

Progress and Challenges with Sustaining and Advancing Immunization Coverage During the COVID-19 Pandemic

2020 WHO/UNICEF Estimates of National Immunization Coverage (WUENIC 2020)

Sources:

- Member State reports to WHO and UNICEF
- The 2021 World Bank Development Indicators Online
- United Nations, Population Division, 2019 revision

Estimates as of July 15 2021, includes data reported as of 6 July

<https://www.who.int/data/immunization>
<http://www.data.unicef.org/child-health/immunization>

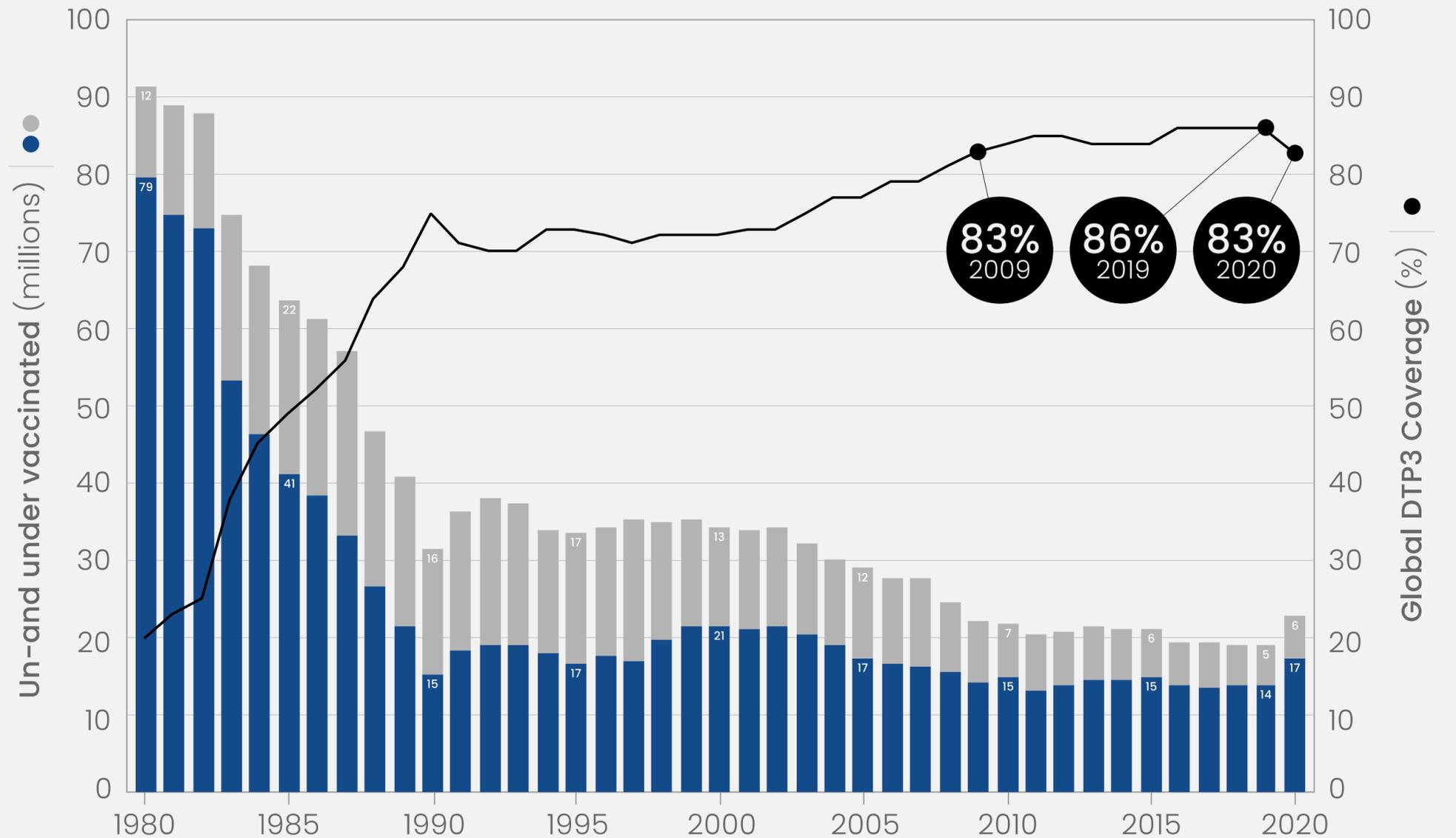


Infant immunization coverage dropped to 83% in 2020, leaving 3.7 million more children un-or under vaccinated than in 2019

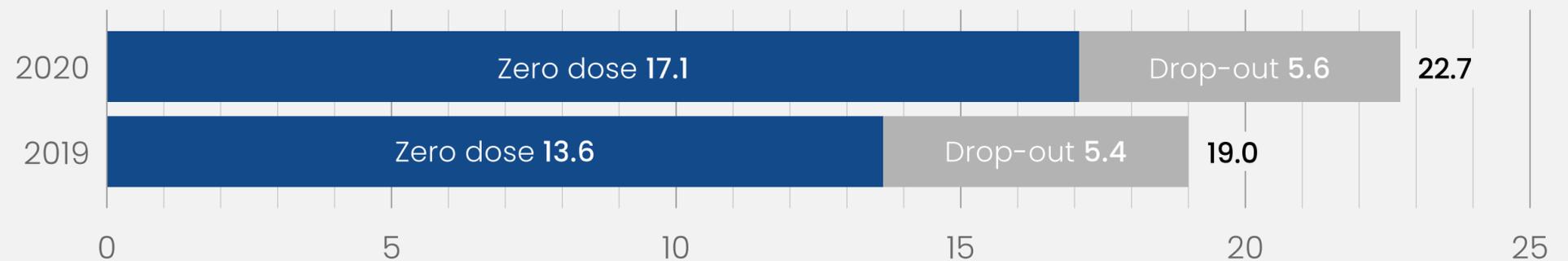
Coverage of a third dose of vaccine protecting against diphtheria, tetanus, and pertussis (DTP-3) dropped to 83% in 2020, leaving 22.7 million children vulnerable to vaccine preventable diseases.

The key goal of the Immunization Agenda 2030 is to make vaccination achievable for everyone, everywhere, at every age, by 2030. The Covid-19 pandemic and associated disruptions have strained health systems in 2020, resulting in 22.7 million children missing out on vaccination, 3.7 million more than in 2019 and the highest number since 2009. Moreover, the number of children receiving no vaccines through the routine immunization programme - "zero-dose children" - increased from 13.6 to 17.1m.

In this analysis, zero-dose children are those who received no doses of DTP. Under-vaccinated (drop-out) are those who received at least one dose, but not a third dose of DTP.



22.7 million un-and under vaccinated infants in 2020



Just 10 countries account for 62% of unprotected children

Countries with most unprotected children.

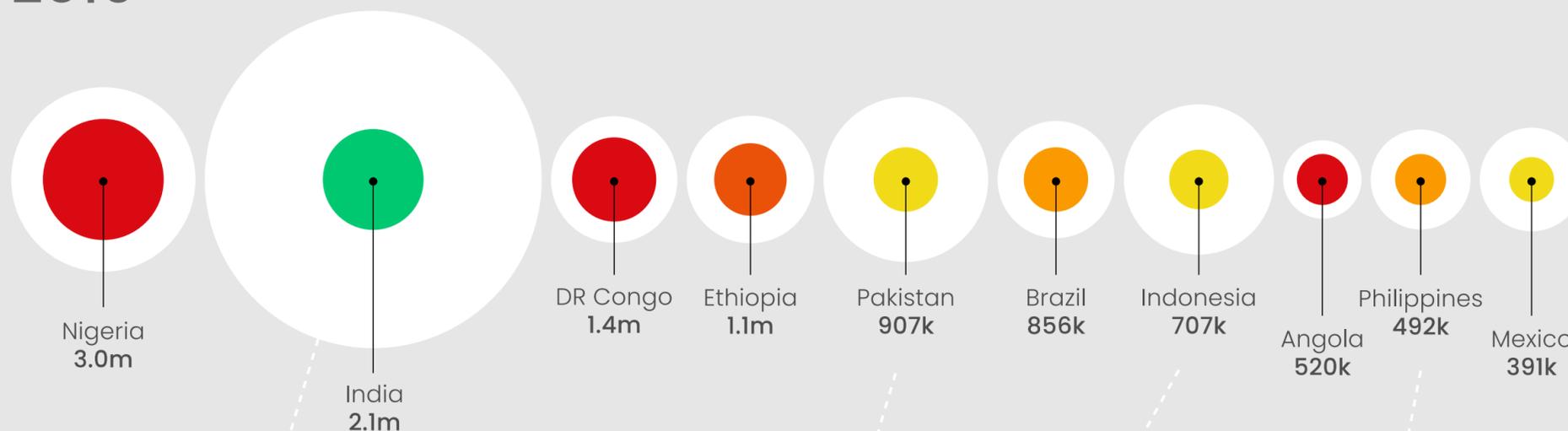
10 countries account for 56 of 136 million surviving infants (41%), and 14 of the 23 million (62%) under and unvaccinated children worldwide. These countries include some with moderate coverage and very large birth cohorts, and others with substantially lower coverage.

Middle income countries account for an increasing share of this list. India experiences a relatively large drop in coverage in 2020 (DTP3 fell from 91% to 85%) and overtakes Nigeria (stable at 57%) as the country with most un- and under vaccinated children.

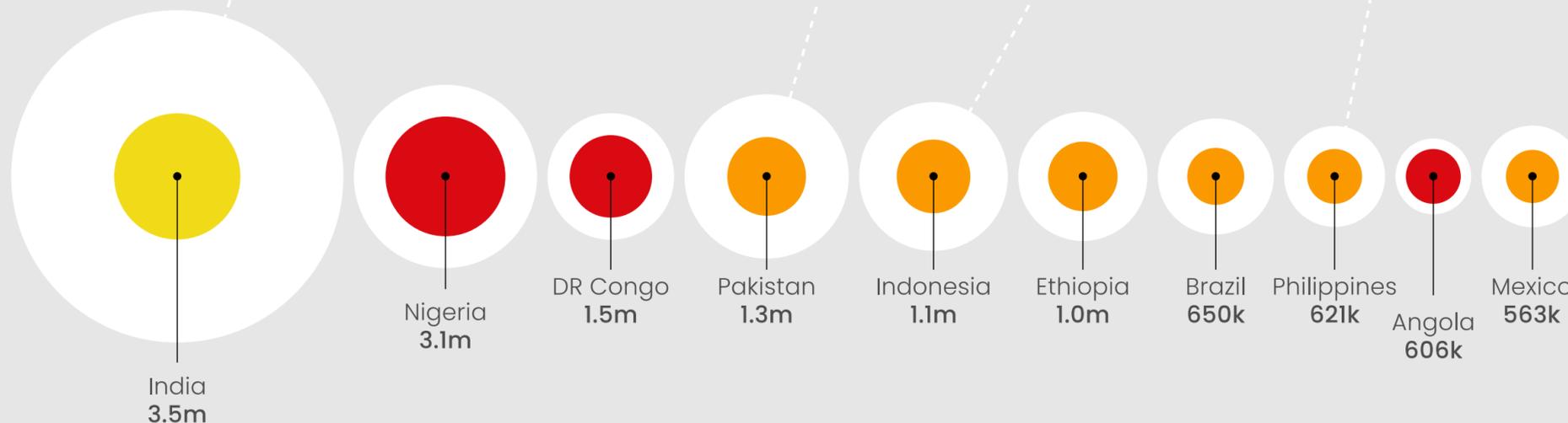
Un- or under vaccination and lack of protection is measured through the lack of DTP1 and 3 in this analysis.



2019



2020



DTP3 coverage according to legend, bubbles sized to numbers of surviving infants and unprotected children.

