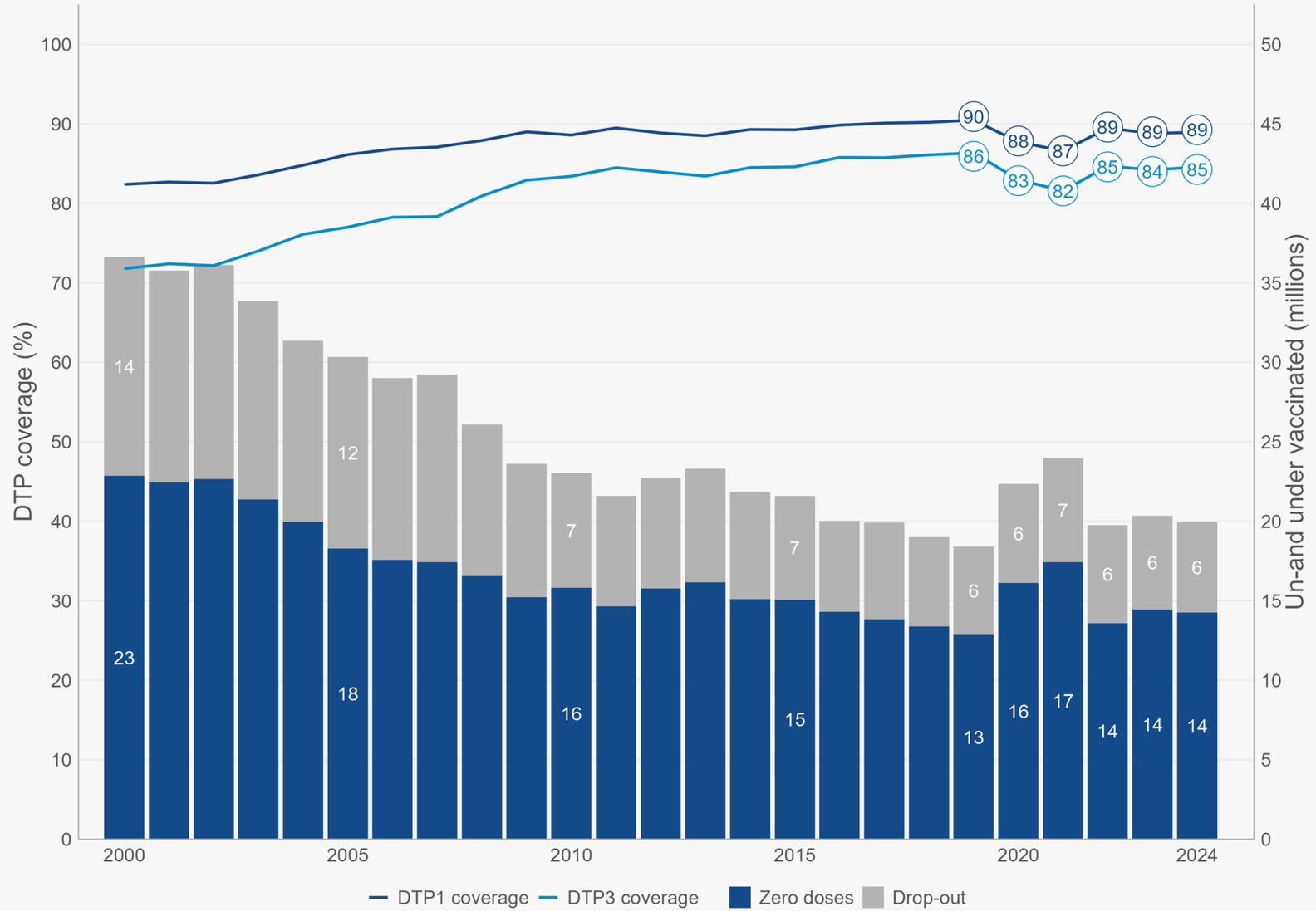
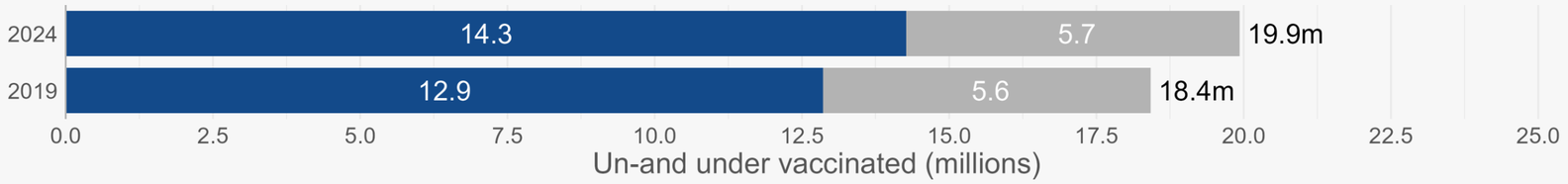
DTP immunization coverage and the number of unimmunized children improved slightly in 2024

Programme performance in the first year of life, as measured by DTP-containing vaccine coverage, is slightly better than in 2023 while remaining below the pre-pandemic 2019 baseline.

There are 171k fewer Zero Dose Children (ZDC) and 426k fewer un-and-under vaccinated in 2024 compared to 2023.





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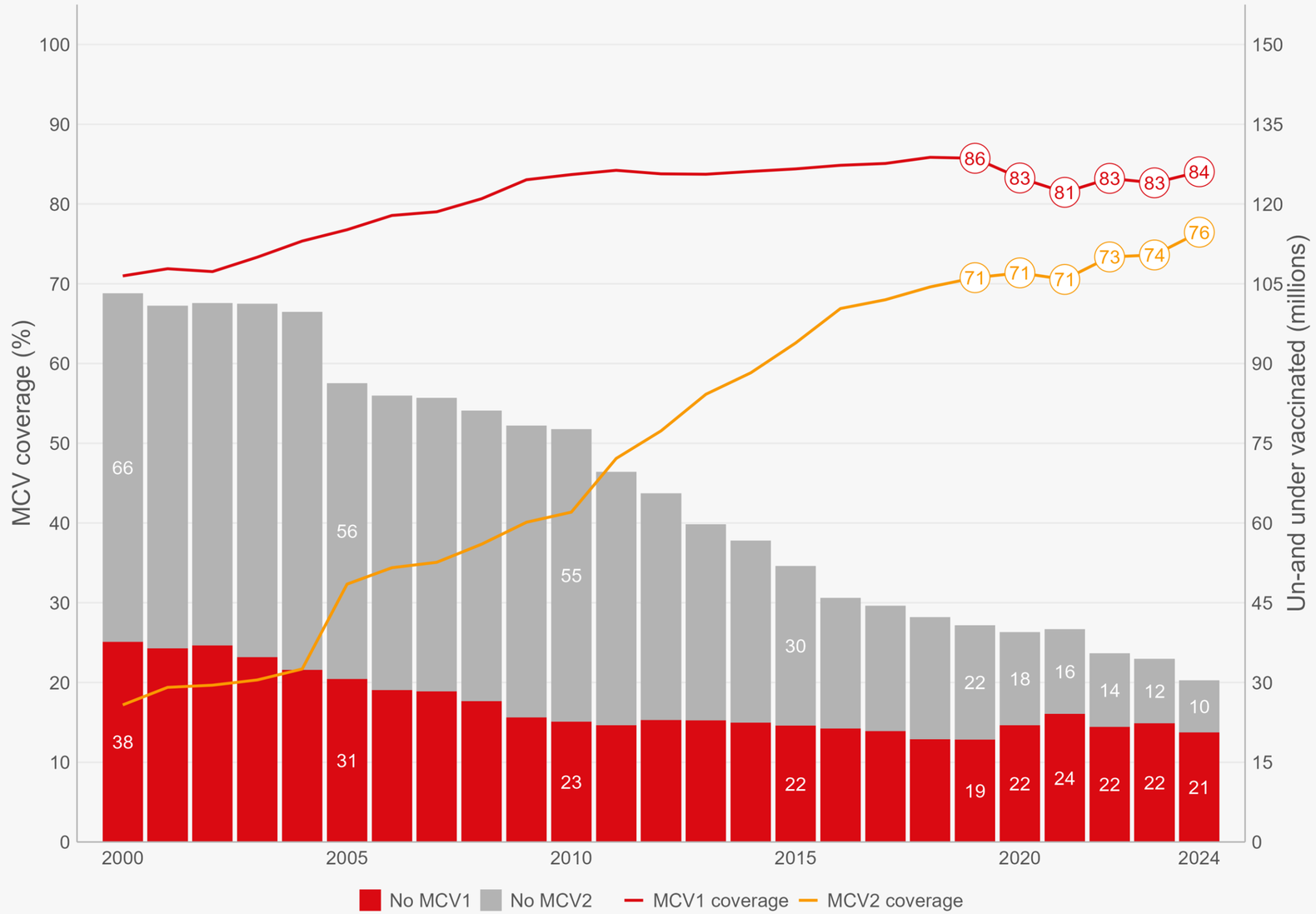
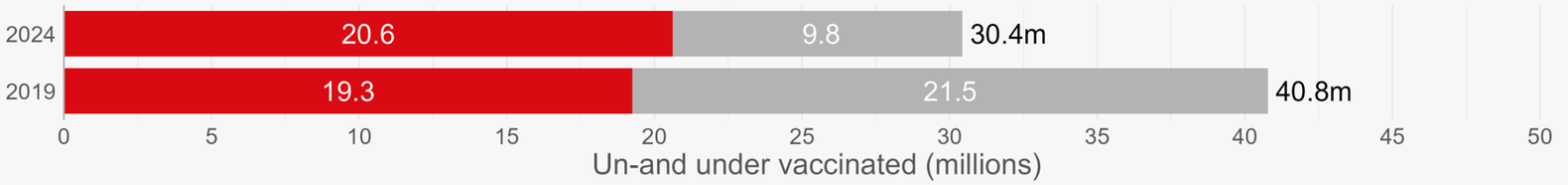
Measles immunization coverage and the number of unimmunized children improved more clearly in 2024

Measles vaccine coverage improved more clearly. There were 1.7m fewer measles Zero Dose children than in 2023. This outperformance of Measles over DTP vaccine is explained by DTP-specific issues such as stock-outs in countries like the Philippines, Sudan, and Indonesia, as well as stronger measles performance in Nigeria, Brazil, and Pakistan.

No additional countries reported MCV2 in 2024, but countries that recently introduced a second dose continue to increase coverage.

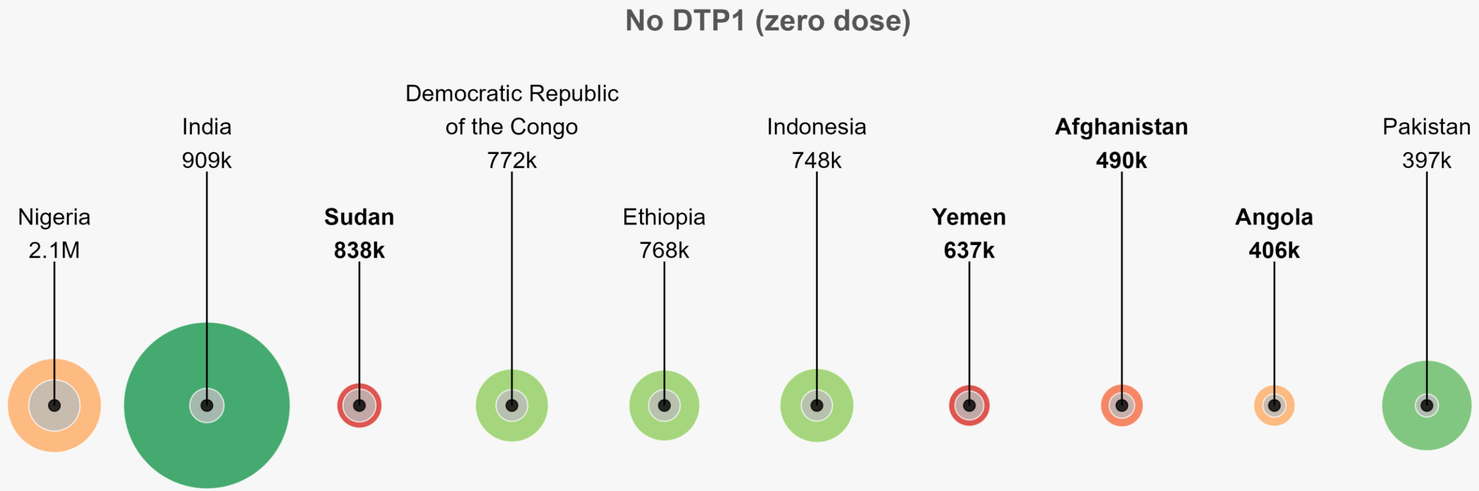


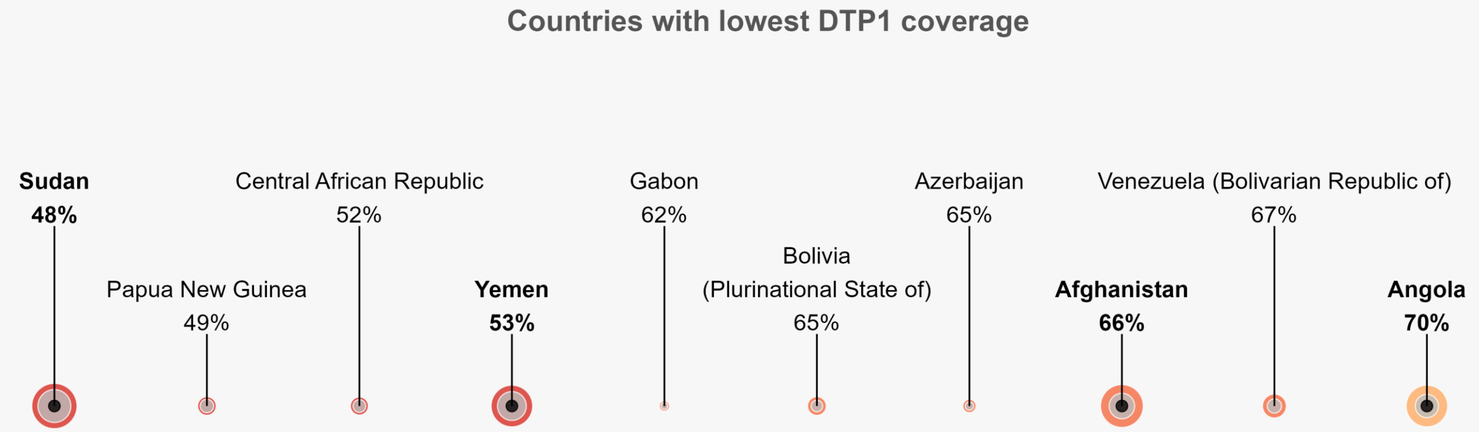


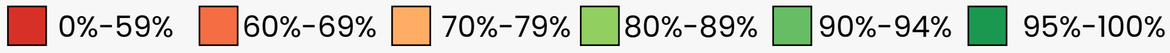
Top 10 countries with the most unvaccinated children and lowest DTP1 coverage in 2024

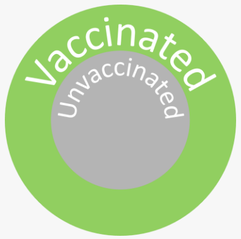
The list of countries with most zero-dose children contains the same countries in 2024 as in 2023, although the order changed with Sudan continuing to worsen under conflict. It is now the lowest performing country in the world.

Gabon, Bolivia, and Azerbaijan entered the list of ten worst performing countries by DTP1 coverage.





