

Progress and Challenges with Achieving Universal Immunization Coverage

2020 WHO/UNICEF Estimates of
National Immunization Coverage

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>

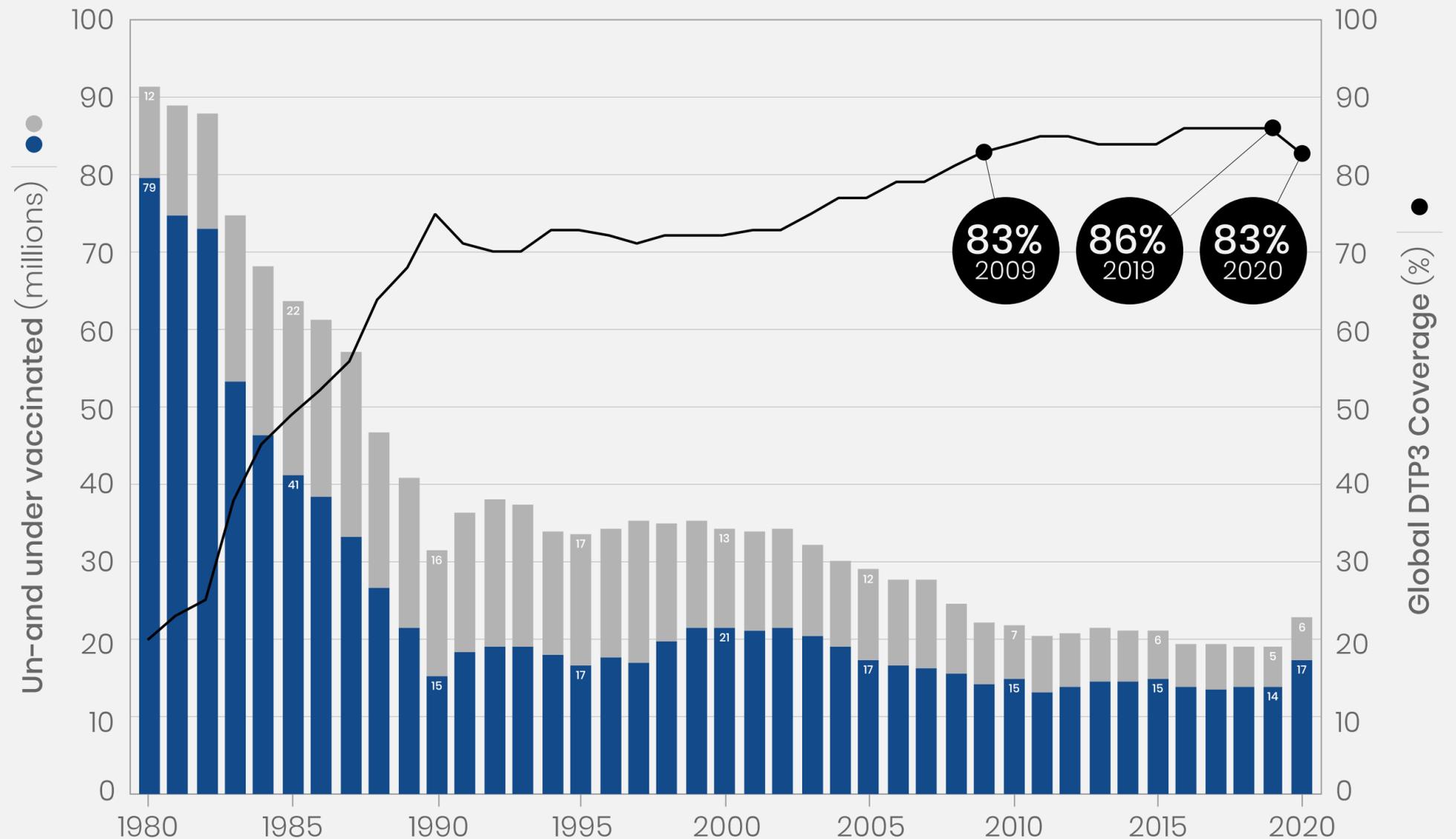


Infant immunization coverage dropped to 83% in 2020, leaving 3.7 million more children un-or under vaccinated than in 2019

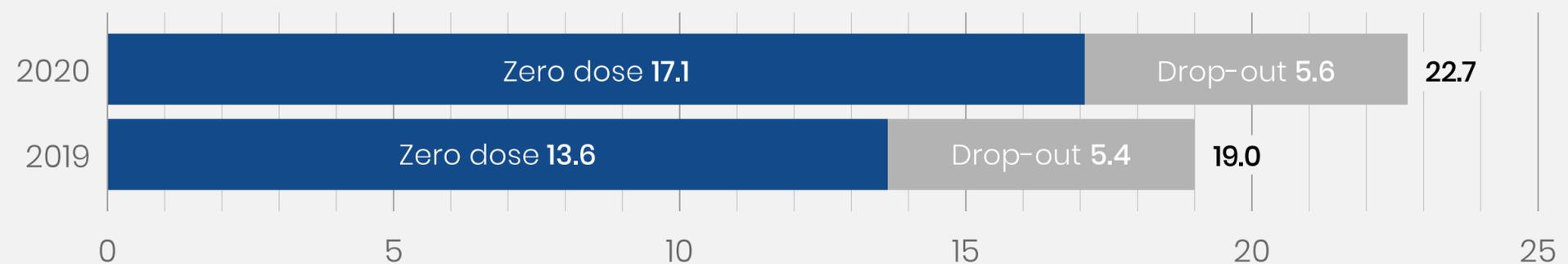
Coverage of a third dose of vaccine protecting against diphtheria, tetanus, and pertussis (DTP-3) dropped to 83% in 2020, leaving 22.7 million children vulnerable to vaccine preventable diseases.

The key goal of the Immunization Agenda 2030 is to make vaccination available to everyone, everywhere, 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 missing out on any vaccination - "zero-dose children" - increased from 13.6 to 17.1m.

In this analysis, zero dose children are those who lack any dose of DTP. Under-vaccinated are those who received at least one dose, but not a third protective dose.



22.7 million un- and under vaccinated infants in 2020



Just 10 countries account for 62% of unprotected children

Countries with most unprotected children.

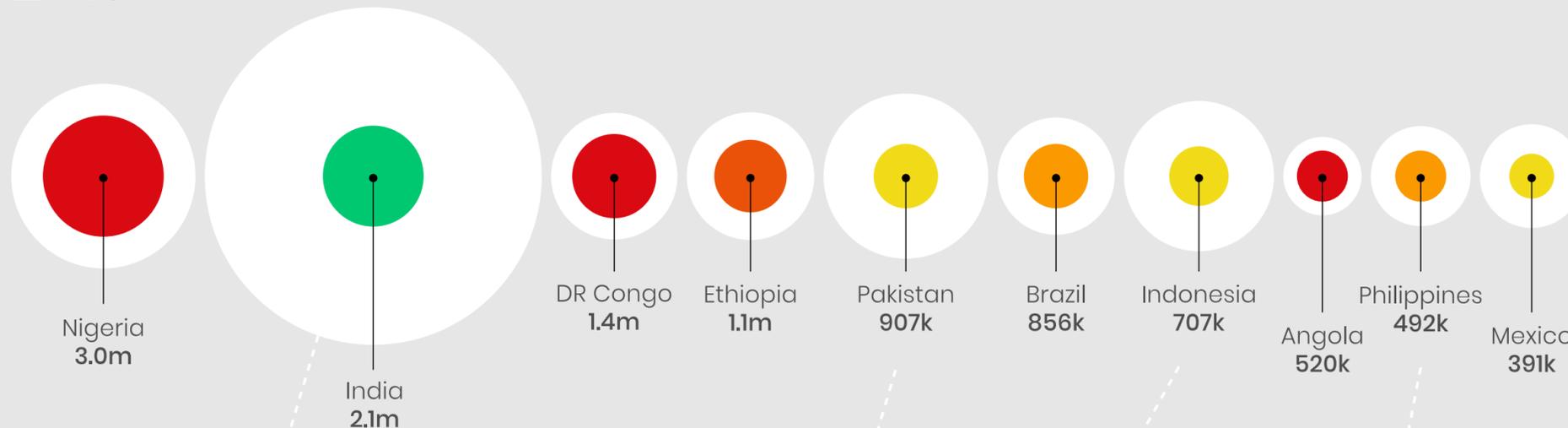
10 countries account for 14 of the 23 million under and unvaccinated children in the world (62%). This list includes some countries with moderate coverage and very large birth cohorts, and other countries with substantially lower coverage.

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

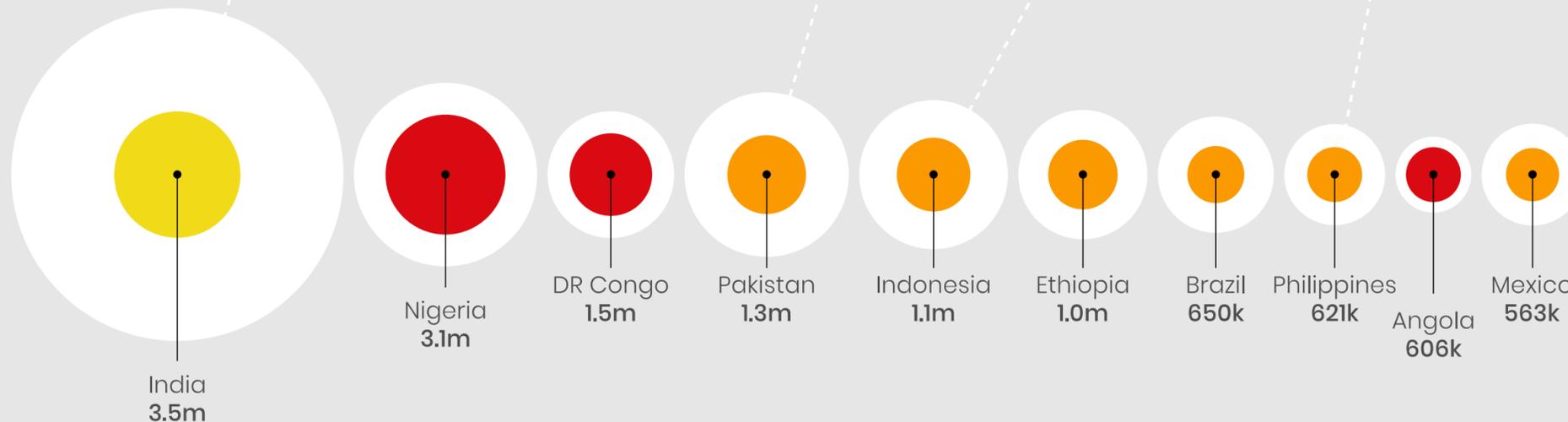
Un- or under vaccination and lack of protection is measured through the lack of DTP1 and 3 in this analysis.



2019



2020



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

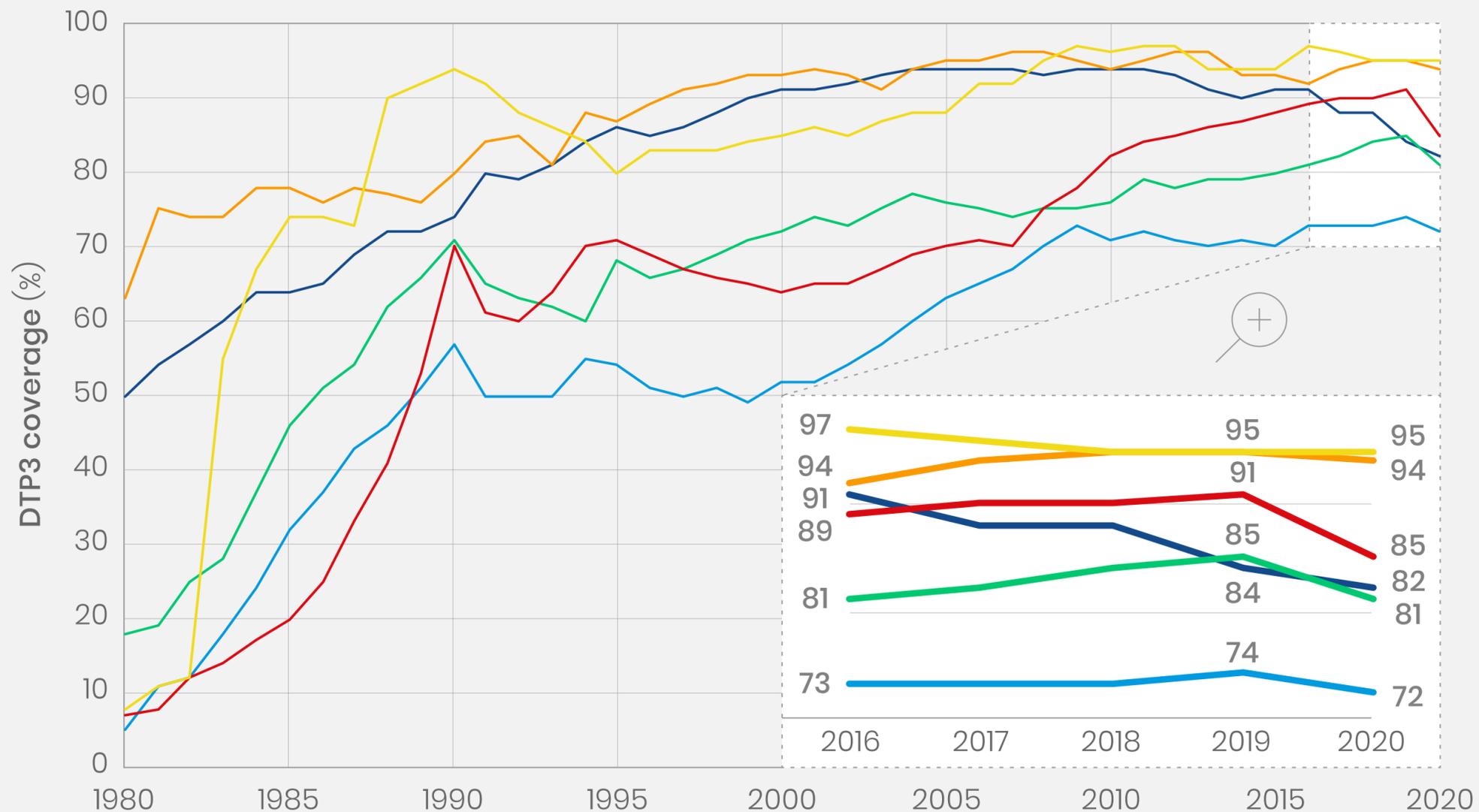
Coverage levels were affected unevenly between regions