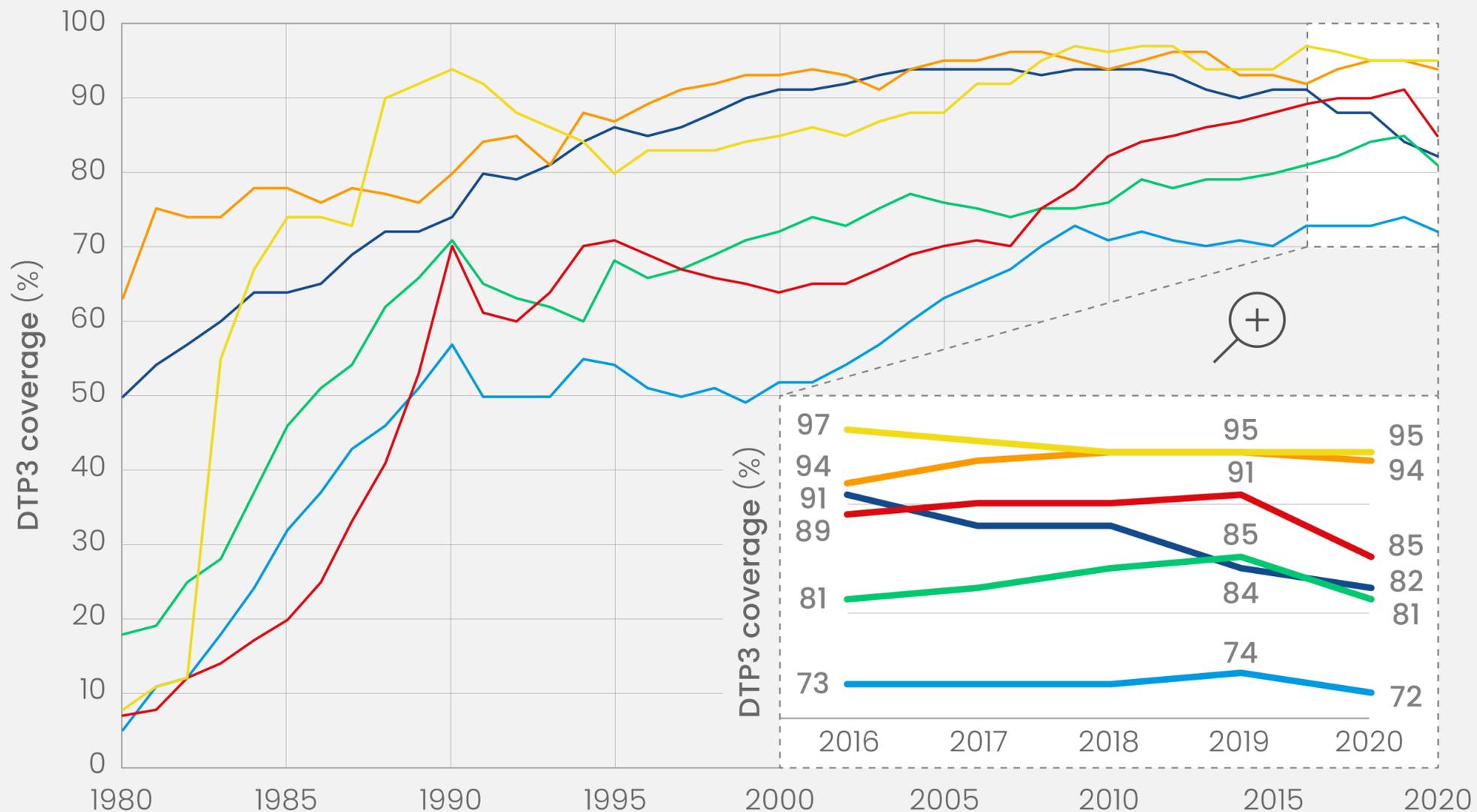
Vaccine coverage was affected unevenly between regions

The South East Asian and Eastern Mediterranean Regions' vaccine coverage were most affected by the COVID-19 pandemic and related disruptions.

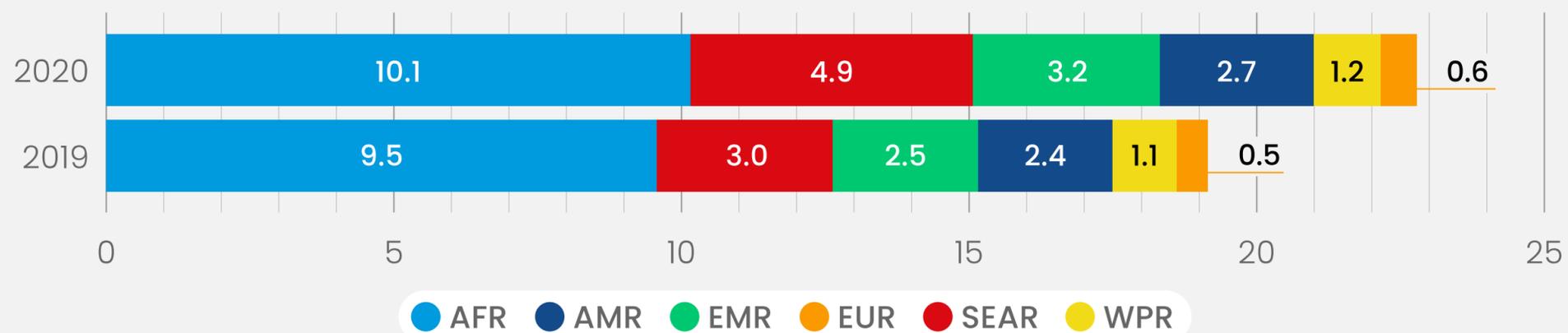
The Region of the Americas also experiences a significant drop, which continues recent trends.

In the African, Western Pacific and European Regions, the COVID-19 pandemic didn't lead to significantly lower reported DTP3 coverage for 2020, reflecting significant efforts to recover from acute drops during the year and to sustain immunization as an essential health service.

Un-, and under- vaccination is measured through the lack of DTP1 and 3, respectively, in this analysis.



23 million un- and under vaccinated children in 2020, by WHO region



Countries supported by the Gavi Alliance experienced a larger setback than higher income countries

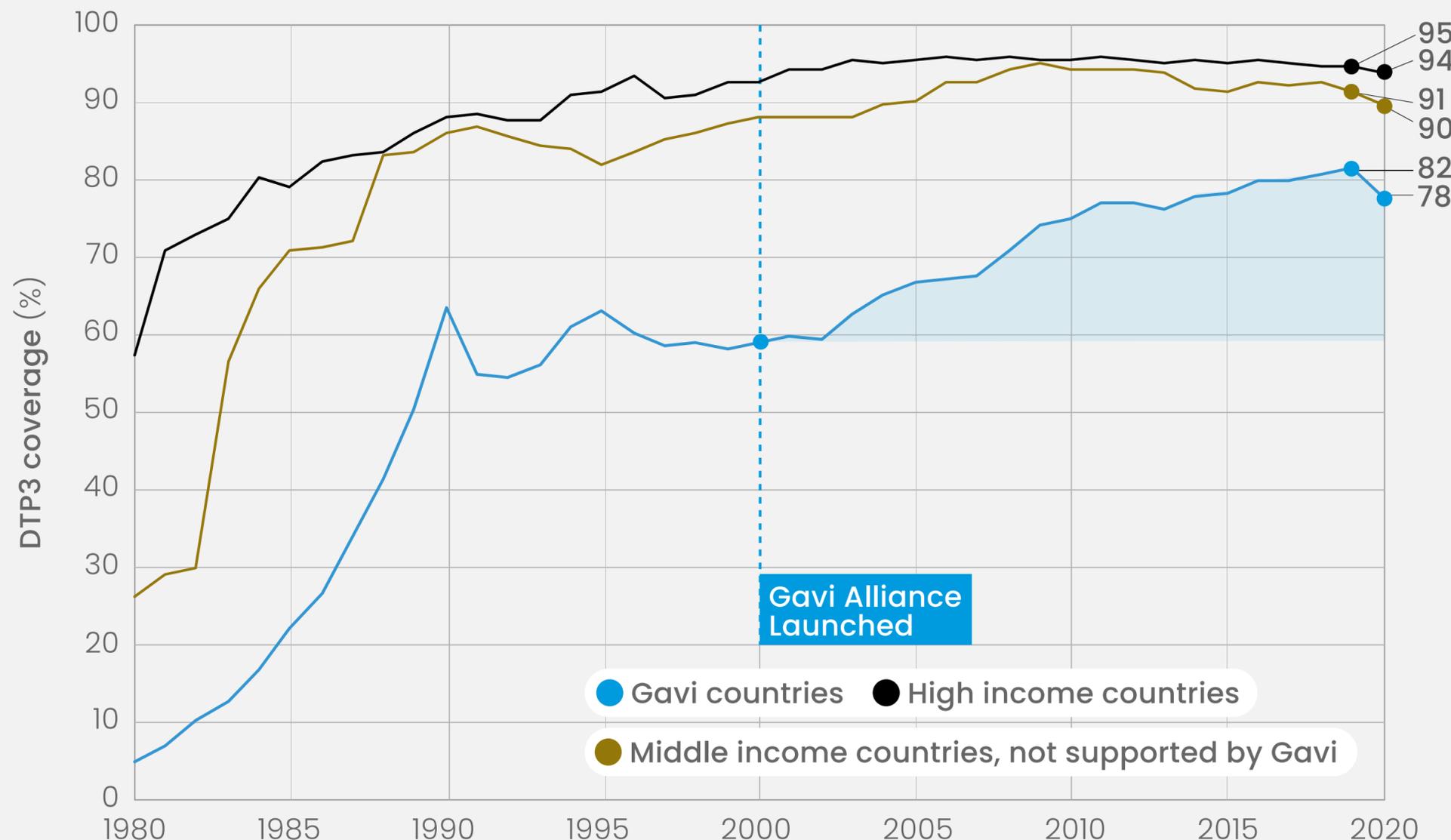
The Gavi Alliance provides vaccines and immunization programme financial support to lower income countries.

Since 2000, coverage in the group of “Gavi countries” has increased markedly, narrowing the gap with higher income countries. However, in 2020 the decline in coverage in countries supported by Gavi is somewhat larger than in other countries, highlighting that gains in vaccine coverage remain fragile and are not yet as resilient to programme shocks as those in countries with longstanding strengths in immunization programmes.

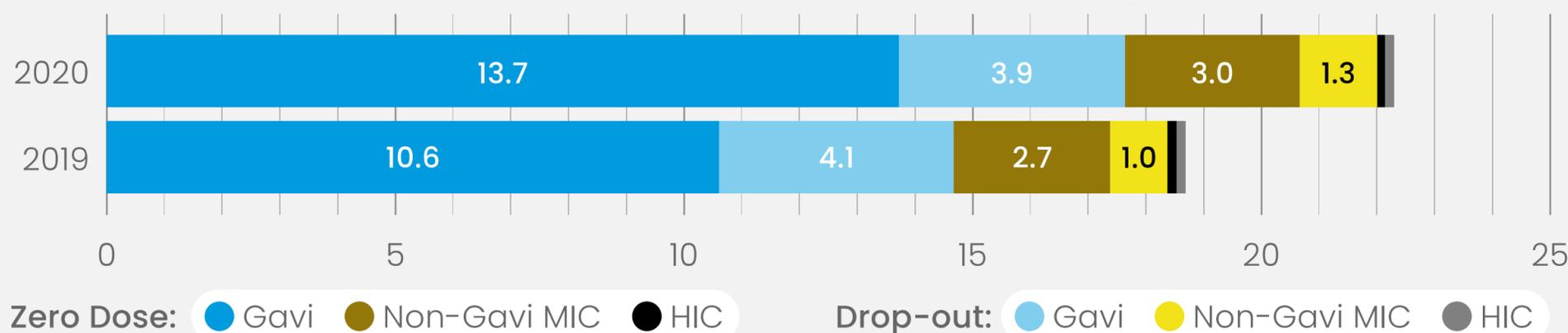
The decline sets progress in Gavi countries back to their 2014 level.

“Gavi countries” refers to the list of 68 currently supported countries, and excludes graduated countries.

In this analysis, zero-dose children are those who received no doses of DTP. Under-vaccinated (drop-out) are those who received at least one dose, but not a third dose of DTP.