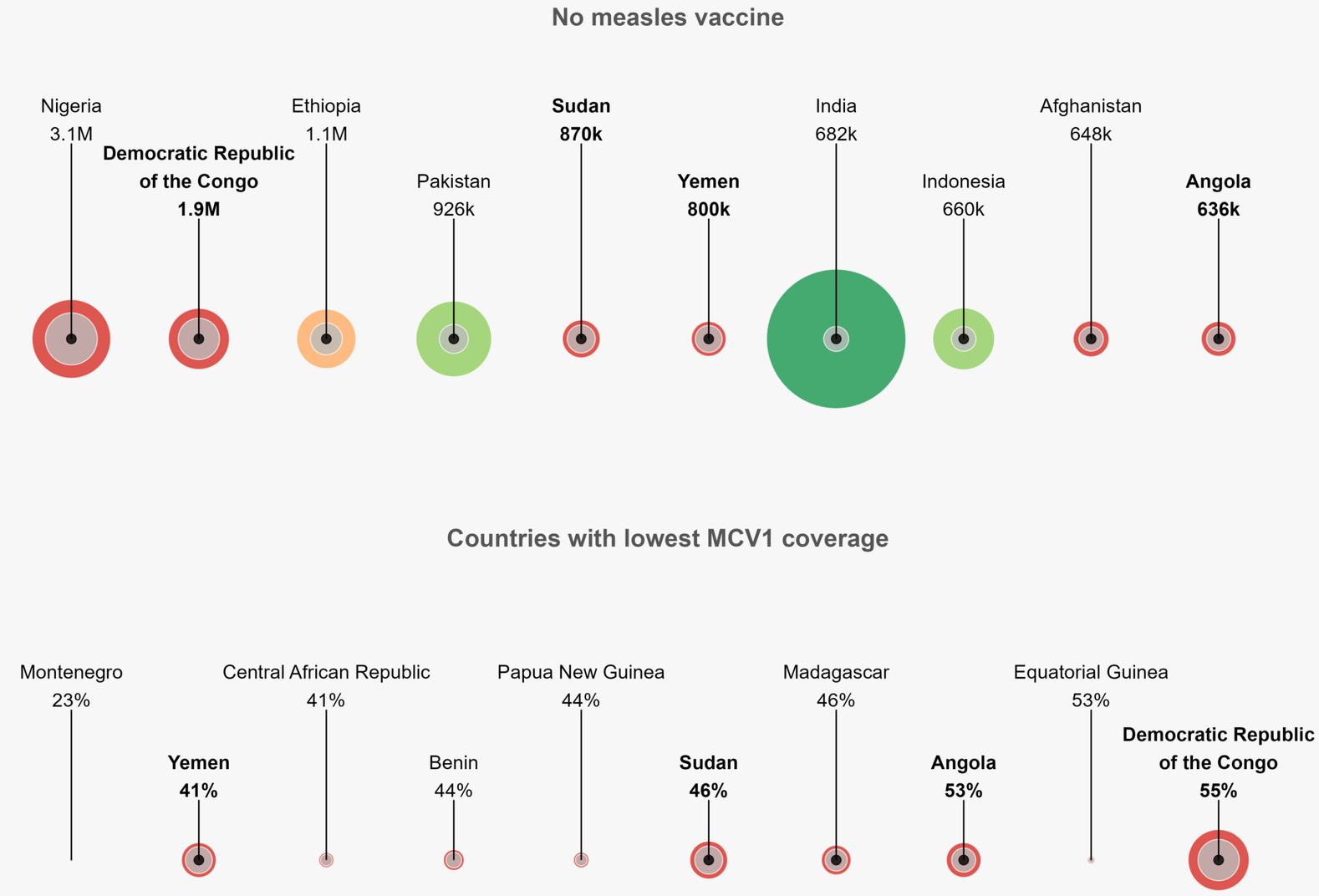




Top 10 countries with the most unvaccinated children and lowest MCV1 coverage in 2024

The list of countries with most measles zero-dose children contains the same countries in 2024 as in 2023, although the order changed with Sudan continuing to worsen under conflict.

Benin, Papua New Guinea, and Equatorial Guinea entered the list of ten worst performing countries by MCV1 coverage.



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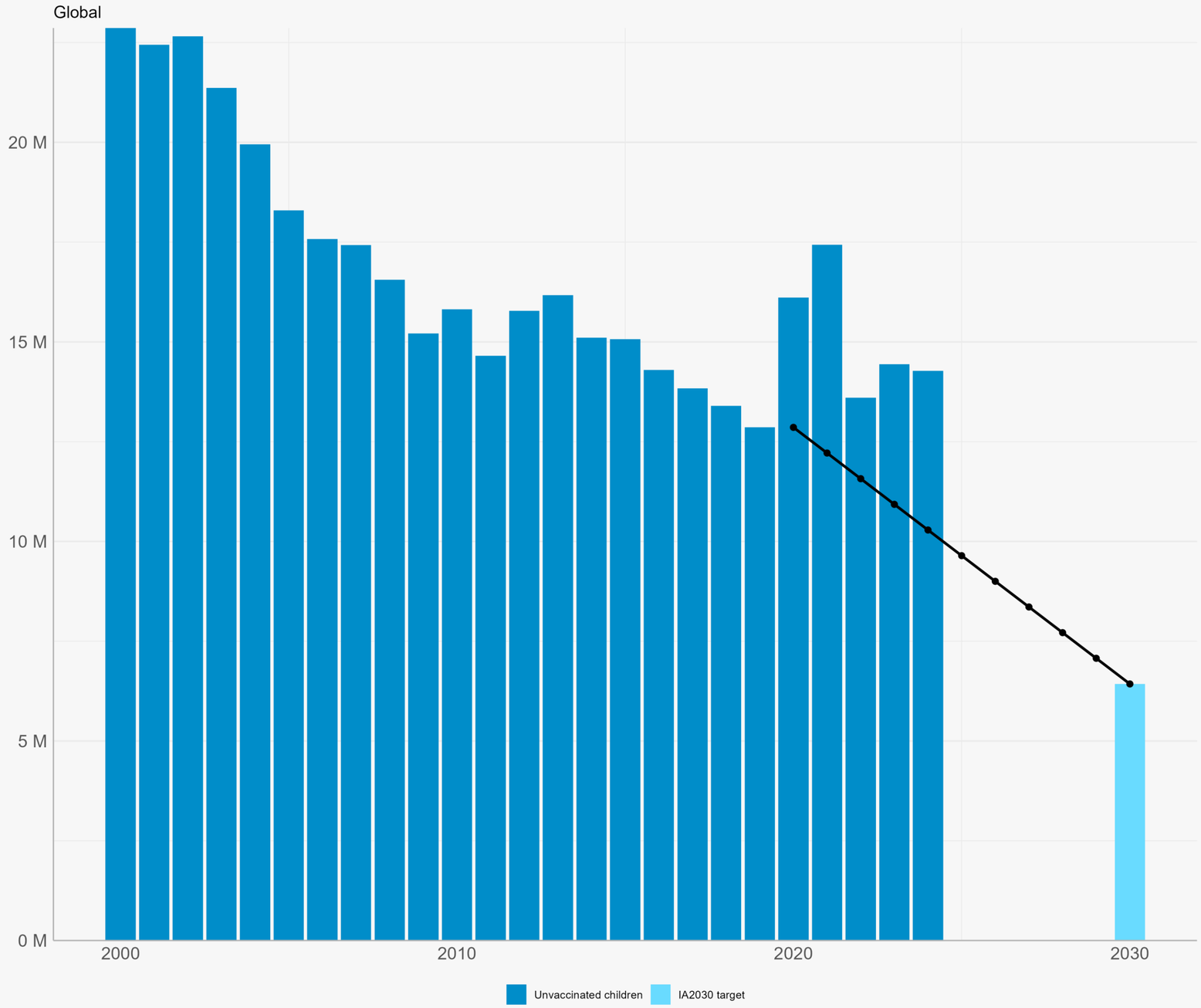
The improvement in 2024 is still insufficient to restore performance to the 2019 baseline, or to strengthen it towards 2030 objectives

The Immunization Agenda 2030 (IA2030) aims to leave no one behind with immunization and calls on all countries to reduce the number of zero dose children by half by 2030.

This chart shows the estimated number of zero-dose children in 2000-2024 (dark blue bars), the zero-dose target by 2030 (light blue bar), and the annual goals to reach the 2030 target based on a linear trajectory (points).

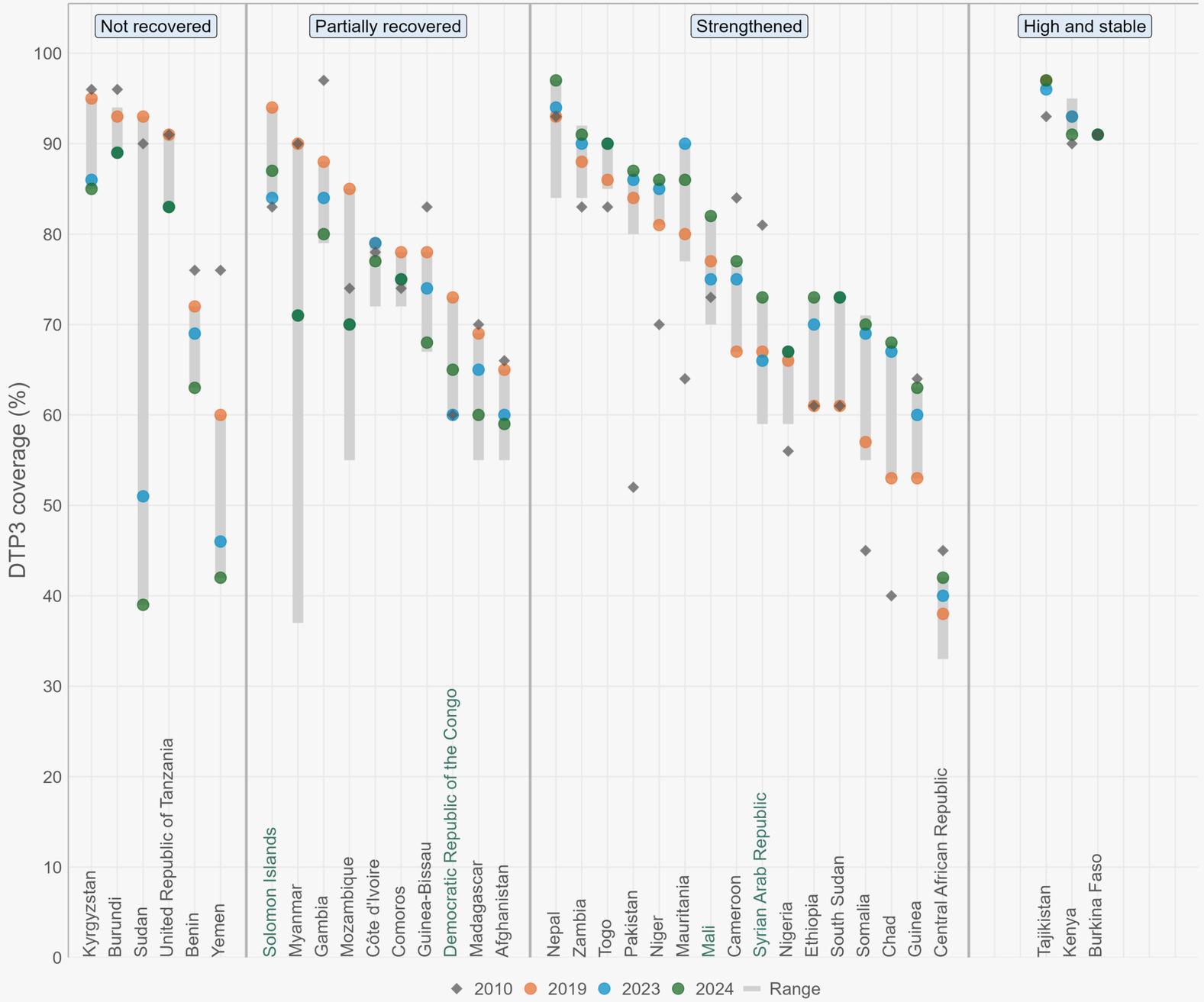
In 2024, the number of zero-dose children was still 1.4m above the 2019 number, and approximately 4m above the trajectory that would be needed to achieve the IA2030 goal of halving the number of zero-dose children between 2019 and 2030.



16 countries with a "Big Catch-Up" plan supported by Gavi have strengthened their performance above 2019 baselines

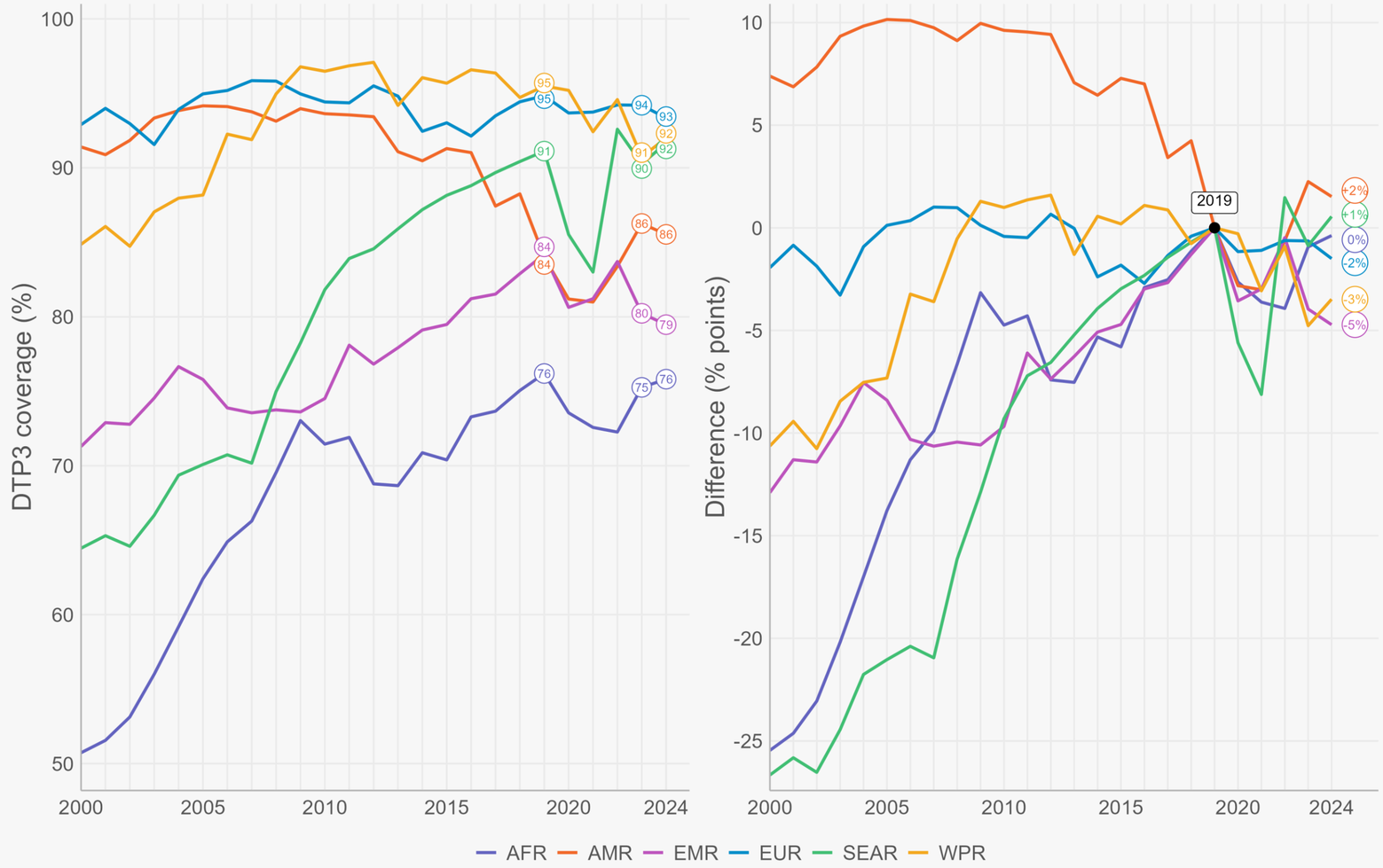
35 countries with a Gavi funded Big Catch-Up plan have committed to vaccinate older children who missed their vaccination during the pandemic and at the same time to restore and strengthen routine immunization for infants. 16 of these have also managed to strengthen routine immunization above 2019 levels, while 16 others have not.

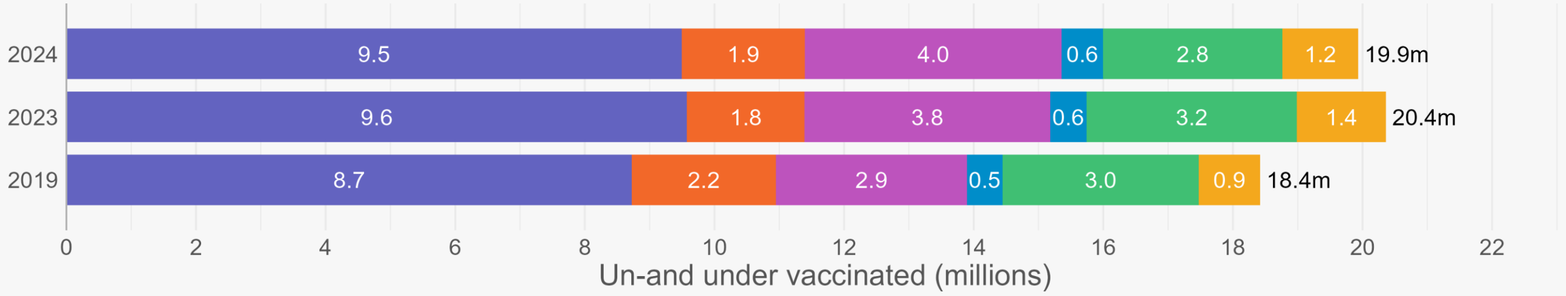
Definitions: Countries are deemed to have not recovered from pandemic disruptions if the 2024 achievement is still below the 2019-2023 range. They have partially recovered if the 2024 achievement is better than the preceding 4 years, but still below the 2019 baseline. They have strengthened if their 2024 performance is better than in 2019. Countries with high and stable coverage above 90% are depicted separately. Green labels indicate which countries improved classifications compared to the 2024 report.



DTP3 coverage by WHO region

AMR and SEAR are performing better than in 2019 for DTP3 coverage, while AFR has fully recovered to that level. EMR has lost ground as conflict disrupted immunization programmes in Sudan and Yemen.