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

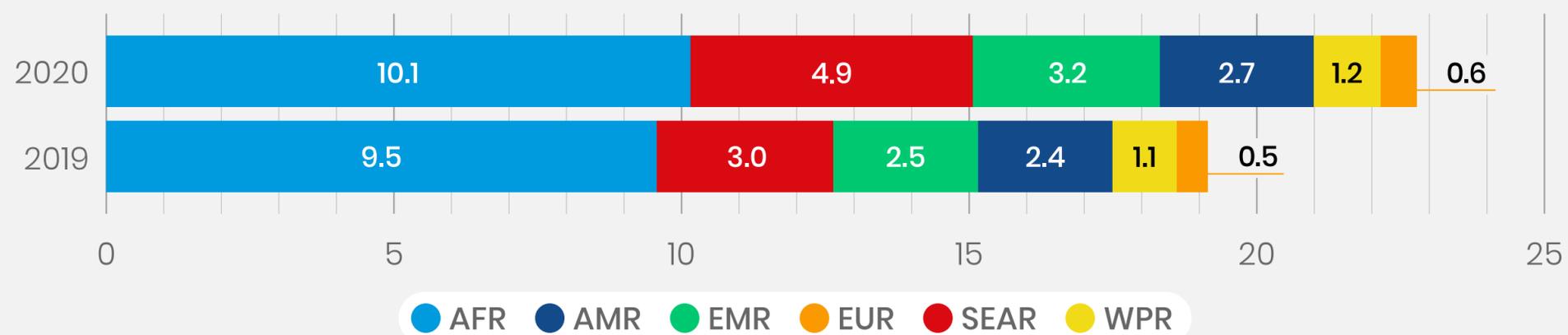
The Region of the Americas also experiences a significant drop, which is in line with recent trends.

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

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



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



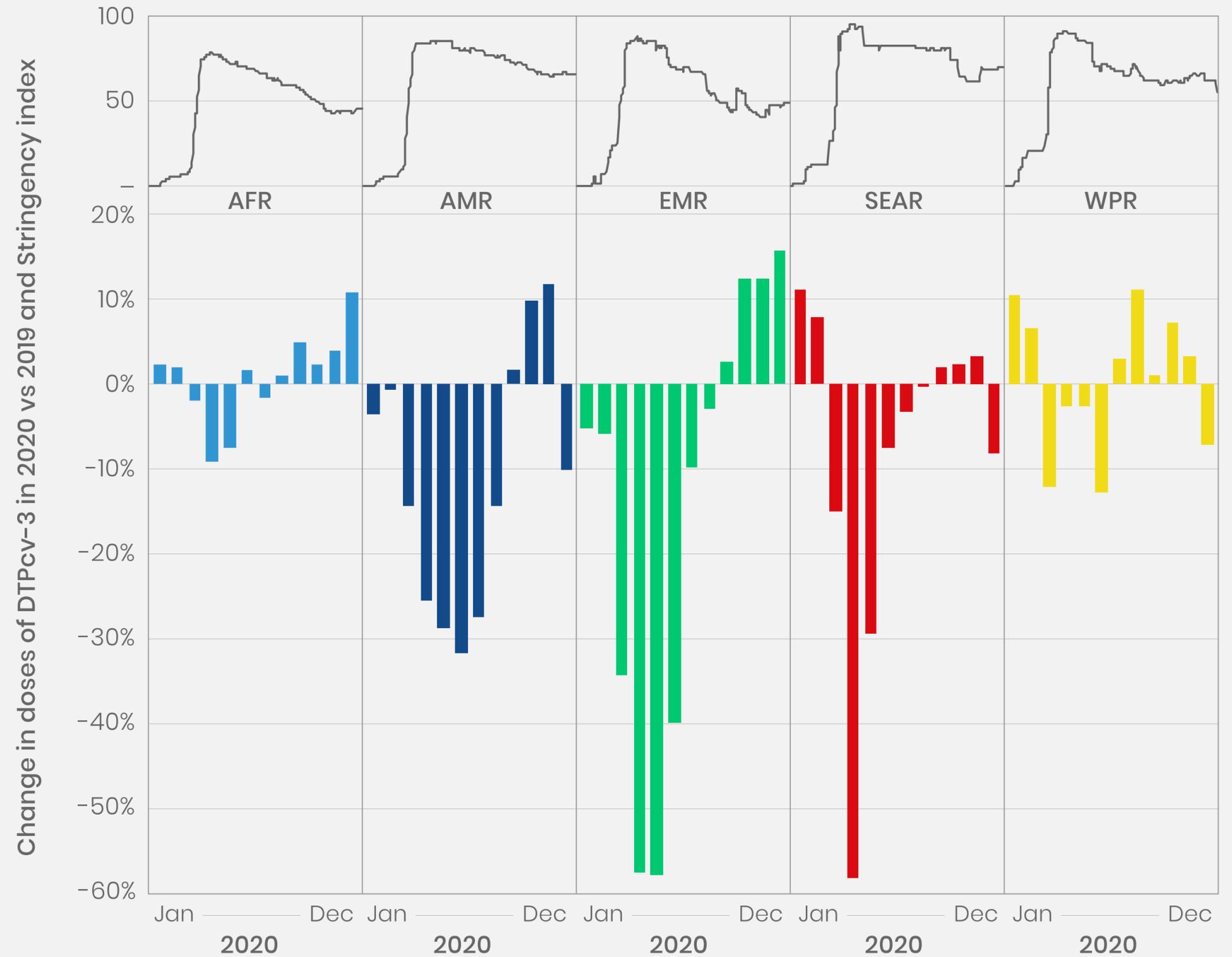
Disruption and recovery after the onset of the Covid-19 pandemic

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 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).



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

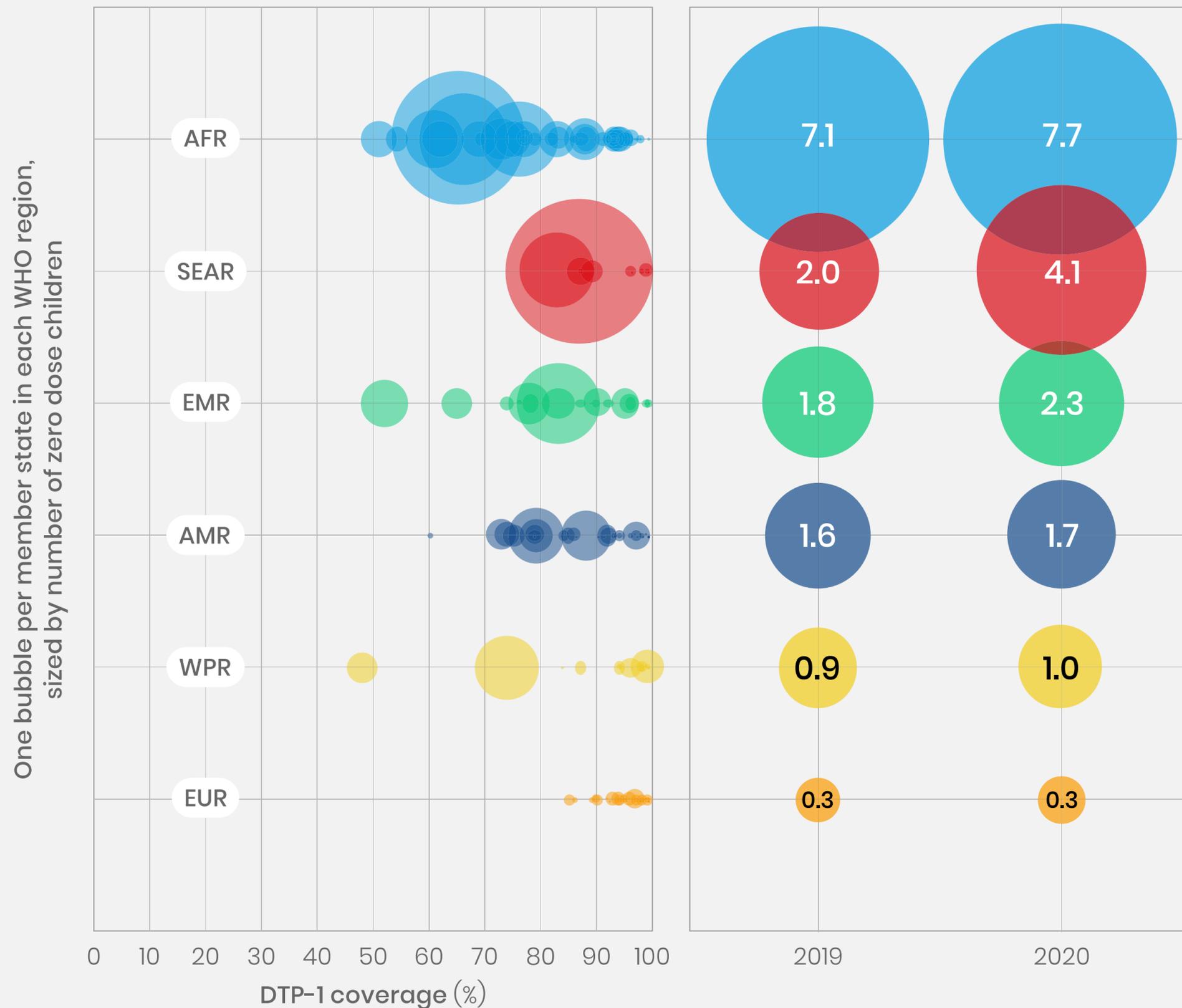
The number of “zero-dose children*” increased across all regions in 2020

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 also likely to lack access to other health and welfare services and are subject to multiple deprivations.

Regions with the strictest lockdowns 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

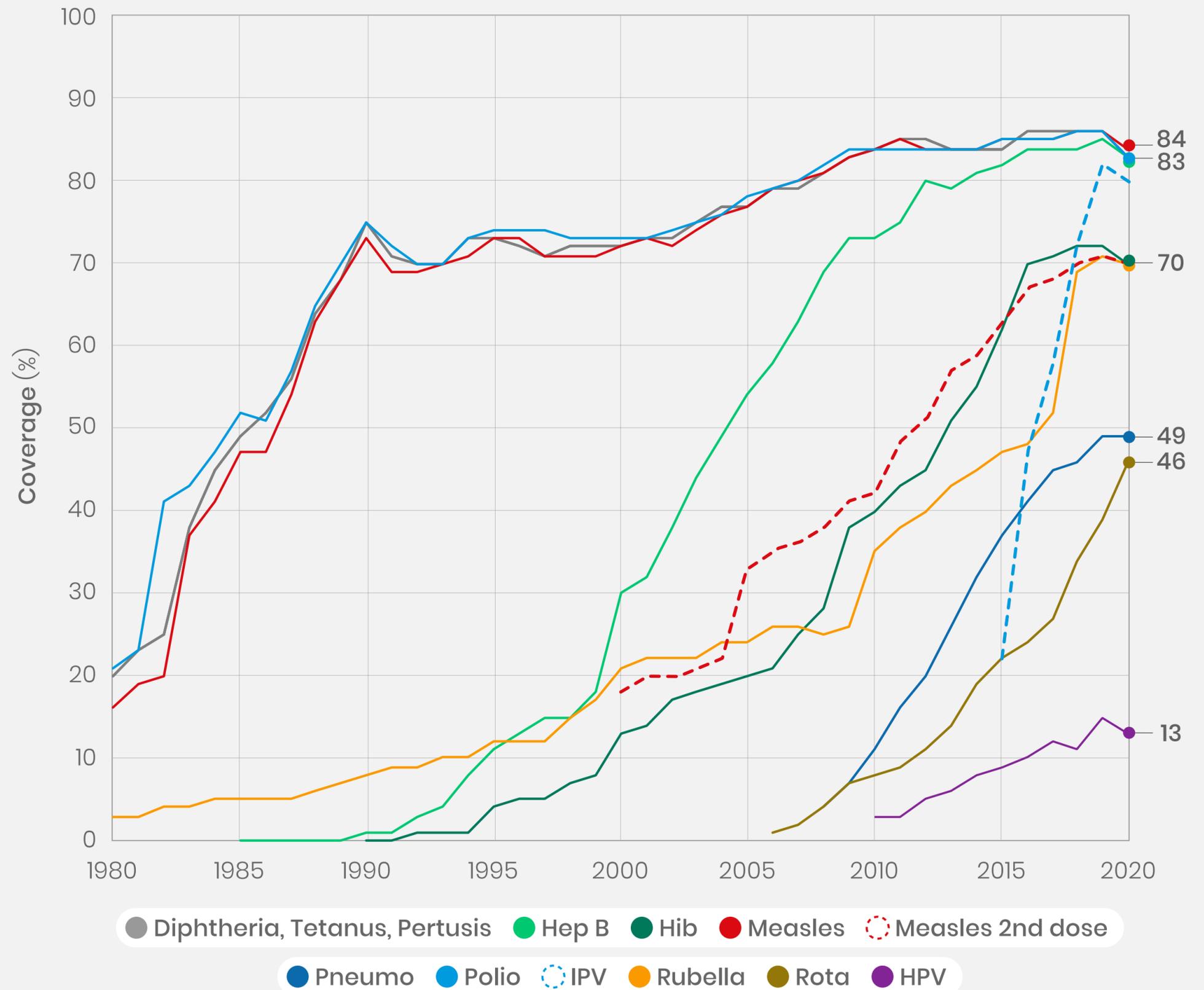
New and underused vaccine coverage is converging with coverage of established vaccines.

