Progress and Challenges with Achieving Universal Immunization Coverage

2019 WHO/UNICEF Estimates of National Immunization Coverage

(Data as of 15 July 2020)

Sources:

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

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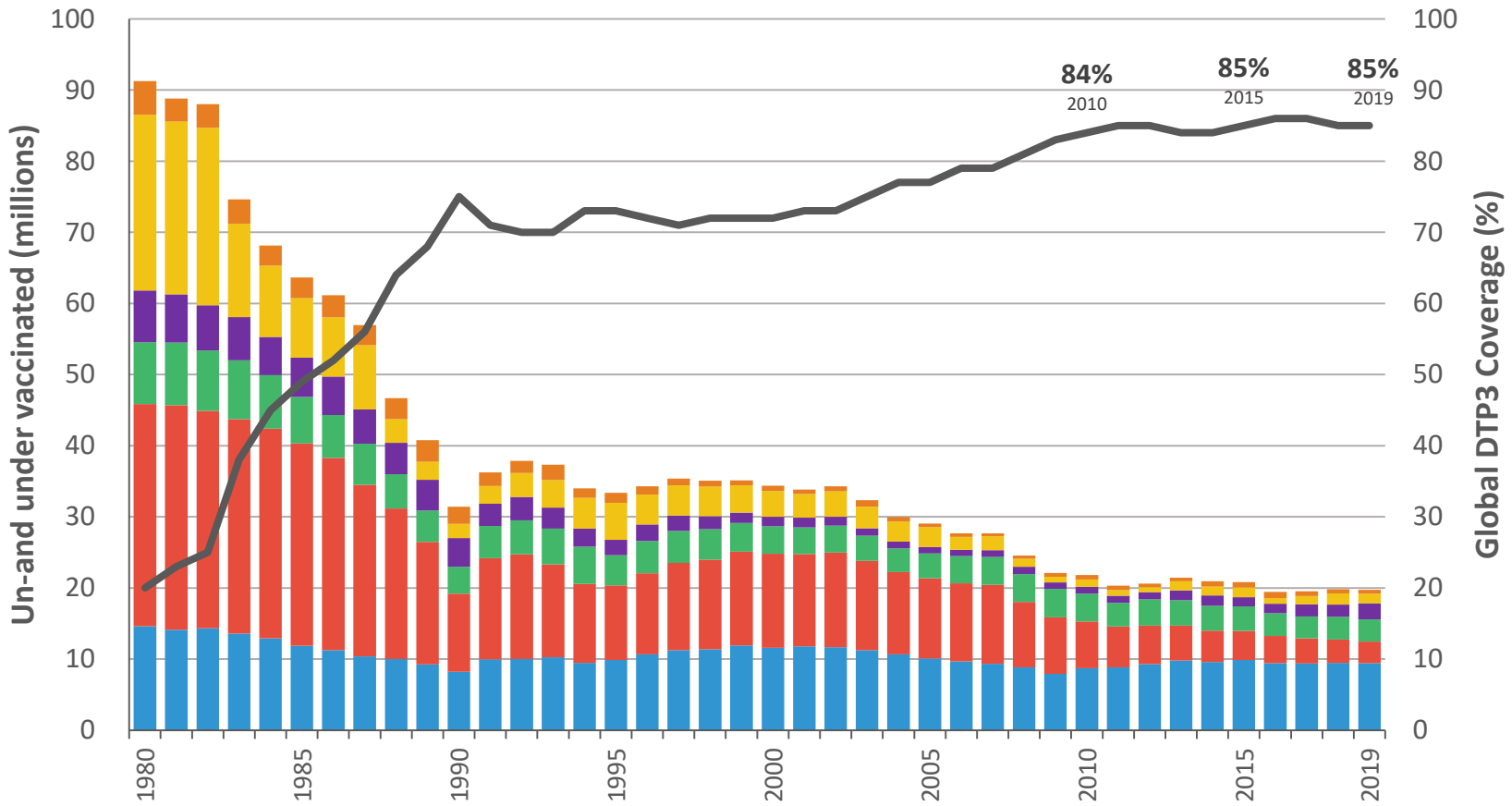
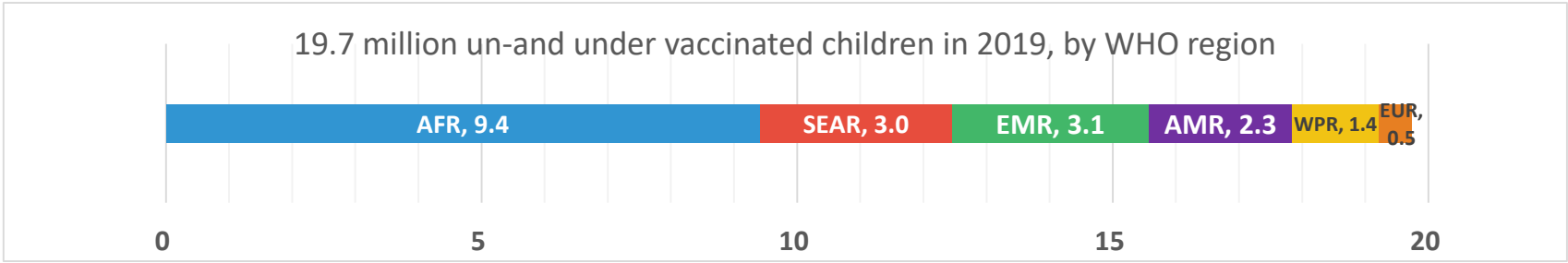
Almost 9 out of 10 children reached in 2019, but almost 20 million children un-or under vaccinated





Coverage of a third dose of vaccine protecting against diphtheria, tetanus, and pertussis (DTP-3) remains at 85% in 2019, leaving 19.7 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.

While immunization is probably the most successful public health intervention, reaching 85% of infants is not enough. Coverage has plateaued over the last decade, leaving almost 20 million children unprotected. Almost half of these live in the African Region.

Un-or under vaccination is measured through the lack of DTP-3 in this analysis

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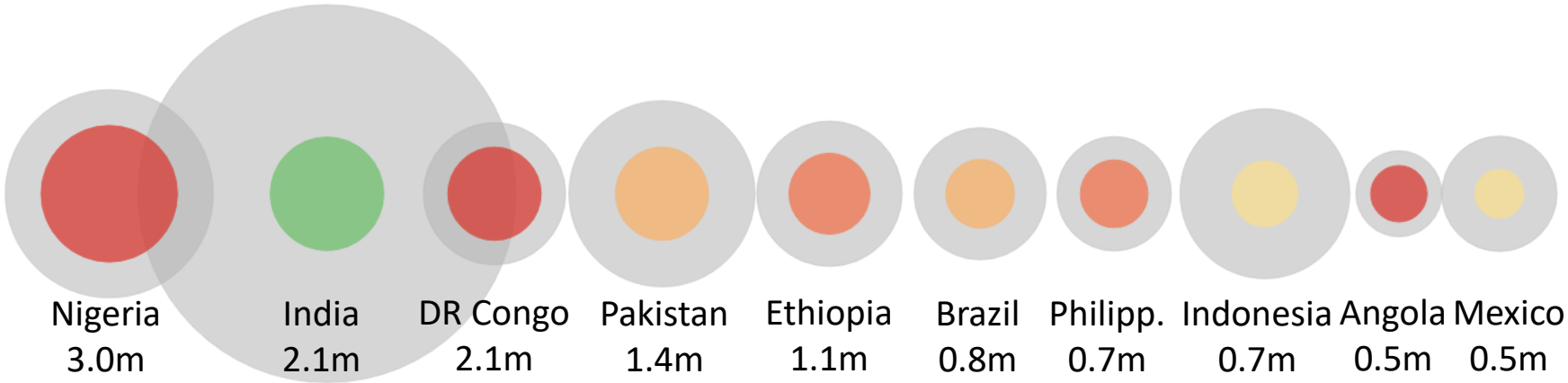
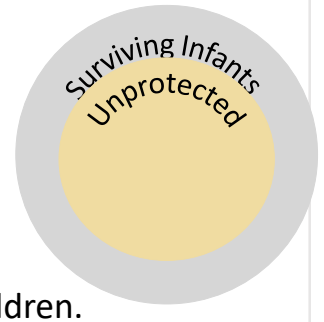
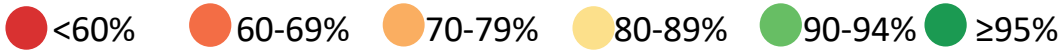
Just 10 countries account for 62% of unprotected children







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

Countries with most unprotected children

10 countries account for 12.2 of the 20 million under and un vaccinated children in the world (62%). This list includes some countries with moderate or high coverage and very large birth cohorts, and other countries with substantially lower coverage.

Middle income countries occupy an increasing share of this list.