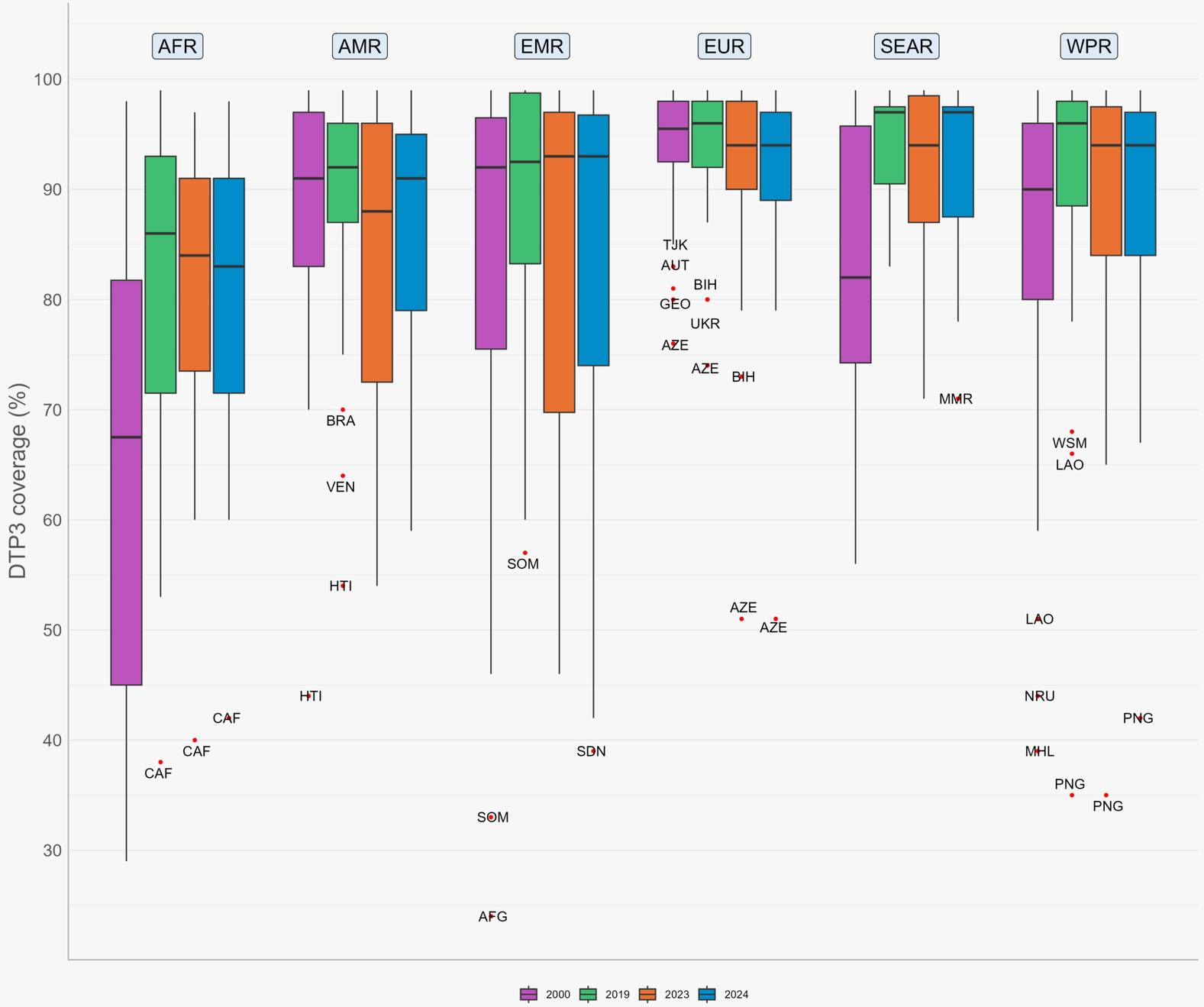


DTP3 coverage distribution by WHO region

This chart shows the distribution of coverage among countries by WHO region. The weighted mean in the previous slide is affected by outliers and by changes in populous countries. The median and inter-quartile range shown here is more reflective of the trend in the bulk of countries. Higher medians and smaller IQR reflects broadly better performance and greater equity.

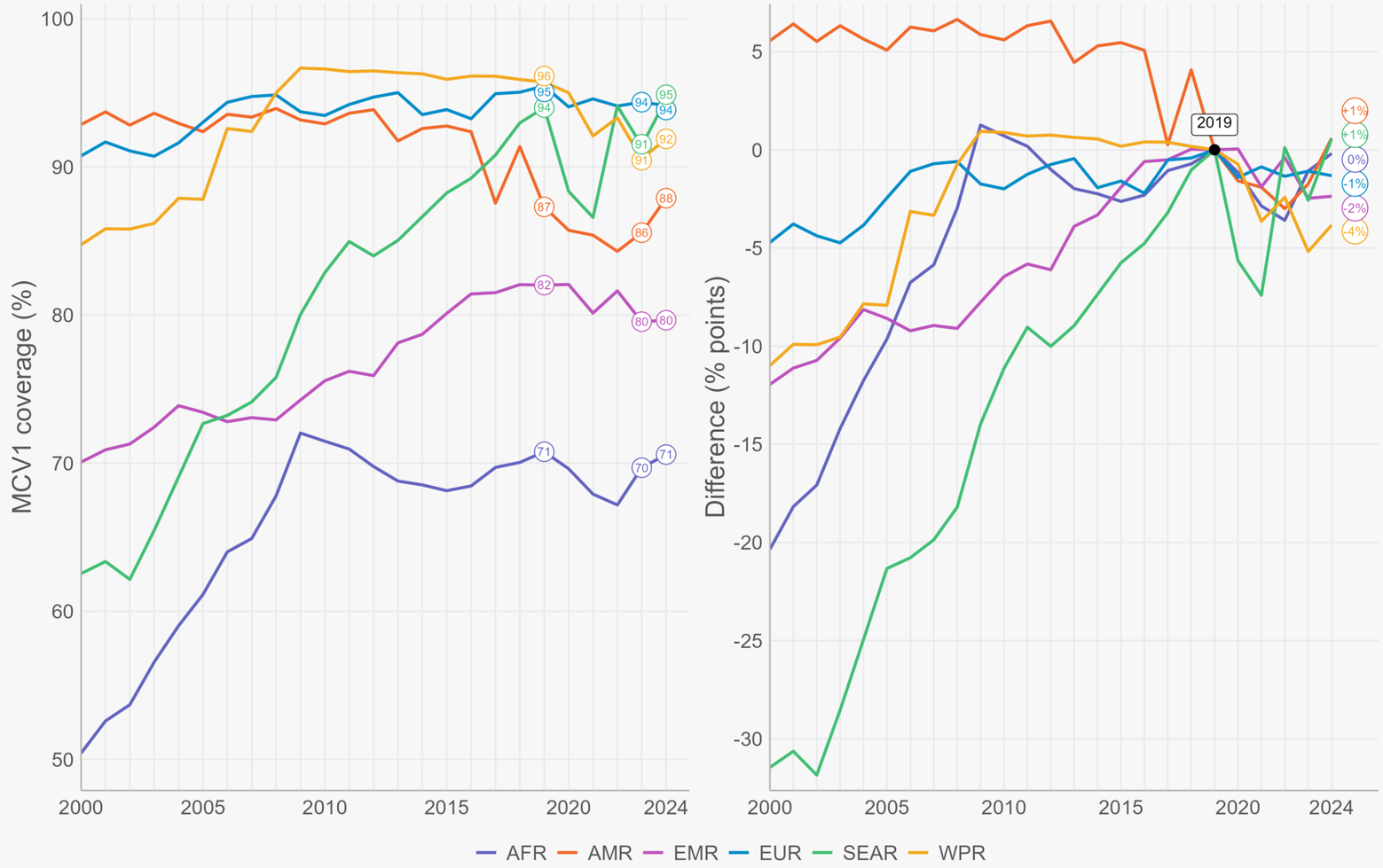
Unlike the weighted mean coverage shown in the previous slide, the median DTP3 country performance was worse in 2024 compared to 2019 in AFR, AMR, EUR and WPR. It has improved in EMR, highlighting how the lowered coverage in that region is driven by populous conflict affected countries. The median country in AFR, SEAR and WPR do noticeably better now than in 2000.

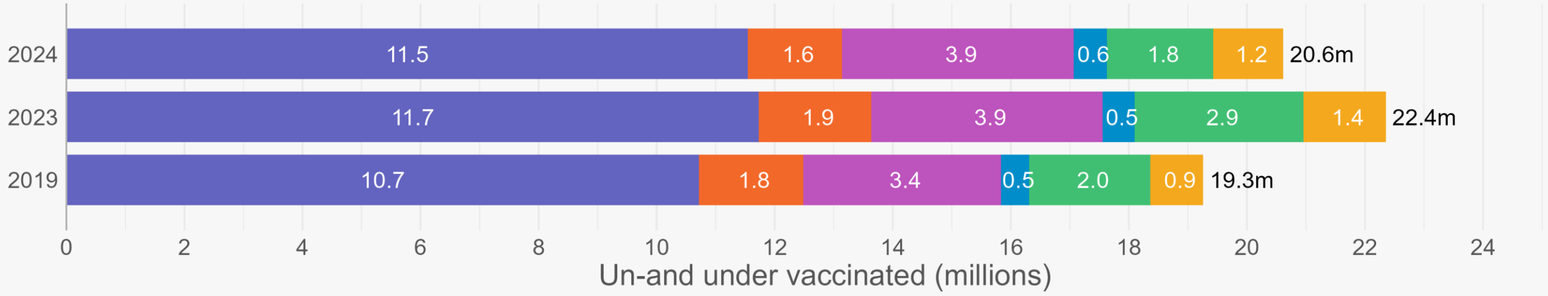
Data do not suggest sustained improvements in equity over recent years, though is better than in 2000 in AFR and SEAR.



MCV1 coverage by WHO region

For measles, regional coverage trends are similar to DTP3, although WPR is doing a bit worse, and EMR a bit better in comparison.

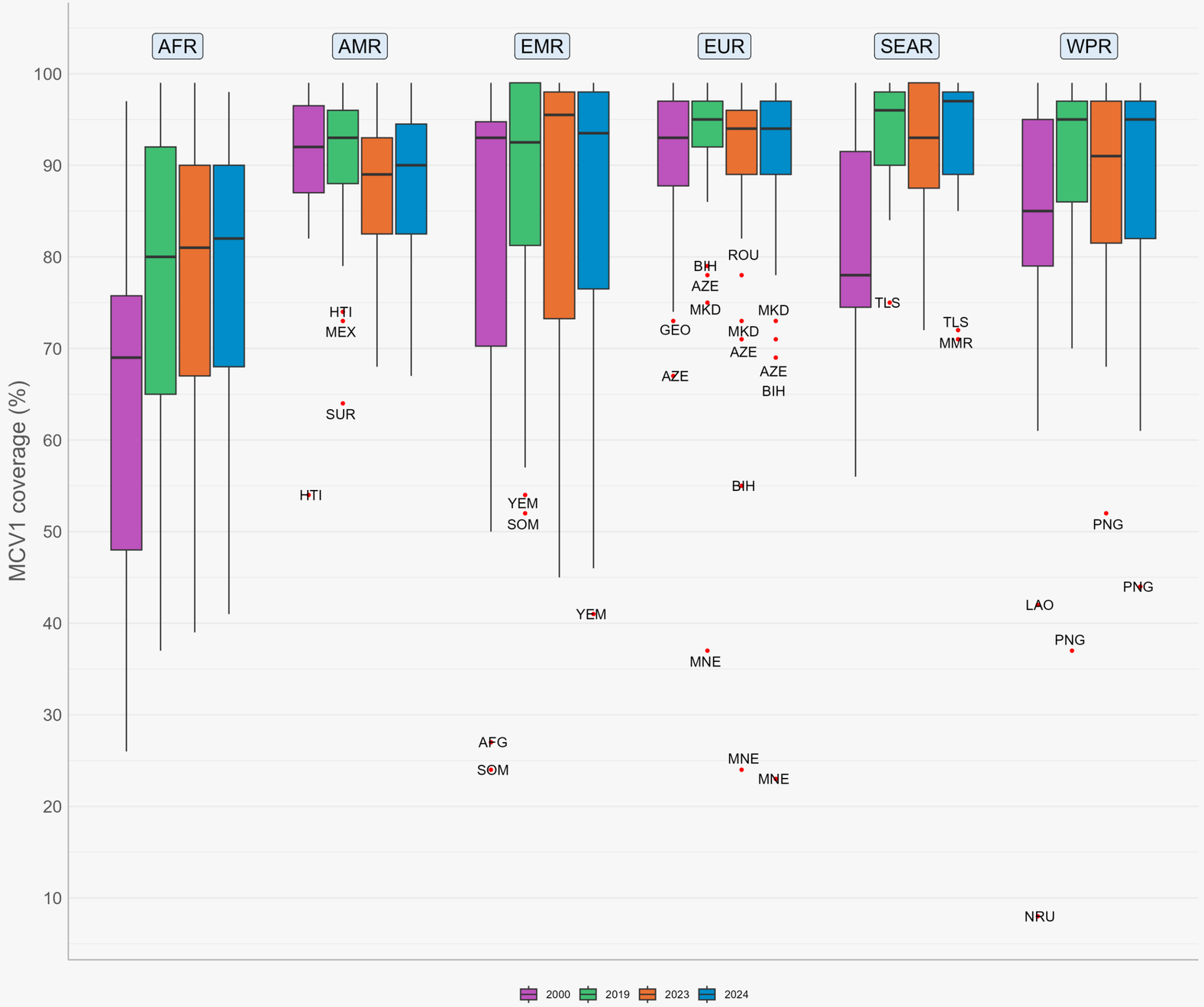




MCV1 coverage distribution by WHO region

Considering the distribution of coverage in countries by WHO region, rather than the weighted mean coverage, the median MCV1 country performance was worse in 2024 compared to 2019 in AMR and EUR, but better in all other regions. The median country in AFR, SEAR and WPR does noticeably better now than in 2000.

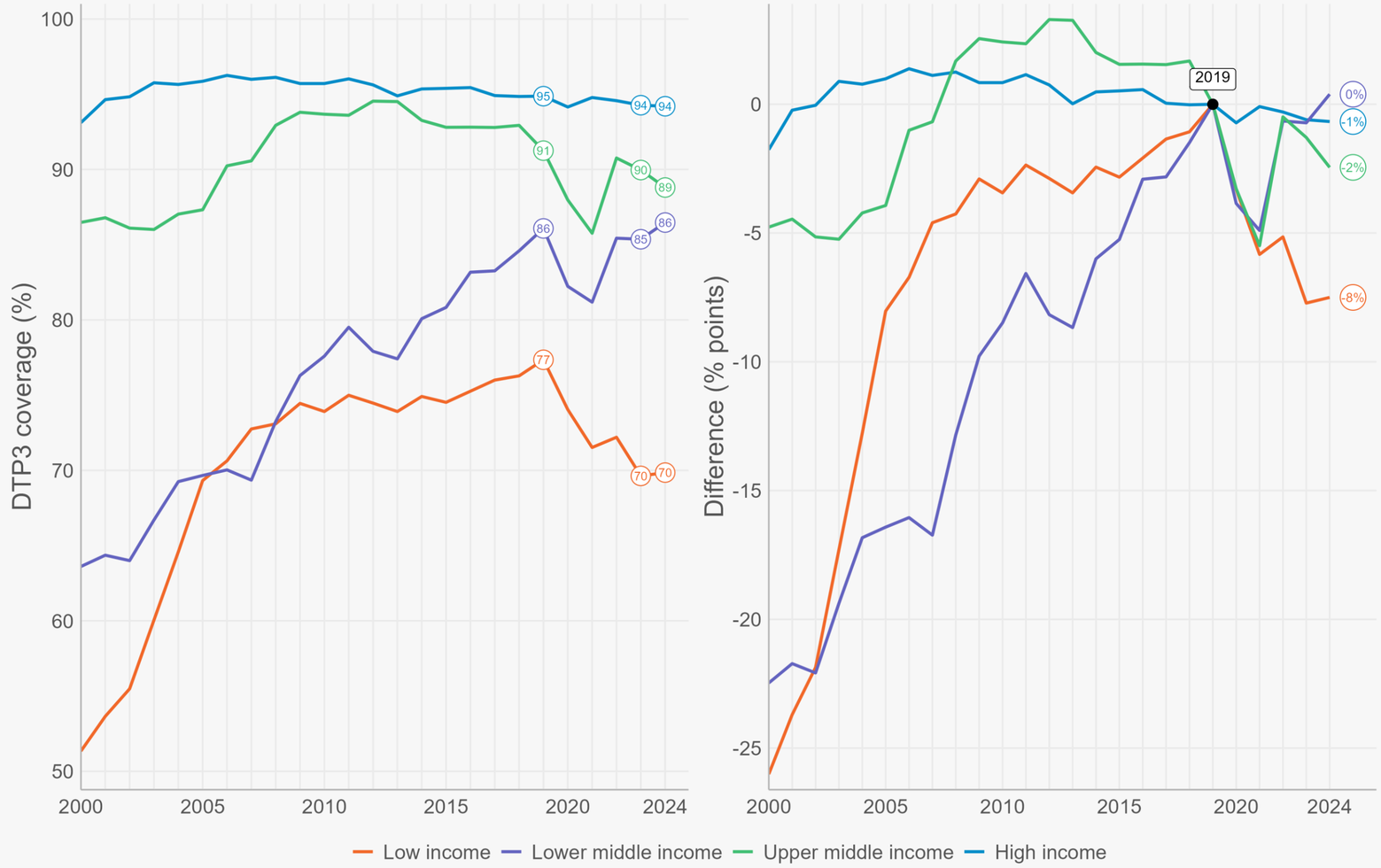
The box-and-whisker plots show the minimum, first quartile (Q1), median, third quartile (Q3), and maximum in each region. Outliers, deviating more than 1.5 times the Q1-Q3 Inter-quartile range below Q3, are marked individually.