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.

That list includes vaccines against hepatitis B and Haemophilus influenzae type B (Hib) - which are often combined in the same vaccine as DTP - Bacillus 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.

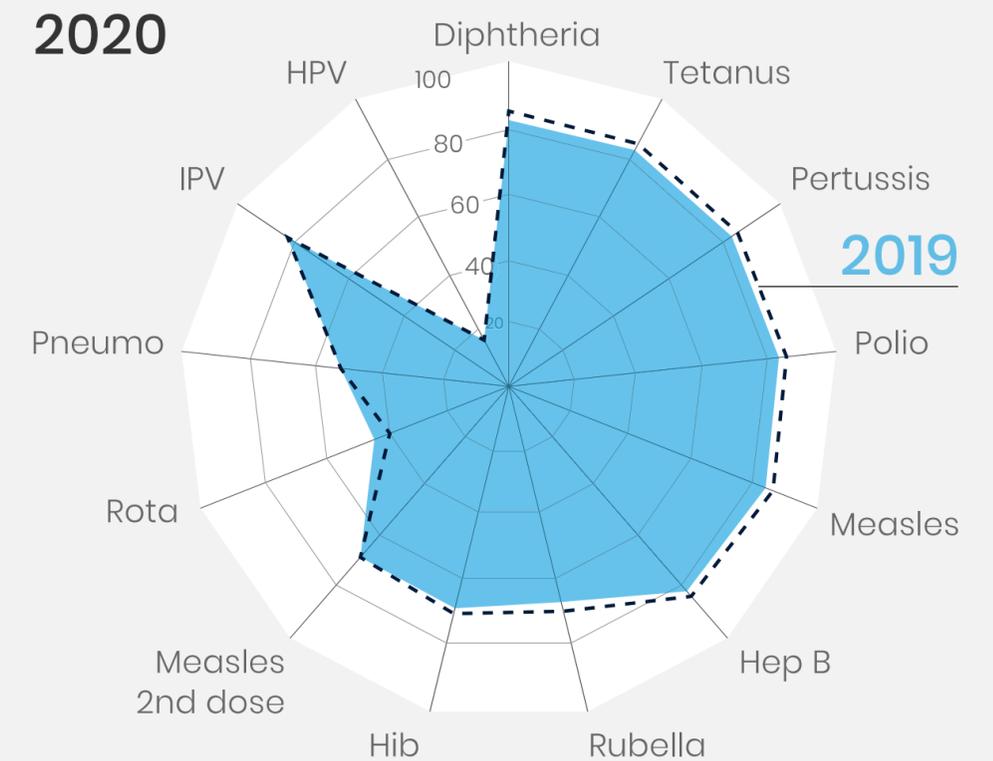
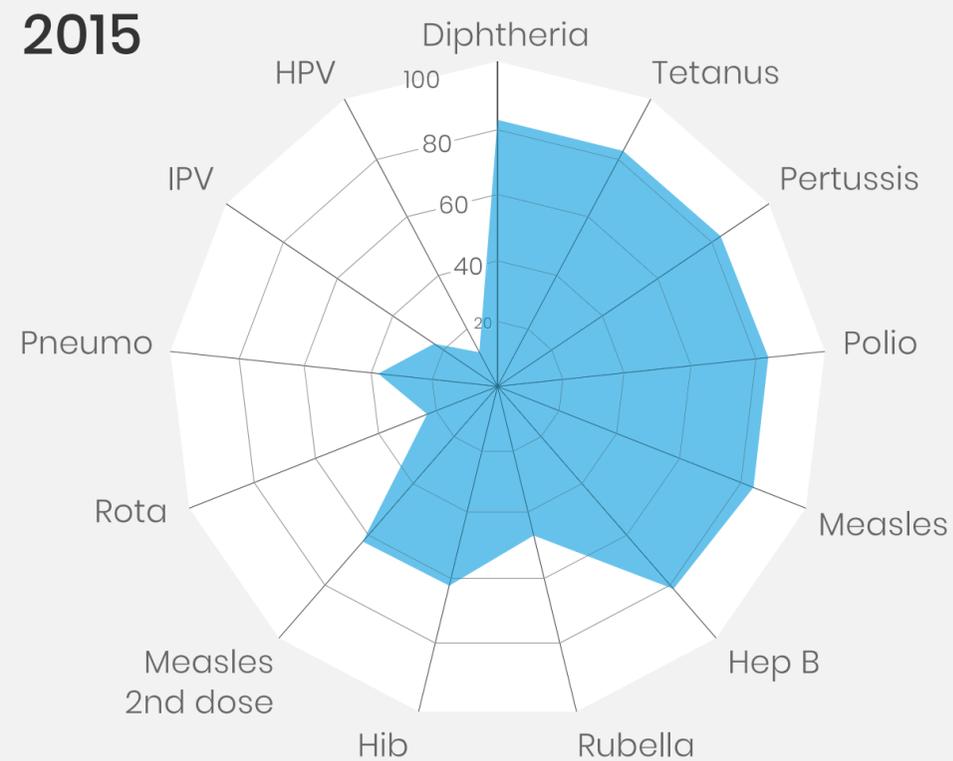
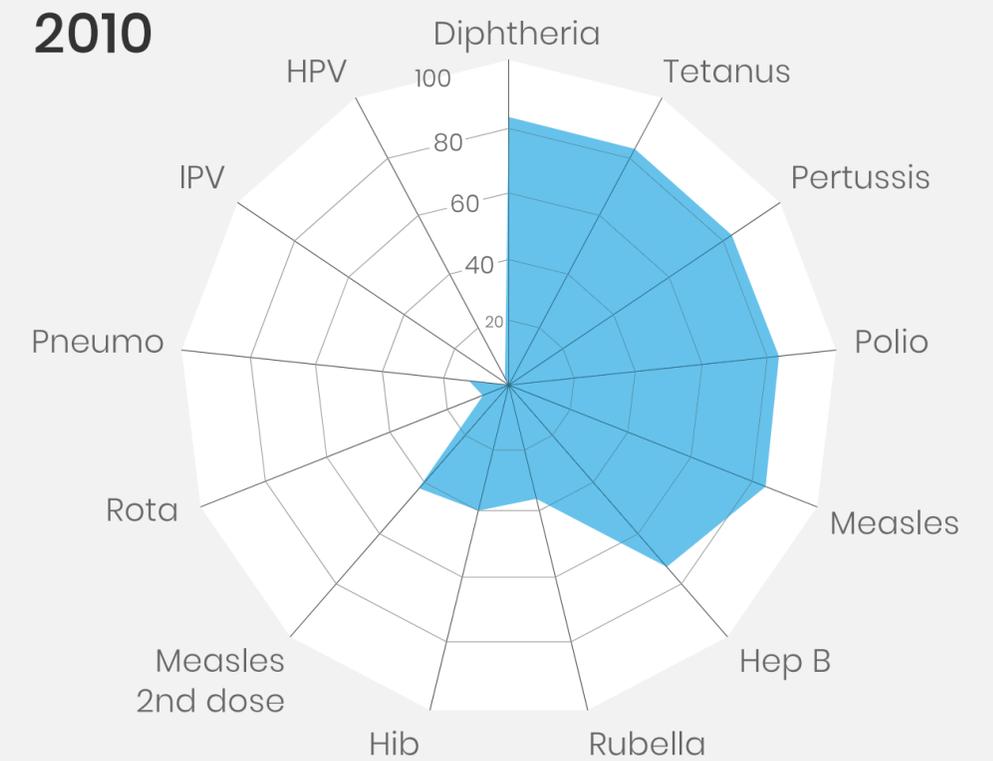
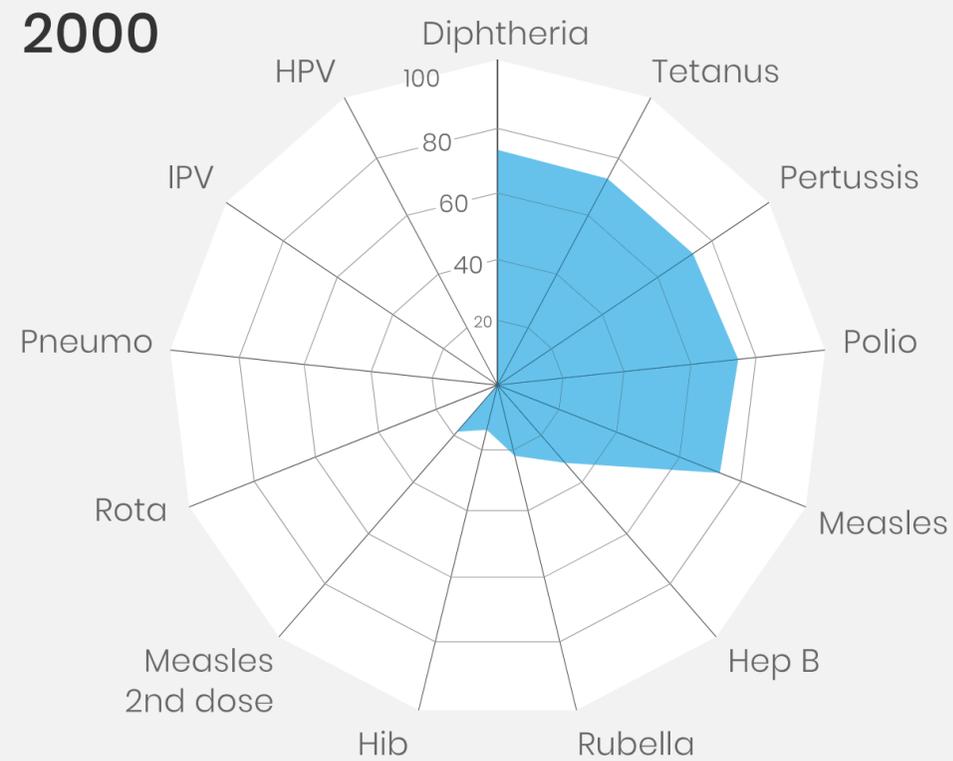


The increase in breadth of protection contrasts with the incremental improvement in expanding vaccination services to everyone

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.



2019

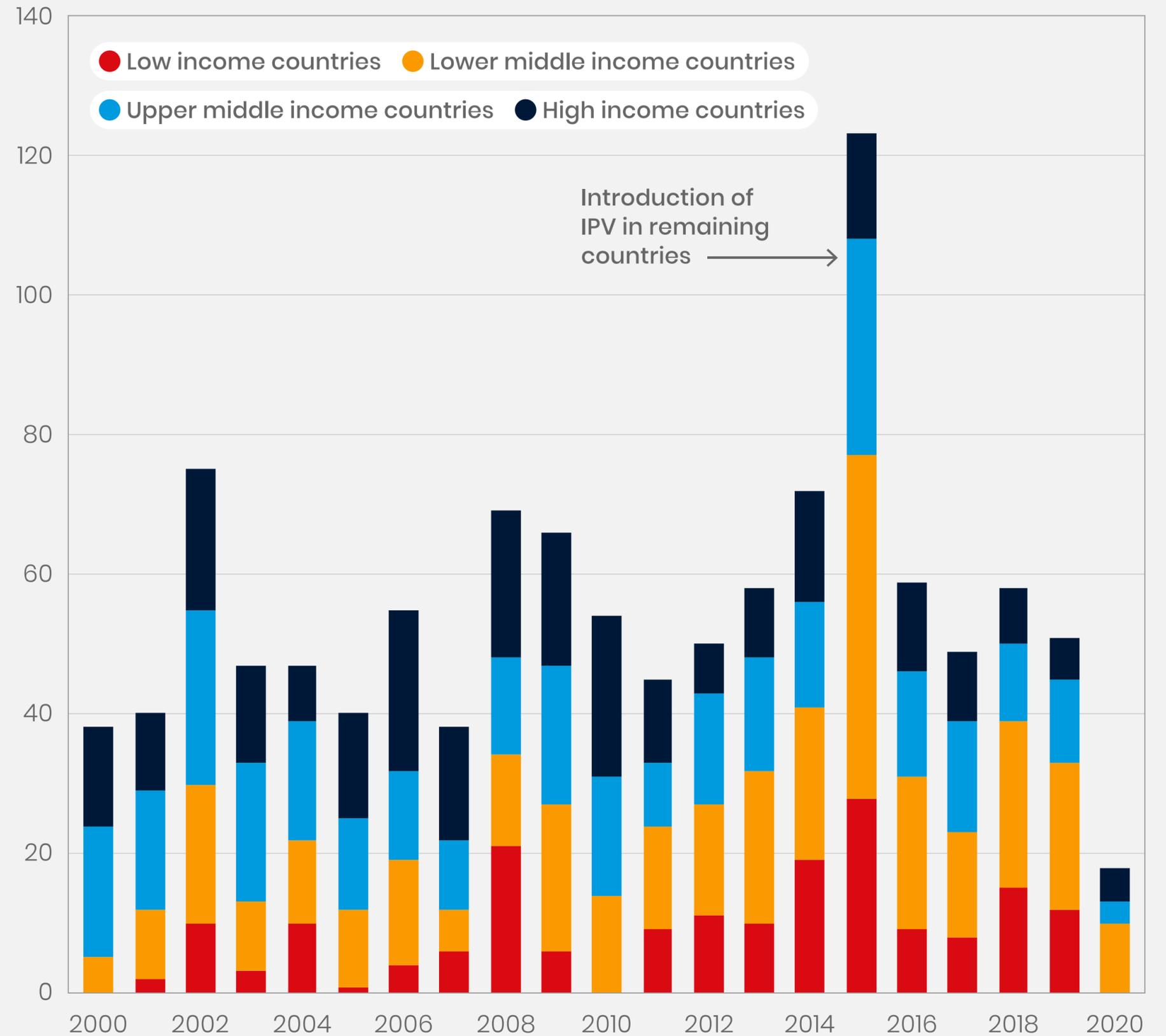
The pace of new and underutilized vaccine introductions slowed down markedly in 2020