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

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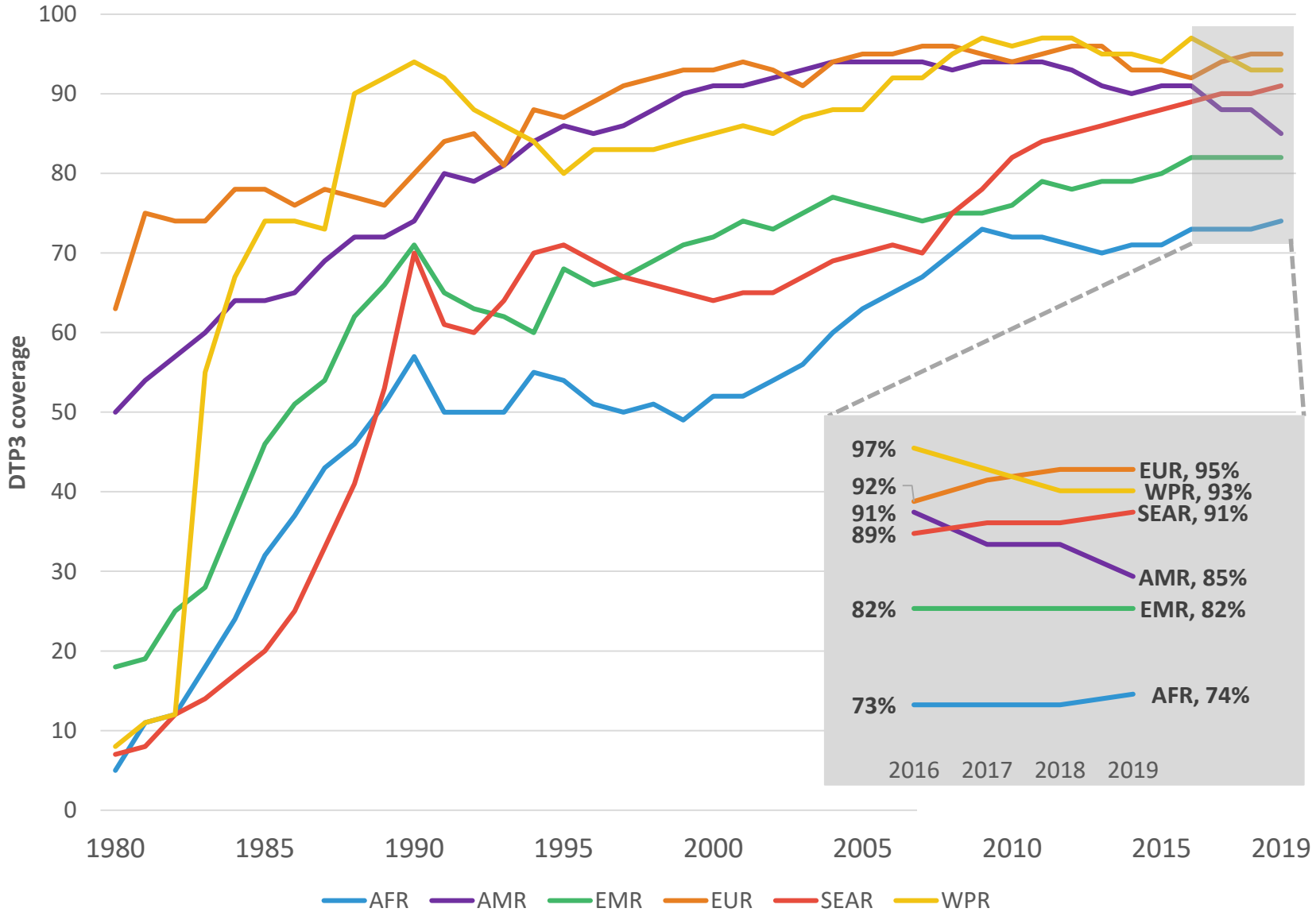
Coverage levels vary substantially across regions



The gap between the highest and lowest performers - the European Region and the African Region - is 21 percentage points

The Western Pacific Region and especially the Region of the Americas experience drops in coverage.

The biggest gains have been made by the African Region (over a 20 year period), and the South East Asian Region (over a ten year period).

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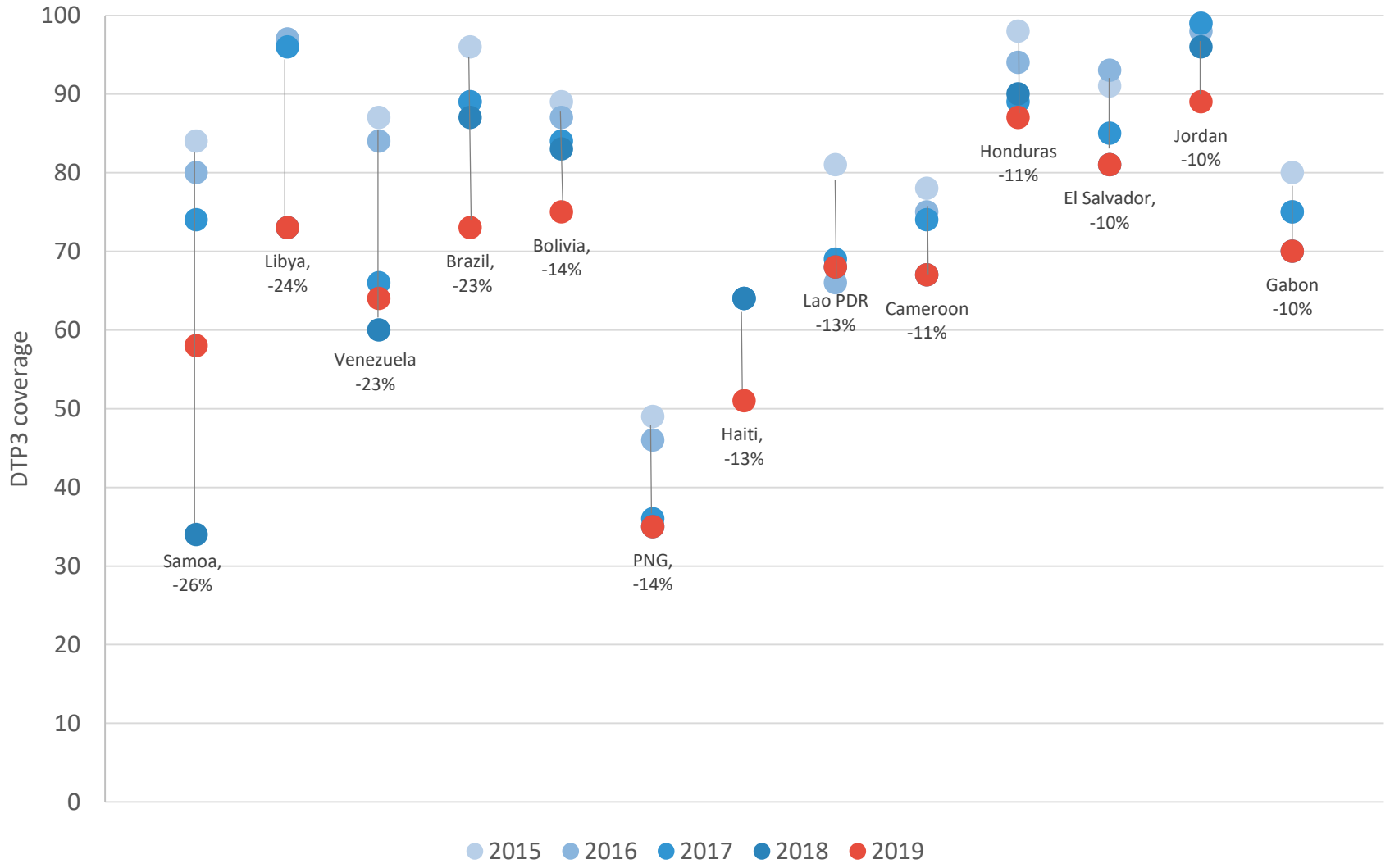
13 countries experienced drops of 10 percentage points or more since 2015



Decreases in coverage over the last 5 years are observed in the American and West Pacific regions.

In the Americas, many countries have backslidden, including some large cohort countries with previously high performance such as Brazil and Mexico.

In the Western Pacific, the deterioration in Lao and Papua New Guinea explains much of the slide in regional coverage.