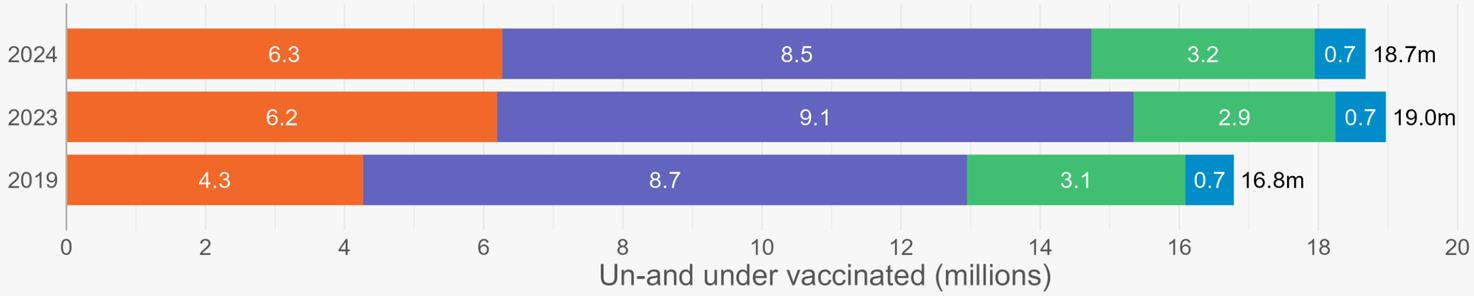


Low Income Countries are still far below the 2019 baseline

Low-Income Countries and Upper- Middle-Income Countries have as a group done worst most since 2019, with a tentative recovery in LIC in 2024.

Countries without a World Bank classification are excluded (Cook Island, Ethiopia, Niue, Venezuela (Bolivarian Republic of))

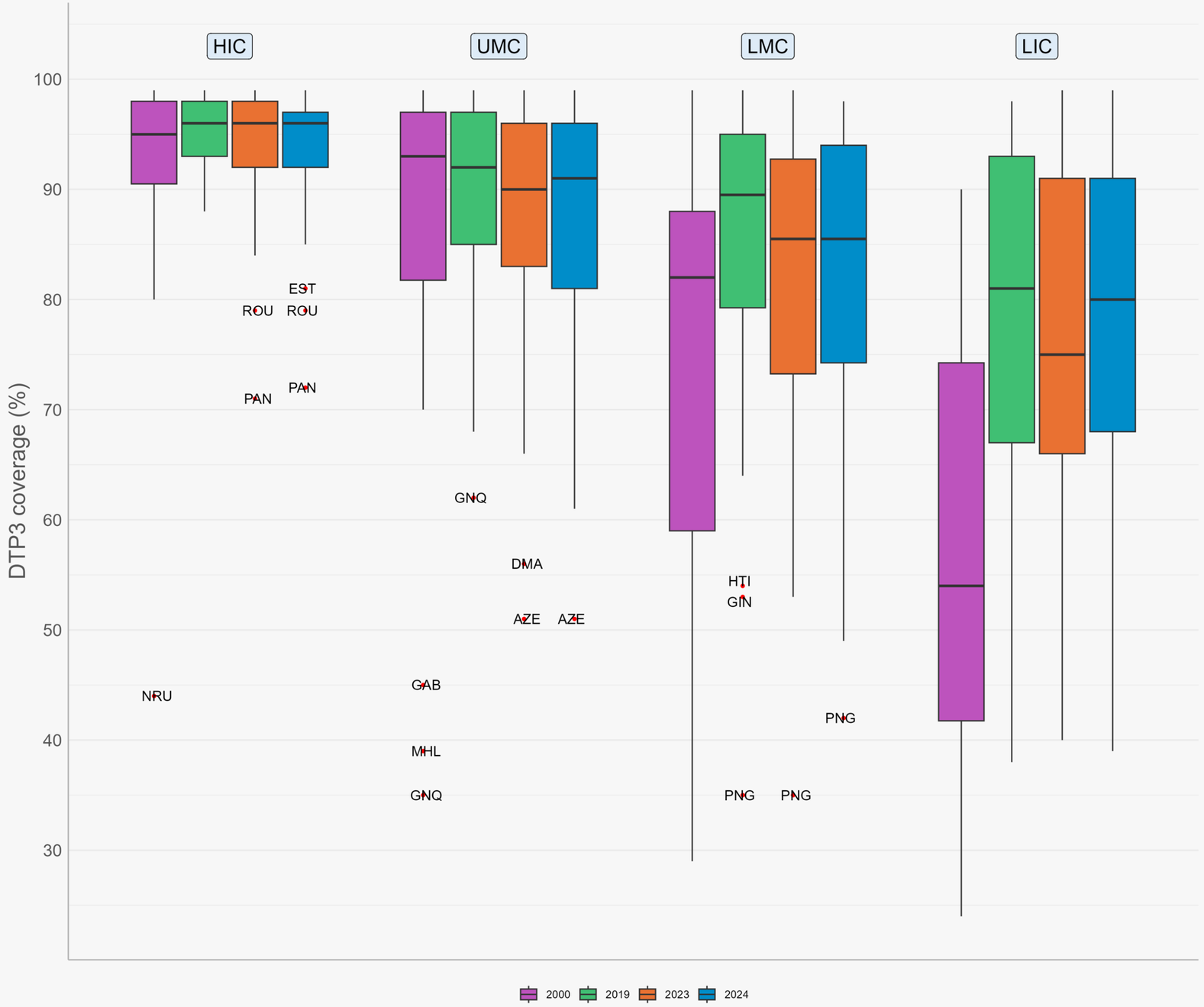




DTP3 coverage distribution by World Bank income status

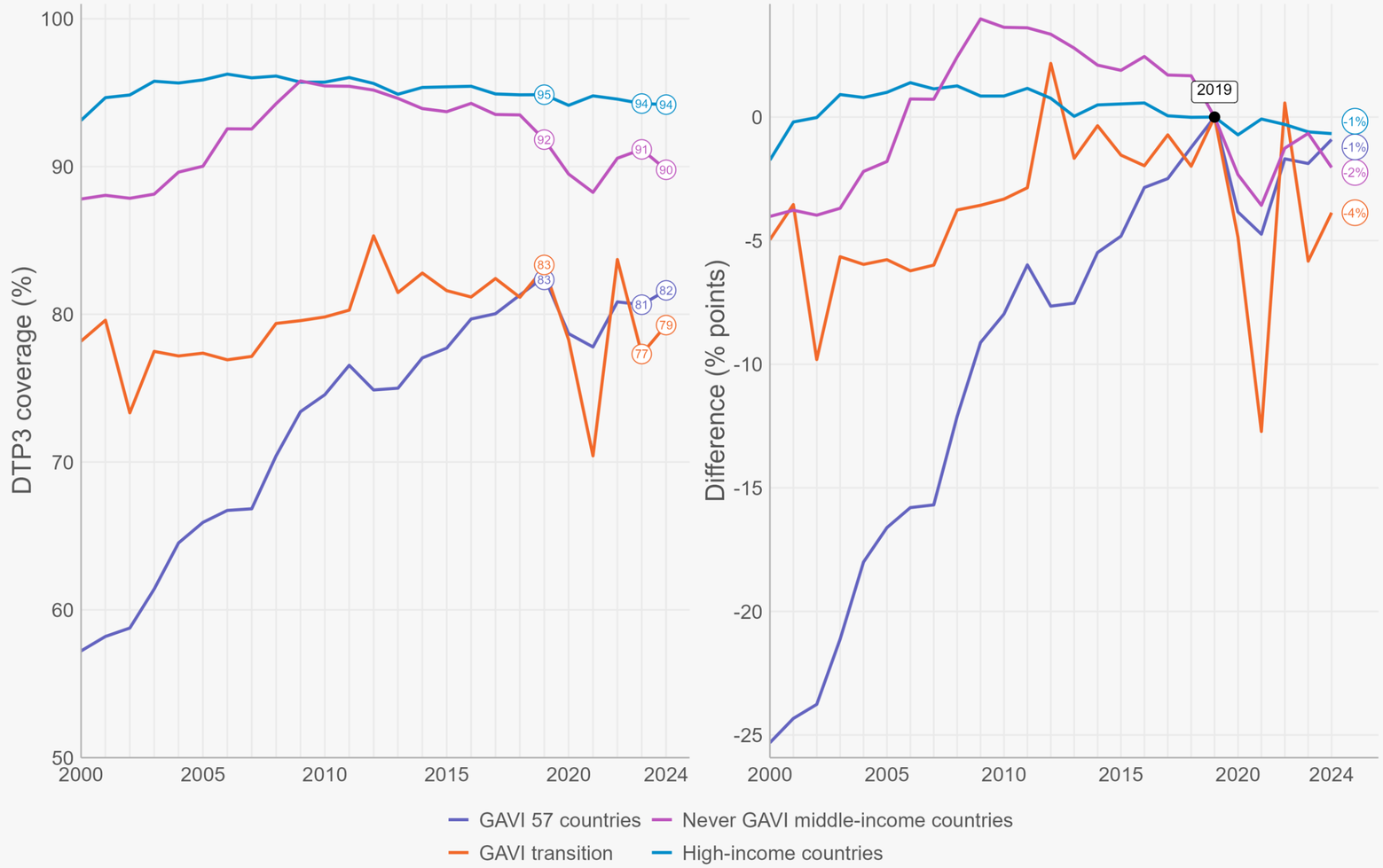
The median Low-Income Country and Lower Middle-Income Country had improved coverage substantially by 2019, the baseline year for IA2030. This progress has stalled since then, although LICs show some signs of recovery.

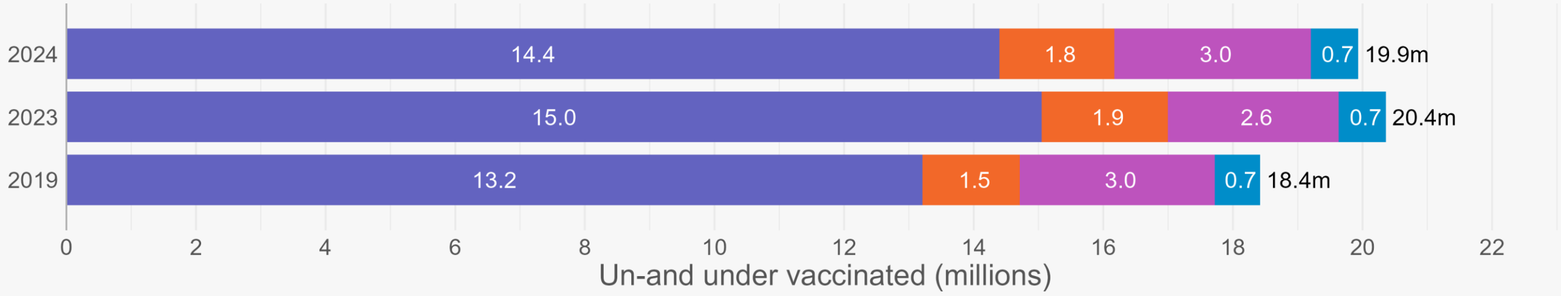
The box-and-whisker plots show the minimum, first quartile (Q1), median, third quartile (Q3), and maximum in each region. Outliers, deviating more than 1.5 times the Q1-Q3 Inter-quartile range below Q3, are marked individually.



GAVI supported countries have almost regained pre-pandemic coverage levels

The group of 57 countries that are currently supported by Gavi, have slightly improved in 2024, while countries that have transitioned out of Gavi support, made up some of their losses since 2019. The group of middle-income countries that are not supported by Gavi continue to slip.





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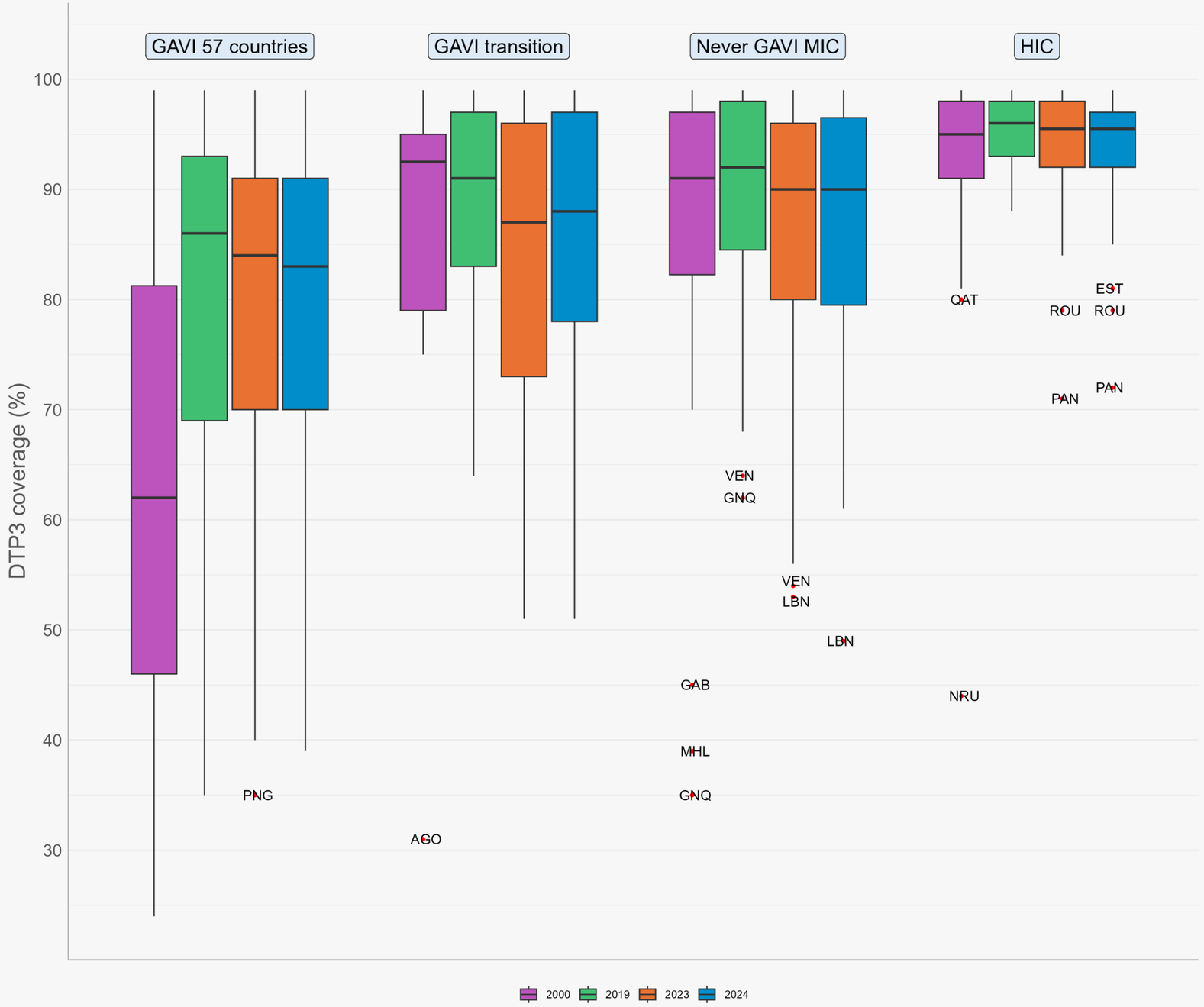
DTP3 coverage distribution by GAVI classification

57 countries benefiting from Gavi support had made significant progress by 2019, but their progress towards closing the gap with all other countries has stalled since then.