Along with a dip in coverage, the pace of new and underutilized vaccine introductions has also slowed down 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



Vaccination is for the life course

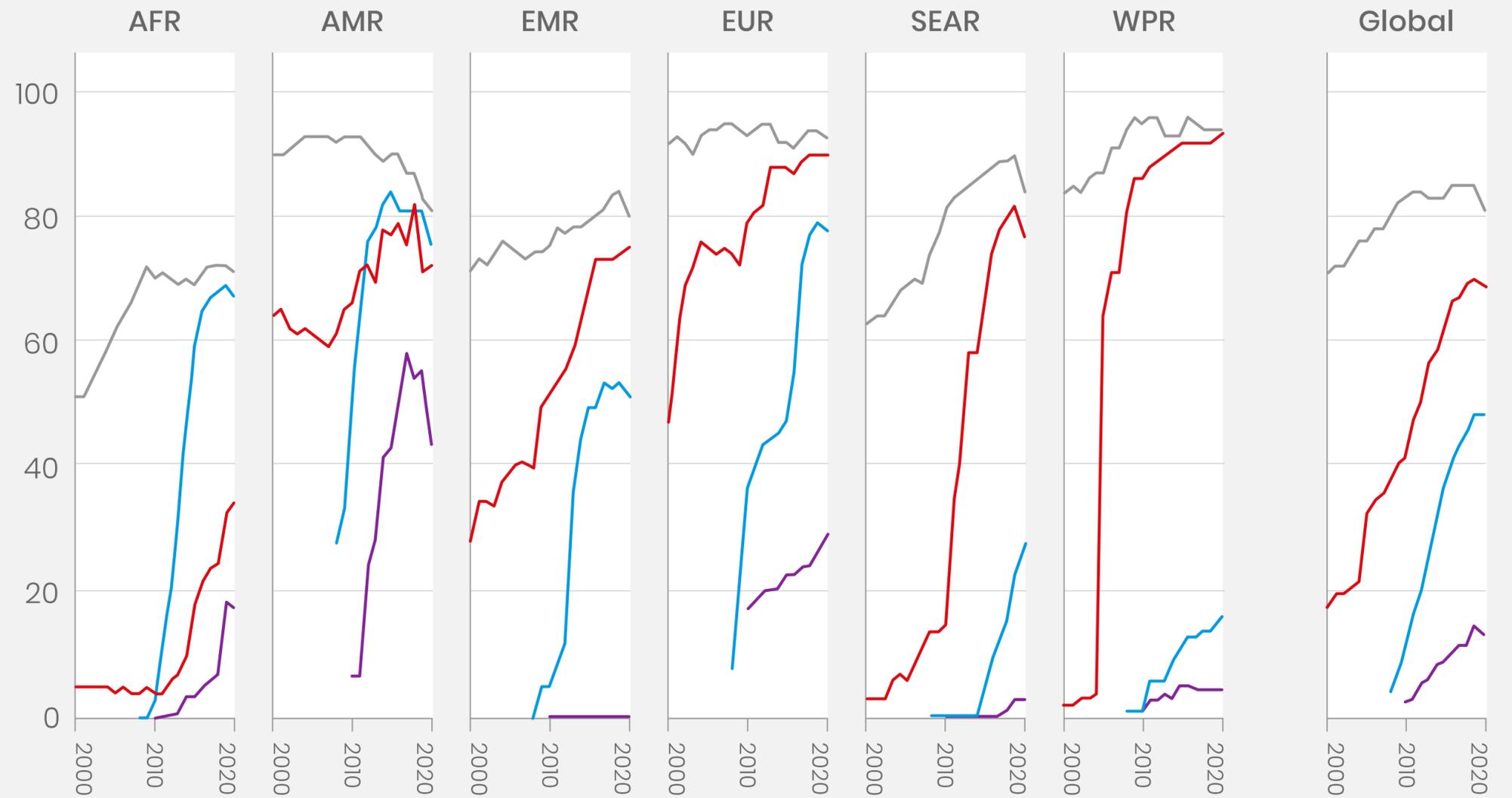
Vaccination is expanding from its childhood focus to a lifetime approach.

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). PCV3 is shown to illustrate the uptake of new and underused vaccines in the first year of life.

The second dose of Measles (MCV2) signals their 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 there.

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

The chart shows performance by region and for the global level of the vaccines included in Sustainable Development Goal 3 (SDG 3), indicator b.1..



Global HPV vaccine coverage decreased compared the last year

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

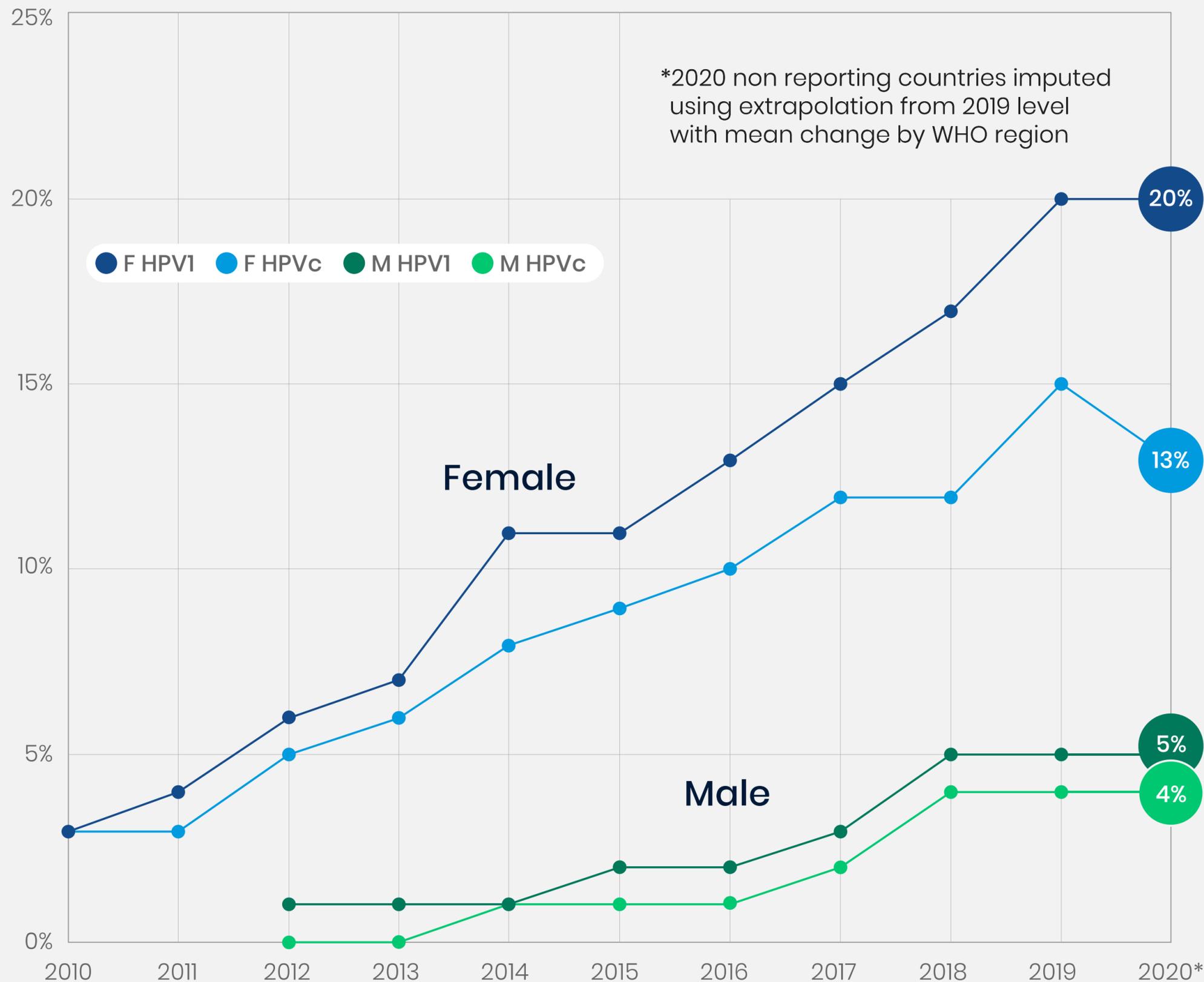
HPV vaccine coverage was affected by COVID-19 pandemic and only 13% of girls are fully protected.

Currently less than 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 population 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.

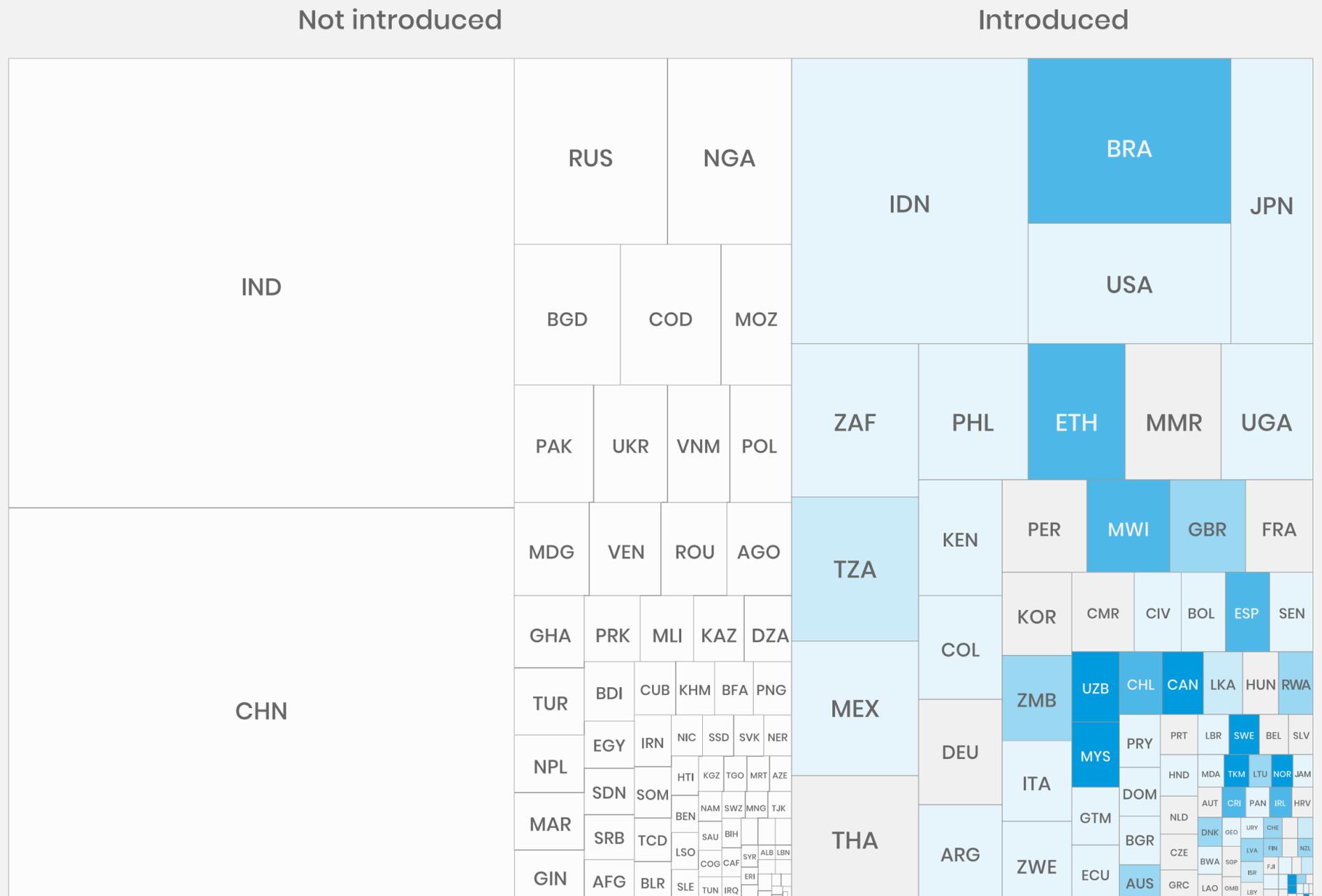


60% of cervical cancer cases occur in countries that have not yet introduced HPV vaccination

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

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

Low performance 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 last dose coverage

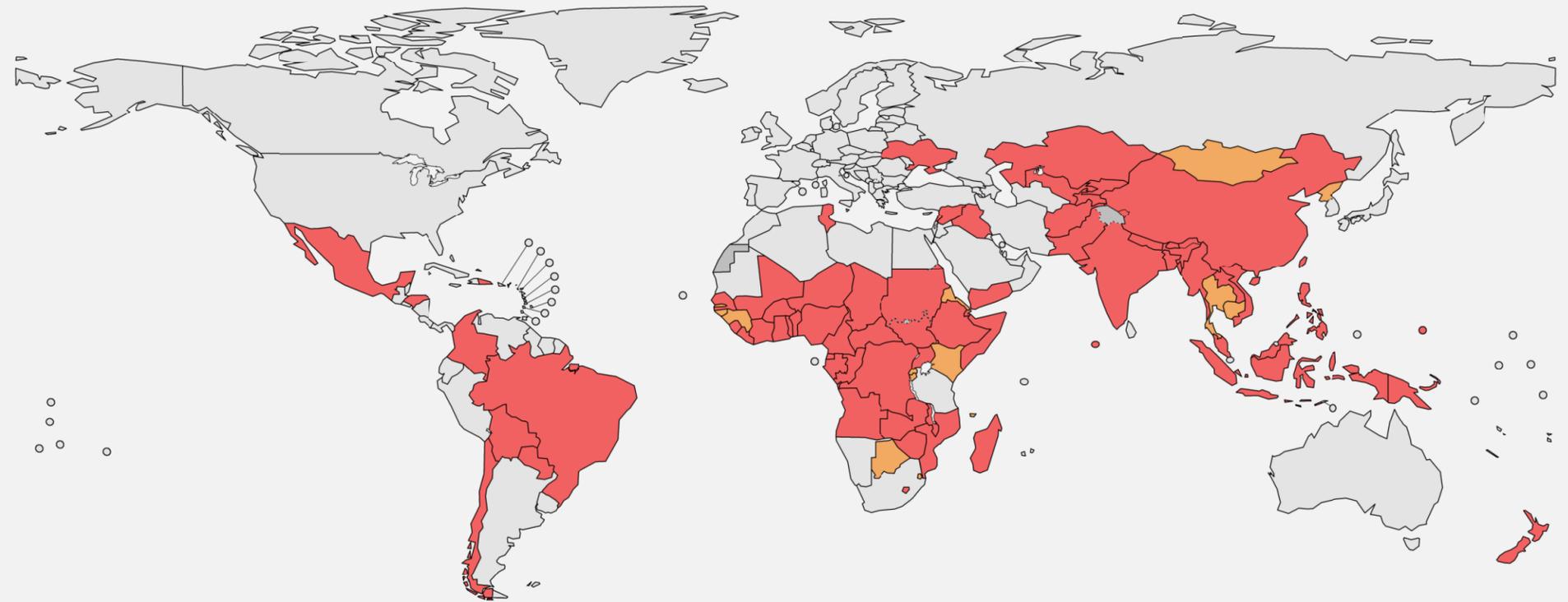


Size of the squares is proportional to the number of annual cervical cancer cases (Source: IARC 2020 Globocan)