23 million un- and under vaccinated children in 2020, in Gavi supported and other countries



Disruption and recovery of immunization during the Covid-19 pandemic

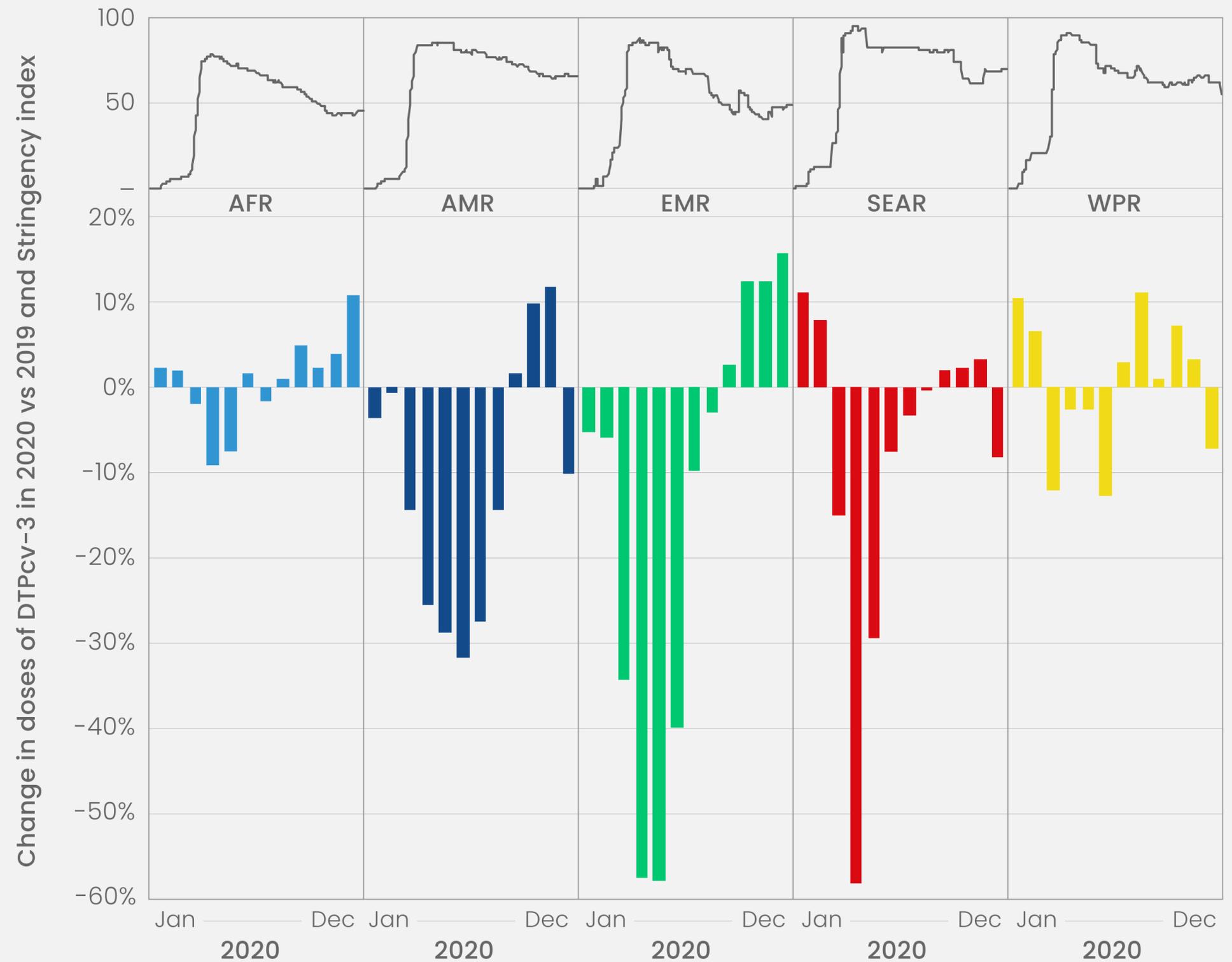
Patterns of disruption and recovery also varied across regions.

Monthly reported data, by a subset of member states, shows the relatively larger impact of COVID-19 disruptions in the Eastern Mediterranean Region, the South East Asian Region and the Region of the Americas.

The Eastern Mediterranean Region was able to mount the most robust recovery efforts.

The top of the chart shows a COVID-19 response stringency index for the reporting countries, compiled from the index provided by the Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford. (Daily index numbers for reporting countries are weighted by birth cohort).

Stringency index - The index records the strictness of 'lockdown style' policies that primarily restrict people's behaviour. It is calculated using all ordinal containment and closure policy indicators, plus an indicator recording public information campaigns. <https://www.bsg.ox.ac.uk/research/research-projects/covid-19-government-response-tracker>



Completeness: 97% 30% 65% 100% 15%

Percentage of each regional birth cohort represented by the countries that reported monthly data

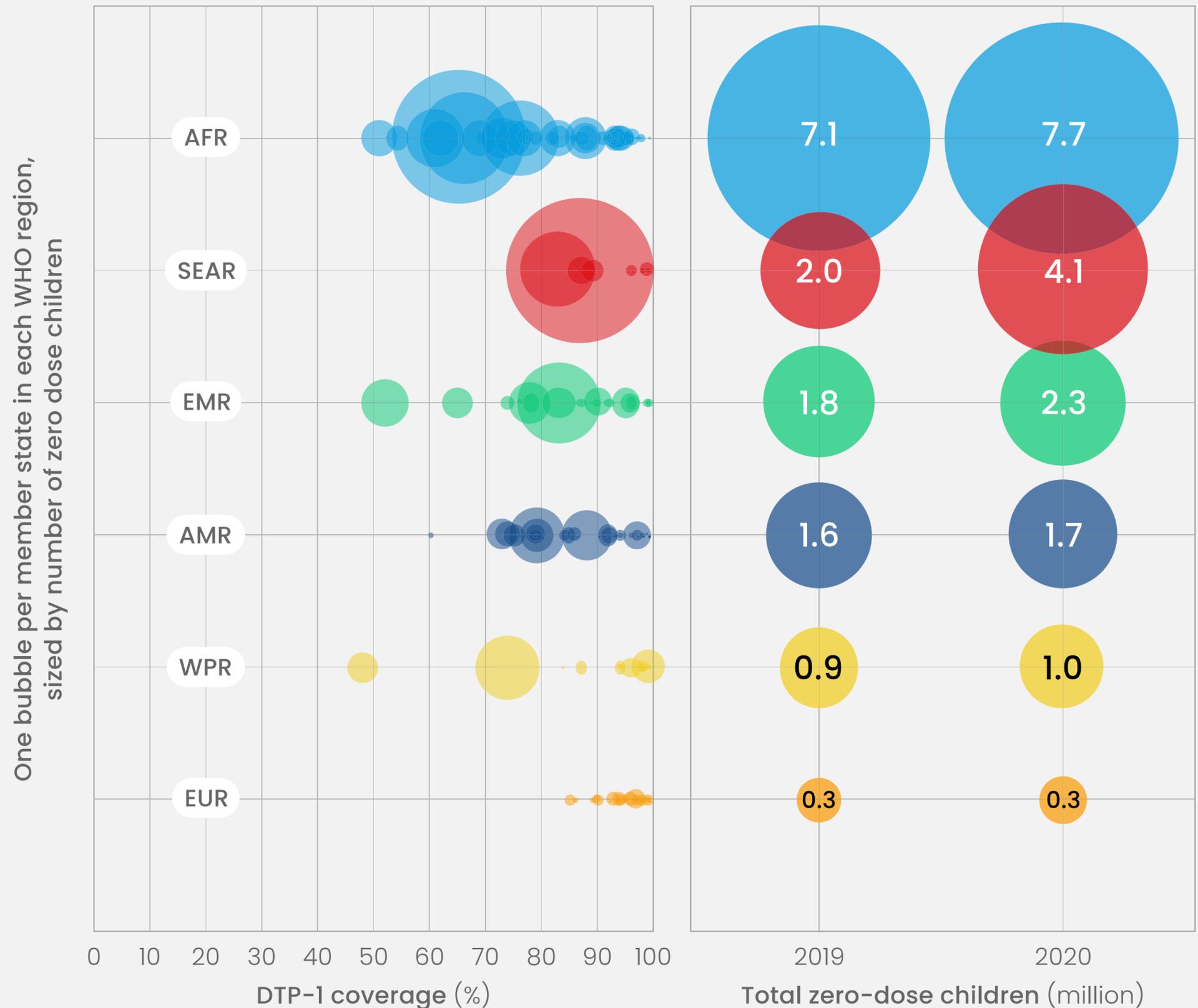
The number of “zero-dose children*” increased across all regions in 2020

The 17 million children who didn't receive an initial dose of basic vaccines often lack access to immunization services and other health services.

Zero-dose children live disproportionately in the African continent and in countries affected by conflict. They are from families or communities likely to lack access to other health and welfare services and are subject to multiple deprivations.

Regions with the strictest COVID-19 response measures experienced the largest increases in zero dose children, because service provision and especially outreach activities were affected.

* Zero dose children defined as those lacking DTP1.



Coverage of new and underused vaccines also declined along with DTP containing vaccines in 2020

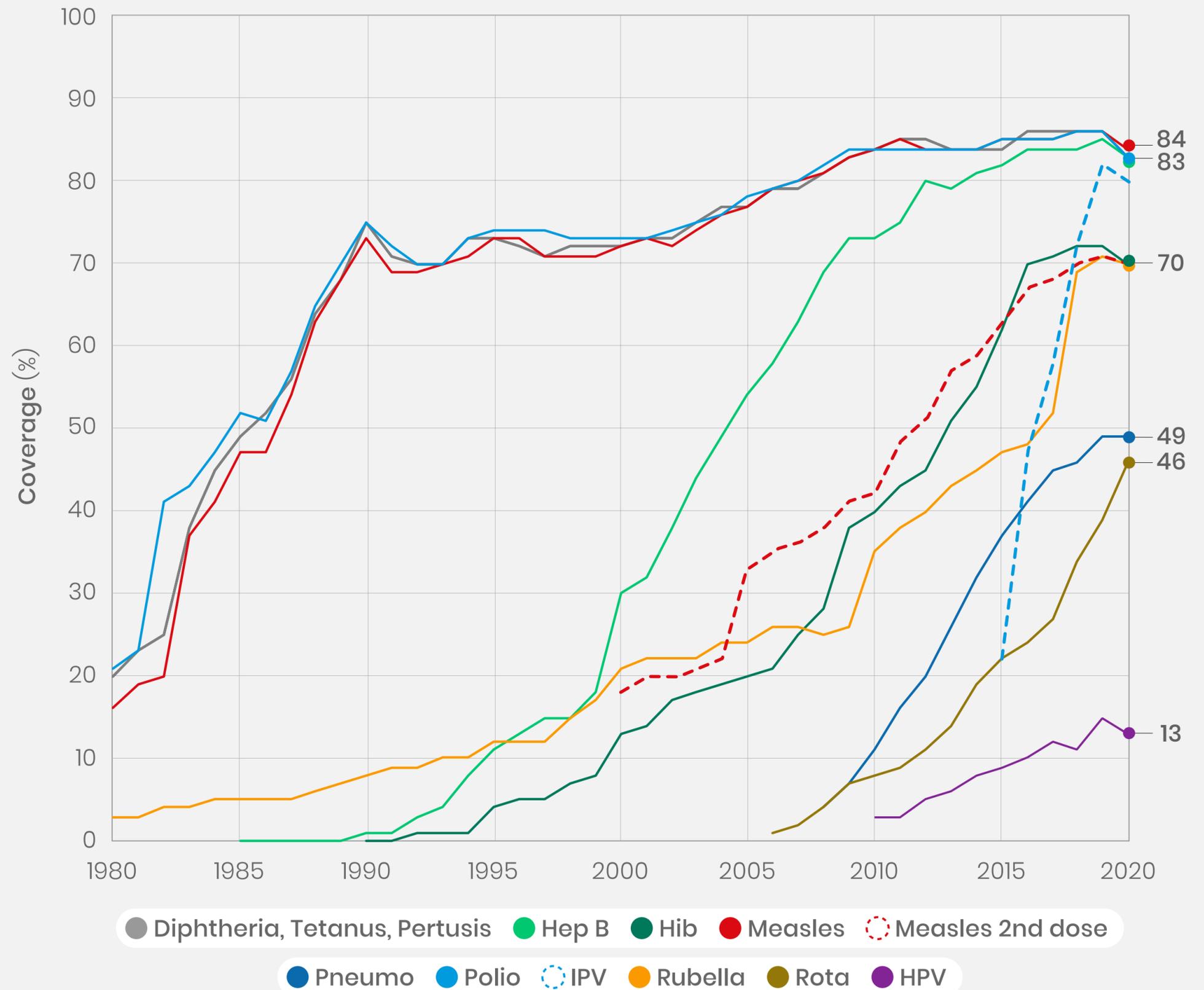
New and underused vaccine coverage is converging with coverage of established vaccines.

While there has been incremental progress for established vaccines such as those protecting against polio, measles, rubella, diphtheria, tetanus, and pertussis (DTP), newer vaccines are reaching those who need them faster than before, but with a disruption in progress in 2020..

That list includes vaccines against hepatitis B and Haemophilus influenzae type B (Hib) - which are often combined in the same vaccine as DTP - Pneumococcus, Rotavirus, Inactivated Polio Vaccine, and Human Papilloma Virus vaccine.

In 2020, many vaccines experienced drops in line with DTP3.

For each antigen, coverage with the dose that completes the recommended schedule is shown.