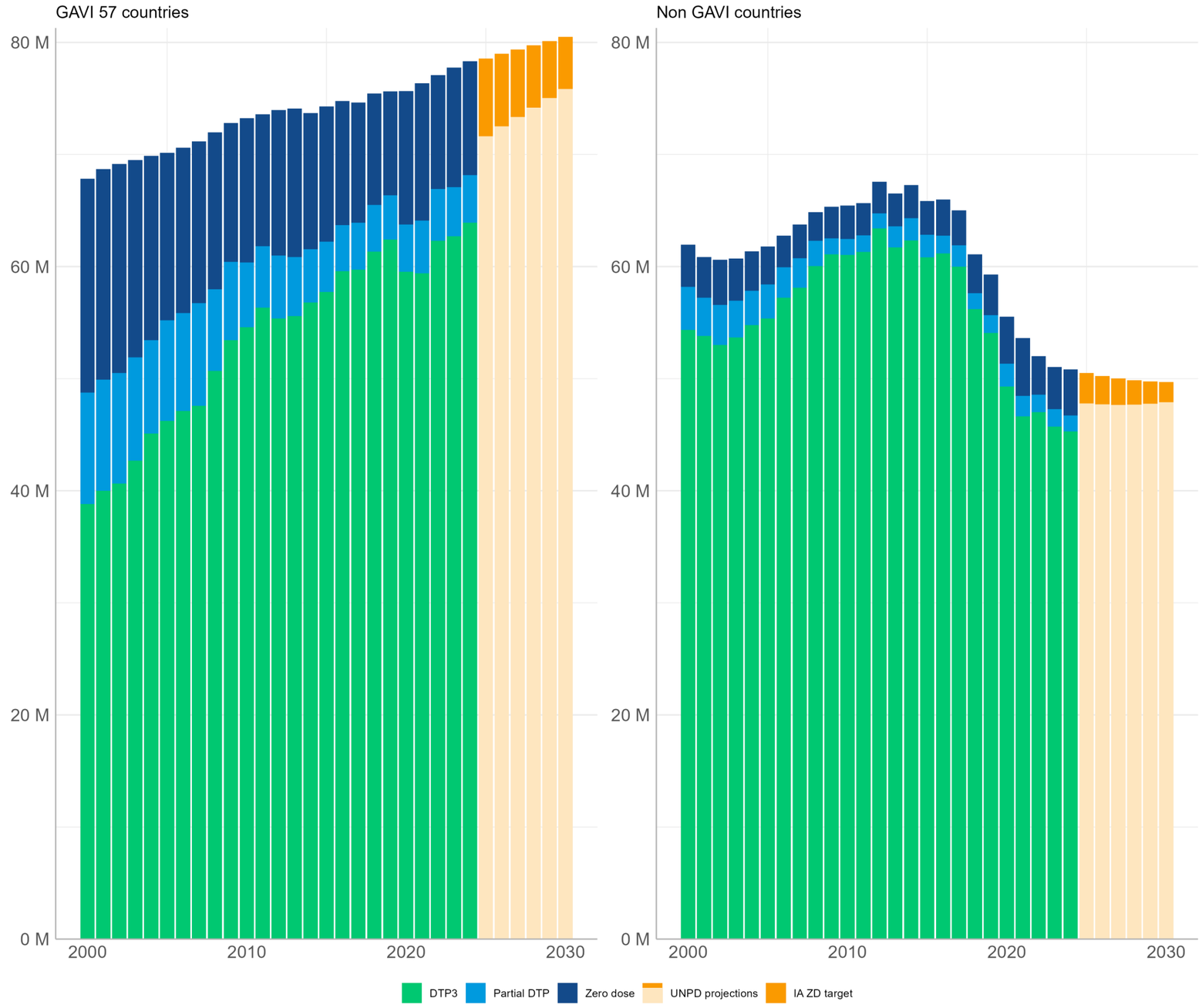


The box-and-whisker plots show the minimum, first quartile (Q1), median, third quartile (Q3), and maximum in each region. Outliers, deviating more than 1.5 times the Q1-Q3 Inter-quartile range below Q3, are marked individually.

Gavi Countries never vaccinated as many children as in 2024

Growth in birth cohorts in Gavi countries mean that every year more children need to be vaccinated to attain the same coverage.

Even though Gavi countries collectively reached a record 68.2m children, 1.8m additional children above the 2019 baseline, this was offset by population growth since then, resulting in 0.9m additional ZDC.

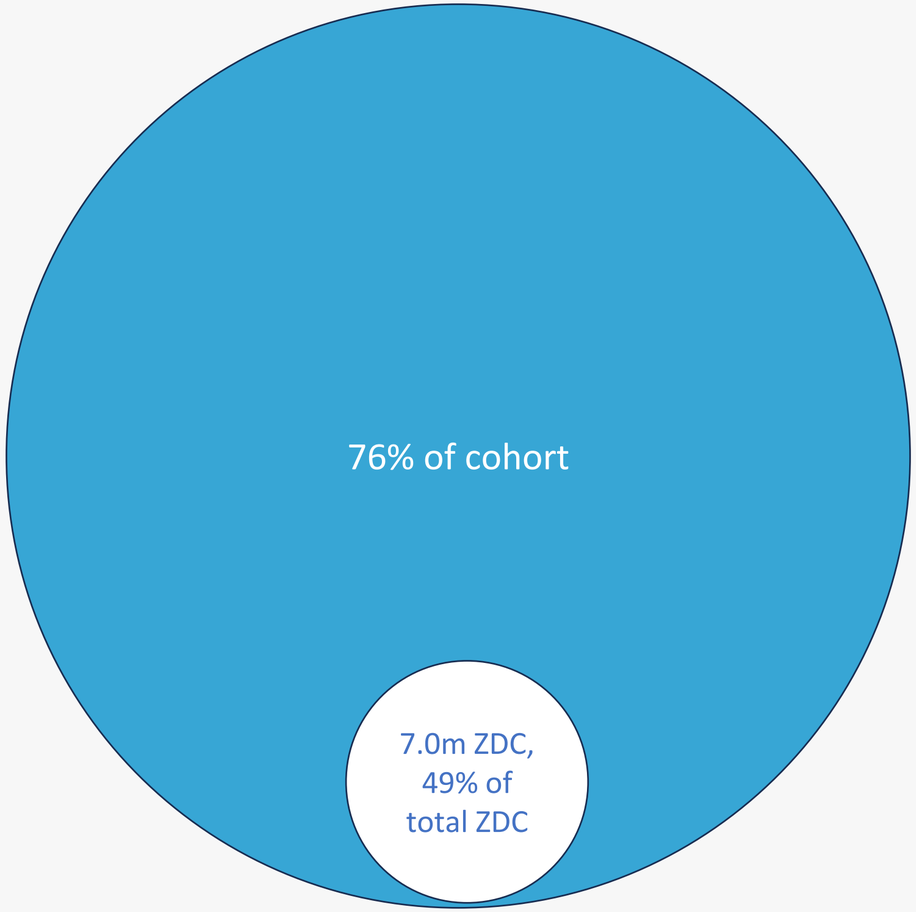


Countries with Fragile, Conflict, and Vulnerable (FCV) settings are home to 24% of the world's birth cohort, but have more unvaccinated children

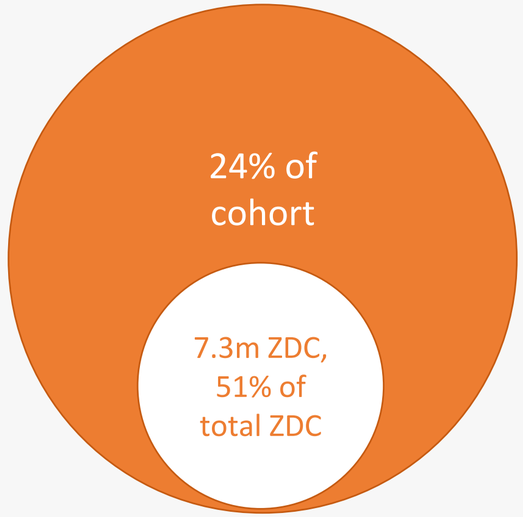
31m surviving infants live in countries with FCV settings (24% of all infants), yet they are disproportionally at risk of being completely unvaccinated, with 7.3m of them completely unvaccinated (51% of all zero dose children).

"Zero-dose prevalence" is 24% in countries with FCV settings, only 7% in other countries.

Definitions: Countries are included in the FCV category if they have a Humanitarian Response Plan, or an active Flash Appeal, as per OCHA.



Countries without FCV settings



Countries with FCV settings

Conflict and fragility are risk factors for non-vaccination

The chart shows the distribution of Zero Dose children per country: the size of a bubble is proportional to the number of unvaccinated children in each country. It also indicates Zero-dose prevalence, the inverse of DTP1 coverage, in 2024 compared to 2019: Countries that are farther to the right had higher zero dose prevalence in 2024 (lower coverage). Countries that are depicted under the line of parity have worsened since 2019.

Countries with fragile, conflict, and vulnerable (FCV) settings are shaded in orange, and the impact of conflict can be seen in the distribution – they have higher ZD prevalence. The intensification of conflict in Yemen and Sudan is also apparent from the steep increases in ZD prevalence they experienced.

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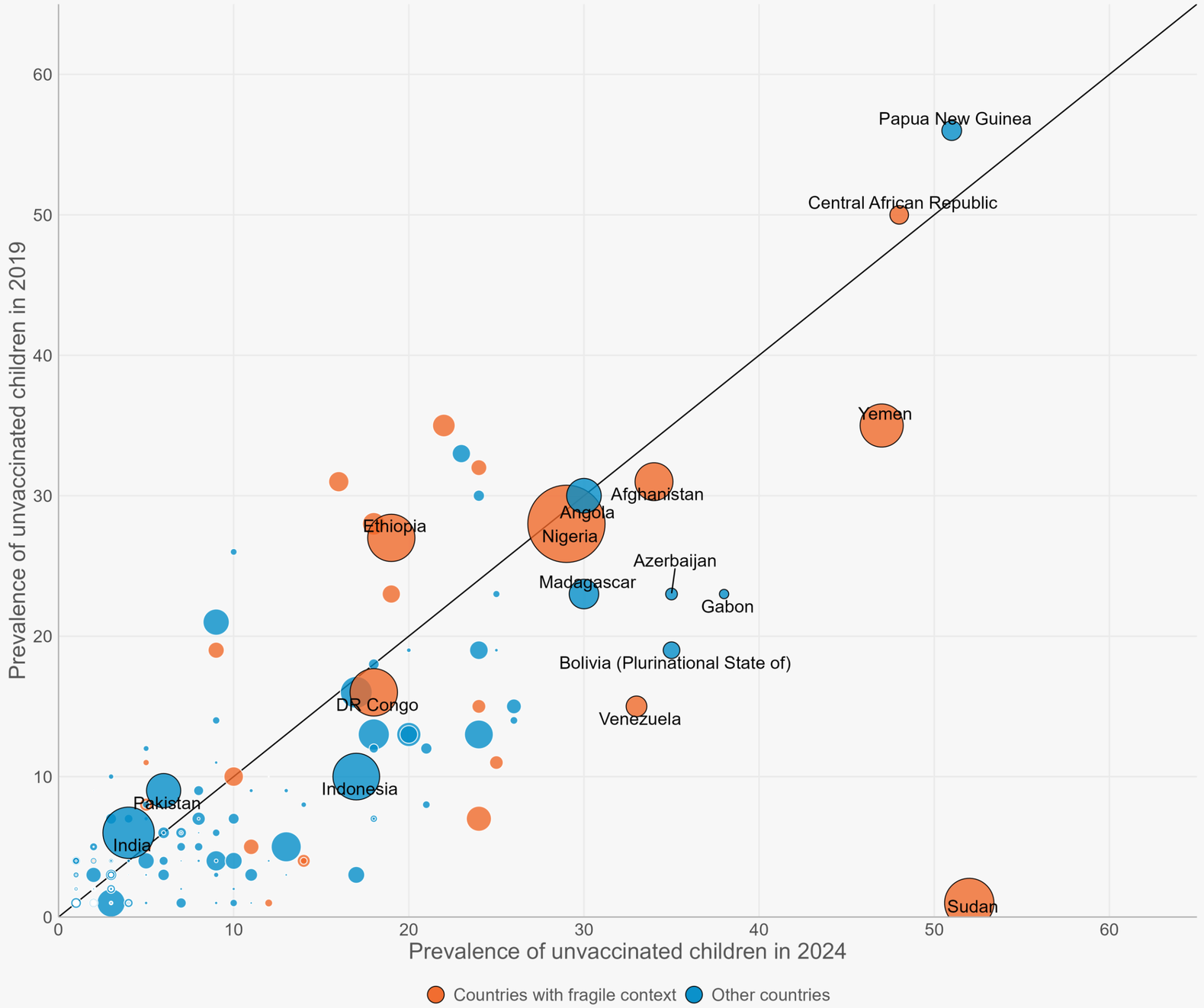
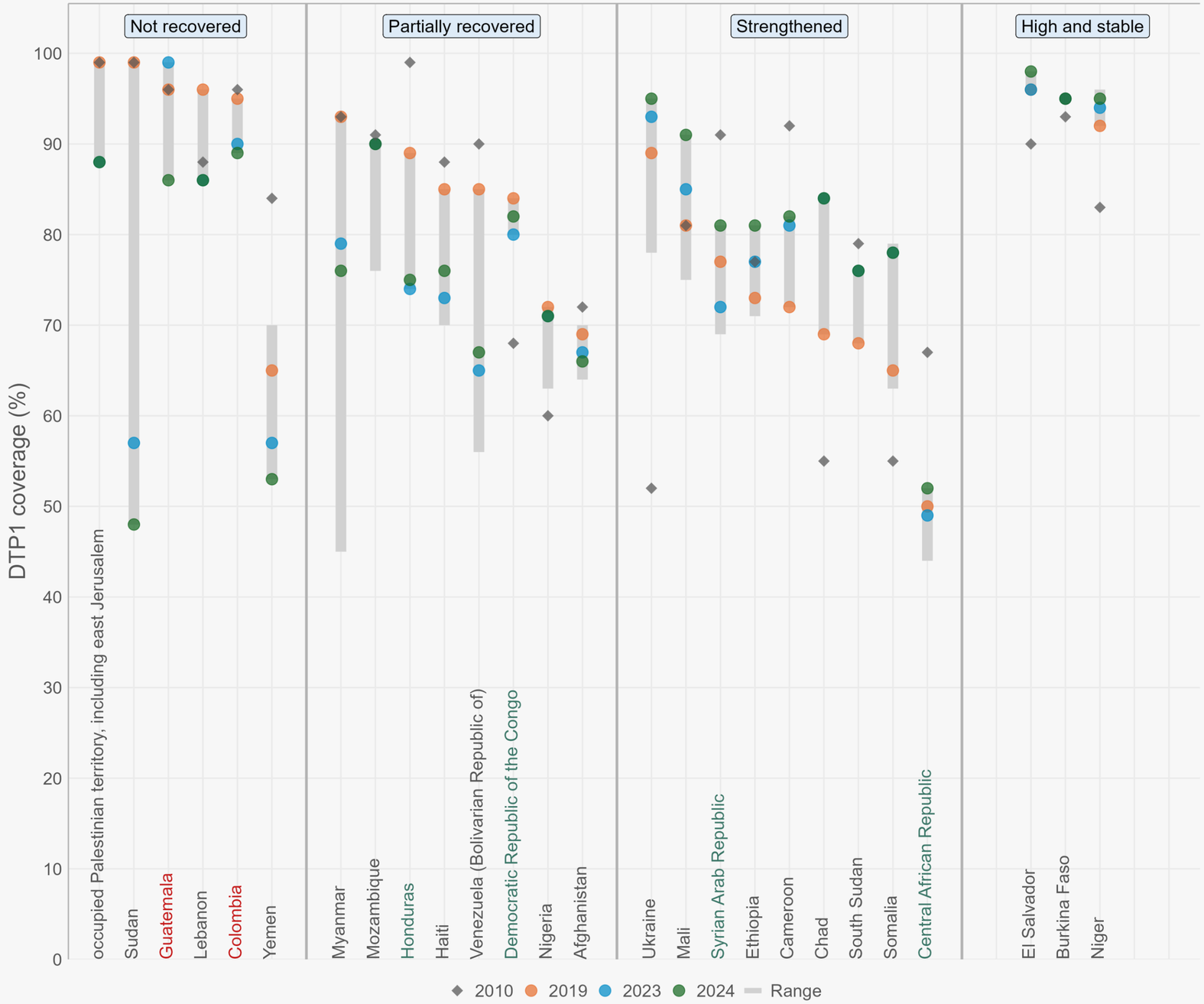


DTP1 coverage among countries with Fragile, Conflict, and Vulnerable settings

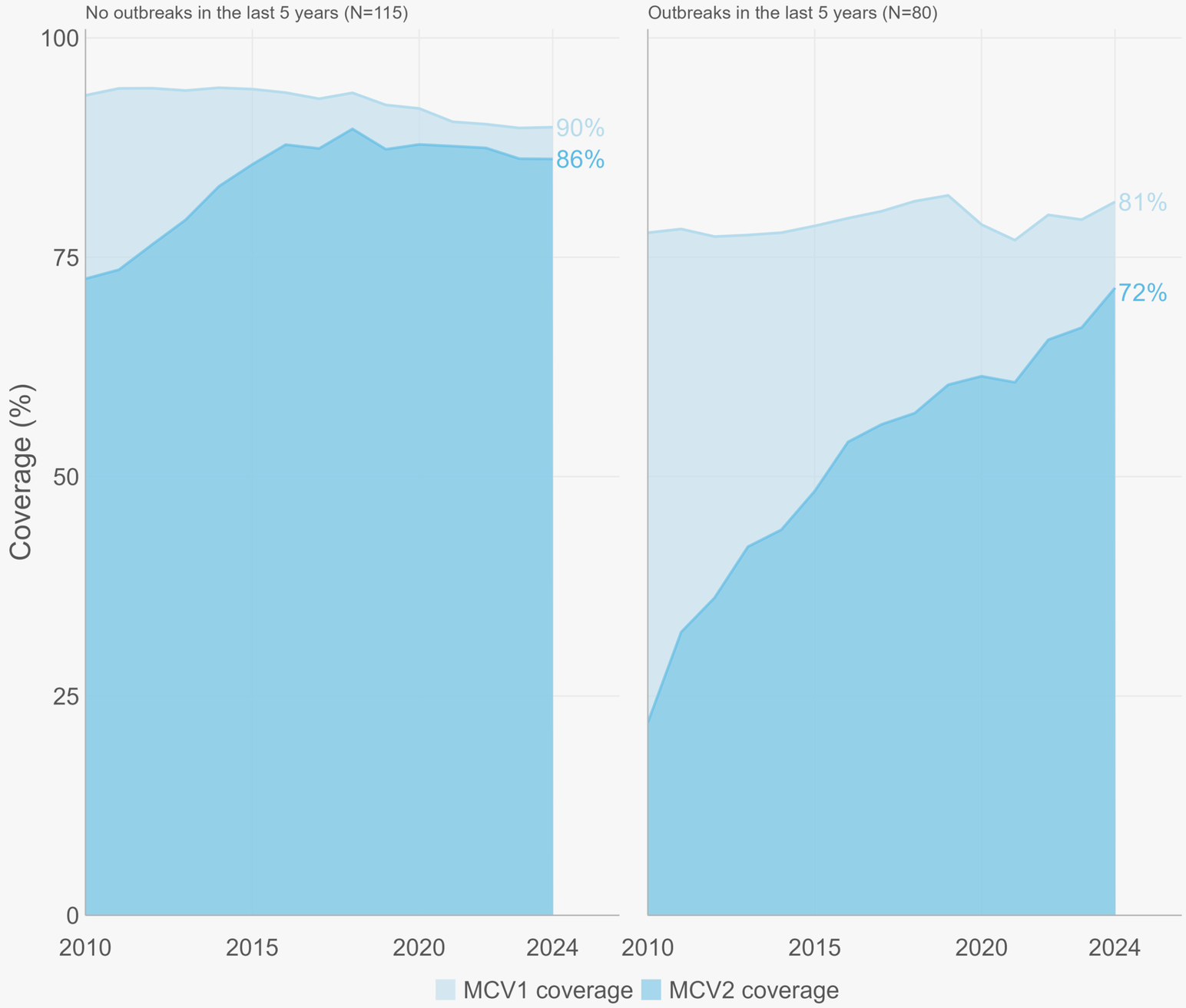
Countries with Fragile, Conflict, and Vulnerable settings were especially vulnerable to disruptions and have experienced some of the largest drops in coverage since 2019. A subgroup of these countries have nevertheless achieved robust recoveries and strengthening.