66 countries with at least one VPD campaign postponed, 15 May 2020

The pandemic not only disrupted routine immunization (RI) activities in 2020, SIAs 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

0 875 1750 3500 Km

Date of slide: 2020-07-14

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

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

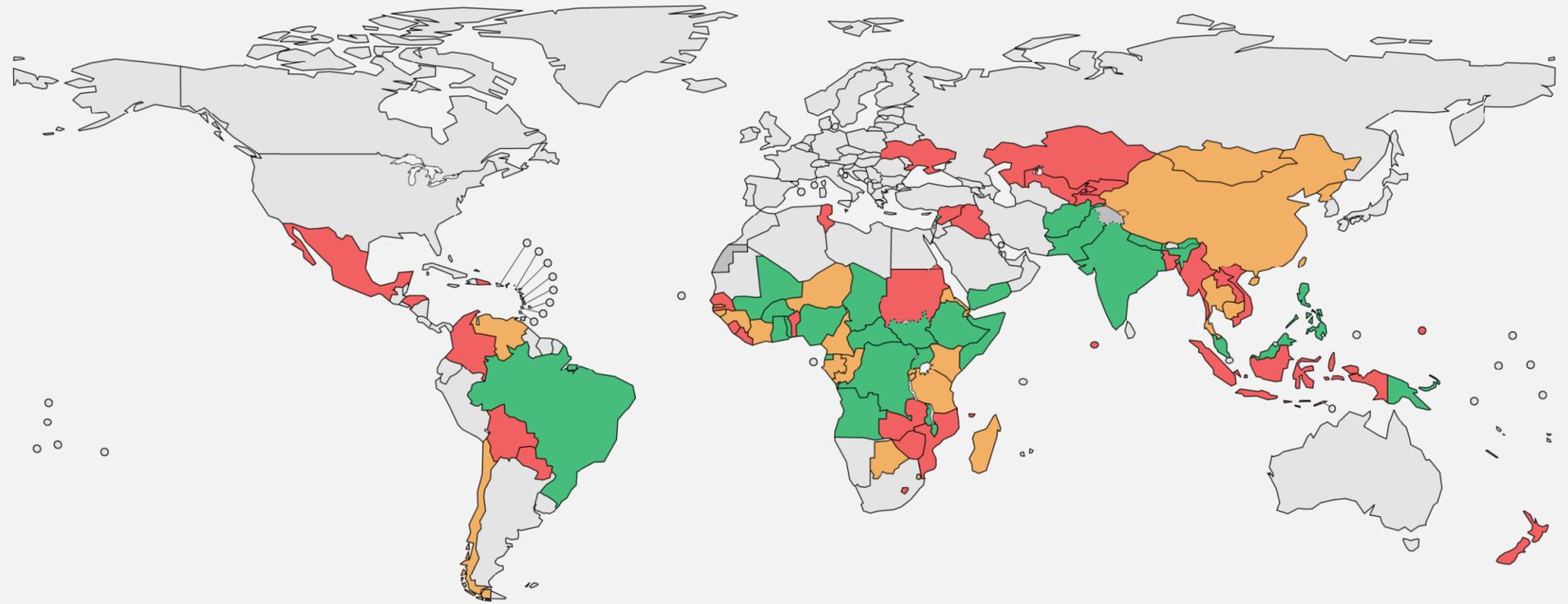
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25 countries reinstated at least one campaign by 15 Dec 2020

As 2020 progressed and countries adapted their immunization 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

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Date of slide: 2020-12-15

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

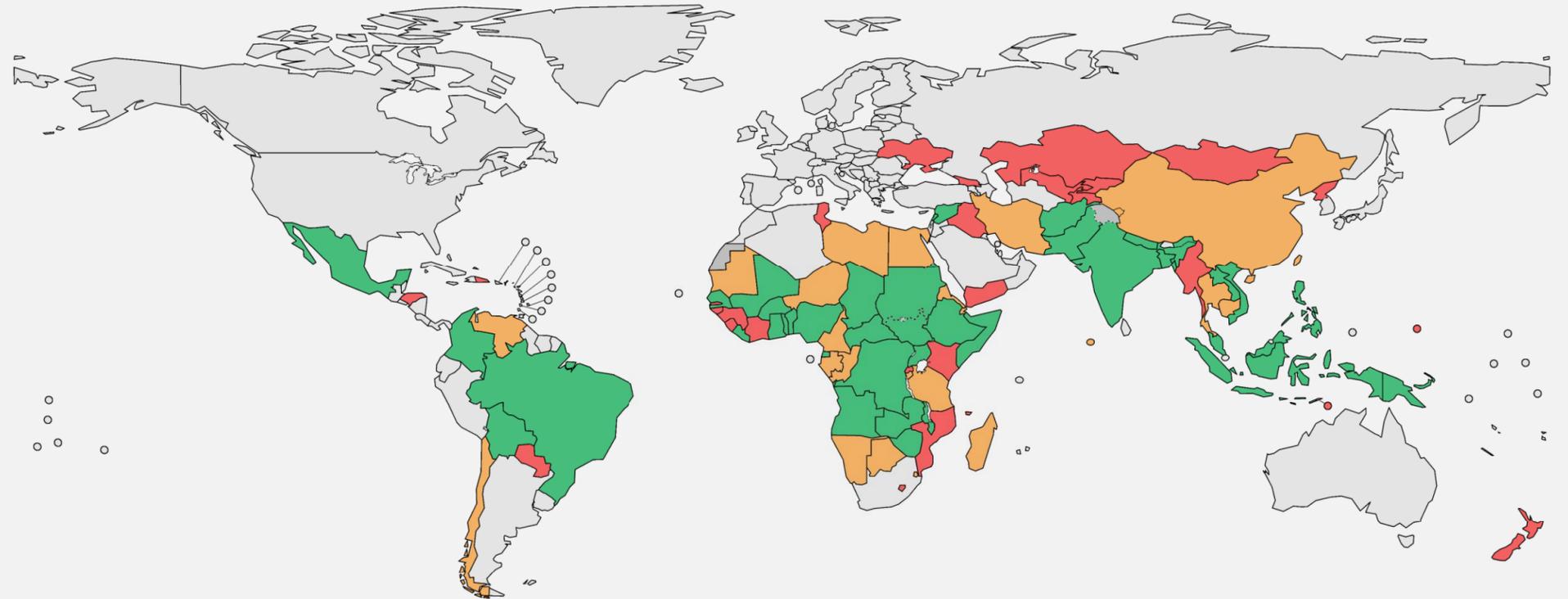
Data source: WHO/IVB Repository, 15th December 2020

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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 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

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Date of slide: 2021-07-01

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

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

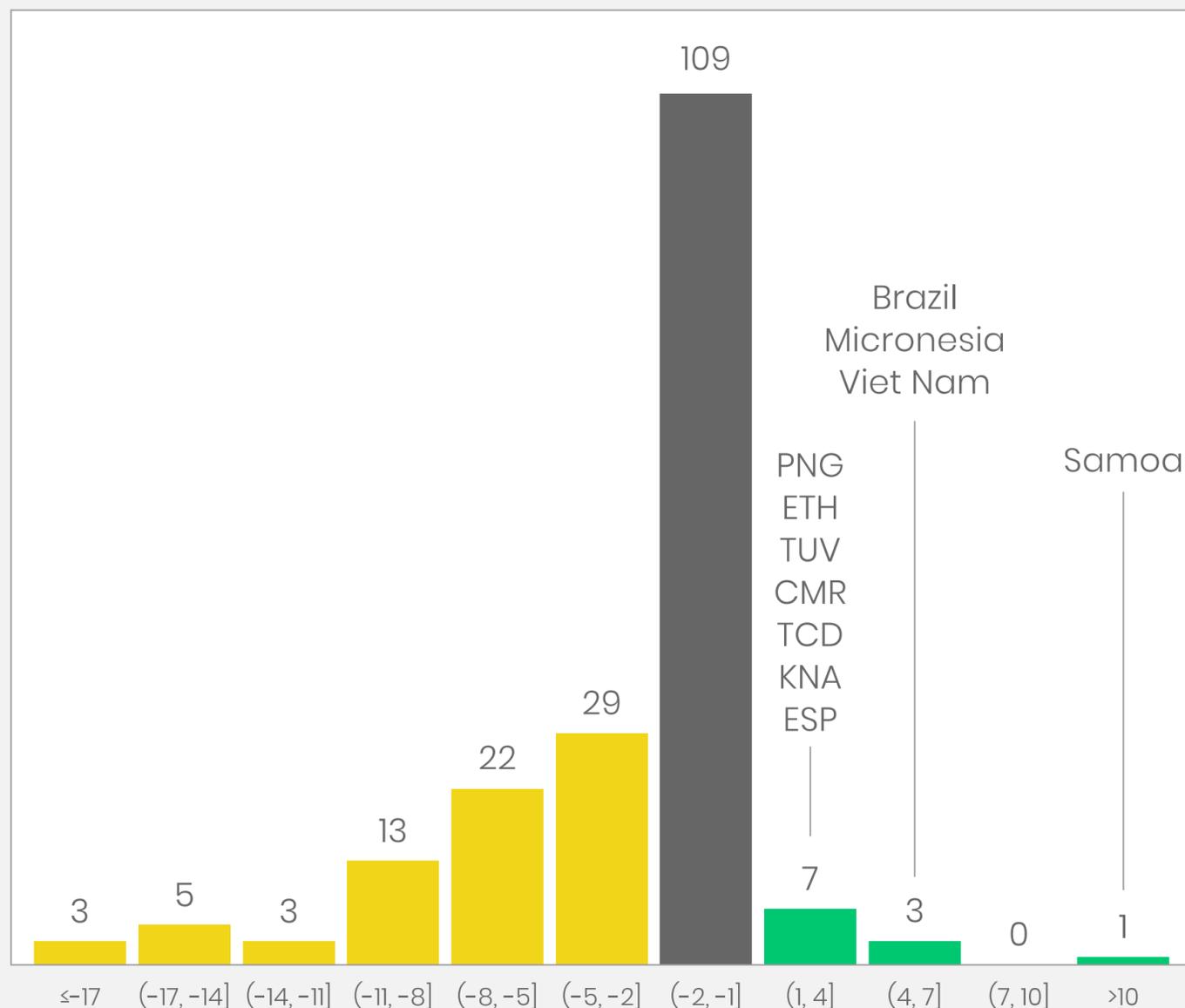
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Back up slides

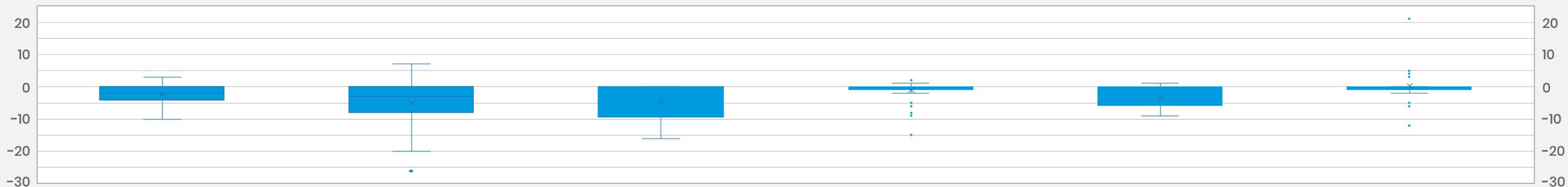
Most countries reported stagnant or decreased coverage

Number of countries by change in estimated DTP3 coverage



Country	2018	2019	2020	'20 change	Possible reason
Samoa	34	58	79	21	Continued recovery
Brazil	87	70	77	7	Recovery from 2019 pentavalent vaccine stock-out
Micronesia	75	78	83	5	
Viet Nam	75	89	94	5	Continued recovery
P.N.G	35	35	39	4	Low levels of coverage over the years
Ethiopia	67	68	71	3	
Tuvalu	89	92	95	3	
Cameroon	67	67	69	2	Likely underreporting in 2019 (stockout reporting tools)
Chad	46	50	52	2	Unexplained decline in target population in 2020
St Kitts & Nevis	98	97	99	2	
Spain	96	96	98	2	Reported data reflects 2019 performance

87 countries with lower reported DTP3 coverage, out of 160 reporting member states



AFR (42 reports out of 47)

AMR (32 reports out of 35)

EMR (19 reports out of 22)