New vaccines have been scaled up across the world, providing an increasing breadth of protection for children that are reached

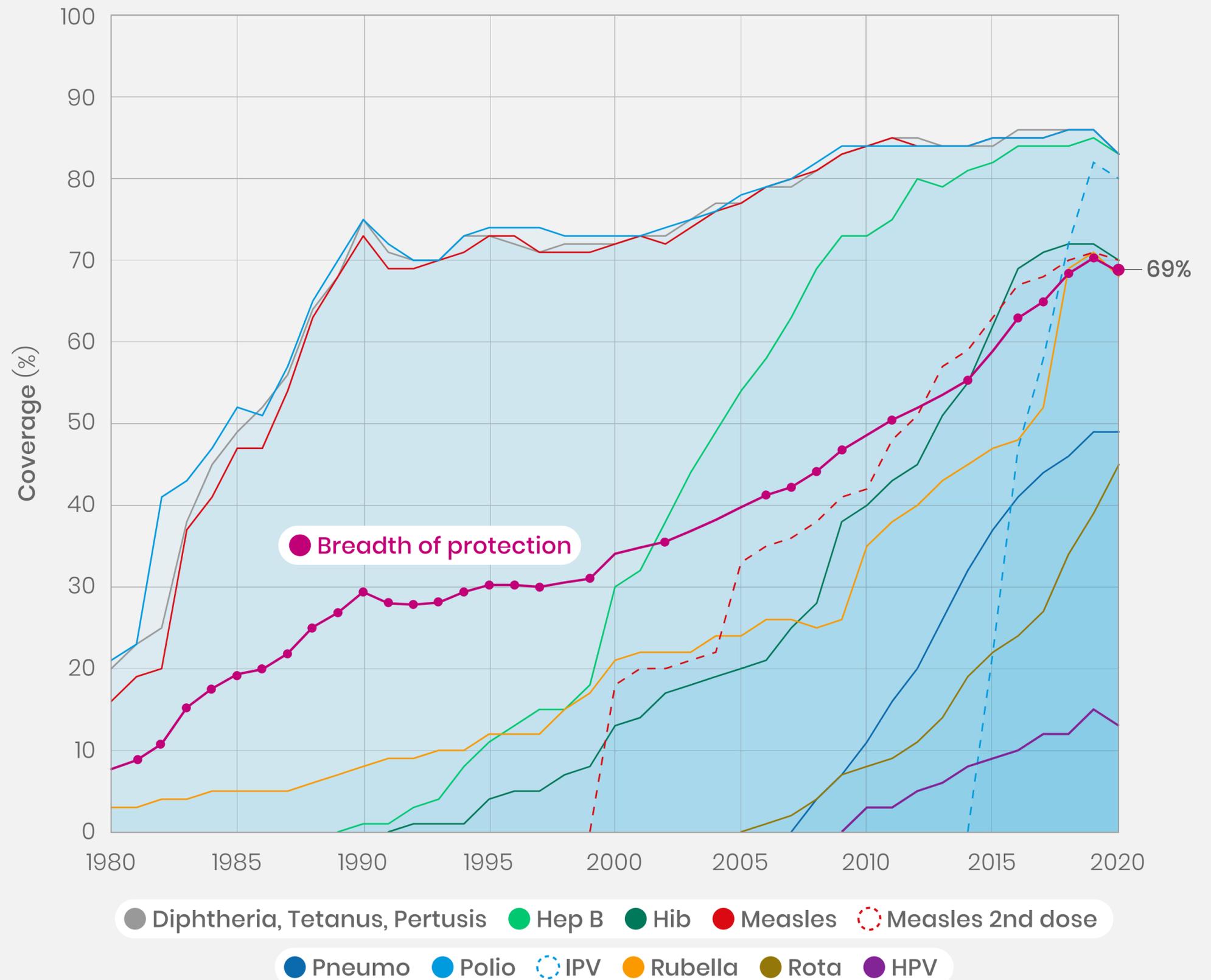
In 2020, the average coverage for vaccines targeting 11 diseases stood at 69% compared with 8% in 1980.

The breadth of protection is a cross-sectional programme performance indicator, defined as the average global coverage achieved for a set of globally recommended antigens across multiple age ranges.

This list includes: polio, measles*, rubella, diphtheria, tetanus, pertussis (DTP), hepatitis B (Hep-B), Haemophilus influenzae type B (Hib), Pneumococcal Vaccine, Rotavirus Vaccine, Inactivated Polio Vaccine (IPV**), and Human Papilloma Virus Vaccine (HPV).

* Includes first and second doses.

** IPV coverage weighted to reflect the part of the population that receives IPV in addition to oral polio vaccines.

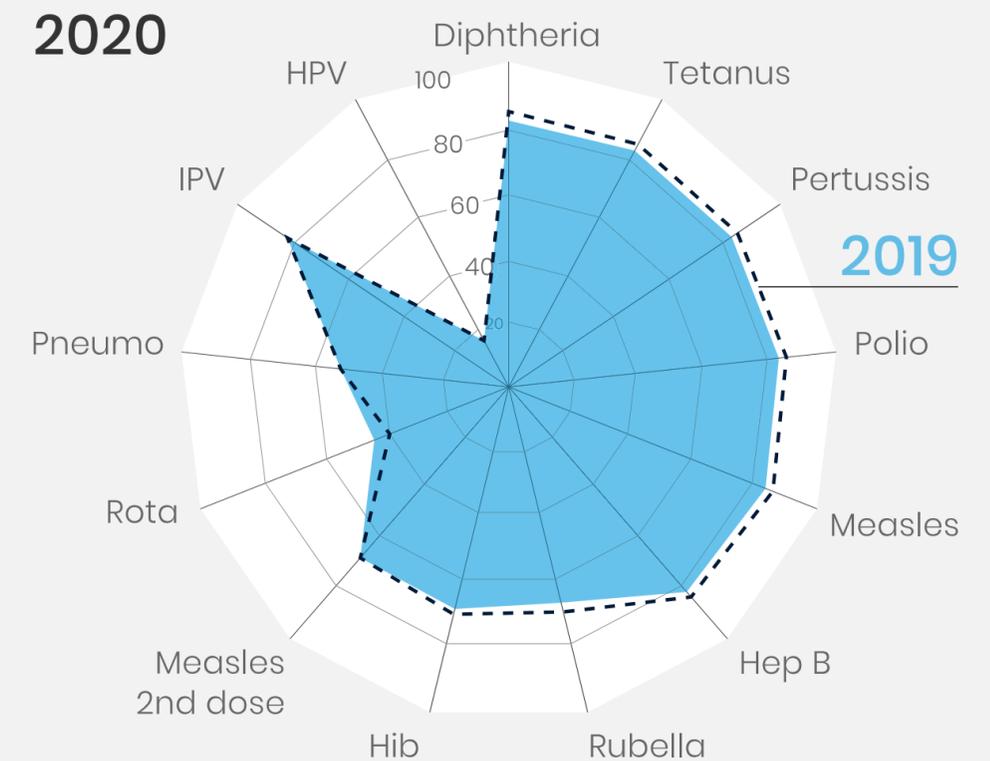
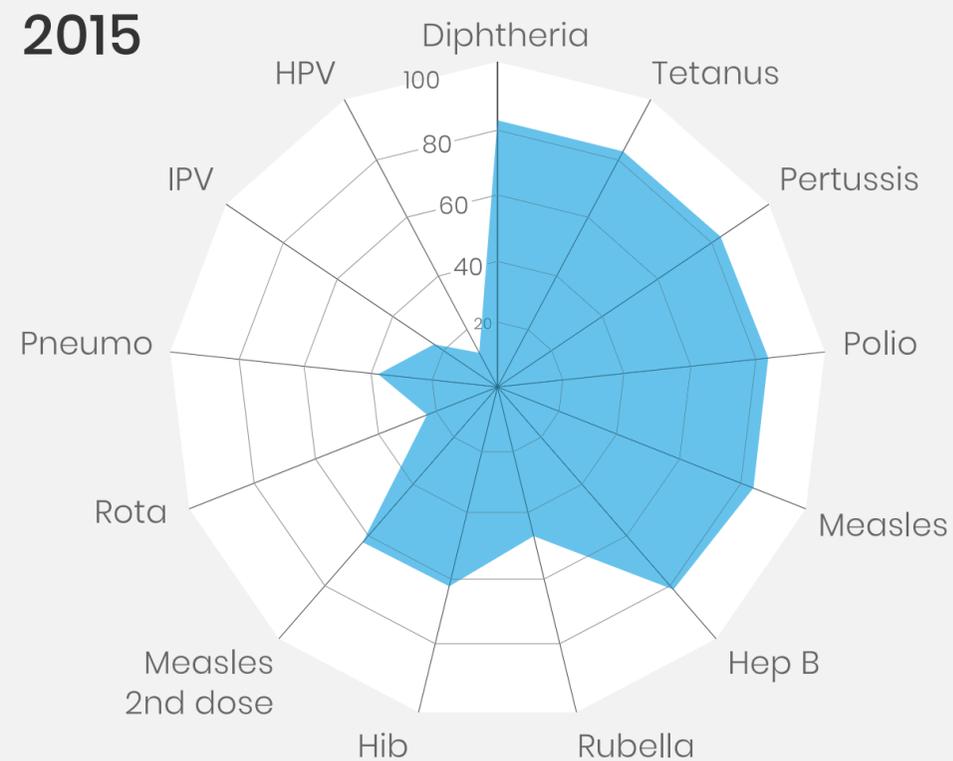
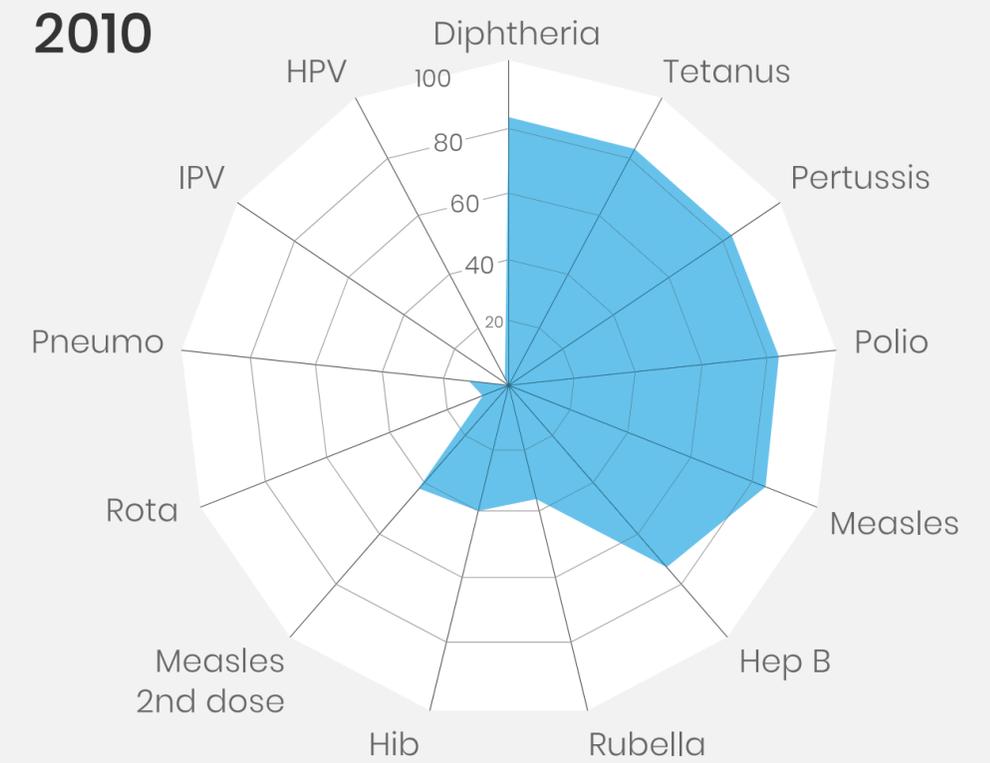
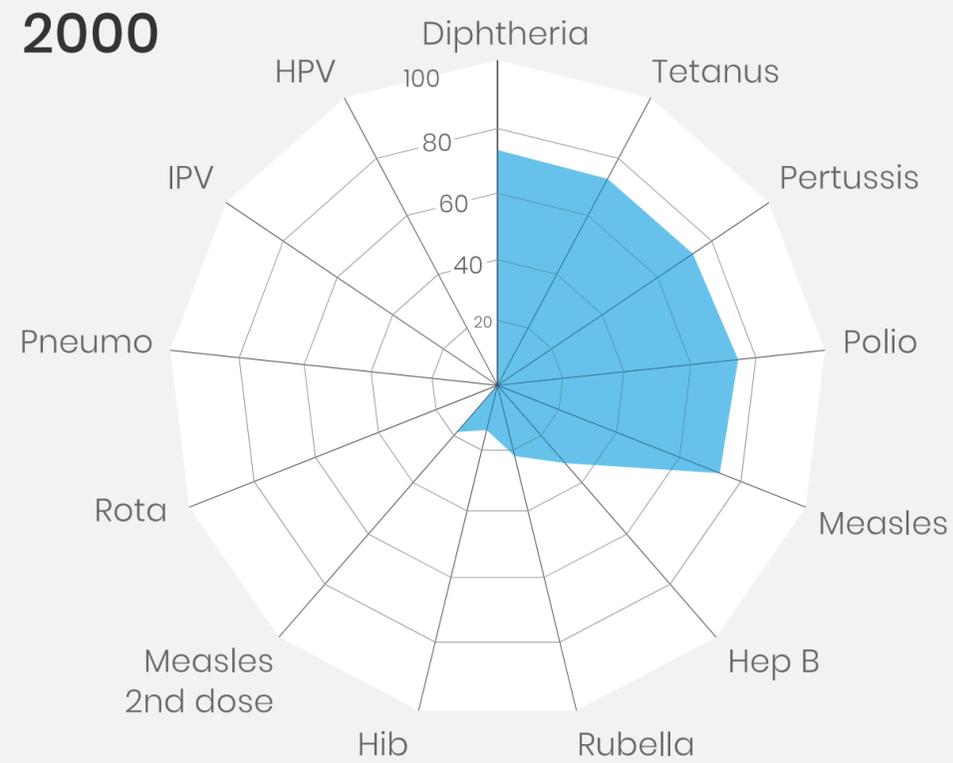


The increase in breadth of protection is driven more by introduction of vaccines than of expanding coverage for vaccines in use

After 2010, no real progress has been achieved with expanding vaccination coverage to un- and under served populations.