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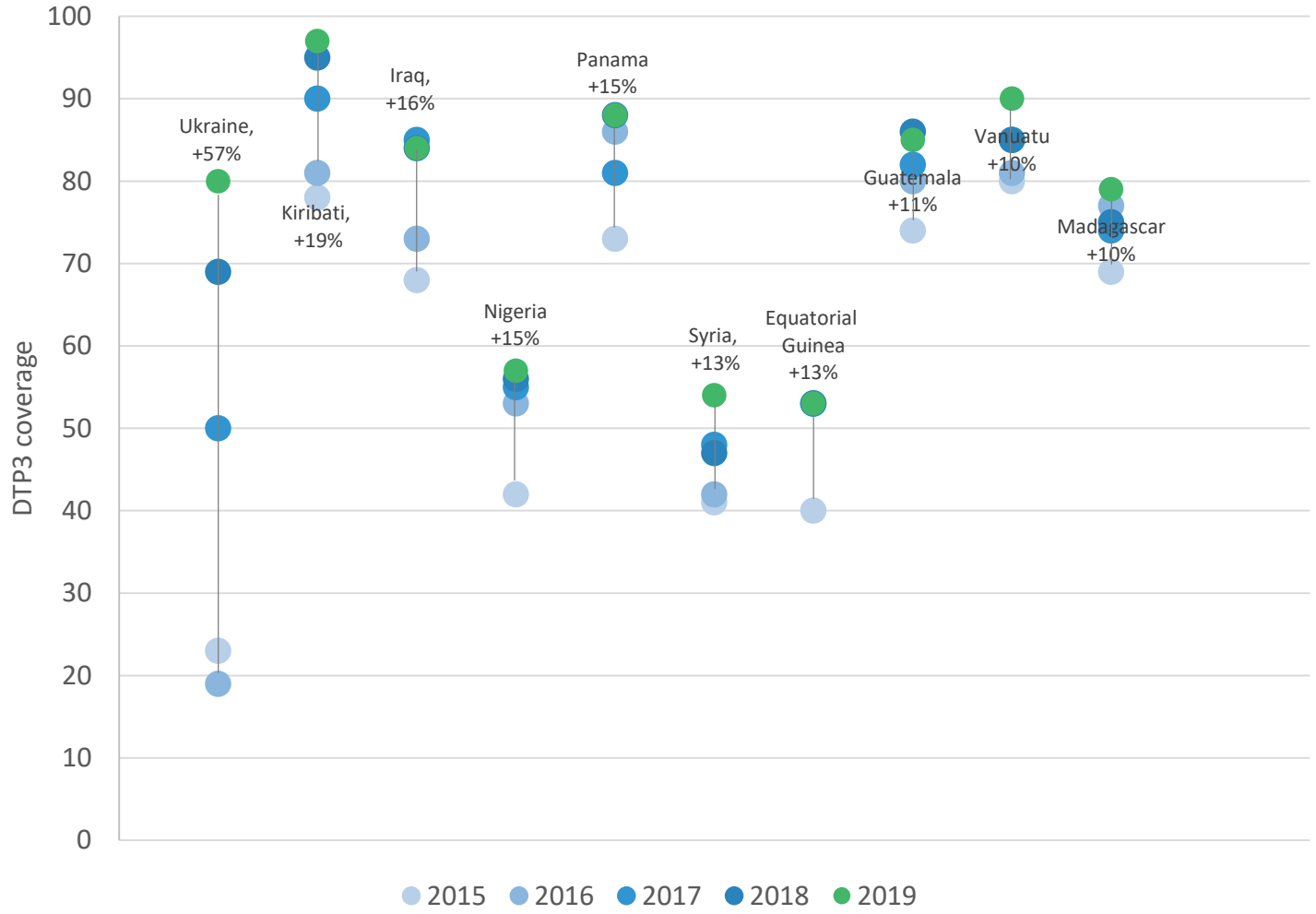
10 countries managed to increase coverage by 10 percentage points or more since 2015



In a five year timeframe, 10 countries improved coverage by 10 percentage points or more. Those include countries that recovered from crises, such as Ukraine, Syria, and Iraq, as well as countries that have gradually improved their programmes.

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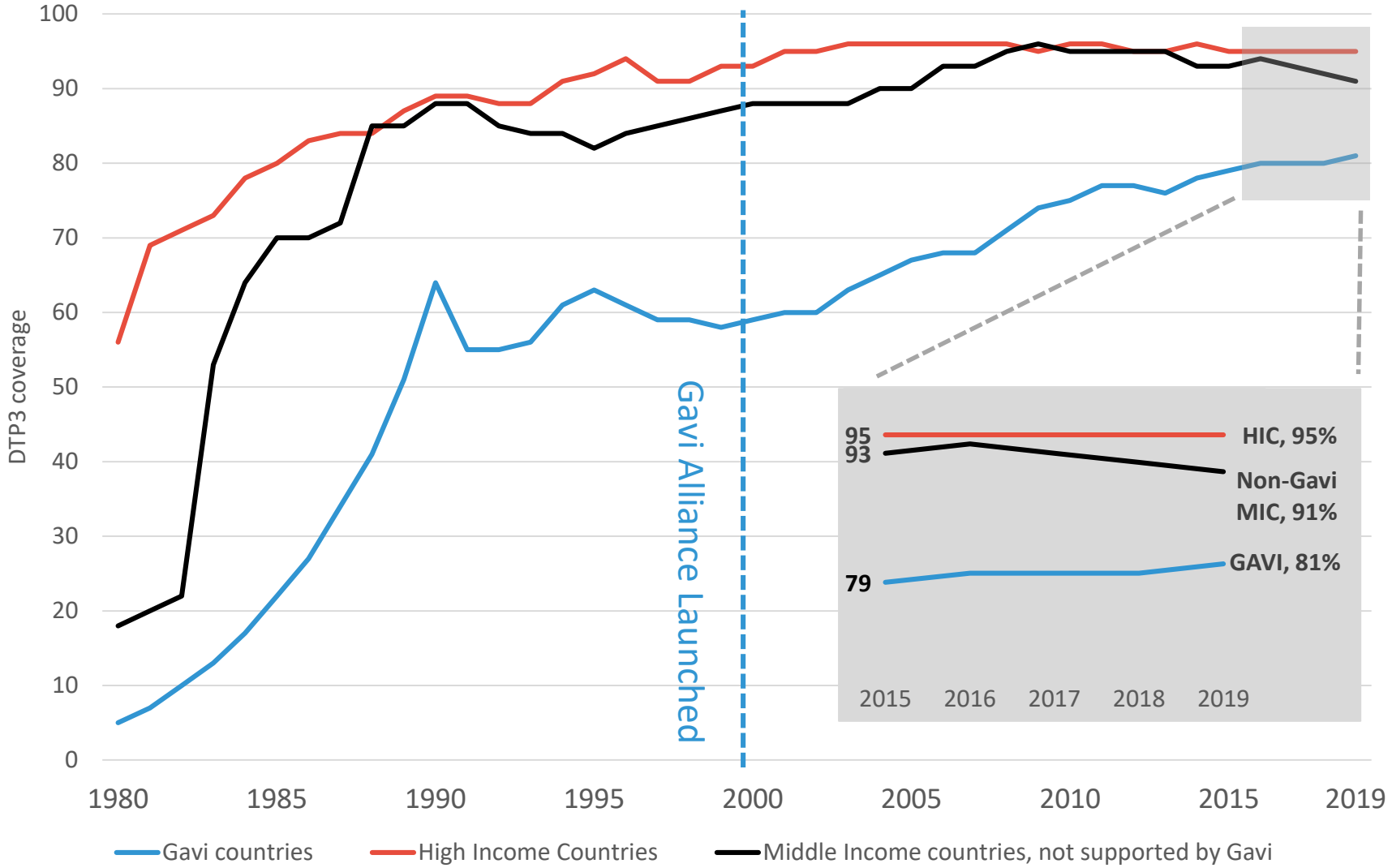
Countries supported by the Gavi Alliance have closed some of the gap with richer countries



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

Since 2000, the group of "Gavi countries" has substantially reduced its gap with the rest of the world. Since the start of the 2015 to 2020 strategic period (Gavi 4.0), Gavi countries have slowly improved coverage, while middle income countries that are not eligible for Gavi Alliance support have experienced drops in coverage.

"Gavi countries" refers to the list of 68 currently supported countries, and excludes graduated countries

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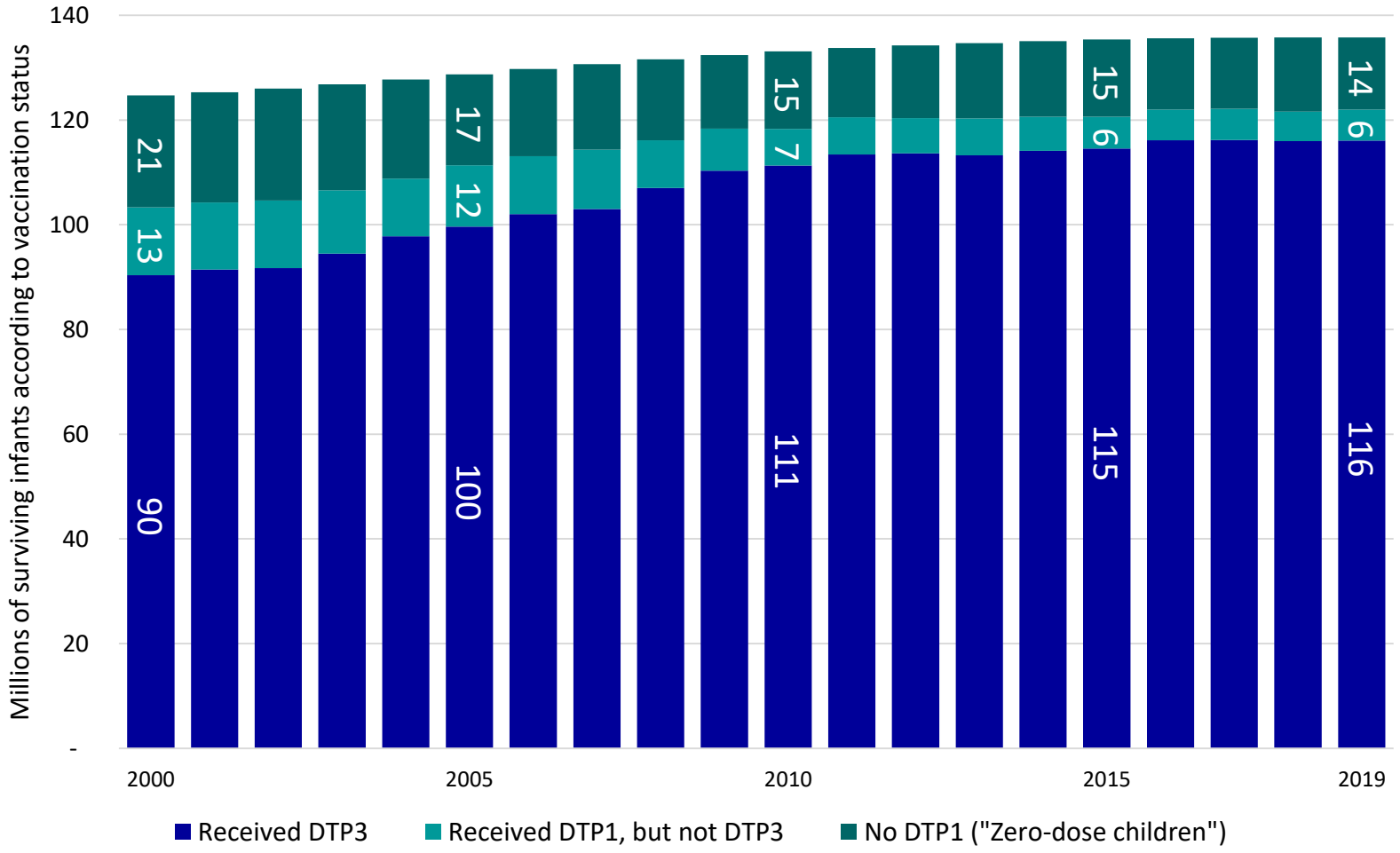
14 million infants lack access to vaccination services, 6 million drop out before receiving a third dose of a DTP containing vaccine