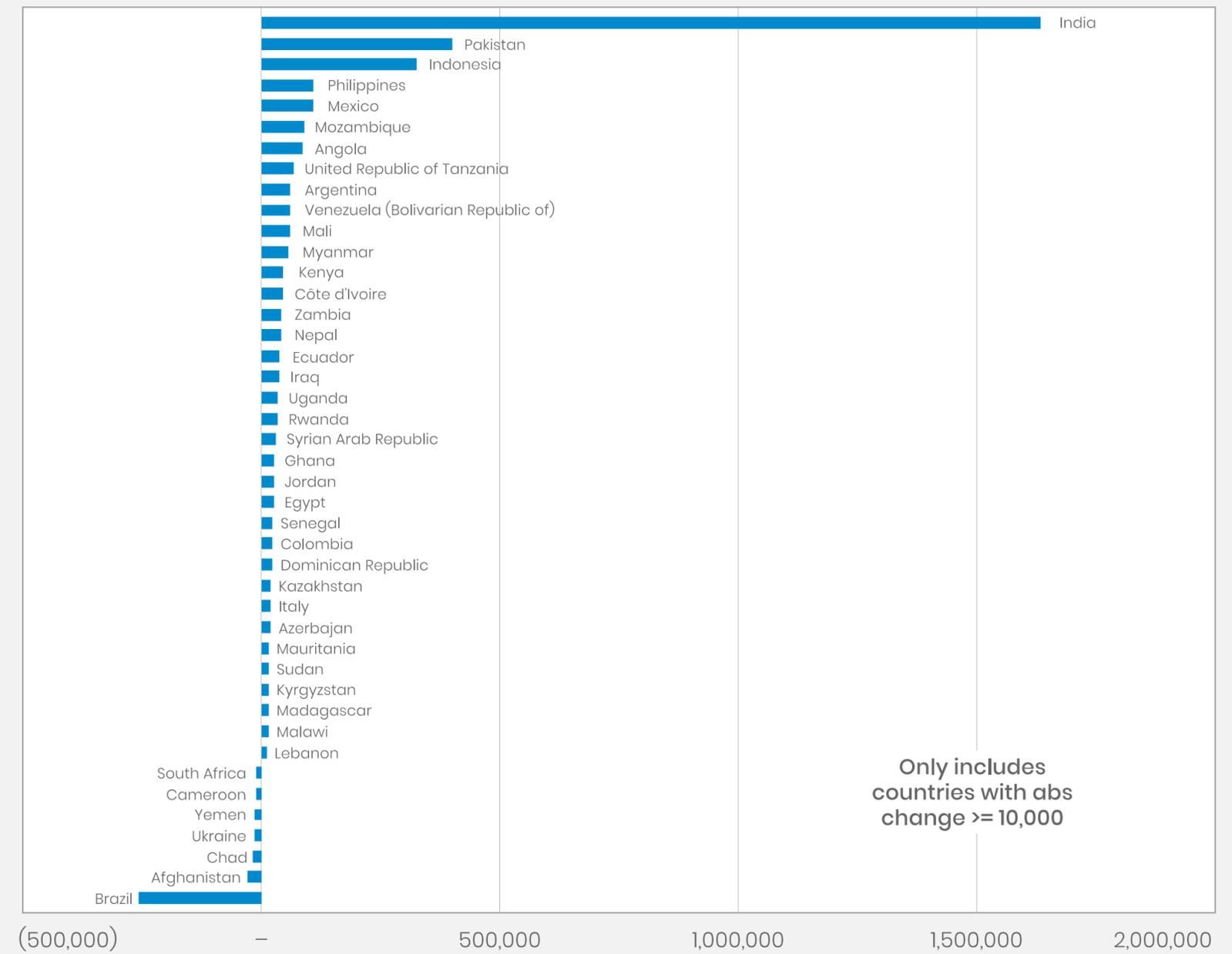
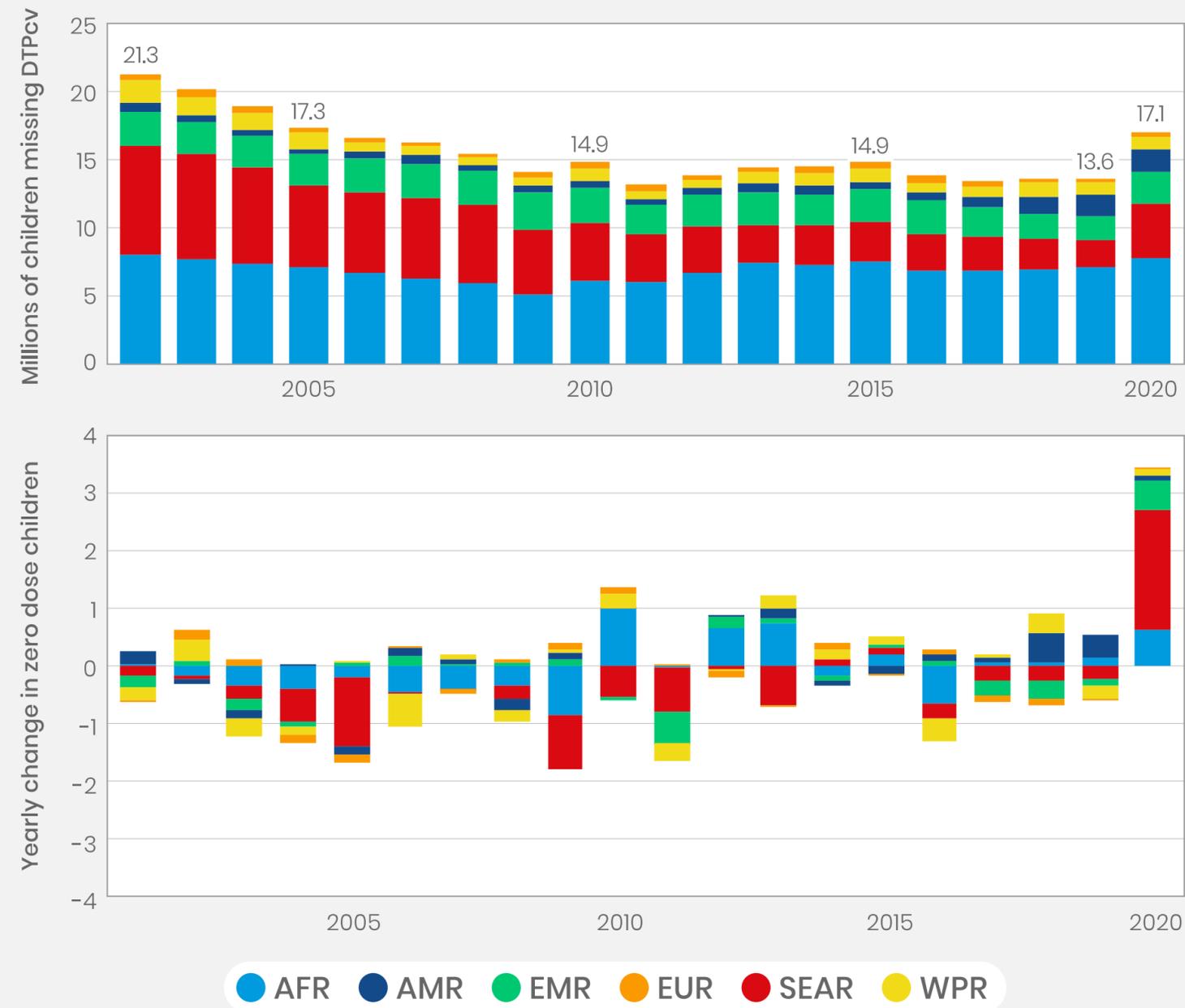
EUR (36 reports out of 53)

SEAR (10 reports out of 11)

WPR (21 reports out of 27)

Mauritania	-10	Suriname	-26	Qatar	-16	Azerbaijan	-15	Nepal	-9	Vanuatu	-12
Mozambique	-9	Grenada	-20	Djibouti	-15	Kazakhstan	-9	Indonesia	-8	Philippines	-6
Gabon	-7	Belize	-19	Jordan	-12	Kyrgyzstan	-8	India	-6	Kiribati	-5
Mali	-7	Ecuador	-15	Lebanon	-12	Georgia	-6	Myanmar	-6	Japan	-2
Rwanda	-7	Panama	-14	Iraq	-10	Republic of Moldova	-5	Timor-Leste	-4	Mongolia	-2
Eswatini	-7	Venezuela	-10	United Arab Emirates	-9	Bulgaria	-2	Sri Lanka	-3	Lao PDR	-1
Angola	-6	Argentina	-9	Pakistan	-7	Italy	-2	Bhutan	-2	Nauru	-1
Congo	-6	El Salvador	-9	Syrian Arab Republic	-5	Belarus	-1				
Liberia	-5	Honduras	-8	Sudan	-3	Lithuania	-1				
Benin	-4	Mexico	-8	Afghanistan	-2	Montenegro	-1				
Côte d'Ivoire	-4	Bolivia	-7	Egypt	-1	Romania	-1				
Comoros	-4	Dominican Republic	-7	Saudi Arabia	-1	Sweden	-1				
Senegal	-4	Paraguay	-7	Yemen	-1	Turkmenistan	-1				
Zambia	-4	Colombia	-6	Bahrain	-1	Turkey	-1				
Zimbabwe	-4	Saint Lucia	-6			Uzbekistan	-1				
Ghana	-3	Nicaragua	-6								
Mauritius	-3	Barbados	-5								
Tanzania	-3	Chile	-3								
Kenya	-2	Dominica	-2								
Madagascar	-2	Guatemala	-2								
Seychelles	-2	Uruguay	-2								
Togo	-2	USA	-1								
Malawi	-1										
South Africa	-1										

3.5m additional zero-dose children in 2020, increase in all regions, in all but a few countries

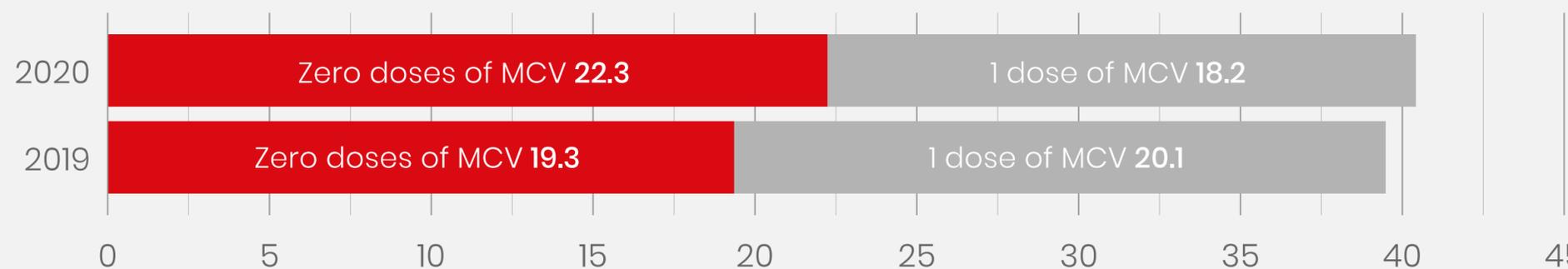
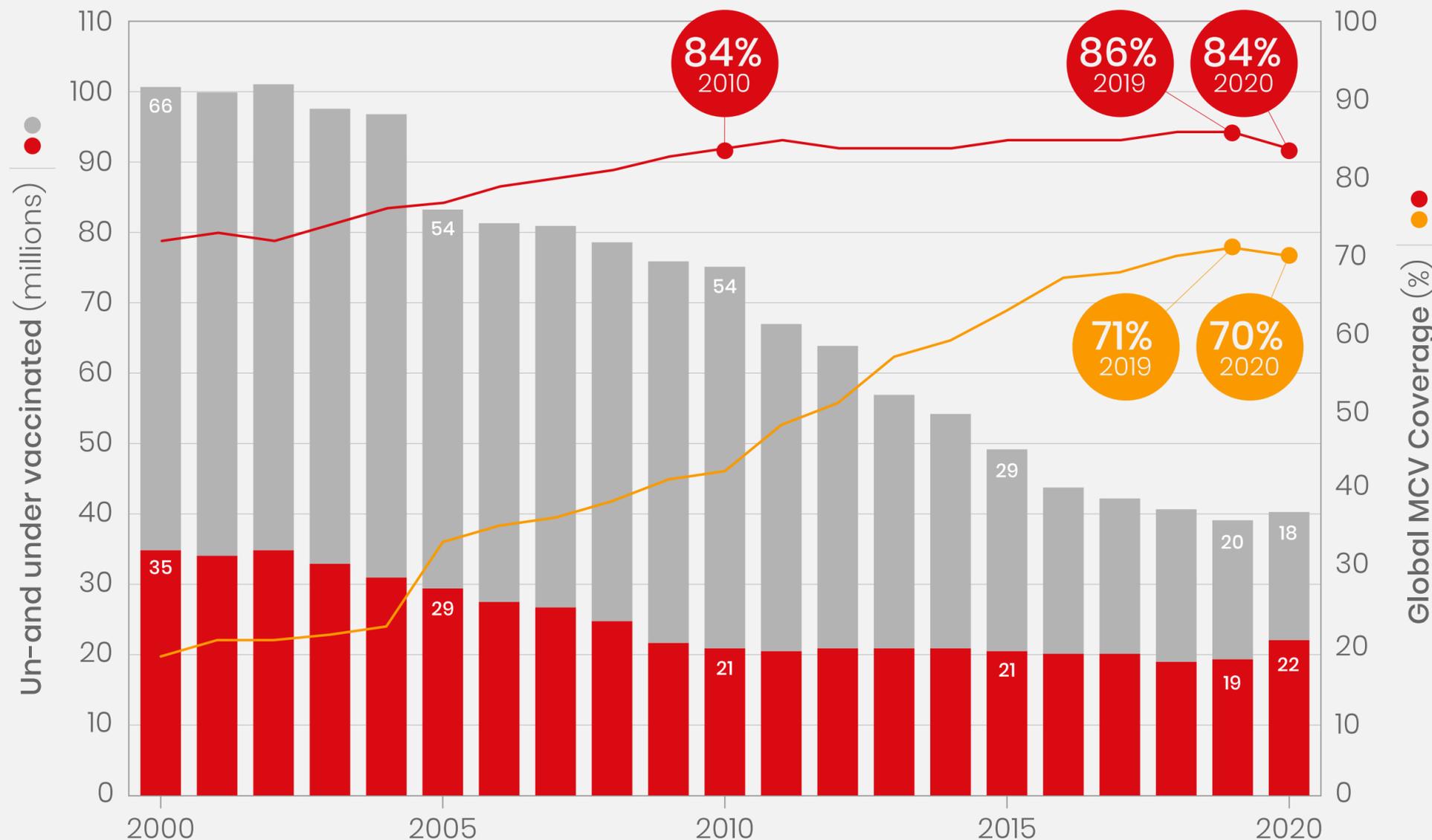


Measles coverage dropped to 84% in 2020, leaving 3 million more children potentially unvaccinated than in 2019

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

This leaves 22.3 million children vulnerable. A further 18.2 million children received only a first dose, but not a needed second dose through regular public health services.