Definitions: Countries are included in the FCV category if they have a Humanitarian Response Plan, or an active Flash Appeal, as per OCHA. Countries are deemed to have not recovered from pandemic disruptions if the 2024 achievement is still below the 2019-2023 range. They have partially recovered if the 2024 achievement is better than the preceding 4 years, but sill below the 2019 baseline. They have strengthened if their 2024 performance is better than in 2019. Countries with high and stable coverage above 90% are depicted separately. Green and red labels indicate which countries improved or worsened classifications compared to the 2024 report, respectively.



Measles coverage in countries with and without large or disruptive measles outbreaks in the last 5 years

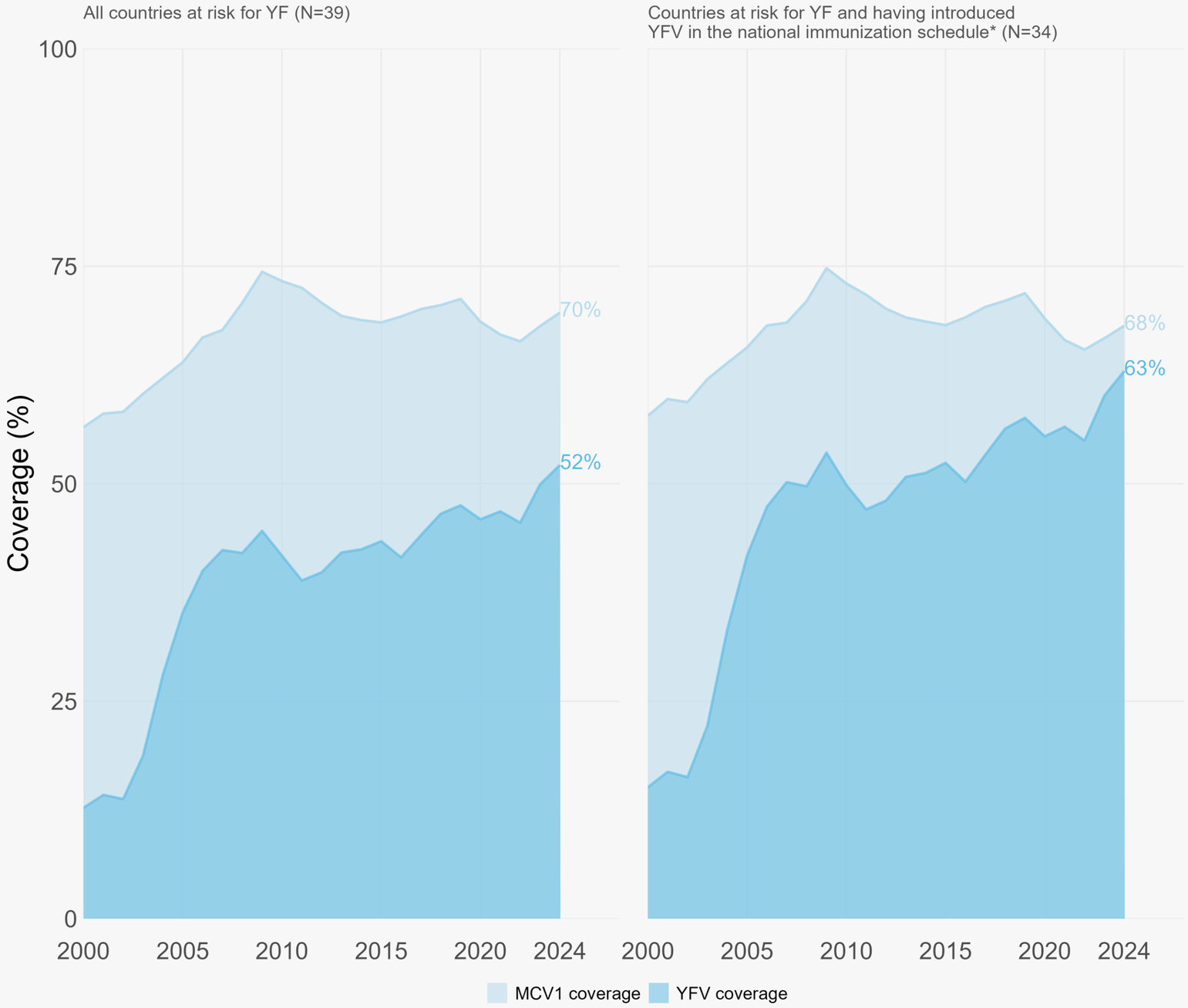
80 countries experienced large or disruptive Measles outbreaks in the last 5 years. They represent 68% of total surviving infants and achieve substantially lower routine immunization coverage than the group of countries that avoided outbreaks.



Yellow Fever Vaccine (YFV) coverage remains too low to prevent outbreaks in countries at risk

In all countries at risk for Yellow Fever, vaccine coverage is just 52%, too low to prevent outbreaks and necessitating campaigns in many countries. There is also a significant difference between Yellow Fever and Measles vaccines coverage in those countries, even though both vaccines are administered at the same age (9 months).

This gap is partly explained by a lack of YFV introduction in some countries at risk or partial introduction in countries with subnational risk, and partly because of under-performance of Yellow Fever vaccination compared to Measles vaccine.



*excludes countries with subnational risk (Argentina, Kenya and Panama)

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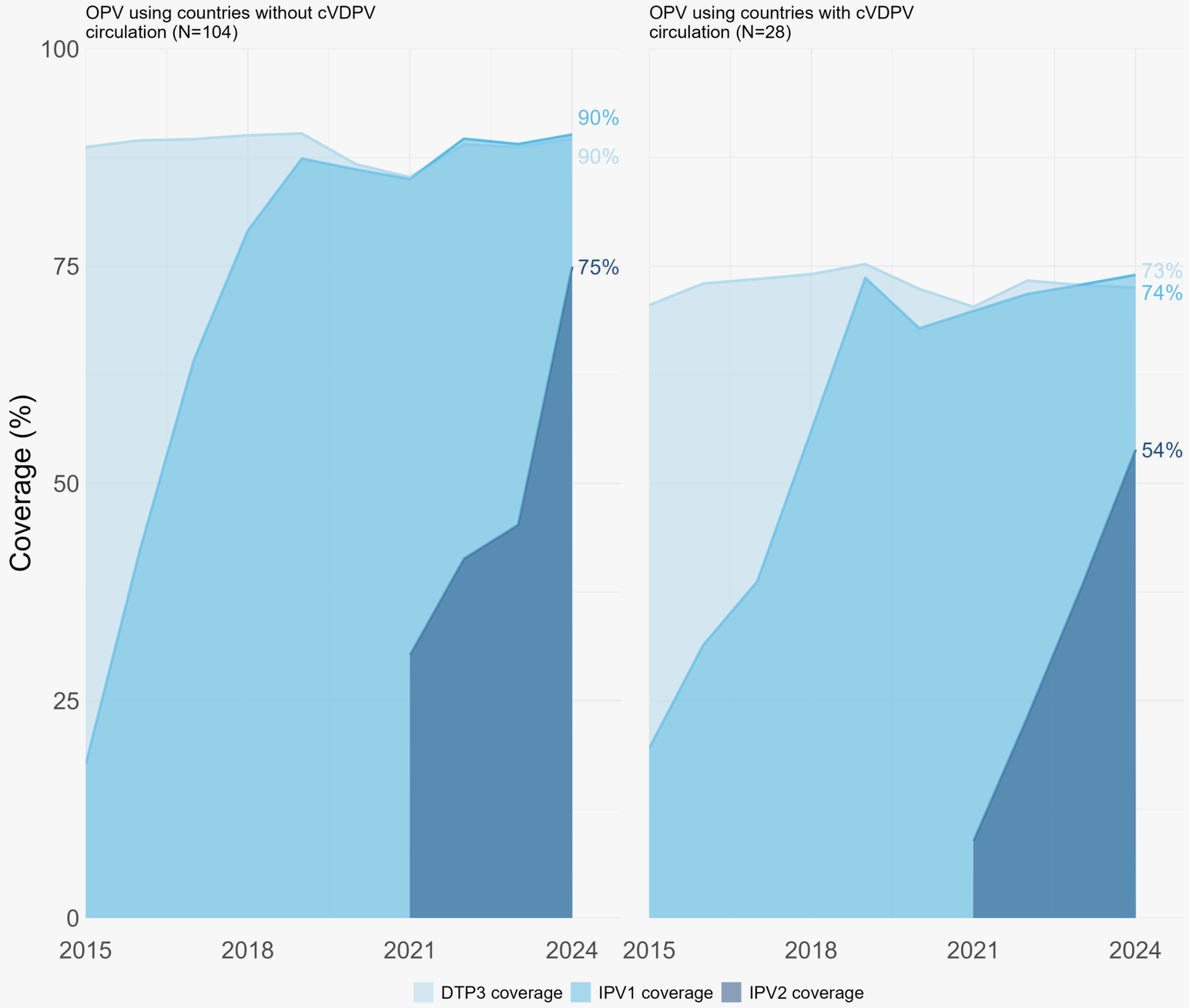
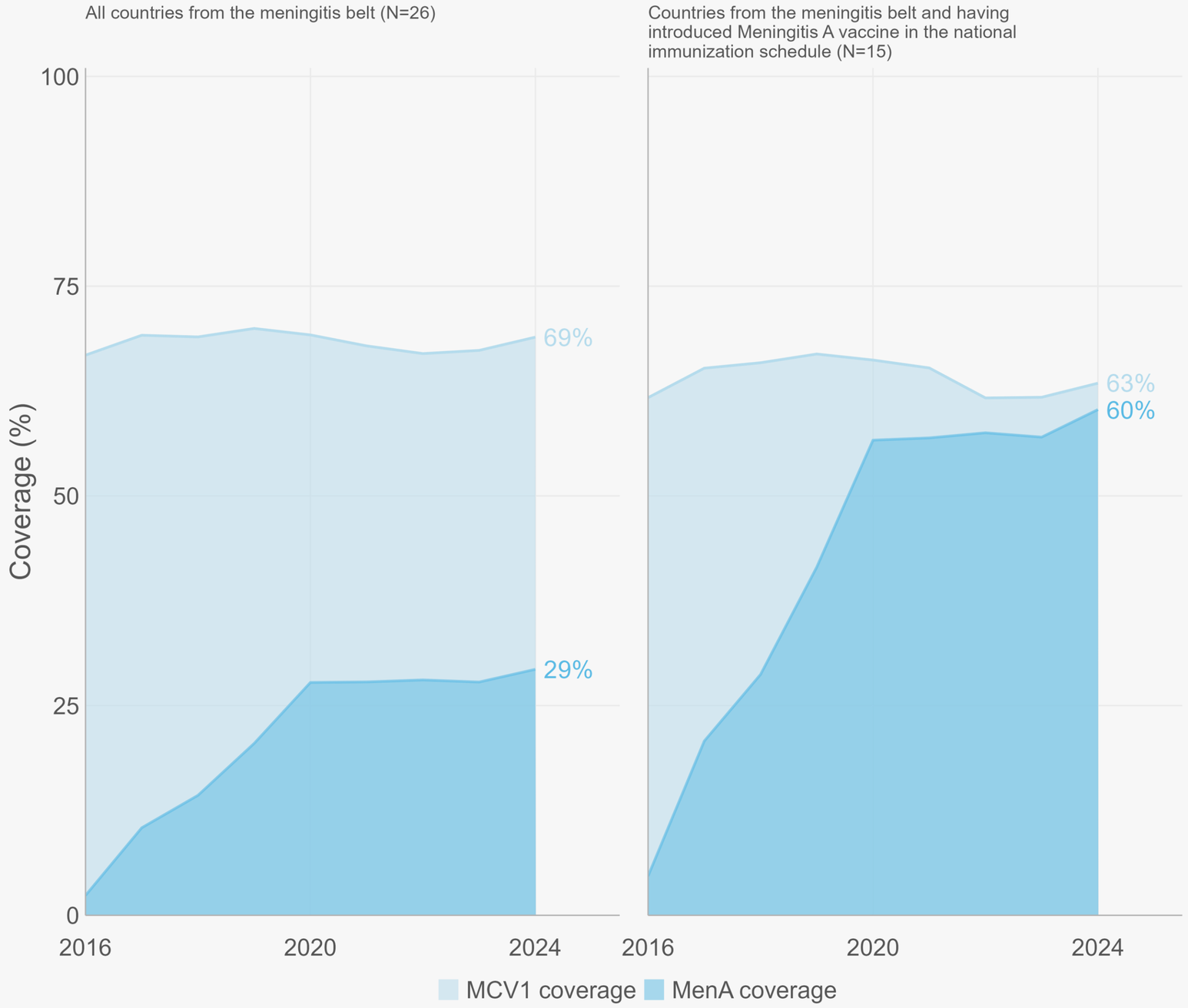
IPV coverage remains too low in countries with active cVDPV circulation

Countries that schedule an Oral Polio Vaccine (OPV) have also introduced at least one, and increasingly two doses of inactivated polio vaccine (IPV). Countries with active circulation in 2024 (either detected in cases or in environmental samples) have much lower mean coverage.



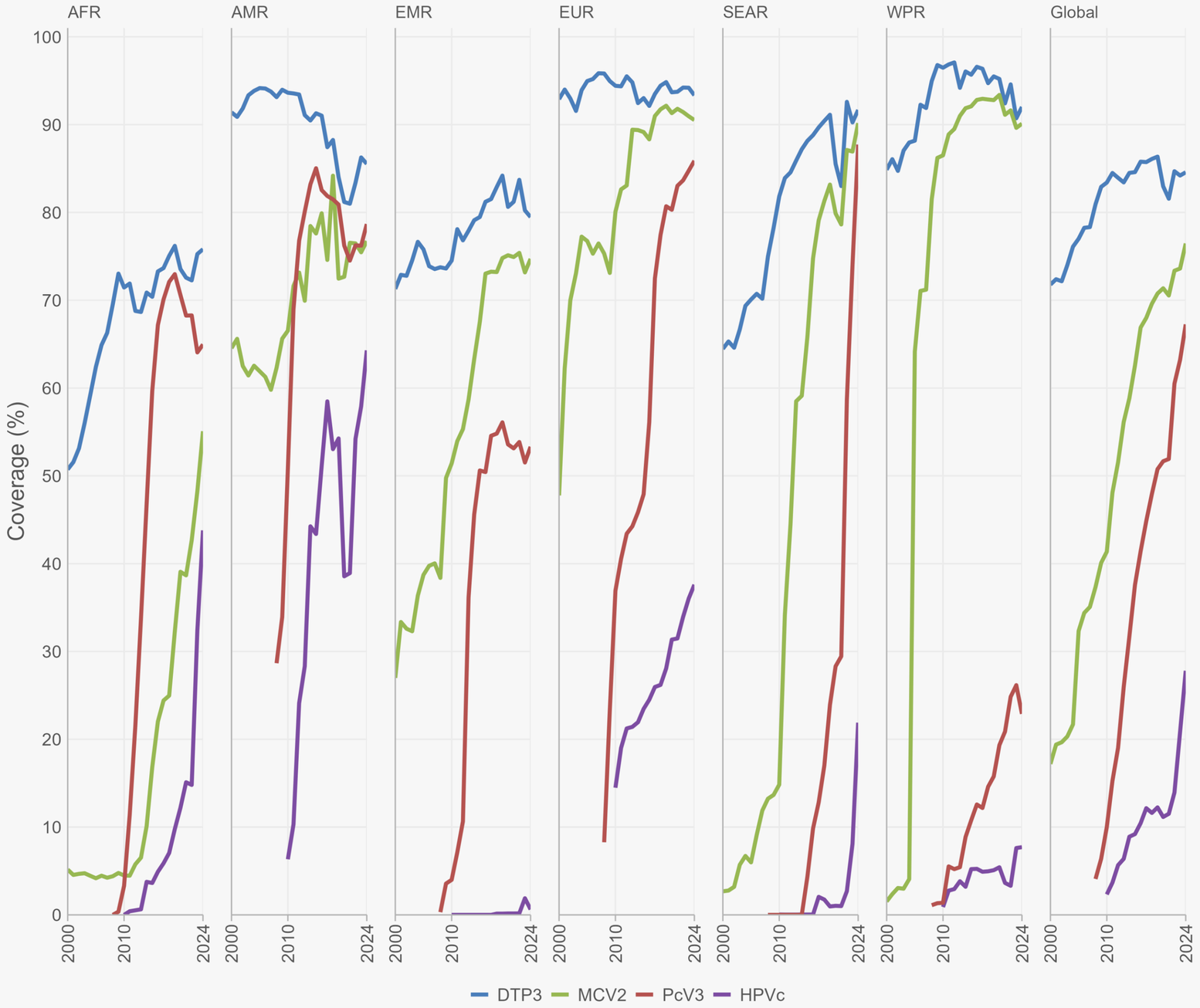
Meningitis A and MCV1 coverage in countries in the Meningitis belt

Among 26 countries in the African meningitis belt, 15 have introduced a Meningitis A vaccine in routine immunization. In all countries in the meningitis belt, coverage stands at 29%, the 15 that have introduced achieve 60%.