Of the 20 million infants who are not fully vaccinated with DTP3, 14 million didn't receive an initial dose, pointing to a lack of access to immunization services.

A further 6 million are partially vaccinated, without completing the required 3 dose schedule in the first year of life.

In 2019, 116 million children completed vaccination with a basic set of vaccines, up from 90 million in 2000, representing nearly a 30% increase.

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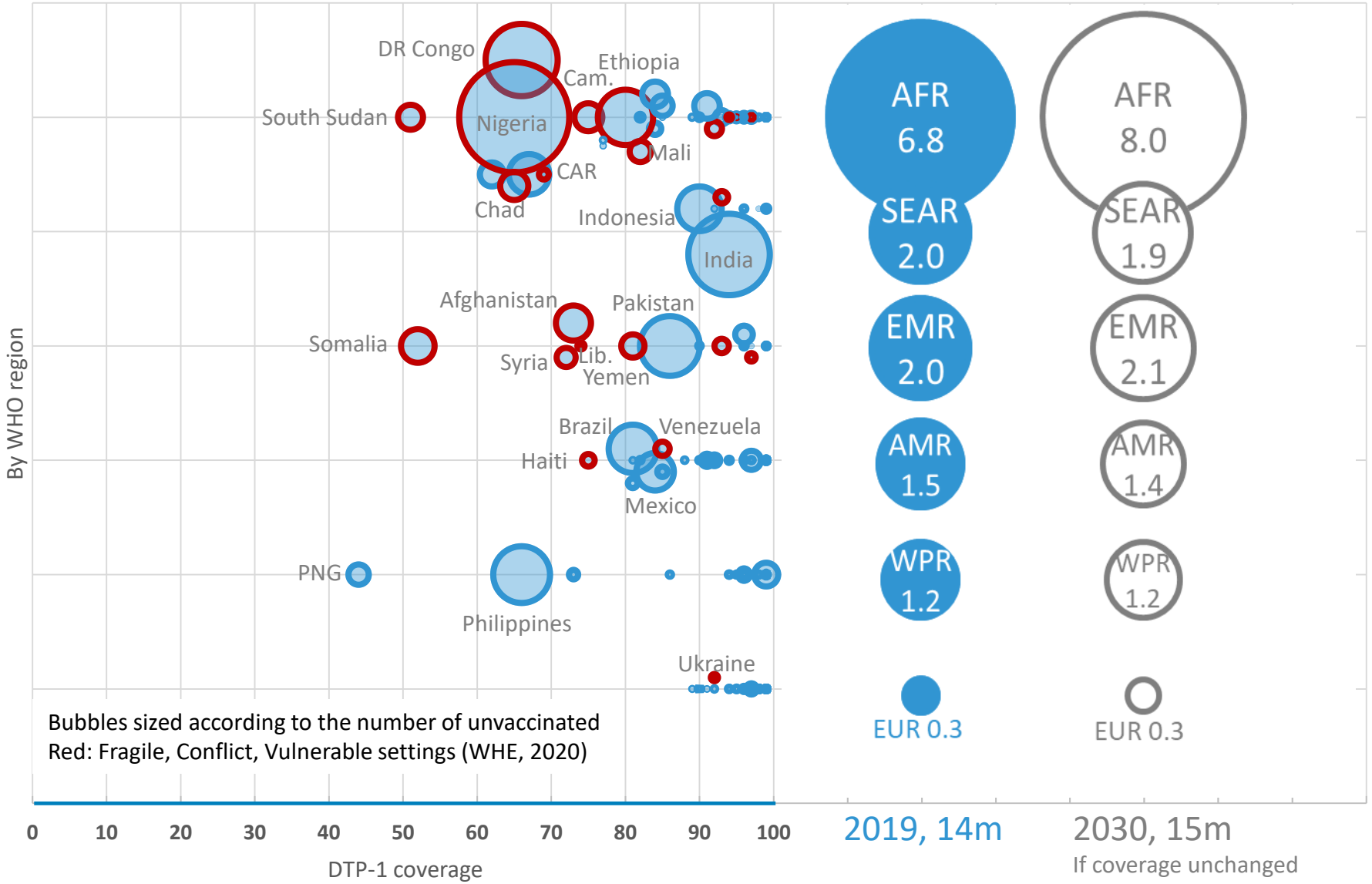
The African Region and countries affected by conflict are home to large numbers of "zero-dose children*"



The 14 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 disproportionally 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.

Middle income countries such as the Philippines, Brazil, Mexico and Angola also have sizeable numbers of zero-dose kids.

If coverage is unchanged. by 2030, projected population increases in Africa will mean that 15 million children may be left out.

** Zero dose children defined as those lacking DTP1*

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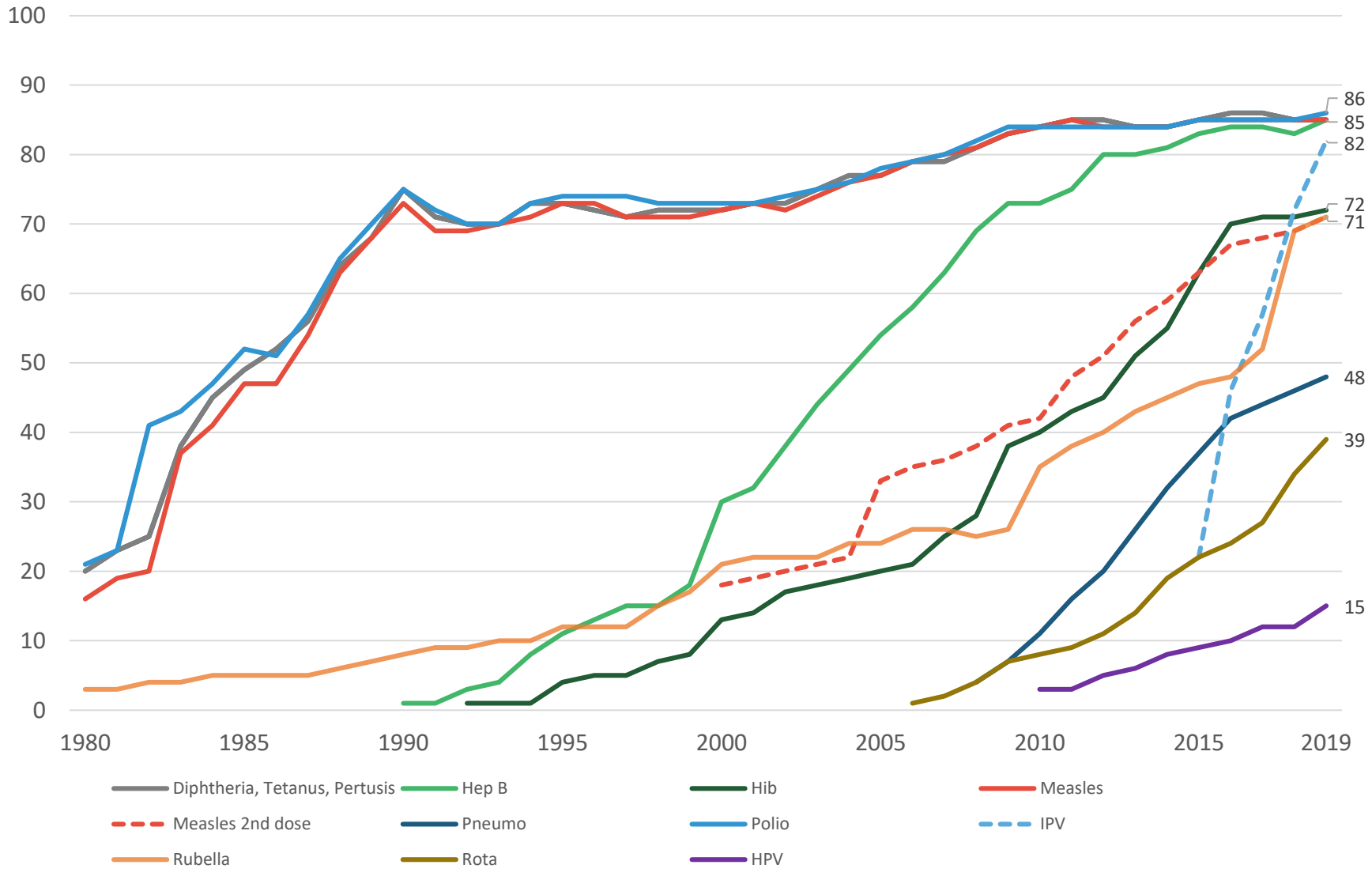
While access to immunization services has stagnated, the pace of introduction of new and underused vaccines has accelerated