However, those that are reached have benefitted from a wider portfolio of vaccines and are protected against many more diseases.

For each antigen, coverage with the dose that completes the recommended schedule is shown.



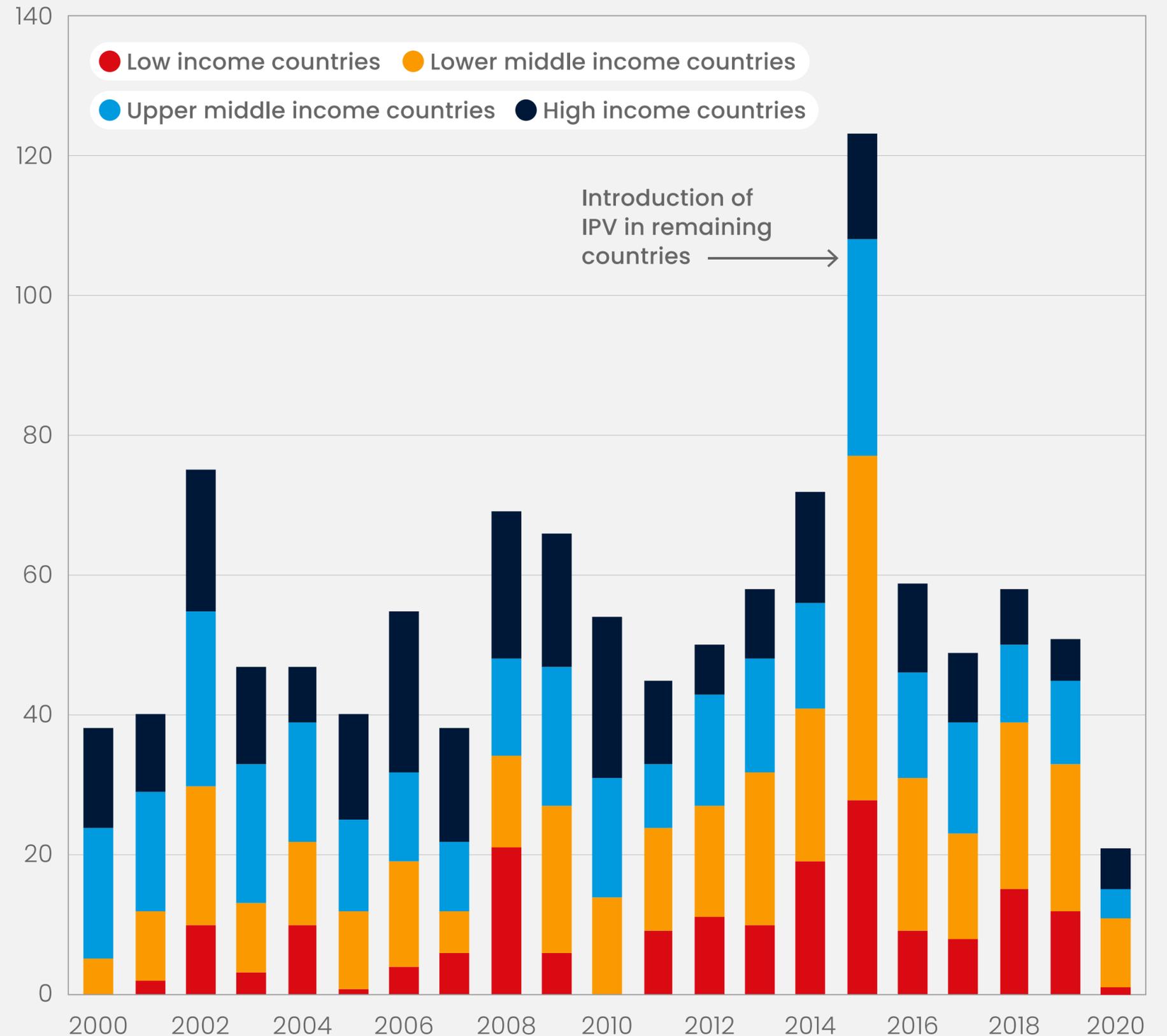
The pace of new and underused vaccine introductions slowed down markedly in 2020

Along with a drop in coverage, the pace of new and underused vaccine introductions has also slowed abruptly in 2020.

Only 19 vaccine introductions were reported in 2020, less than half of any year in the past two decades. This slowdown is likely to continue as countries focus on ongoing efforts to control the Covid-19 pandemic, and on the introduction of Covid-19 vaccines.



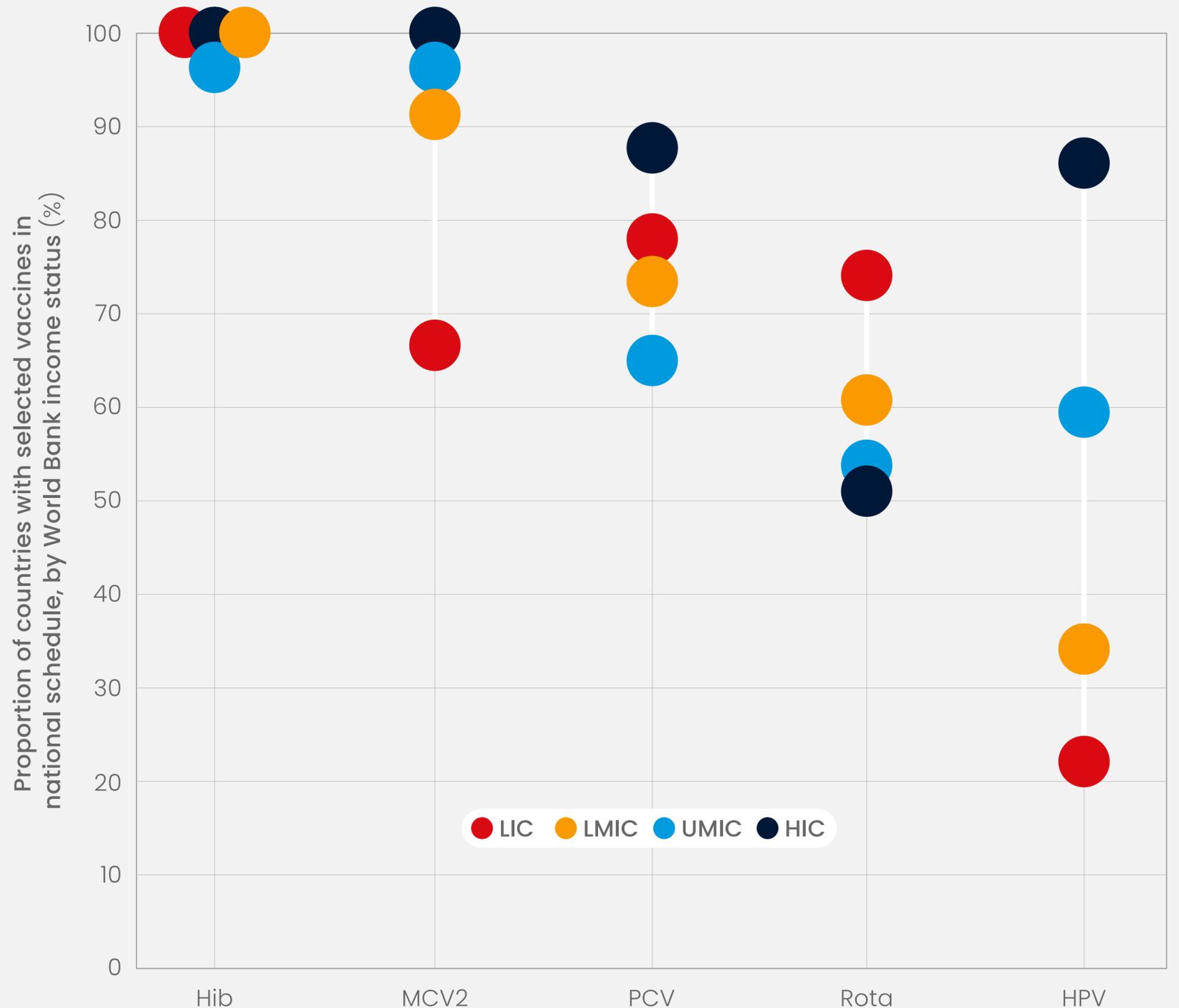
Introductions: HepB, HepB Birth dose, Hib, HPV, IPV, JE, MCV2, Meningitis, PCV, Rotavirus, Rubella, Yellow Fever, DTP Booster



Gavi support has enabled accelerated uptake of some new and under-used vaccines in low and middle income countries

New and underused vaccine coverage is converging with coverage of established vaccines at a faster pace.

While access to some vaccines, like Human Papilloma Virus vaccine, is still inequitable, Low Income countries and Lower Middle Income countries are now introducing Rotavirus and Pneumococcal vaccines at a faster pace than higher income countries.



Vaccination is for all ages, a life course intervention

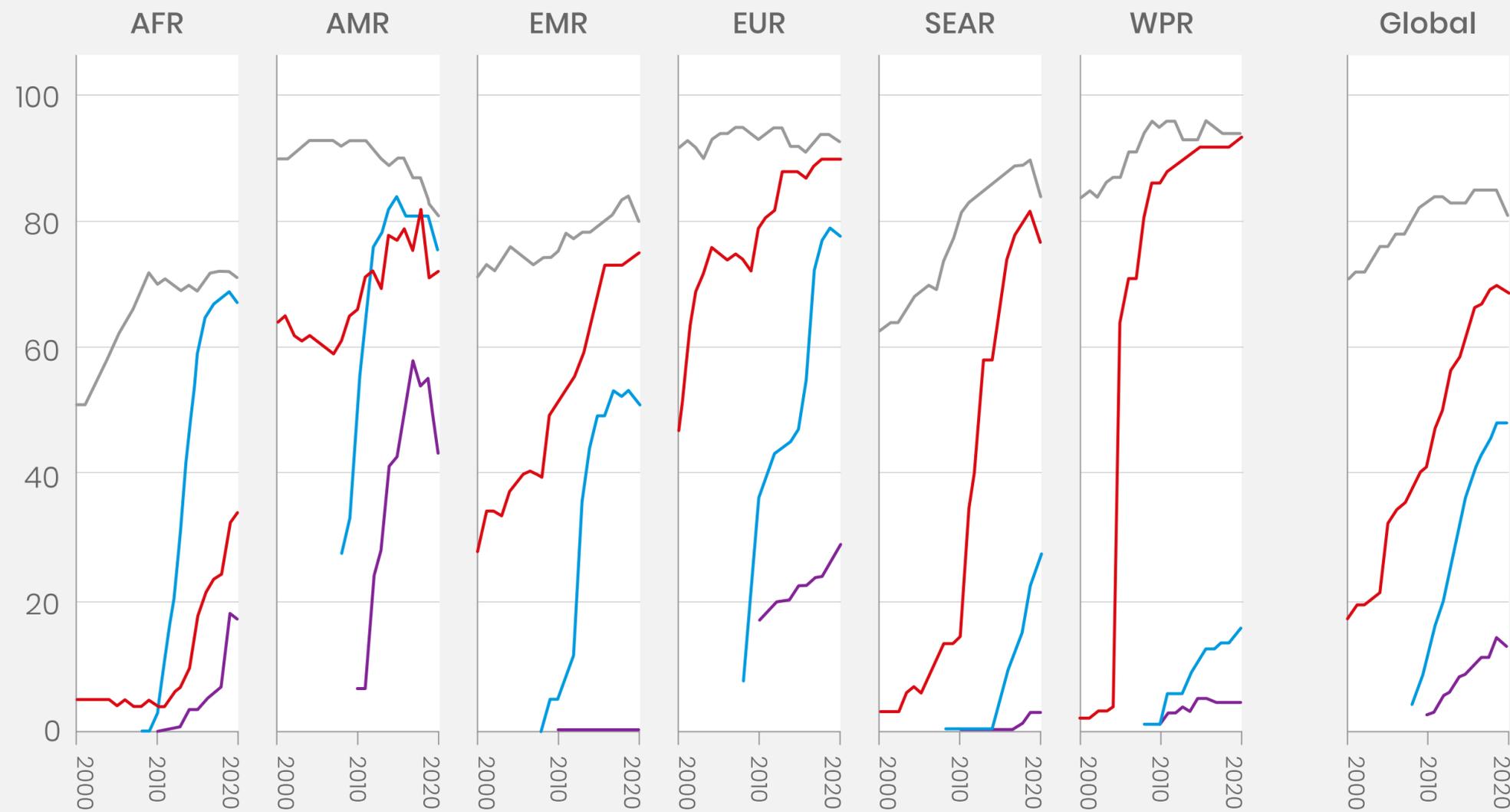
Vaccination is expanding from its childhood focus to a lifetime approach.