SDG-3 vaccination coverage indicators

Vaccination coverage indicators are included in a composite Sustainable Development Goal 3 indicator. At Global level, all three newer vaccines and doses (apart from DTP3) are making progress, although this progress is not evenly spread across regions and vaccines.



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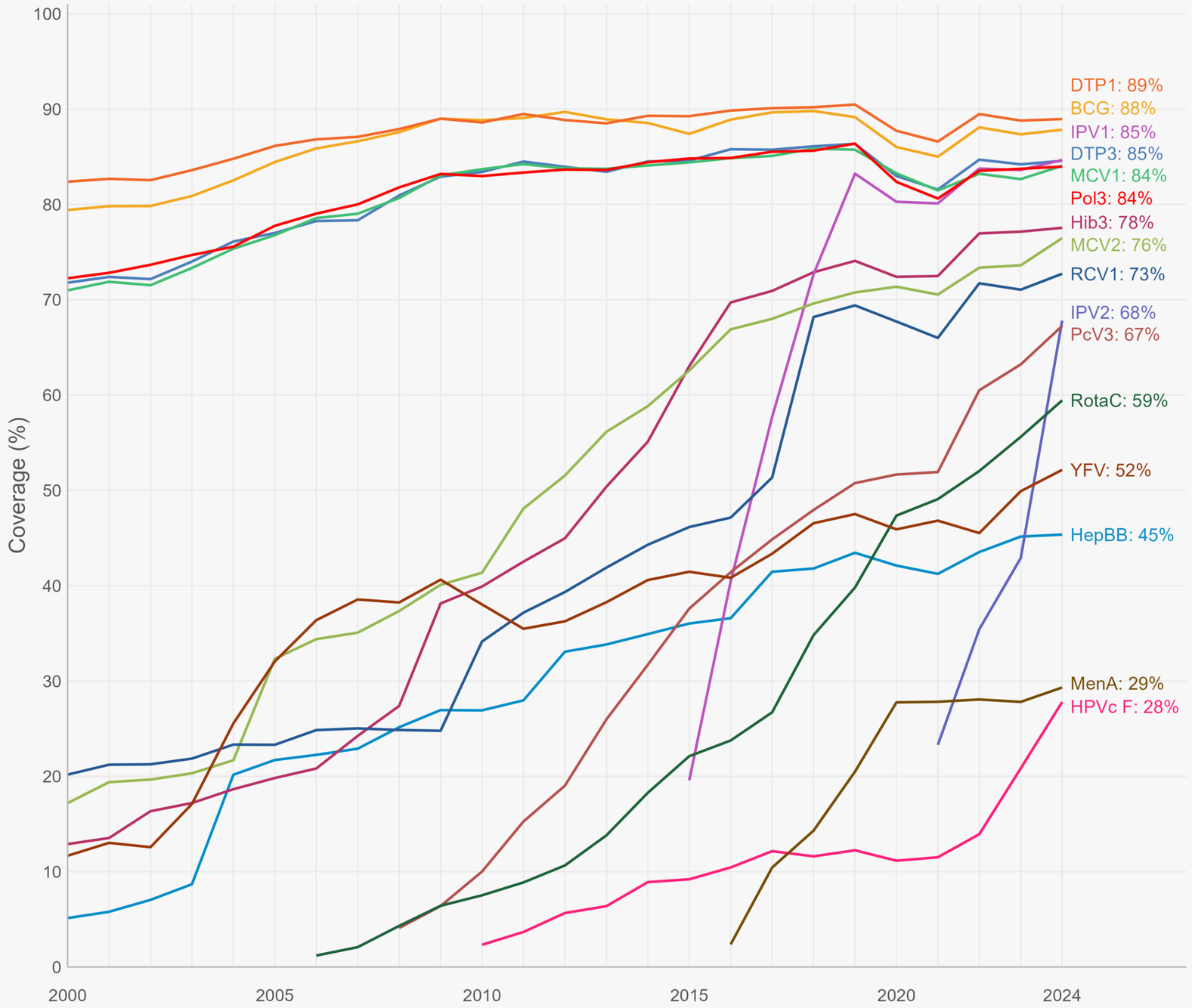
Coverage trends for all vaccines with a global estimate

Among other vaccines for which WUENIC estimates are available, the steep increases in IPV2, PCV, Rotavirus and HPV are noteworthy.



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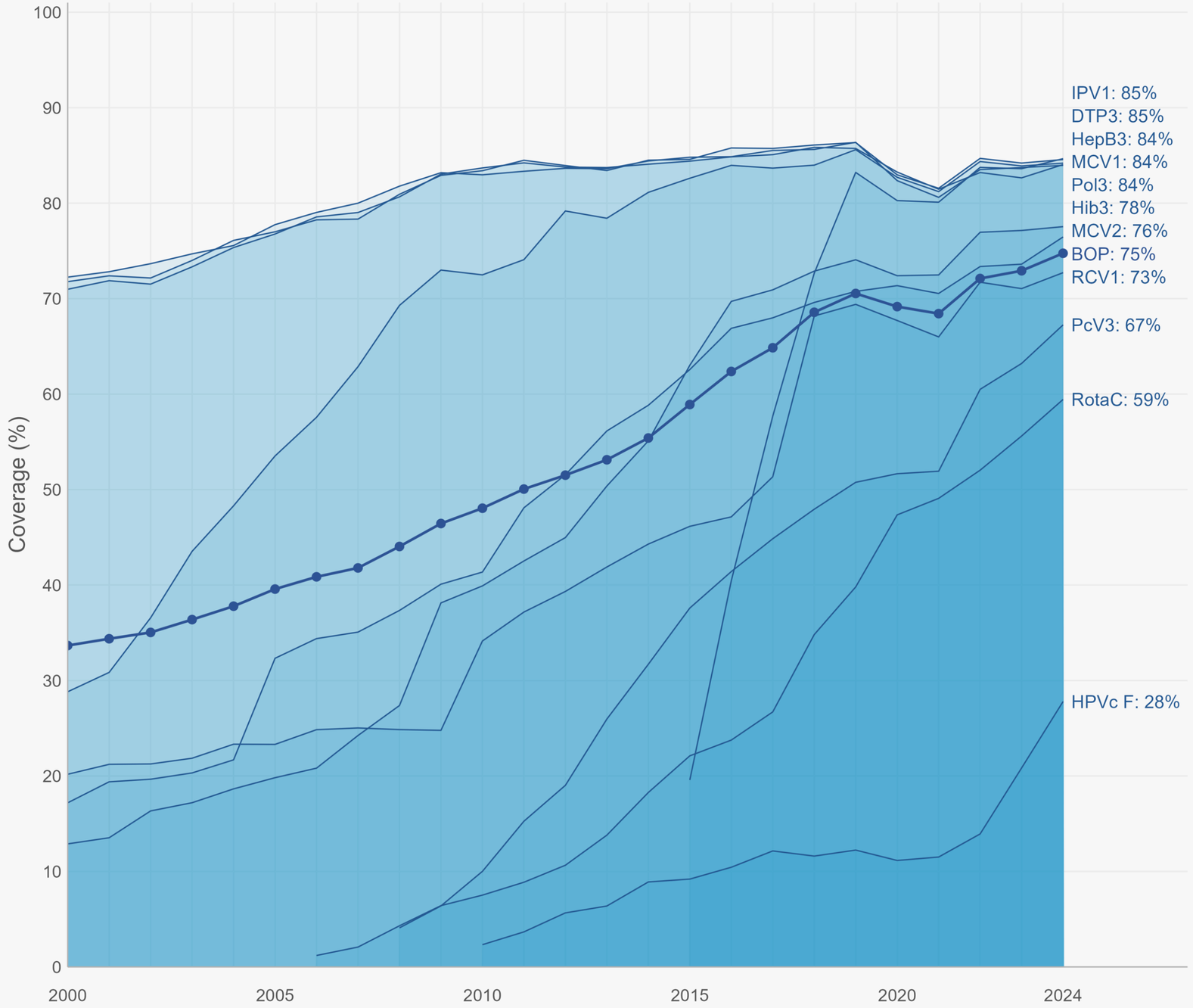
The Breadth of Protection (BOP) continues to increase thanks to progress in newer vaccines

The BOP is an index that represents the average coverage attainment across all globally recommended vaccines, regardless of introduction status. It has continued to improve because of the continued implementation of newer vaccines like Pneumococcus Conjugate Vaccine (PCV), Rotavirus vaccine and Human Papilloma (HPV) Vaccine.

Breadth of protection = ((DTP3 x 3) + HepB3 + Hib3 + IPV1 + MCV1 + MCV2 + PCV3 + POL3 + RCV1 + RotaC + HPV) / 13



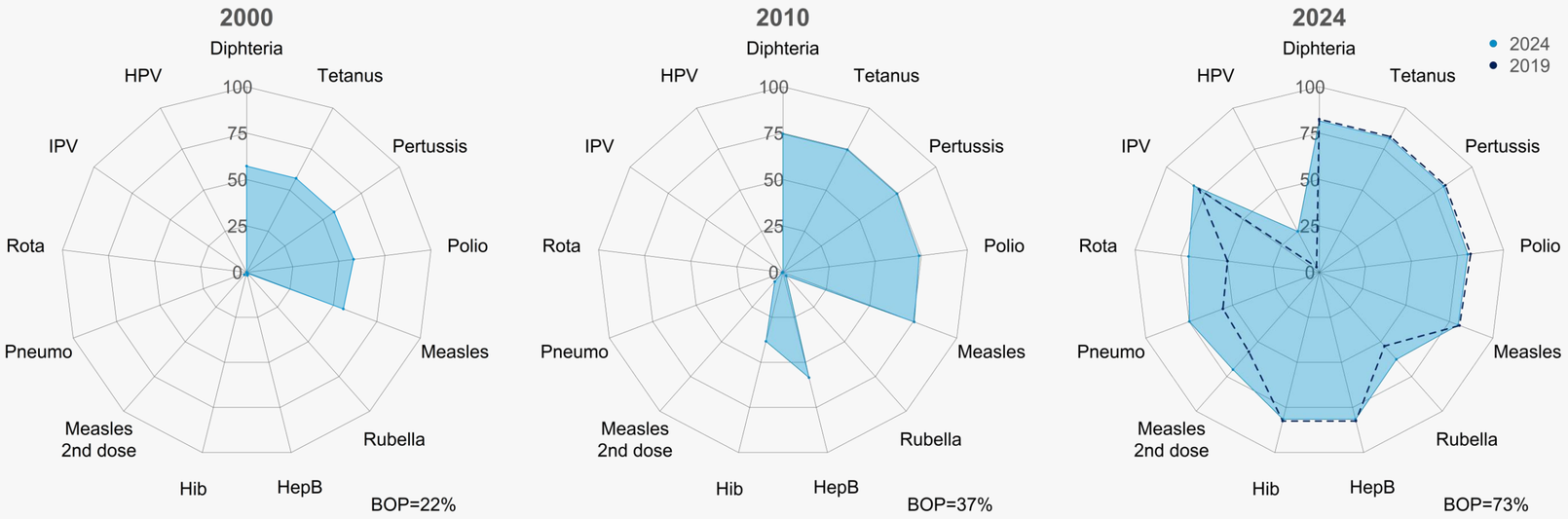
Breadth of Protection

The Breadth of Protection (BOP) in Gavi countries has increased sharply and is now on par with non-Gavi countries.

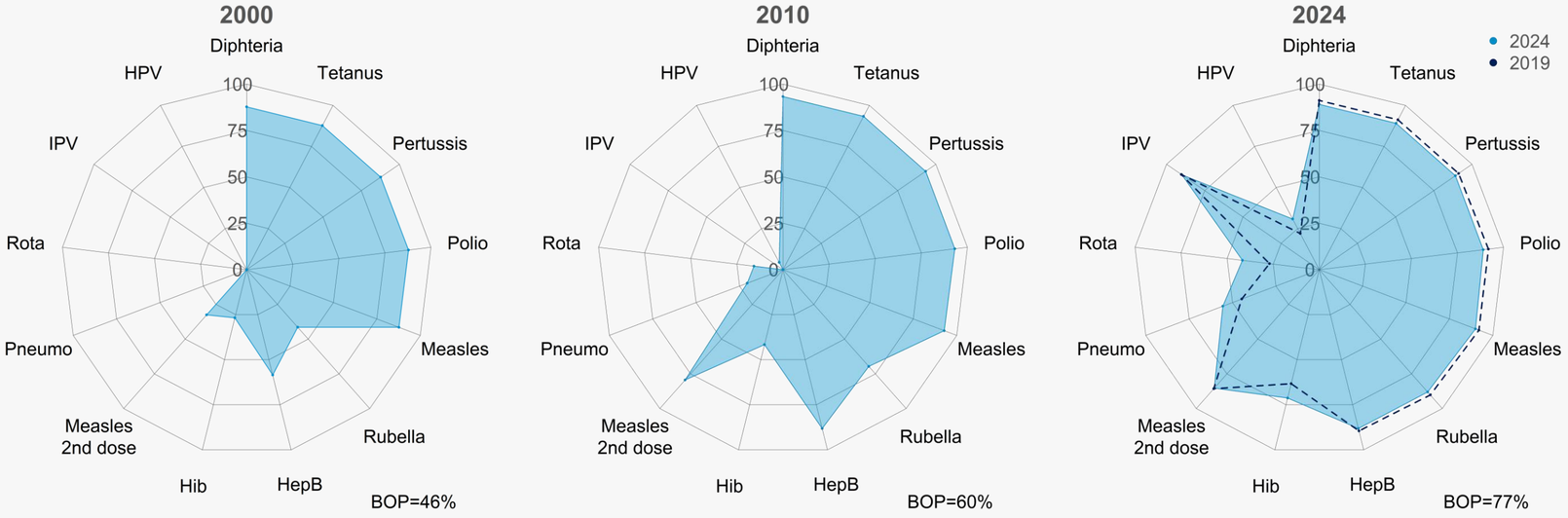
Despite dramatic increases in BOP following new vaccine introduction, coverage for all antigens seems stalled. Programme improvements at local level with focus on equitable access are needed to achieve further closure of the residual gaps.