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

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 Pneumoccocus, Rotavirus, Inactivated Polio Vaccine, and Human Papilloma Virus vaccine.

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

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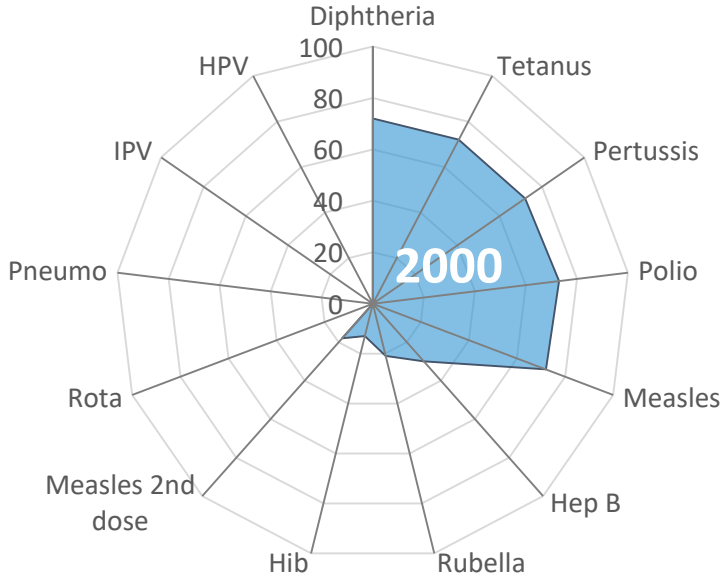
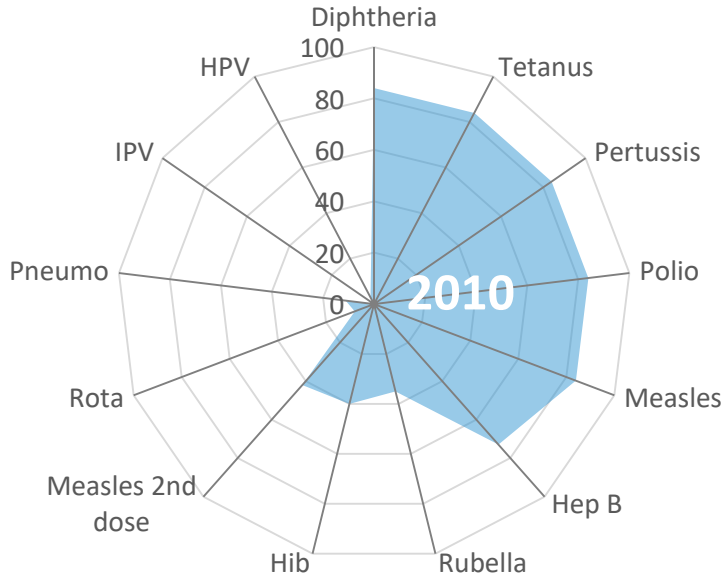
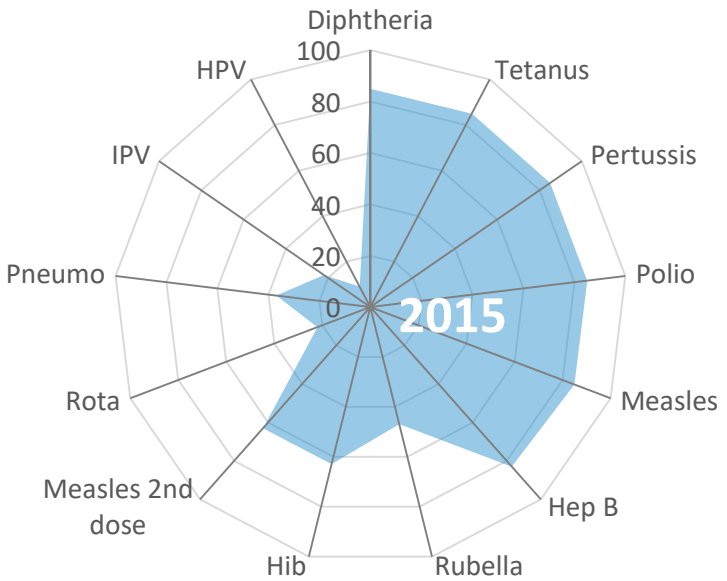
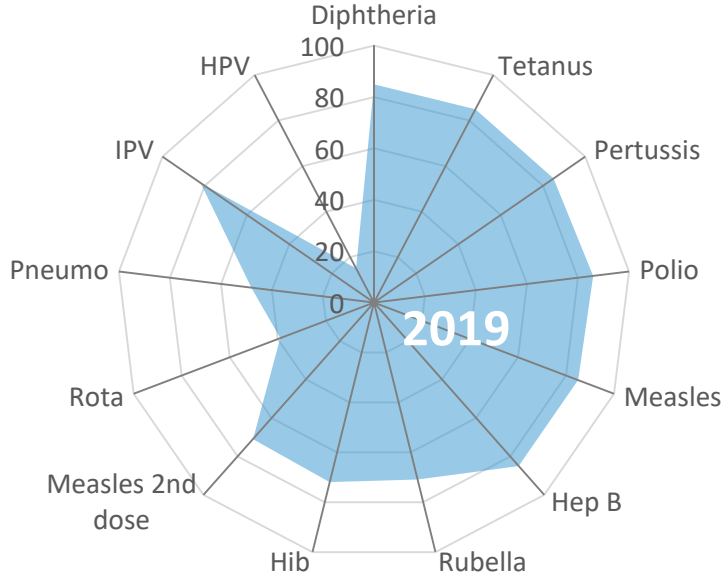
The increase in breadth of protection contrasts with the incremental improvement in expanding vaccination services to everyone.









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

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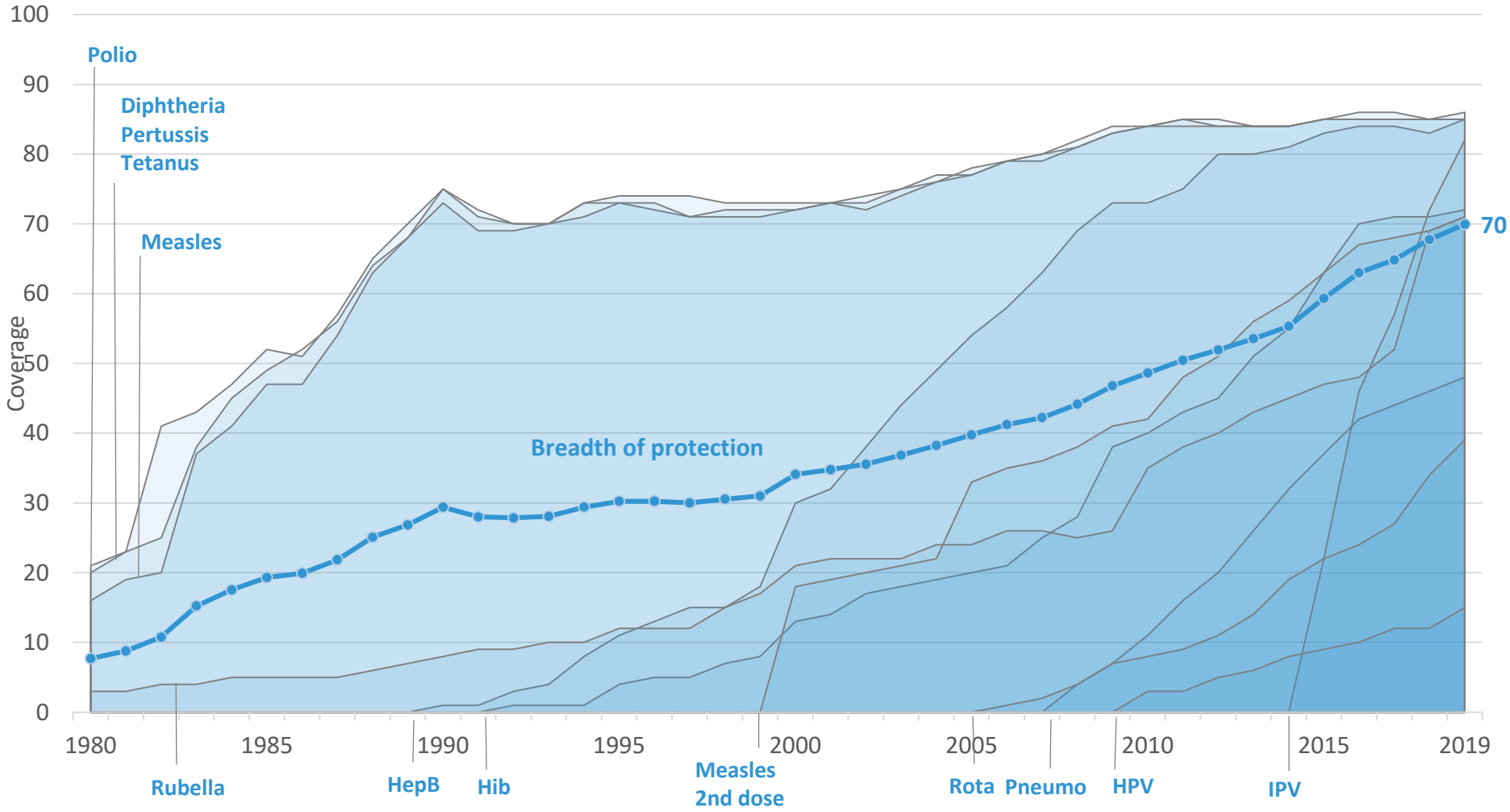
New vaccines have been scaled up across the world, providing an increasing breadth of protection for children that are reached