Supplemental Immunization Activities (campaigns) continue to be required to ensure that all receive the 2 doses that will protect these children from Measles.



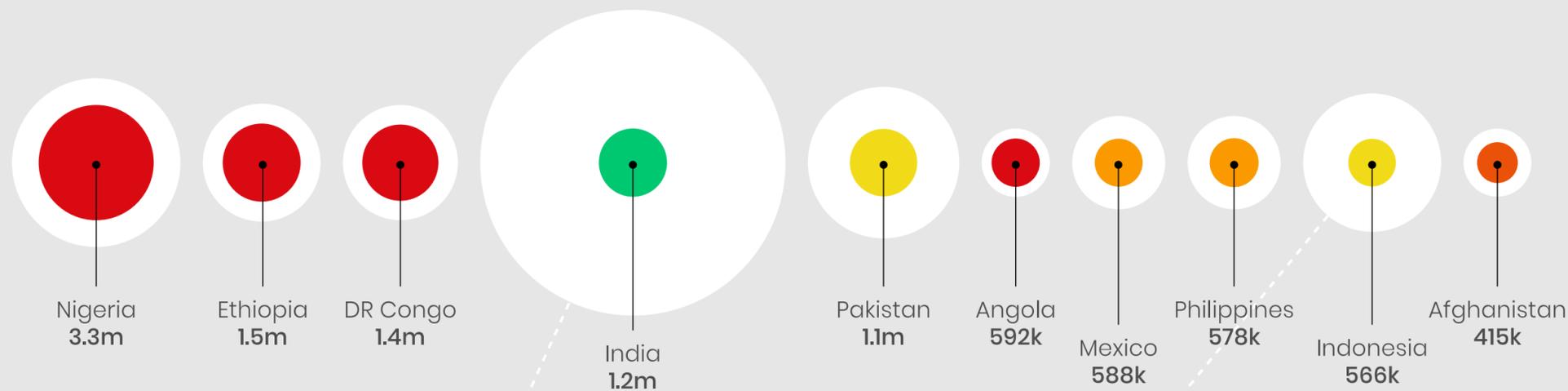
Just 10 countries account for 59% of unprotected children from measles

Countries with most unprotected children for measles

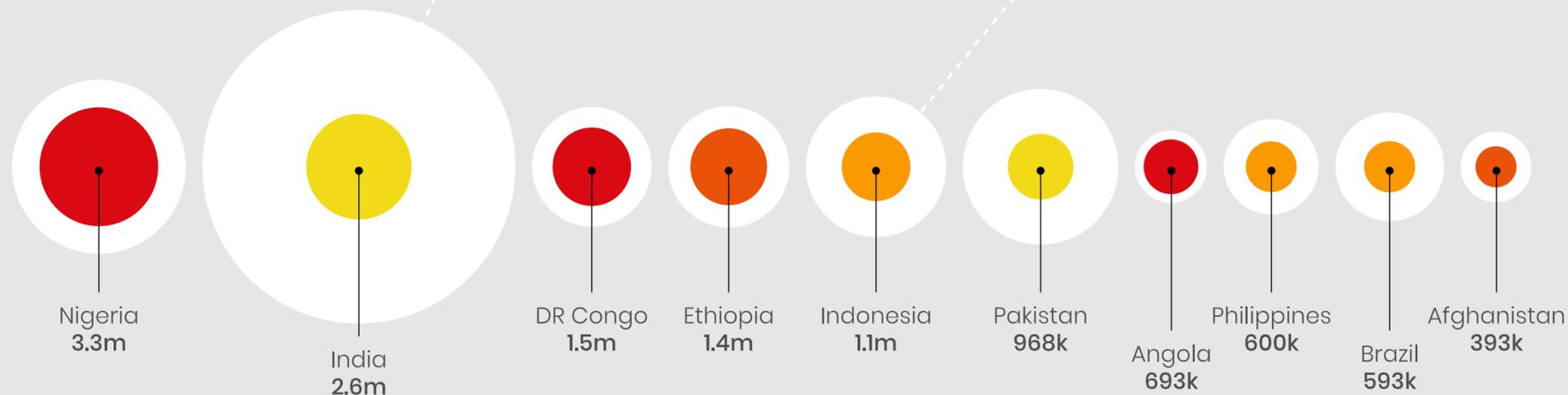
10 countries account for 13 of the 22 million under and unvaccinated children in the world (59%). This list includes some countries with moderate coverage and very large birth cohorts, and other countries with substantially lower coverage.

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.

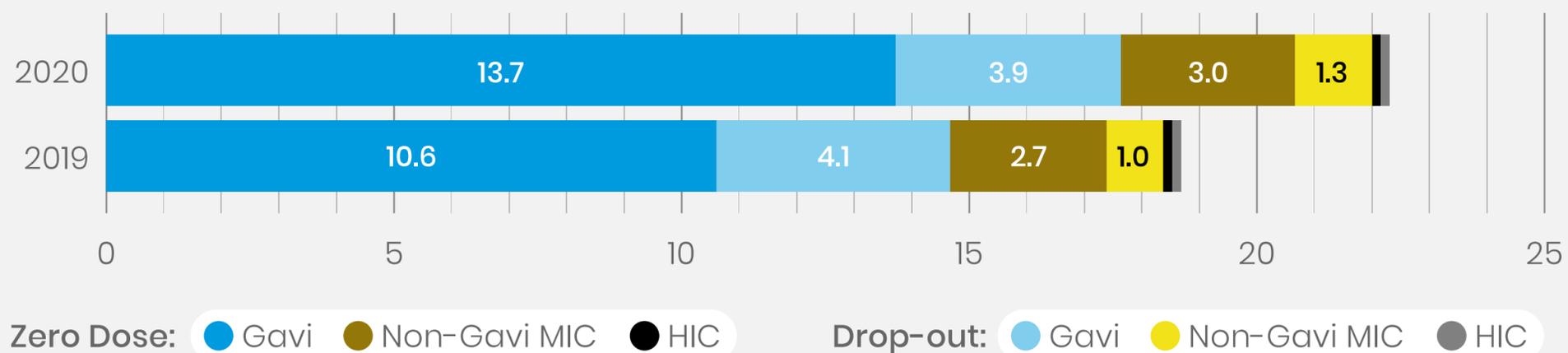
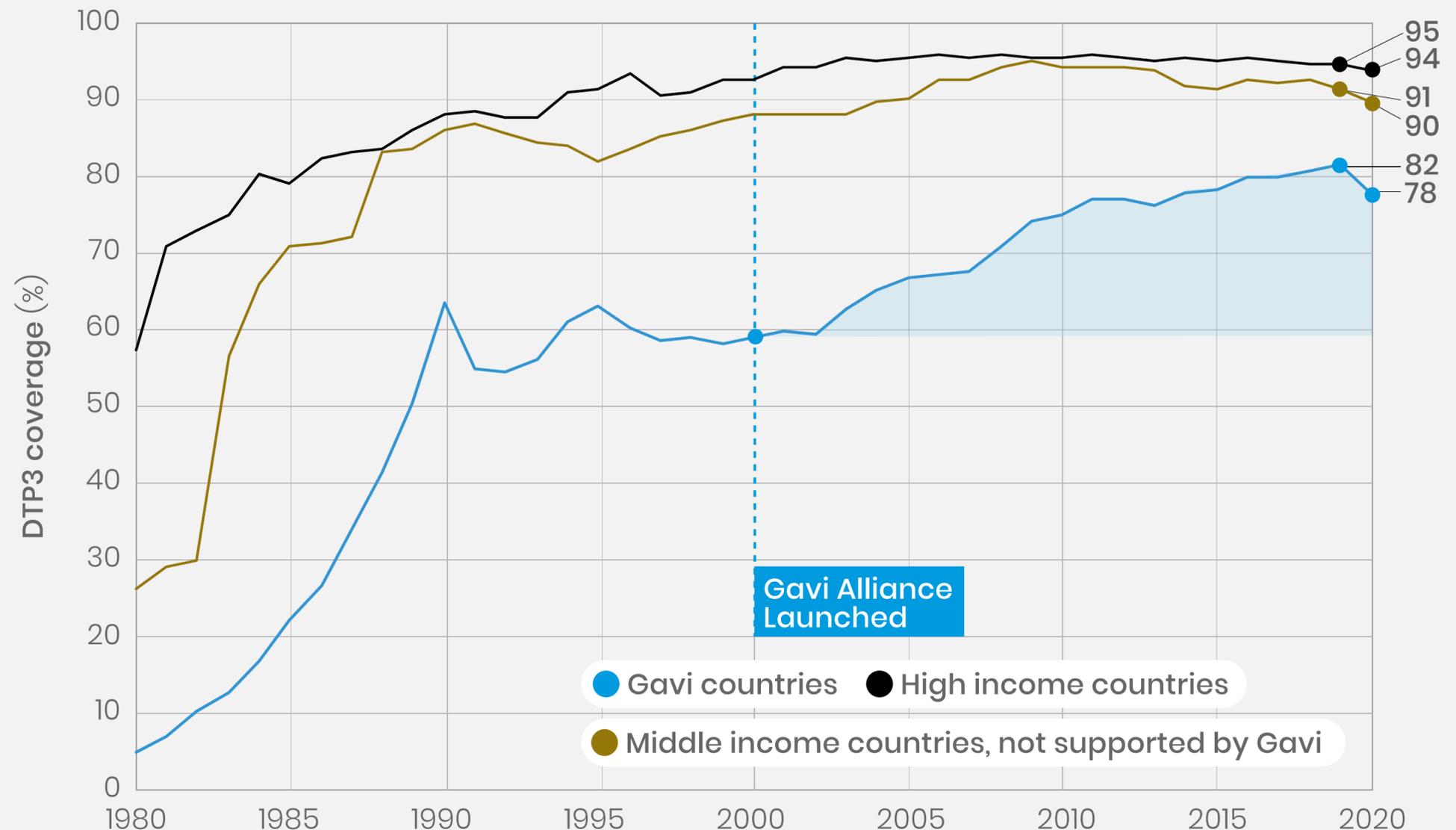
Countries supported by the Gavi Alliance experienced a larger setback than higher income countries

The Gavi Alliance provides vaccine and financial support to lower income countries.

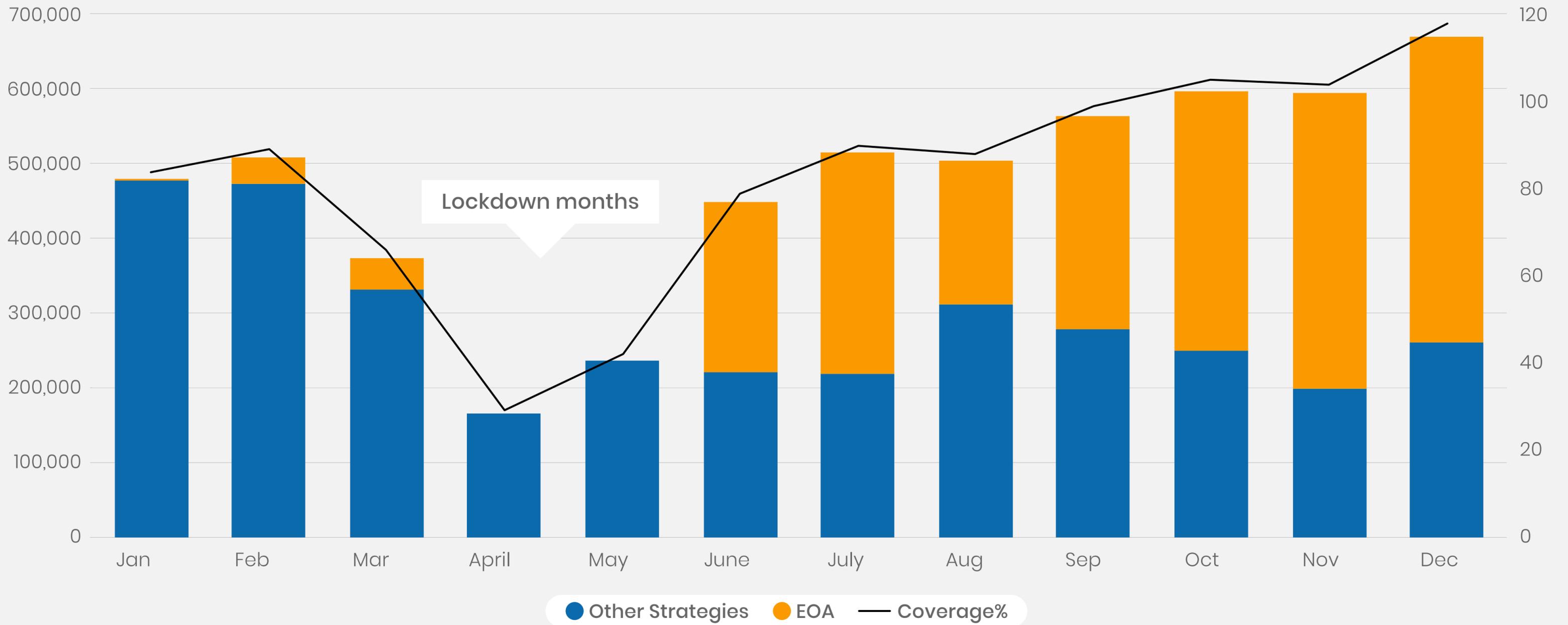
Since 2000, coverage in the group of “Gavi countries” has increased markedly, narrowing the gap with higher income countries. However, in 2020 the decline in coverage in countries supported by Gavi is somewhat larger than in other countries, highlighting that gains in coverage remain fragile and are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