Breadth of protection = ((DTP3 x 3) + HepB3 + Hib3 + IPV1 + MCV1 + MCV2 + PCV3 + POL3 + RCV1 + RotaC + HPVc) / 13

BOP in GAVI supported countries between 2000 and 2024



BOP in non GAVI countries between 2000 and 2024



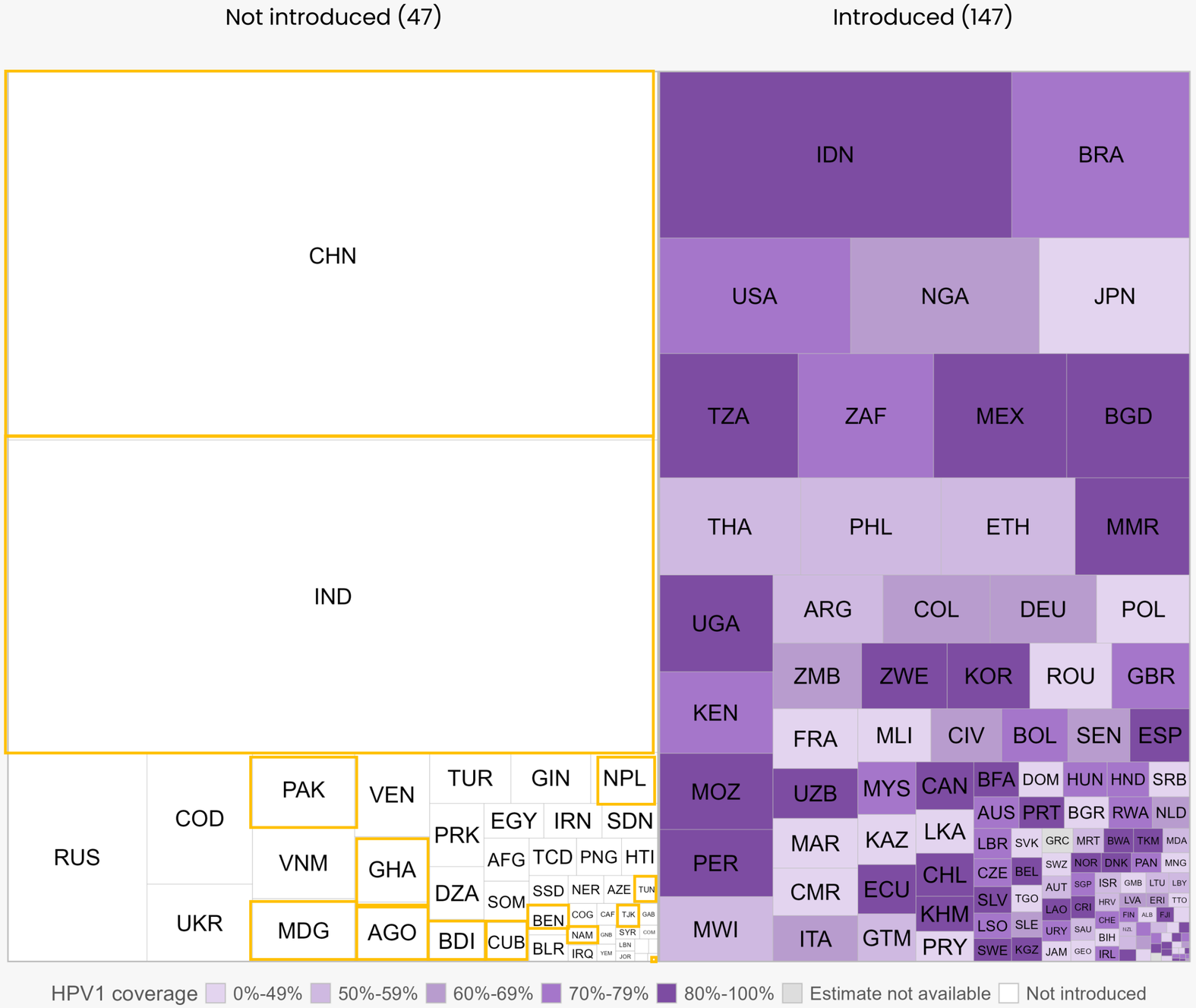
Breadth of protection = ((DTP3 x 3) + HepB3 + Hib3 + IPV1 + MCV1 + MCV2 + PCV3 + POL3 + RCV1 + RotaC + HPV) / 13

Global burden of Cervical Cancer by HPV introduction status & coverage

By end of 2024, HPV vaccine was introduced in countries with 45% of the global burden of cervical cancer.

Planned 2025 Introductions will raise this proportion to >70% of the global burden protected by access to the HPV vaccine.

The size of each country box in the graph is proportional to the number of cervical cancer cases, darker shade of purple represent higher HPV vaccine coverage.



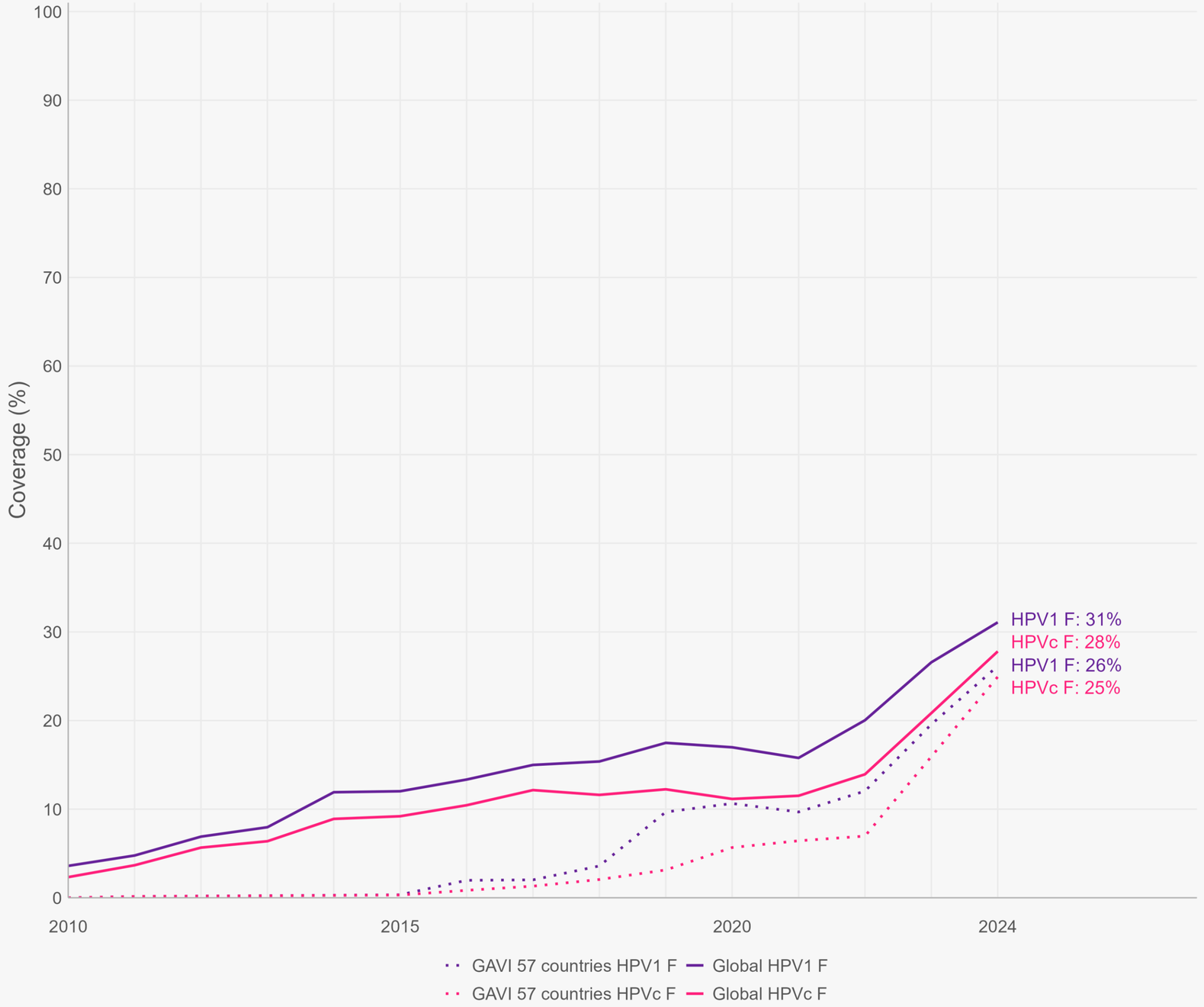
HPV vaccine coverage continues to increase because of large country scale up and improvements in existing programmes

National roll out in Nigeria and Bangladesh and 4 new introductions contributed to improved global coverage and drive the boost in GAVI-57 coverage.

HPV revitalization efforts in existing programmes further improved HPV coverage.

Rapid implementation of 1-dose schedule - 65 countries at the end of 2024 – contributed to coverage improvement. On average, coverage in 1-dose countries that switched from a 2-dose schedule, improved by 5% in the first year.

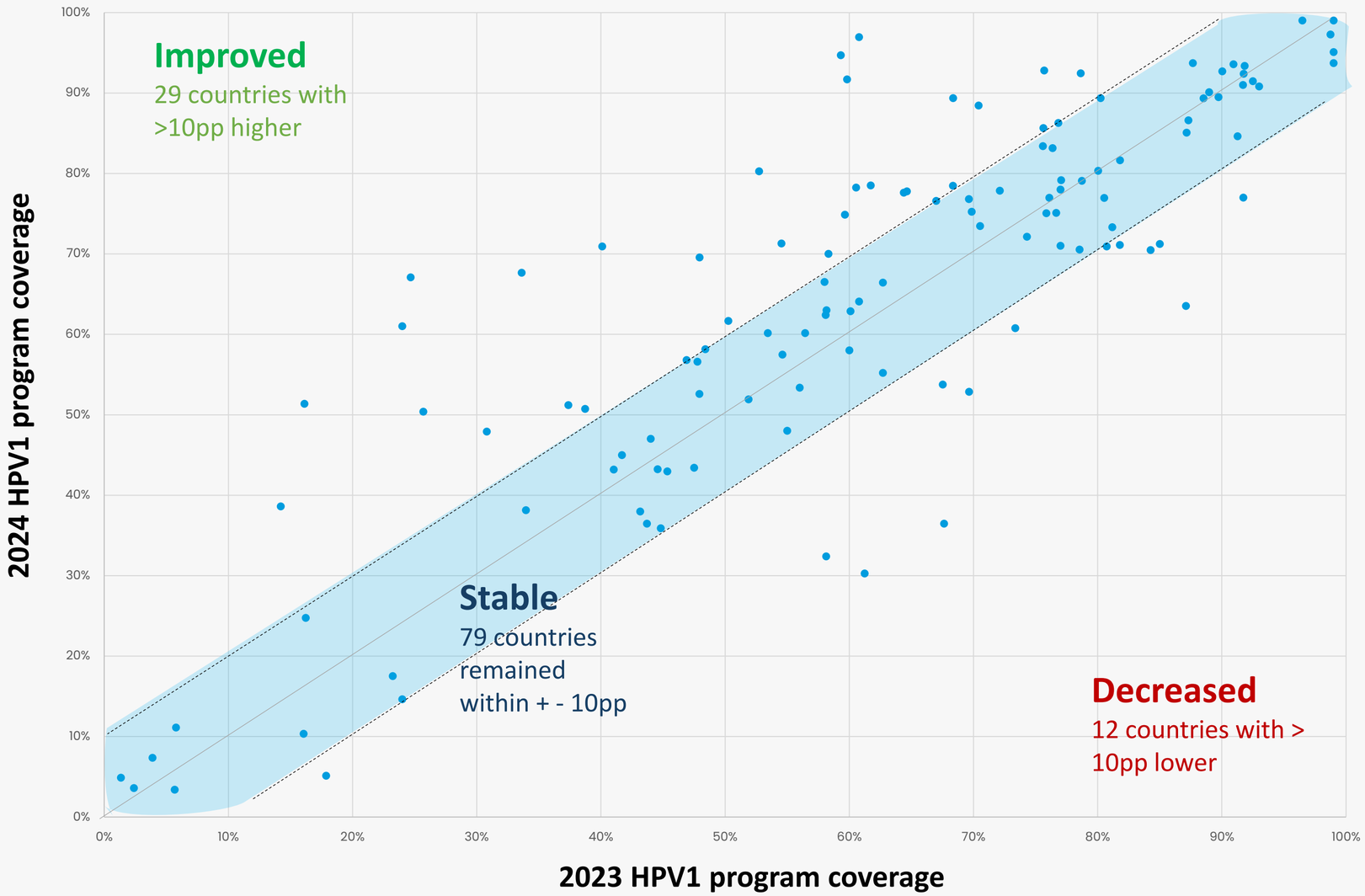
Population based coverage in GAVI-57 countries is now nearly on par with global coverage, indicating a rapid reduction in inequality in access to HPV vaccines.



HPV program coverage improved in 2024

Analysis across 120 countries for which both 2023 and 2024 was available, HPV coverage increased on average **by 5 percentage points**.

This analysis excludes countries that introduced HPV in 2024; those not reporting valid data in 2024, and those providing valid data for the first time in 2024.

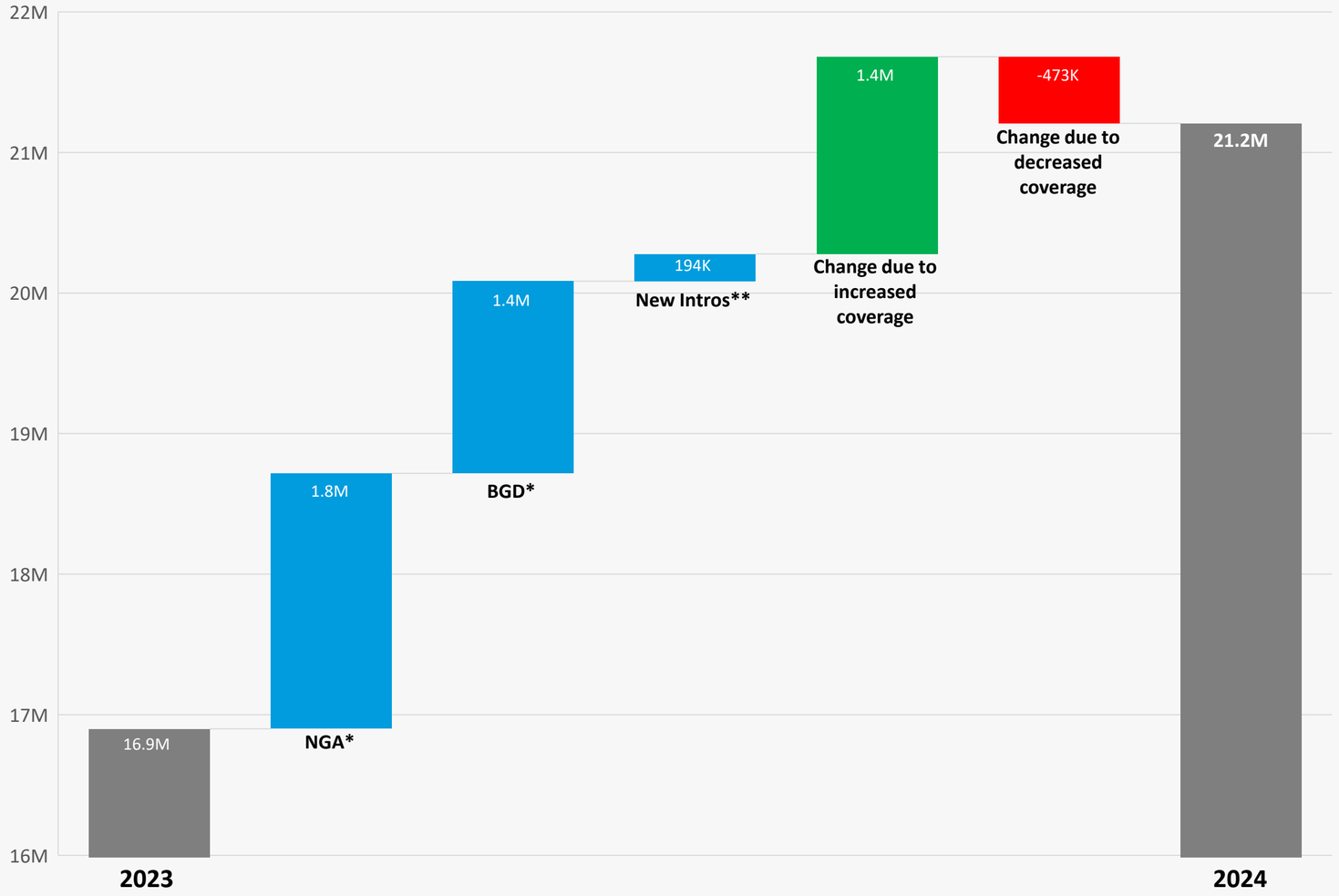


World Health Organization unicef

HPV coverage improvement in routine cohorts in 2024: Due to scaling up in new introductions and coverage improvements in existing programmes

National scaling of phased introductions in Nigeria and Bangladesh - were key drivers for the continued global coverage improvement (total 3.3M)

Revitalization of existing HPV programmes in a set of countries further boosted the total number of girls reached with HPV vaccines (total 1.4M) – while a subset of countries saw coverages slide.



Total number of girls reached with in routine cohorts in 2024 with at least 1 dose of HPV vaccine

*Second phase of 2023 introductions
**New Introductions in 2024 in Kazakhstan, Mongolia, Mali, and Timor-Leste

Where to find data and background information on immunization coverage estimates and related data

WUENIC and the annual immunization data reported by countries are available on **WHO and UNICEF Immunization data portals**

- www.who.int/data/immunization
- https://data.unicef.org/topic/child-health/immunization/

WHO and UNICEF coverage estimates methods and **country profiles**:

- https://www.who.int/teams/immunization-vaccines-and-biologicals/immunization-analysis-and-insights/global-monitoring/immunization-coverage/who-unicef-estimates-of-national-immunization-coverage
- https://worldhealthorg.shinyapps.io/wuenic-trends/

For more information on the Immunization Agenda 2030, please visit

- www.immunizationagenda2030.org/

For more information on "Big Catch-Up", please visit

- www.who.int/publications/i/item/9789240075511

The WHO Financing for Vaccine Dashboard is a descriptive tool to initiate dialogue and questions to be investigated in support of national decision-making around increasing the health impact, efficiency, and financial sustainability of a country's immunization program. The Dashboard is designed to present what countries report on vaccine expenditures to the JRF . To make this data more comprehensible, the Dashboard integrates a storyline around five key indicators. Users can view these indicators for a single country (Country Profile view), compare two countries, examine a group of countries (by income groups or WHO regions), or explore a map for each of the five indicators.

The intended audience of the Dashboard is Ministry of Health and Financing staff, including EPI managers, as well as other national immunization partners and stakeholders such as CSOs.

- https://who-dev3.prgsdev.com/dashboards/financing-for-vaccines/.