In 2019, the average coverage across 13 antigens stood at 70% compared with 9% 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).

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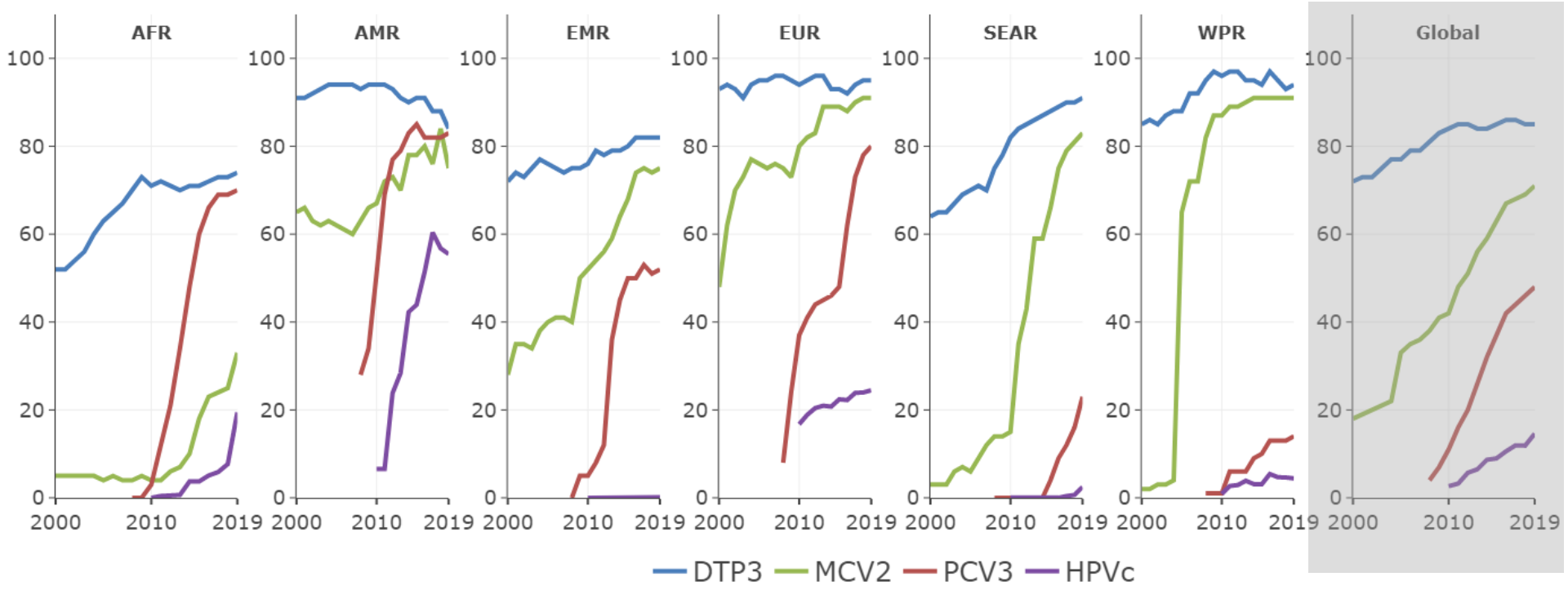
Vaccination is for the life course



Vaccination is expanding from its traditional 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).

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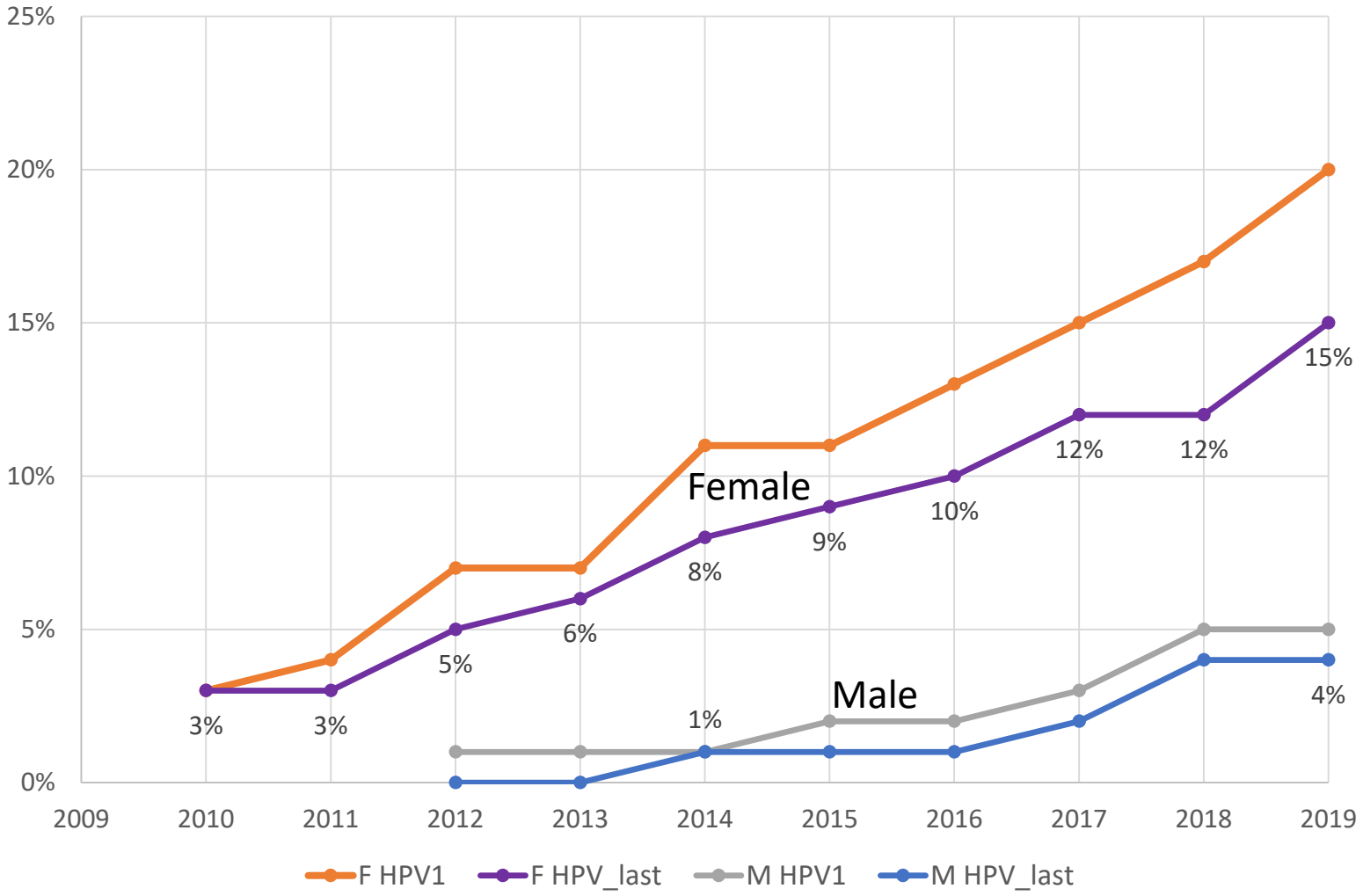
Global HPV vaccine coverage is increasing
mainly due to new introductions



HPV vaccines have been introduced in 106 countries that represent less than a third of the global population of girls (9-14 yo).

HPV vaccine coverage is increasing but only 15% of girls worldwide are fully protected.

Globally, the mean coverage HPV programmes achieve is 68% for the first and 53% for the last dose of HPV.