DTP containing vaccine has long been used to monitor the ability of immunization programmes to deliver at least three doses of basic vaccines to infants (DTP3). Pneumococcal Conjugate Vaccine (PCV3) is used as a means to monitor the uptake of new and underused vaccines in the first year of life.

The second dose of Measles vaccine (MCV2) signals programmes' ability to continue services into the second to fifth years of life. Some large countries in the African region have yet to introduce this dose into their schedule, explaining lower coverage in that region.

Vaccinating adolescent girls with Human Papilloma Virus vaccine (HPVc) is critical for the achievement of cervical cancer elimination. Progress is still uneven across regions.

The chart shows vaccine coverage by region and globally for the vaccines included in Sustainable Development Goal 3 (SDG 3), indicator b.1.



Global HPV vaccine coverage decreased in 2020, for the first time

HPV vaccines have been introduced in 111 countries that represent less than a third of the global population of girls.

HPV vaccine coverage was affected by COVID-19 pandemic and only 13% of girls are fully protected.

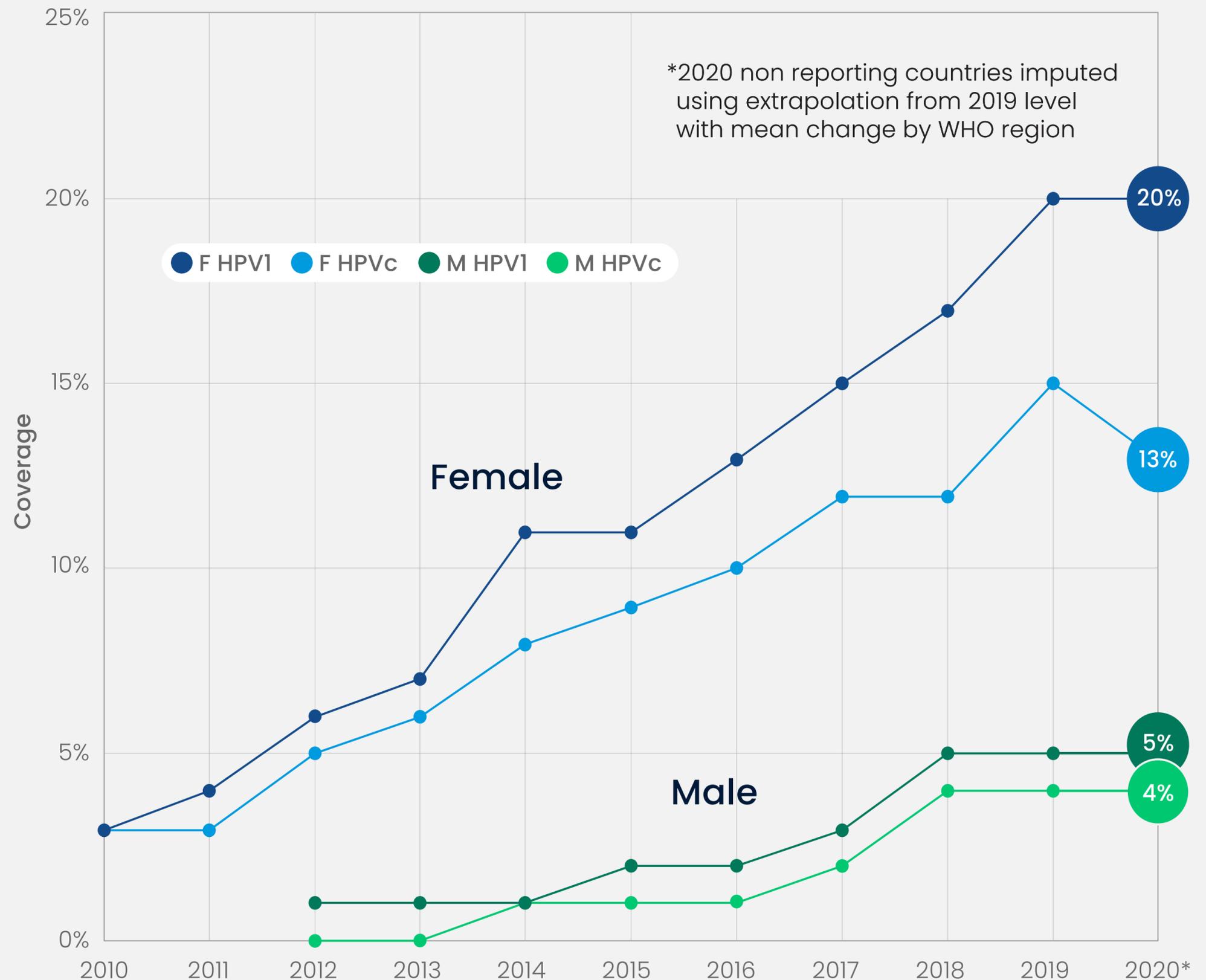
Currently less than a third of the world's population of girls 9-14 years of age live in countries that provide the HPV vaccine.

Globally, the mean coverage HPV programmes achieve is 57% for the first and 44% for the last dose of HPV.

This low coverage combined with the large populations that lacks access to HPV vaccines results in a very low global coverage of 13%.

The number of countries providing male vaccination has increased to 40. 1 in 20 young males globally received the vaccine in 2020.

HPVc refers to the dose that completes the schedule (either a second or third dose depending on national recommendation)

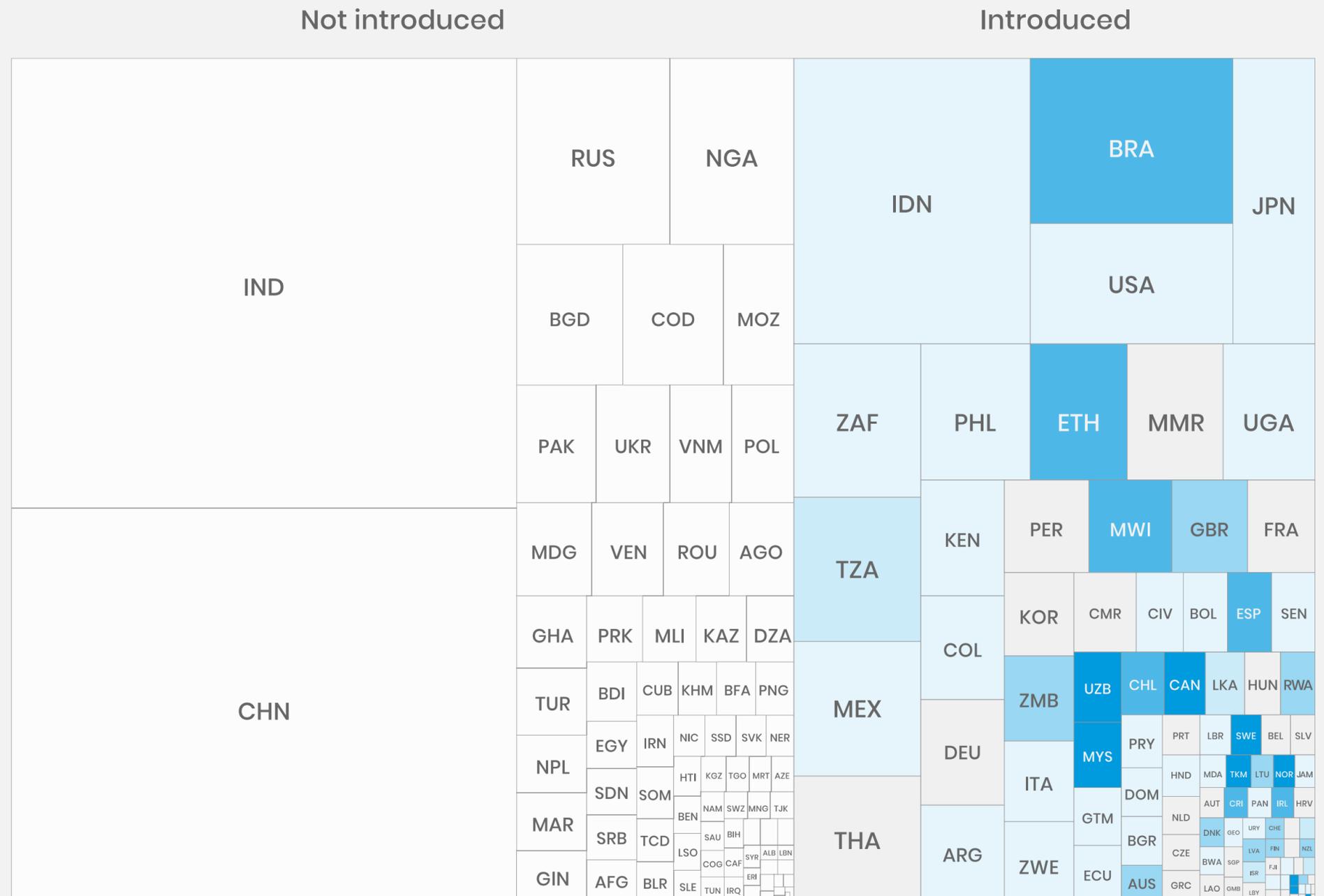


60% of cervical cancer cases occur in countries that have not yet introduced HPV vaccination

The 111 countries that have introduced HPV vaccine represent 40% of the global burden of cervical cancer (GLOBOCAN 2020, IARC).

To reduce the global burden and reach cervical cancer elimination by the end of the century, it is essential that HPV vaccine is introduced in all countries especially those with high incidence, as well as low or medium incidence countries with large populations.

Low performance of HPV vaccine programmes, including high drop-out in many countries, leads to many girls still not being (fully) protected against cervical cancer despite the HPV vaccine being introduced.



HPV Vaccine coverage (%) is lower in many HIC and L&MIC in 2020

Some countries in HIC as well as L&MIC reach the 90% coverage target but too many girls living in countries that provide HPV vaccination are not reached or not fully protected.