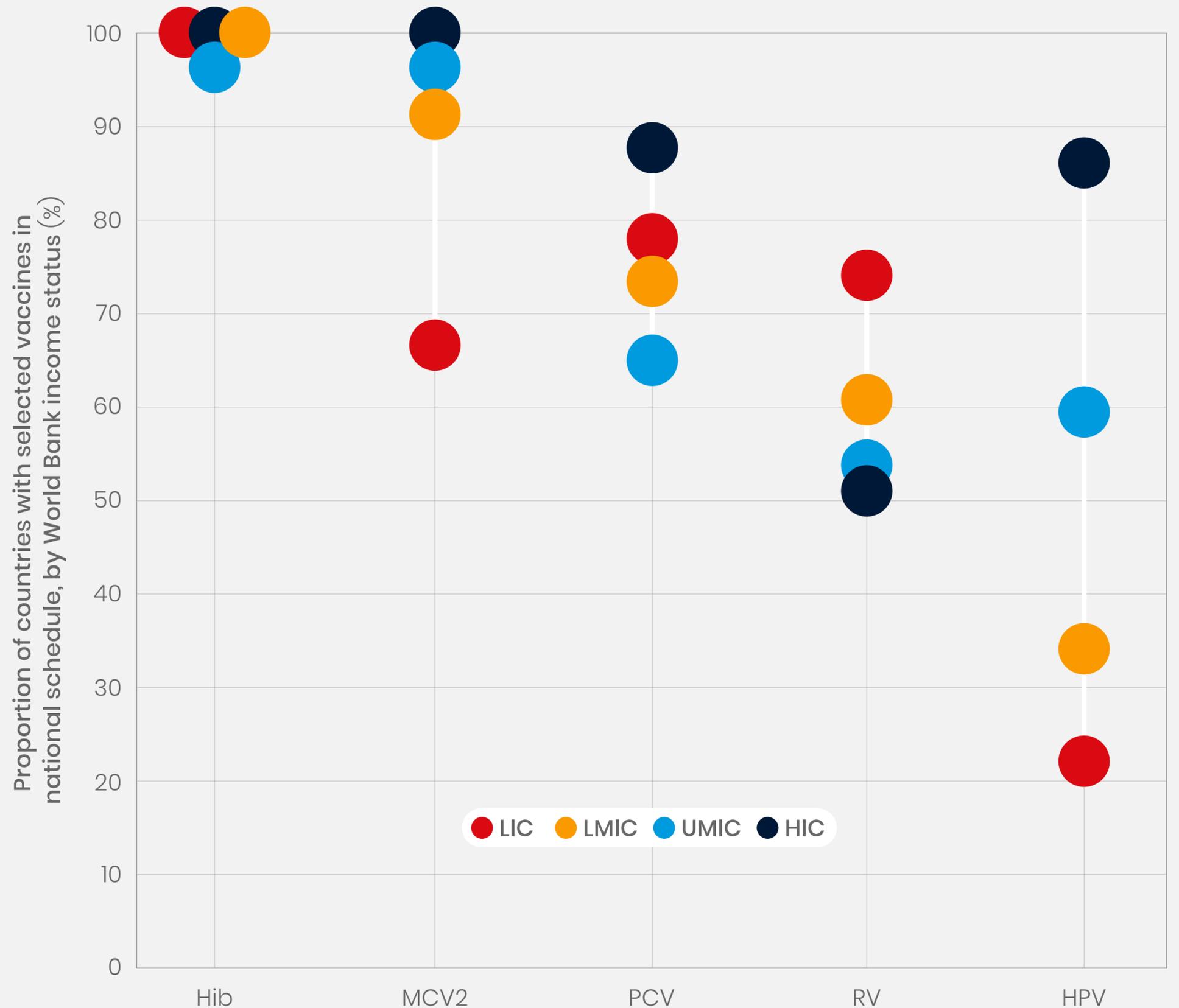
Penta3 in Pakistan (Jan-Dec 2020) and impact of Enhanced Outreach Activities (EOA)



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 Pneumococcus vaccines at a faster pace than richer countries.



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

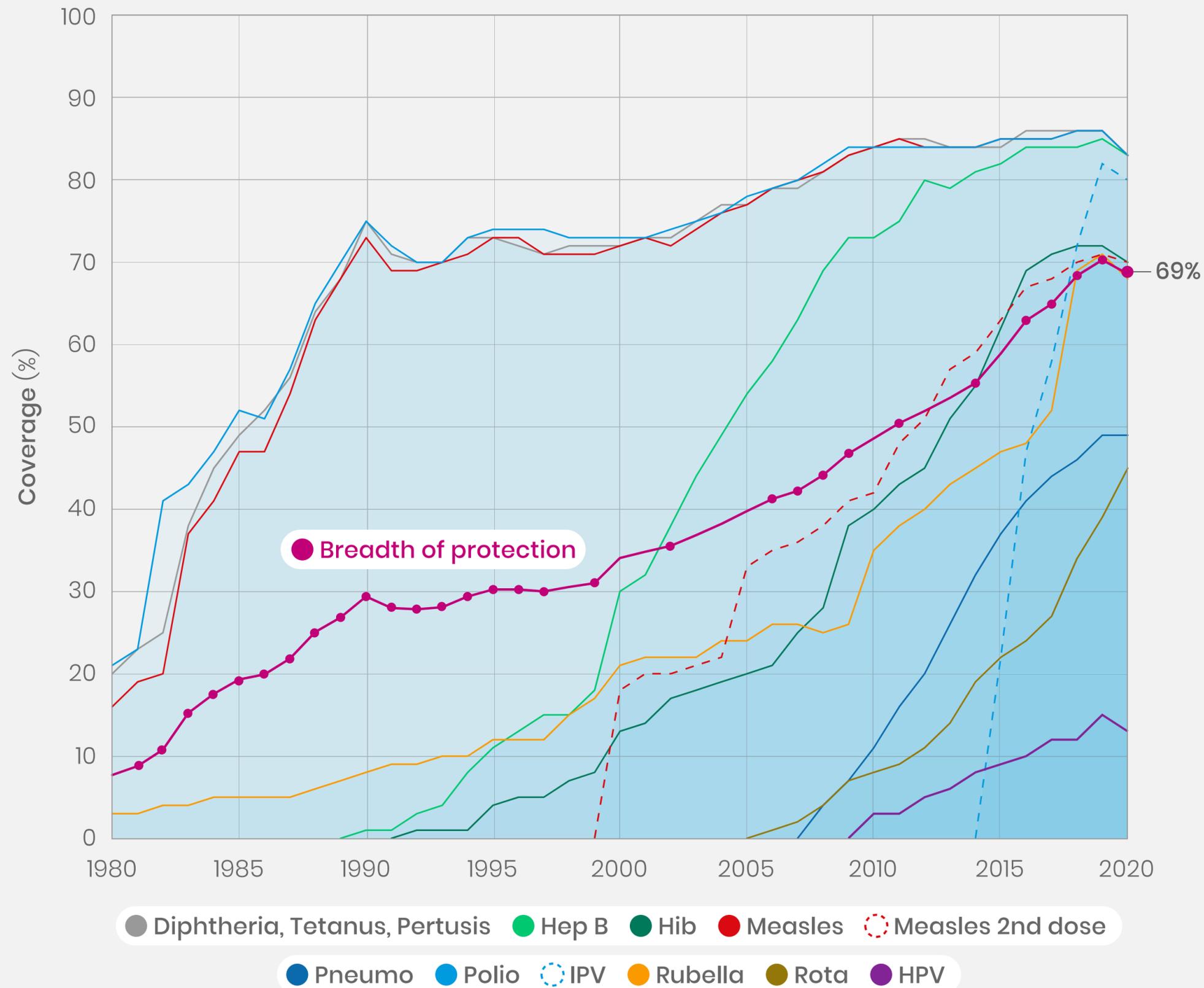
In 2020, the average coverage for vaccines targeting 11 diseases stood at 69% compared with 8% in 1980.

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.



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

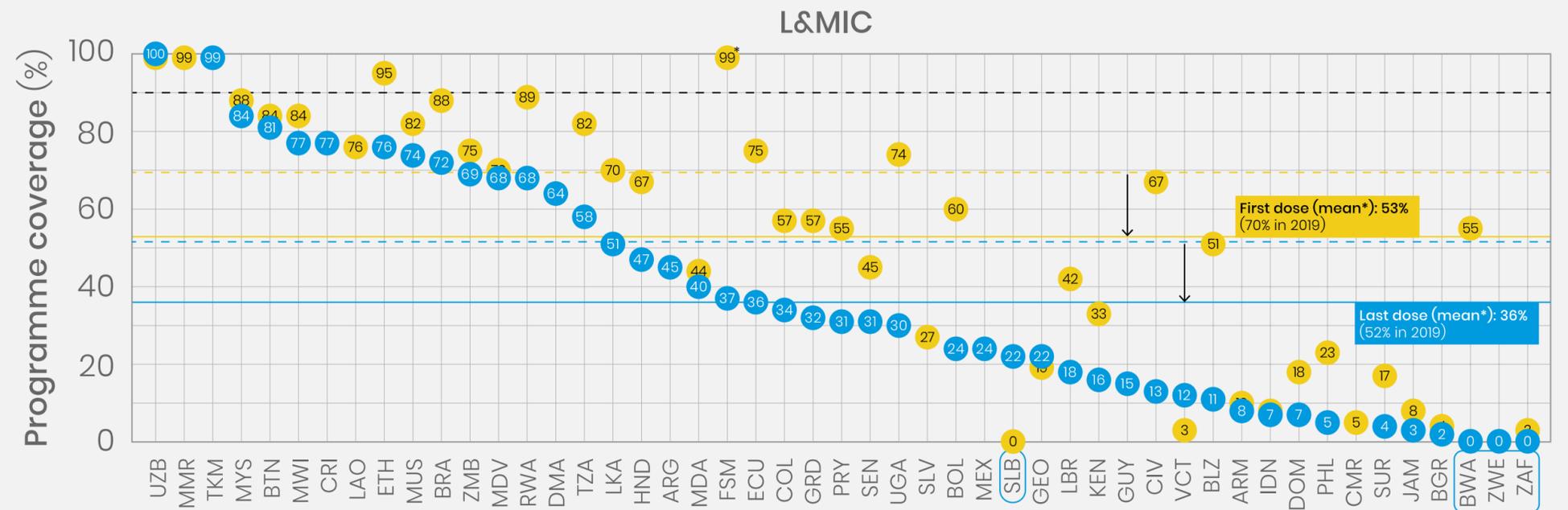
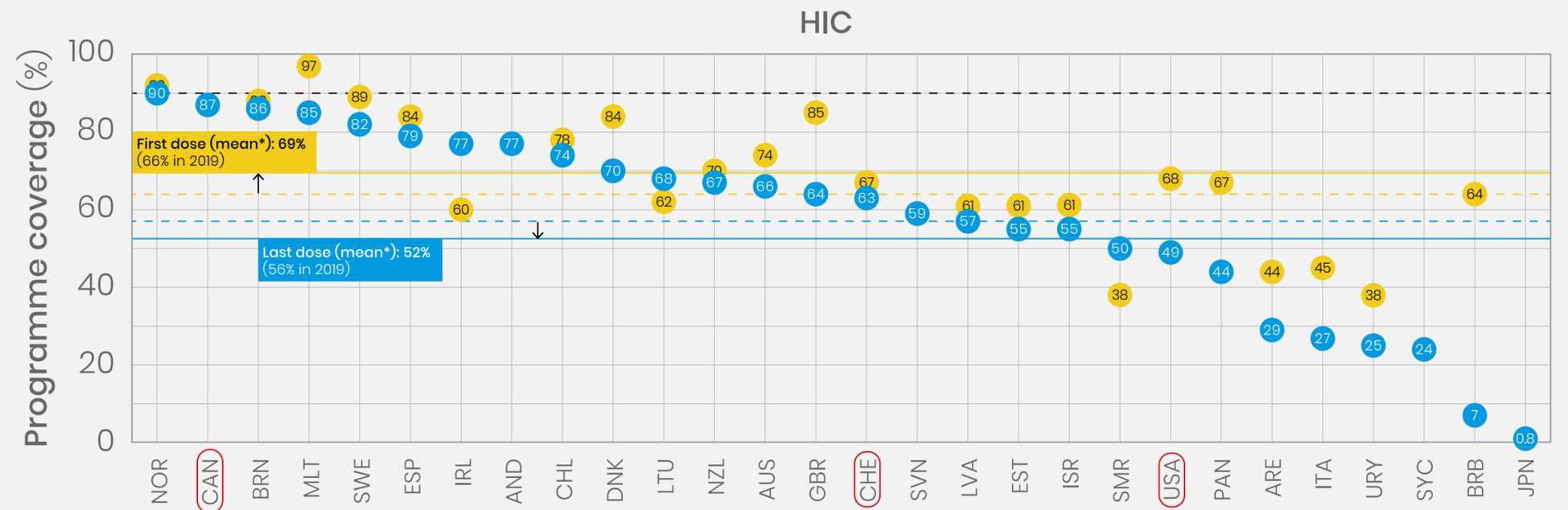
Some countries in HIC as well as L&MIC reach the 90% coverage target but too many girls living in countries that provide HPV vaccination are not reached or not fully protected.

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 in HPV vaccination than childhood vaccines and is a particular challenge in L&MIC.

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.



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

*Full introduction countries only

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