This low coverage combined with the large population that lacks access to HPV vaccines results in a relatively low global coverage of 15%.

The number of countries providing male vaccination has increased to 33. 1 in 20 young males globally received the vaccine in 2019.

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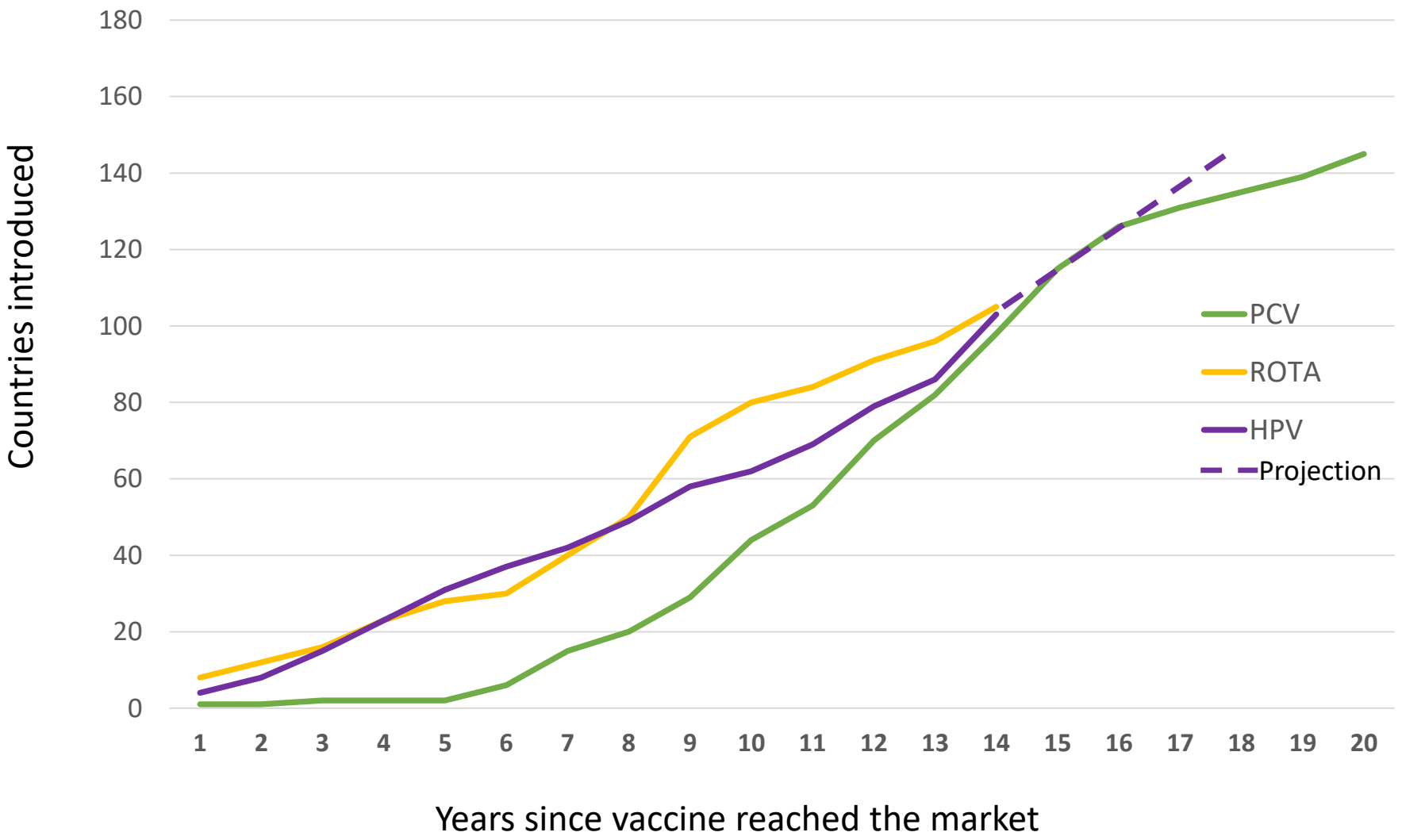
The pace of HPV introduction is accelerating



The pace of HPV vaccine introductions over the next 5 years is expected to remain high

After strong rises in high and upper middle income countries in the first ten years, HPV vaccines are now introduced in low and lower middle income countries at an increasing pace due to the GAVI support and downward trend in HPV vaccine prices.

Over the next five years at least 40 countries are expected to introduce the vaccine, including many with large populations of girls

While 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, this percentage is estimated to reach up to 75% by 2025 if the pace of introductions continues and the global supply situation improves as forecasted[1]

[1] Global HPV vaccine market update 2019, WHO MI4A

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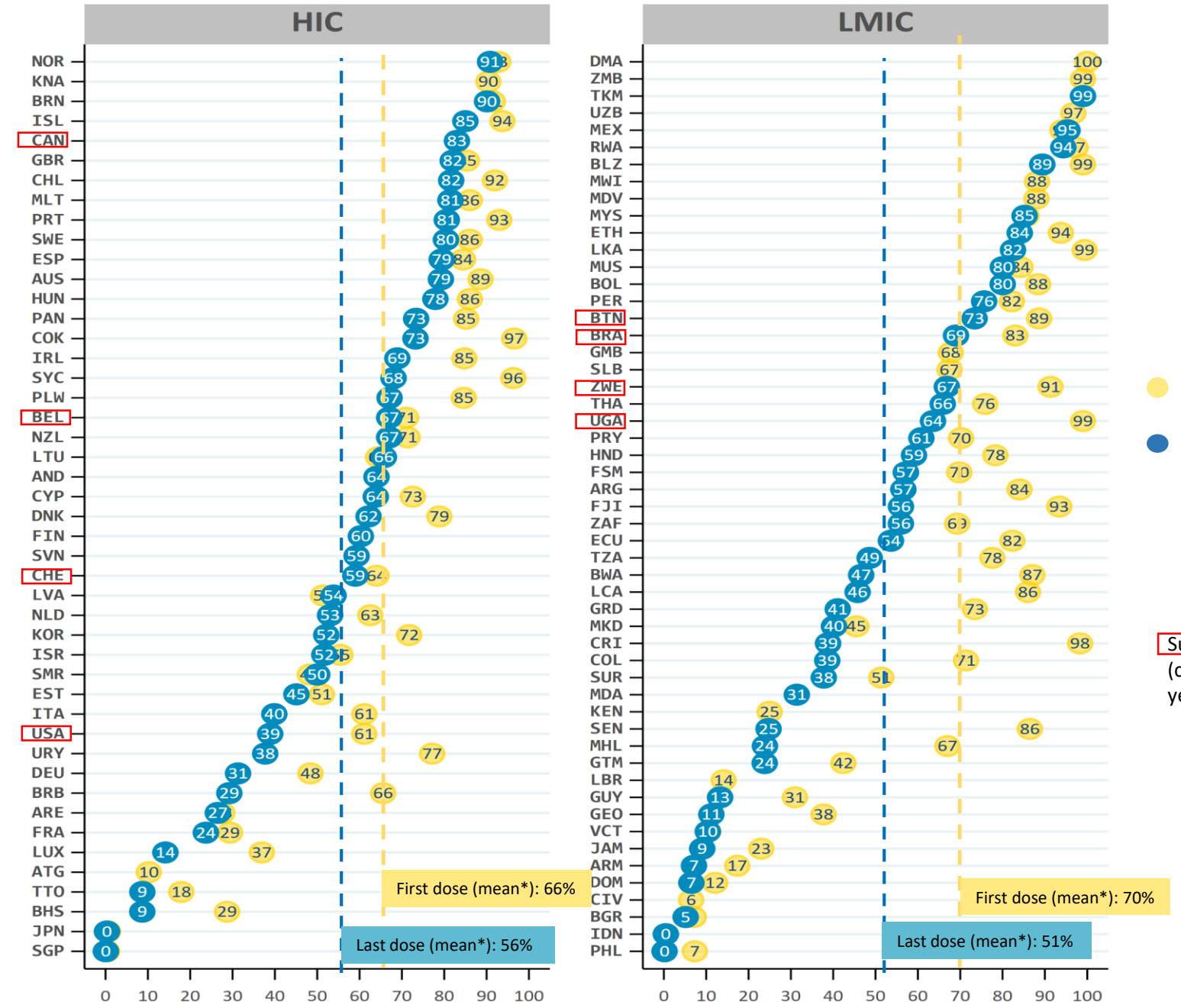
HPV Vaccine coverage (%) varies substantially, regardless of income strata



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

HPV vaccine programmes in LMIC can perform as well as in HIC.