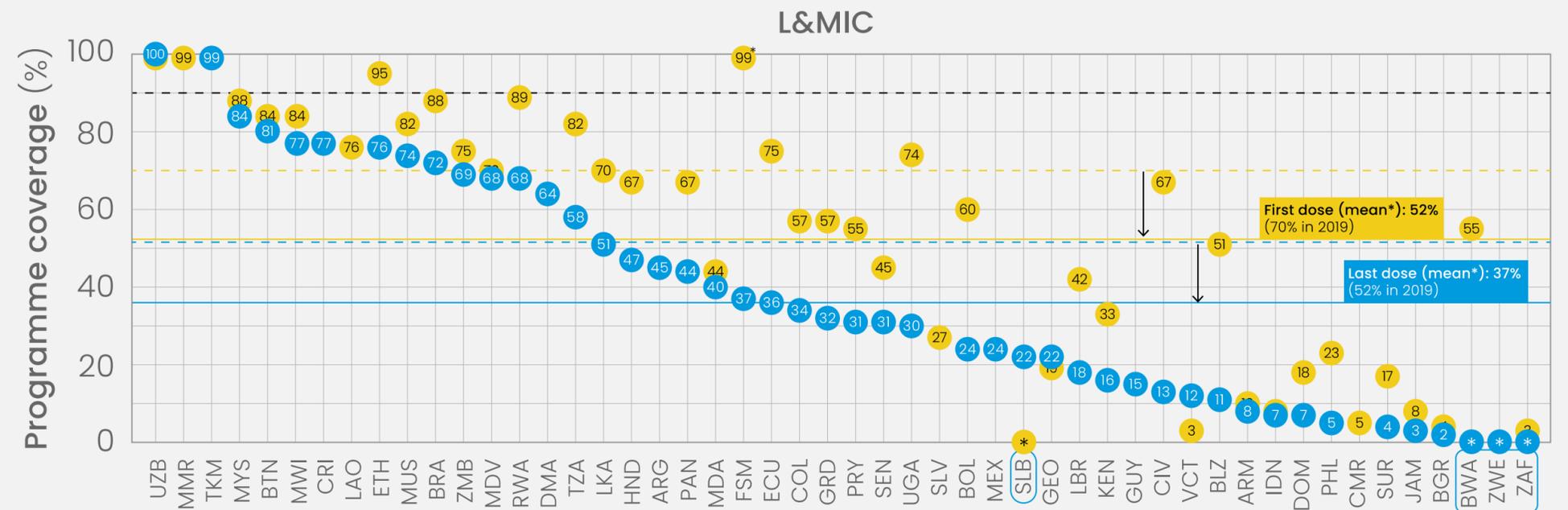
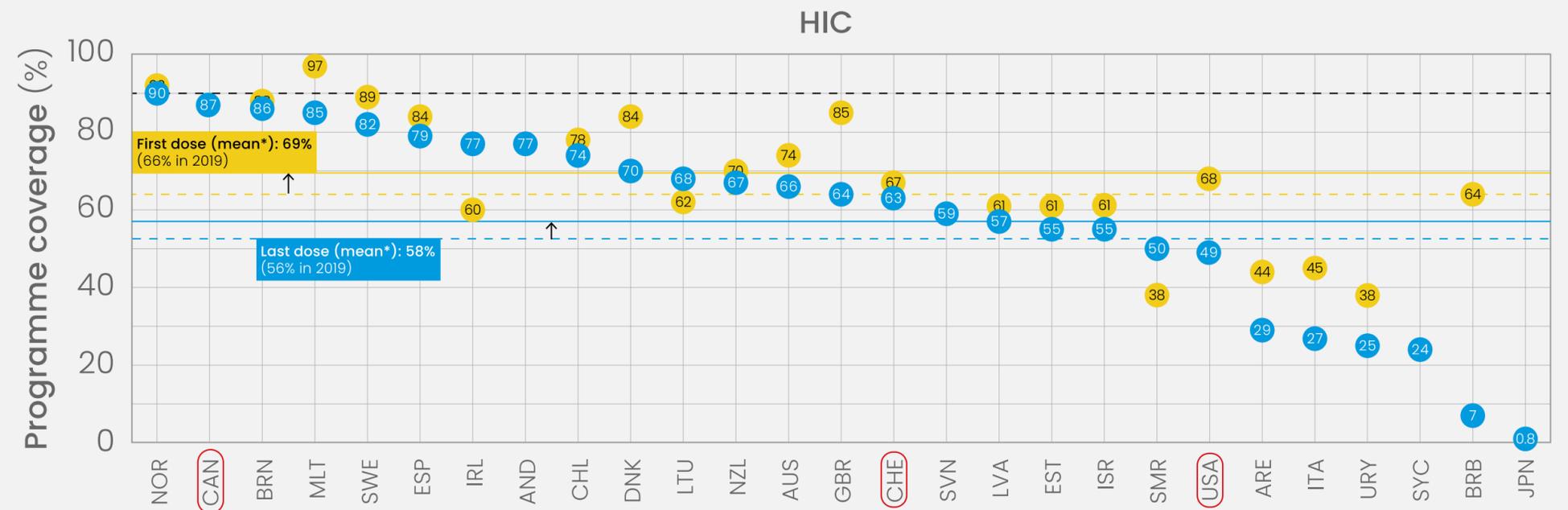
Mean coverage - both first and final dose - saw a large drop in L&MIC in 2020 while the changes in HIC were small.

Dropout is significant higher for HPV vaccination than childhood vaccines and is a particular challenge in L&MIC.

The COVID-19 pandemic has affected HPV programme performance in many countries, particularly in L&MIC.

- In at least 4 countries HPV vaccine delivery (1-or both doses) was suspended due to COVID-19 pandemic.

Under-vaccinated (drop-out) are those who received one dose, but not a final dose of HPV.



● 2020 First dose mean coverage (vs 2019)
 ● 2020 Final dose mean coverage (vs 2019)
 SDG target

*Full introduction countries only

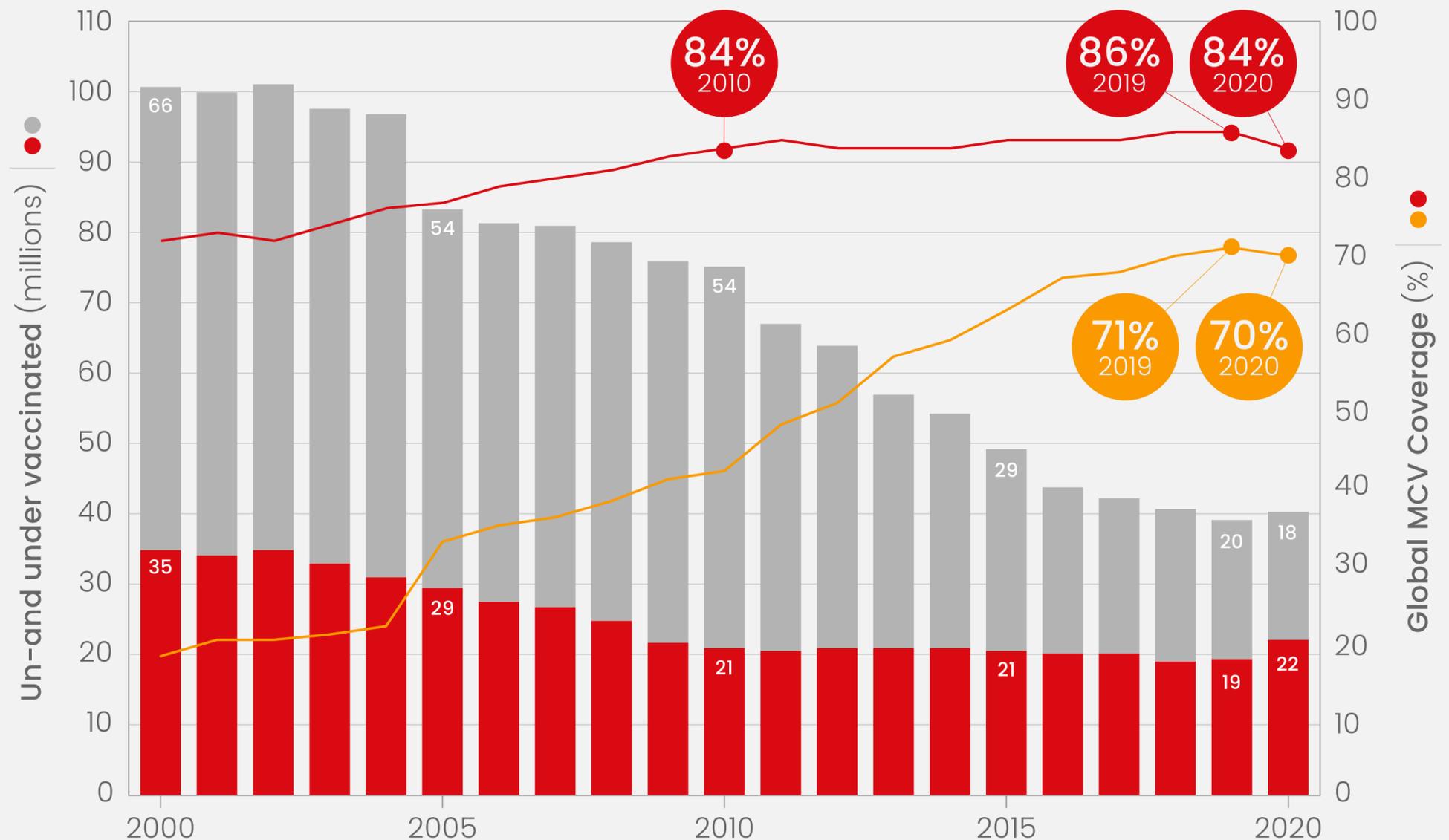
● First dose
 ● Final dose
 * No HPV1 delivered
 * No HPVc delivered
 Survey data available

Measles coverage dropped to 84% in 2020, leaving 3 million more children potentially unvaccinated than in 2019

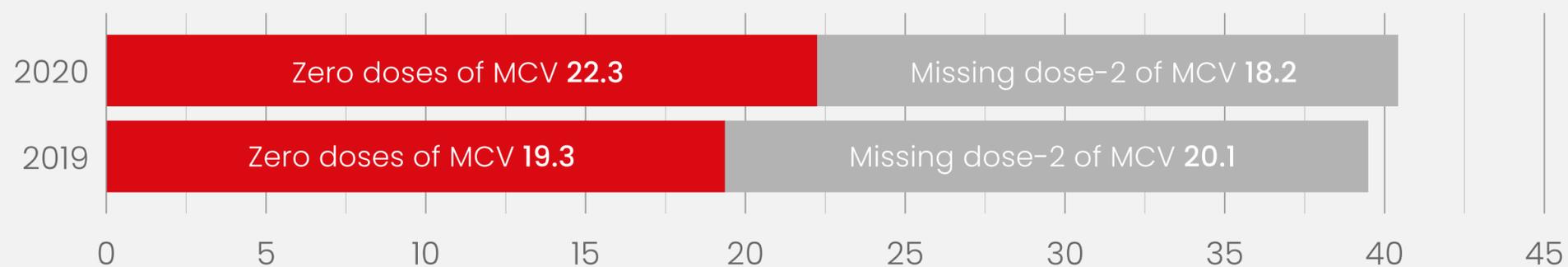
Coverage of the first dose of measles vaccine (MCV-1) dropped to 84% in 2020, the lowest level since 2010.

This leaves 22.3 million children vulnerable to measles. An additional 18.2 million children received only a first dose, but not a second dose (MCV-2) through the routine immunization programme. The second dose is a critical component of measles protection programme.

Supplemental Immunization Activities (i.e. campaigns) continue to be required in many countries to ensure that all children receive the 2 doses of measles vaccine that will protect them.



● Zero doses of MCV
 ● Missing dose-2 of MCV
 ○ MCV-1
 ○ MCV-2



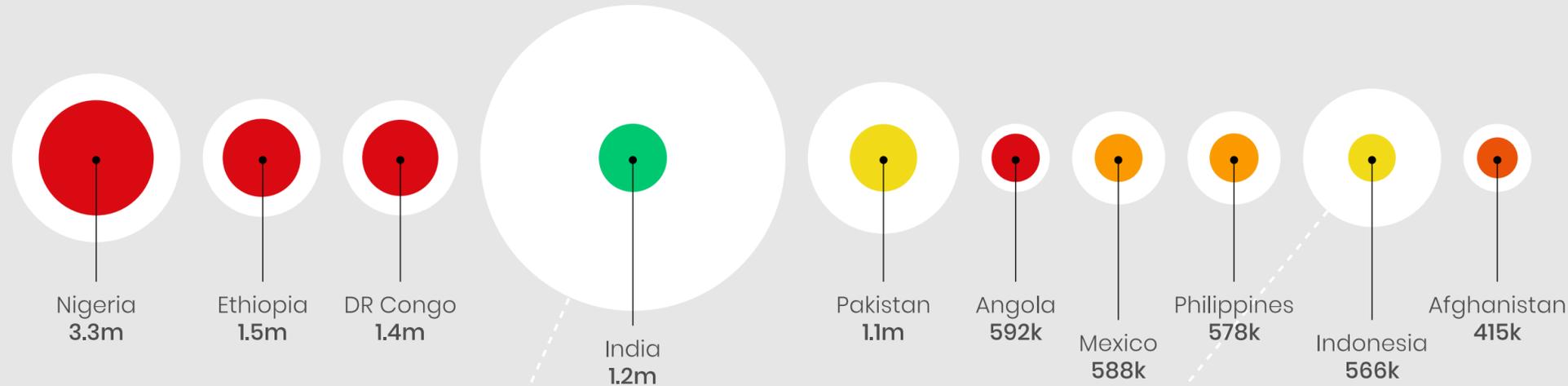
Just 10 countries account for 59% of unprotected children from measles

Countries with most unprotected children for measles

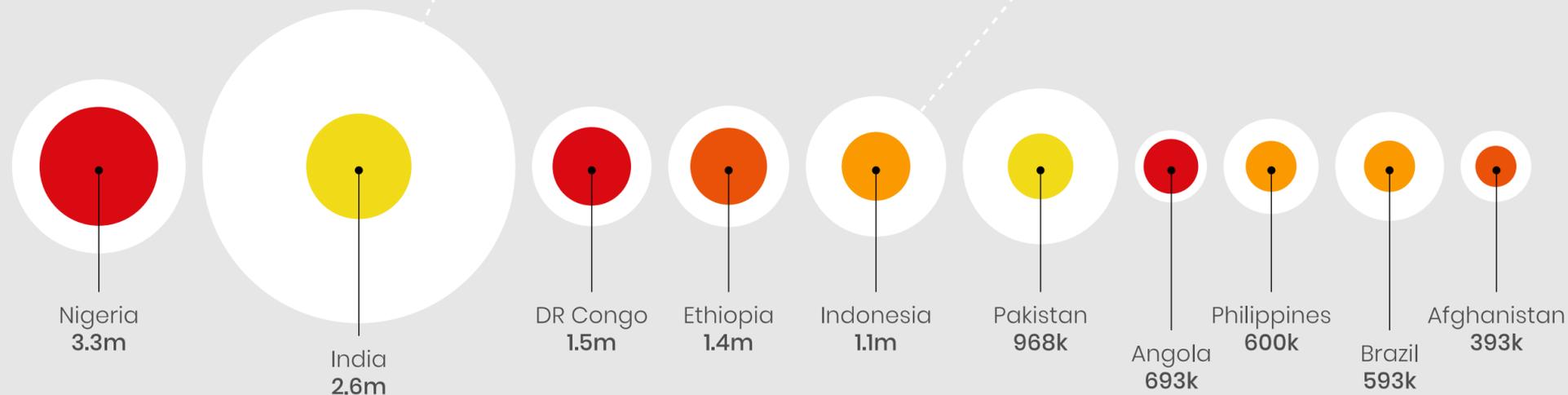
10 countries account for 55 of 136 million surviving infants (40%), and 13 of the 22 million (59%) under and unvaccinated children in the world. This list includes some countries with moderate coverage and very large birth cohorts, and other countries with substantially lower coverage.

Middle income countries account for an increasing share of this list

2019



2020

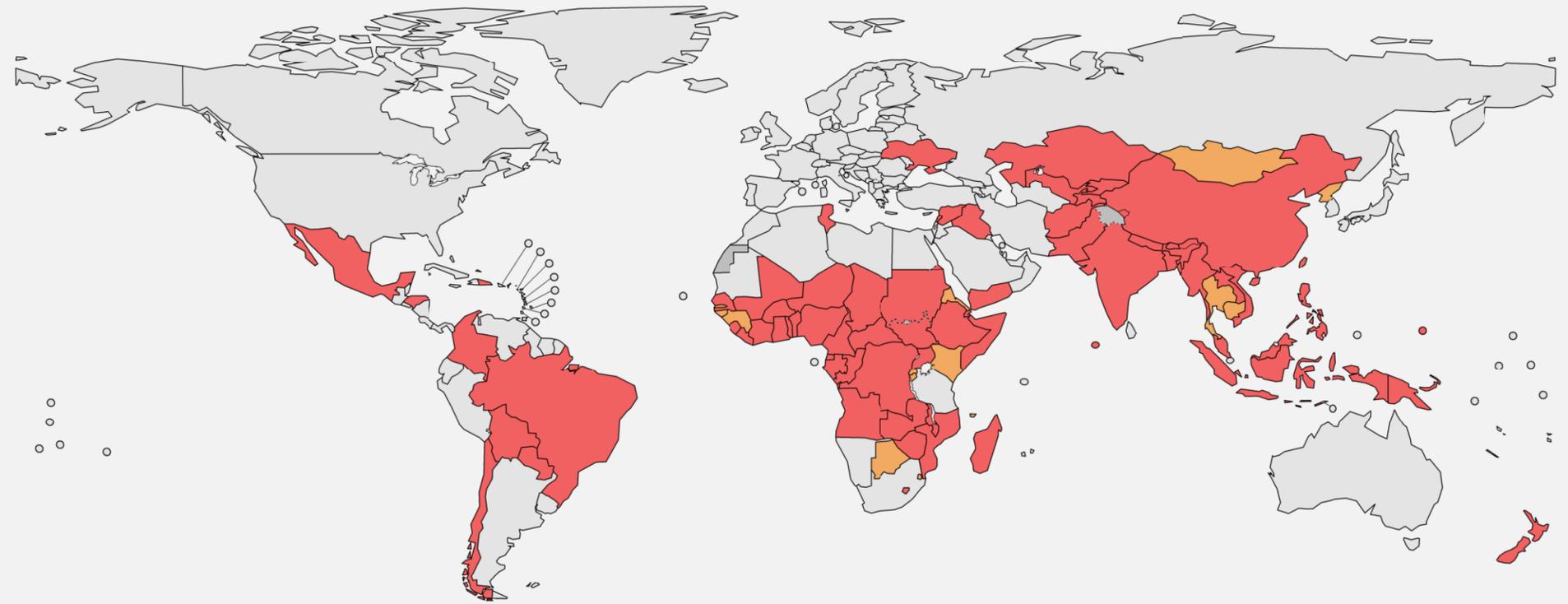


MCVI coverage according to legend, bubbles sized to numbers of surviving infants and unprotected children.

66 countries with at least one Vaccine Preventable Disease (VPD) campaign postponed, 15 May 2020

The pandemic not only disrupted routine immunization (RI) activities in 2020, Supplementary Immunization Activities (SIAs, also known as campaigns) were also affected.

In May 2020, 66 countries had postponed at least one SIA as a direct consequence of the COVID-19 pandemic.



- Countries with at least one VPD immunization campaign postponed (fully or partially) (66 countries)
- Countries with planned campaigns with status 'might postpone', 'postponed - other reasons', 'unknown' and 'on track' (14 countries)
- Not applicable

Map production: Immunization, Vaccines and Biologicals (IVB), World Health Organization (WHO)

Data source: WHO/IVB Repository, 15th May 2020

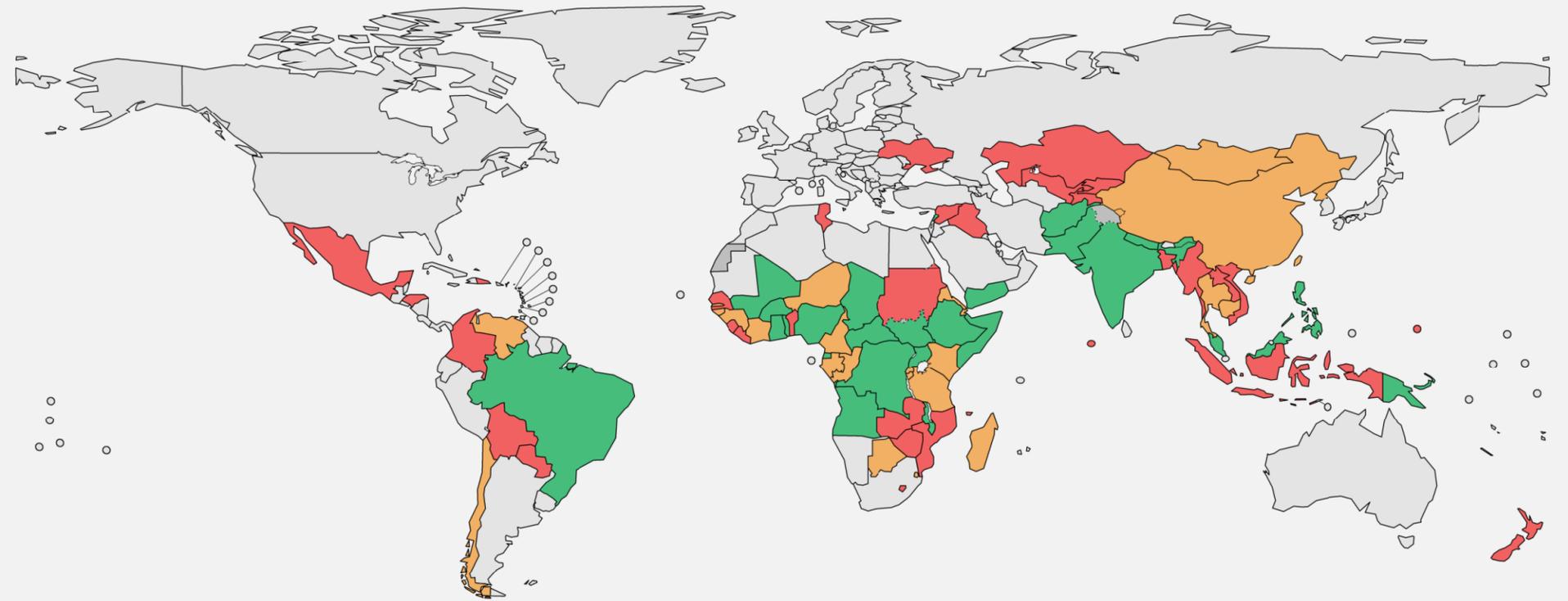
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25 countries reinstated at least one campaign by 15 Dec 2020

As 2020 progressed and countries adapted their immunization programmes to use infection and control measures, SIAs resumed.

Yet, 64 campaigns (26 in AFR) in 45 countries were still postponed by the end of 2020.



- Countries with at least one VPD immunization campaign reinstated (25 countries)
- Countries with at least one VPD immunization campaign postponed (fully or partially) (45 countries)
- Countries with planned campaigns with status 'might postpone', 'postponed - other reasons', 'unknown' and 'on track' (24 countries)
- Countries with no campaign
- Not applicable

0 875 1750 3500 Km

Map production: Immunization, Vaccines and Biologicals (IVB), World Health Organization (WHO)

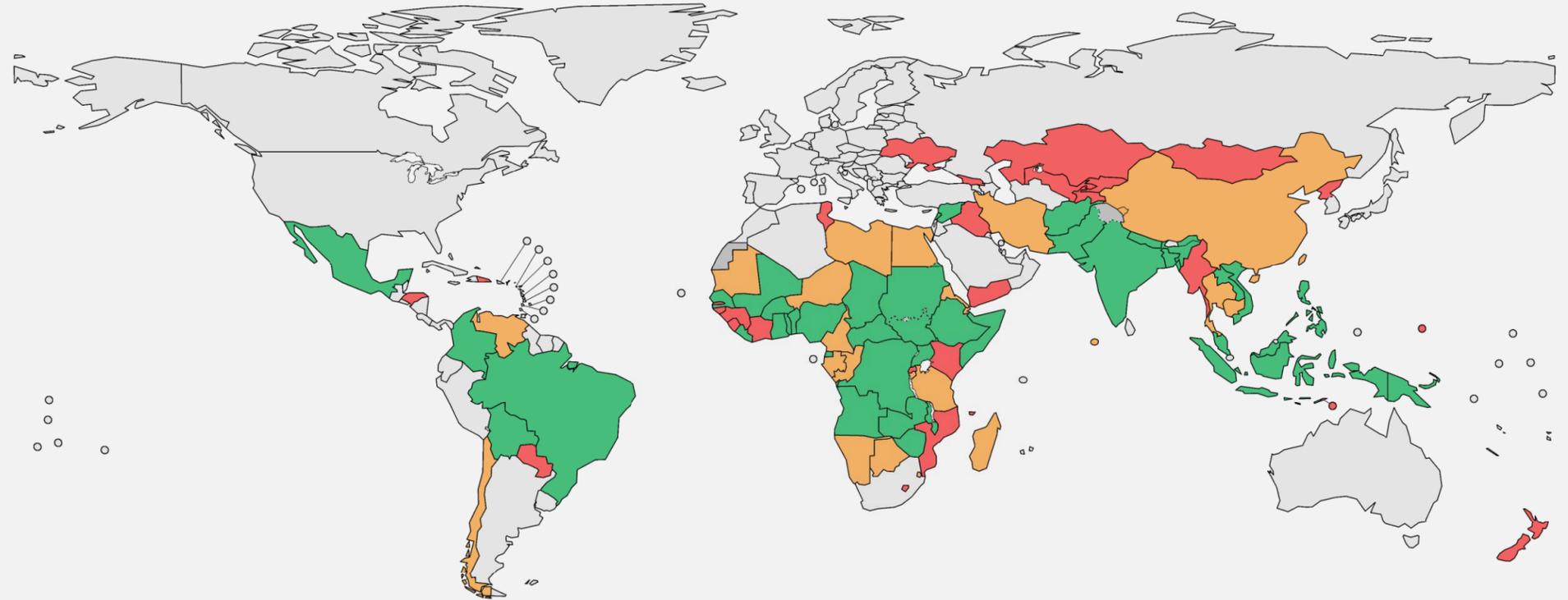
Data source: WHO/IVB Repository, 15th December 2020

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38 countries reinstated at least one campaign by July 1st, 2021

In 2021, more countries were able to reinstate a supplementary immunization activity.

57 campaigns (24 in AFR) in 47 countries were still postponed by July 2021 (including some that were scheduled in 2021).



- Countries with at least one VPD immunization campaign reinstated (38 countries)
- Countries with at least one VPD immunization campaign postponed (fully or partially) (47 countries)
- Countries with planned campaigns with status 'might postpone', 'postponed - other reasons', 'unknown' and 'on track' (22 countries)
- Countries with no campaign
- Not applicable

0 875 1750 3500 Km

Map production: Immunization, Vaccines and Biologicals (IVB), World Health Organization (WHO)

Data source: WHO/IVB Repository, 1st July 2021

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