- In HIC and LMIC one in five reached 80% final HPV coverage
- Half of LMIC and a third of HIC reached at least 80% with first dose of HPV vaccine

Dropout is significant higher in HPV vaccination than childhood vaccines and is a particular challenge in LMIC

- Average dropout globally is 15%
- Every fifth country has a dropout rate of more than 20 percentage points

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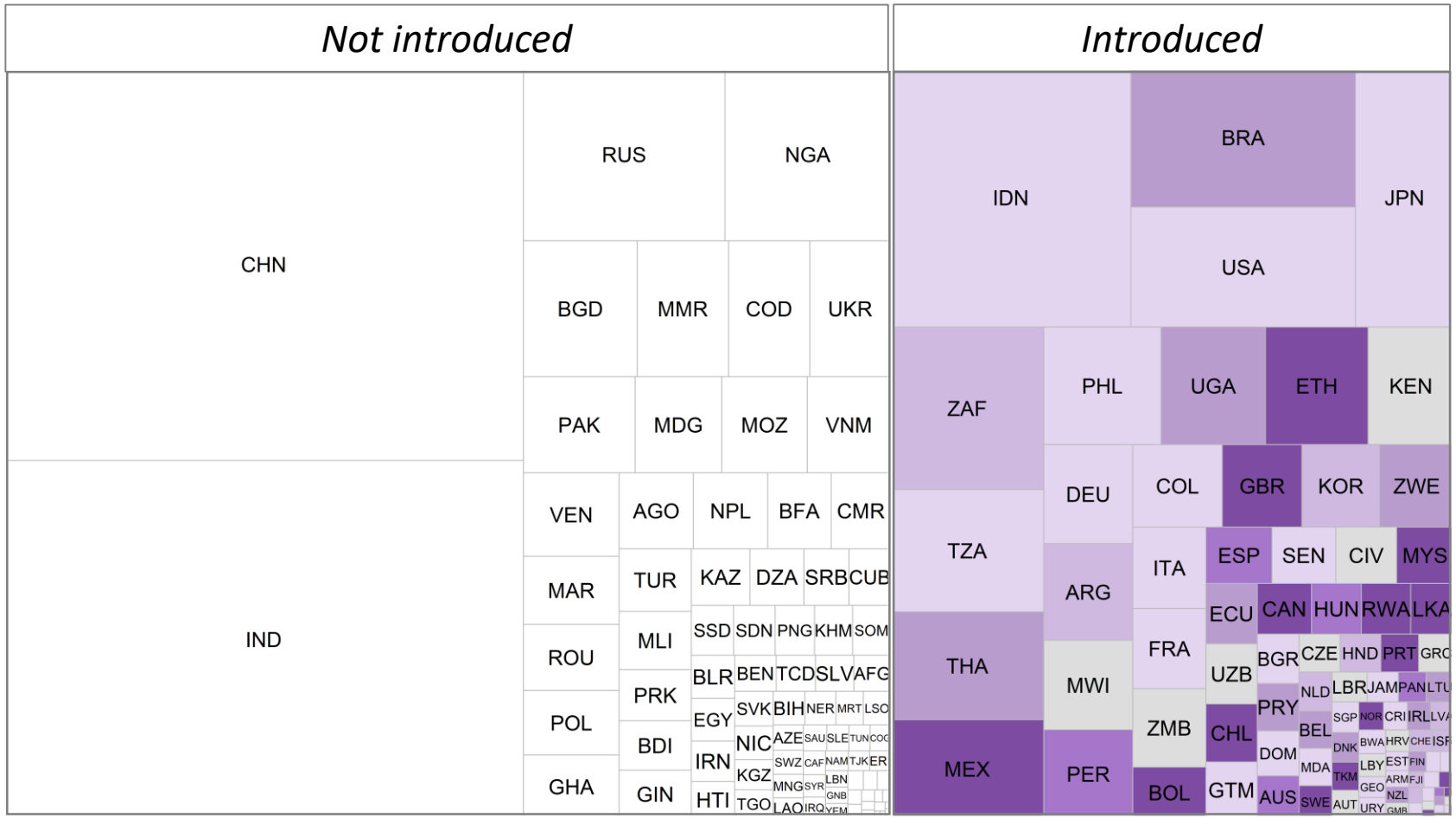
61% of cervical cancer cases occur in countries that have not yet introduced HPV vaccination



HPV last dose coverage: <50% 50-59% 60-69% 70-79% ≥80% No estimates available

Size of the squares proportional to the number of annual cervical cancer cases (Source: IARC 2018 Globocan)

The 106 countries that have introduced together represent 39% of the global burden of cervical cancer (GLOBOCAN 2019, 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 in spite of the HPV vaccine being introduced

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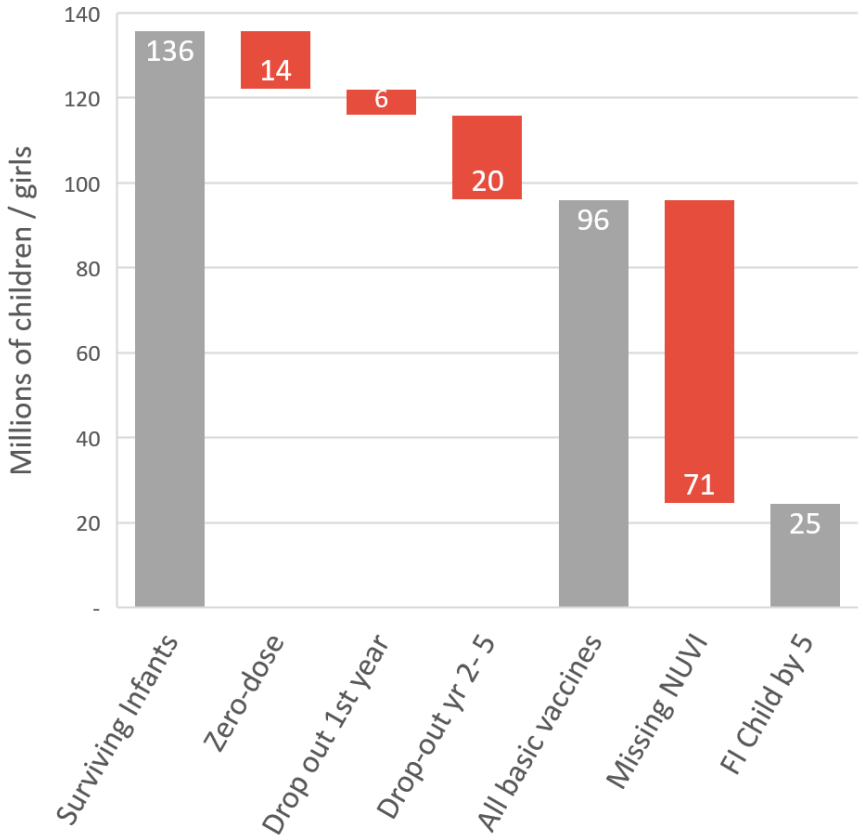
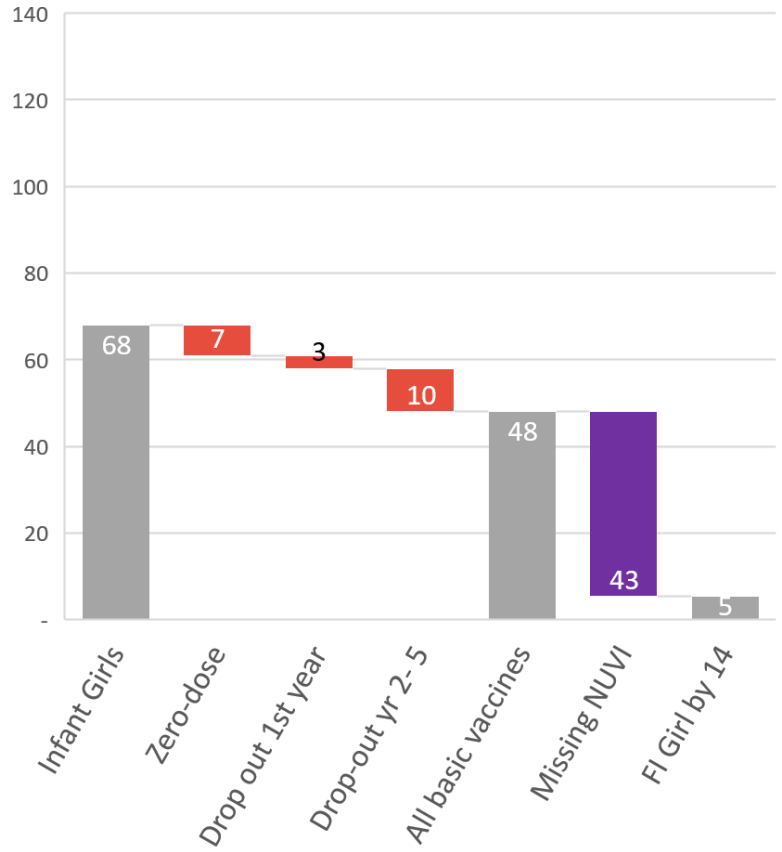
The likelihood of a newborn being fully vaccinated with all recommended vaccines is still too low





Given today's coverage levels, the likelihood that a child born today will be fully vaccinated by the time she will be 5 yo is less than 20%

- 10% of children may never be vaccinated
- 20% of children may receive some but not all basic vaccines by the age of 5
- 50% may receive all basic vaccines but not some of the new and under utilized vaccines by the age of 5

The likelihood that a girl will be fully vaccinated by the time she will be 14 is less than 10%.

However, today's coverage levels and access to new and underutilized vaccines do not need remain where they are today. The Immunization Agenda 2030 will pursue ambitious targets to provide a fair chance to all people to benefit from the protection of immunization.

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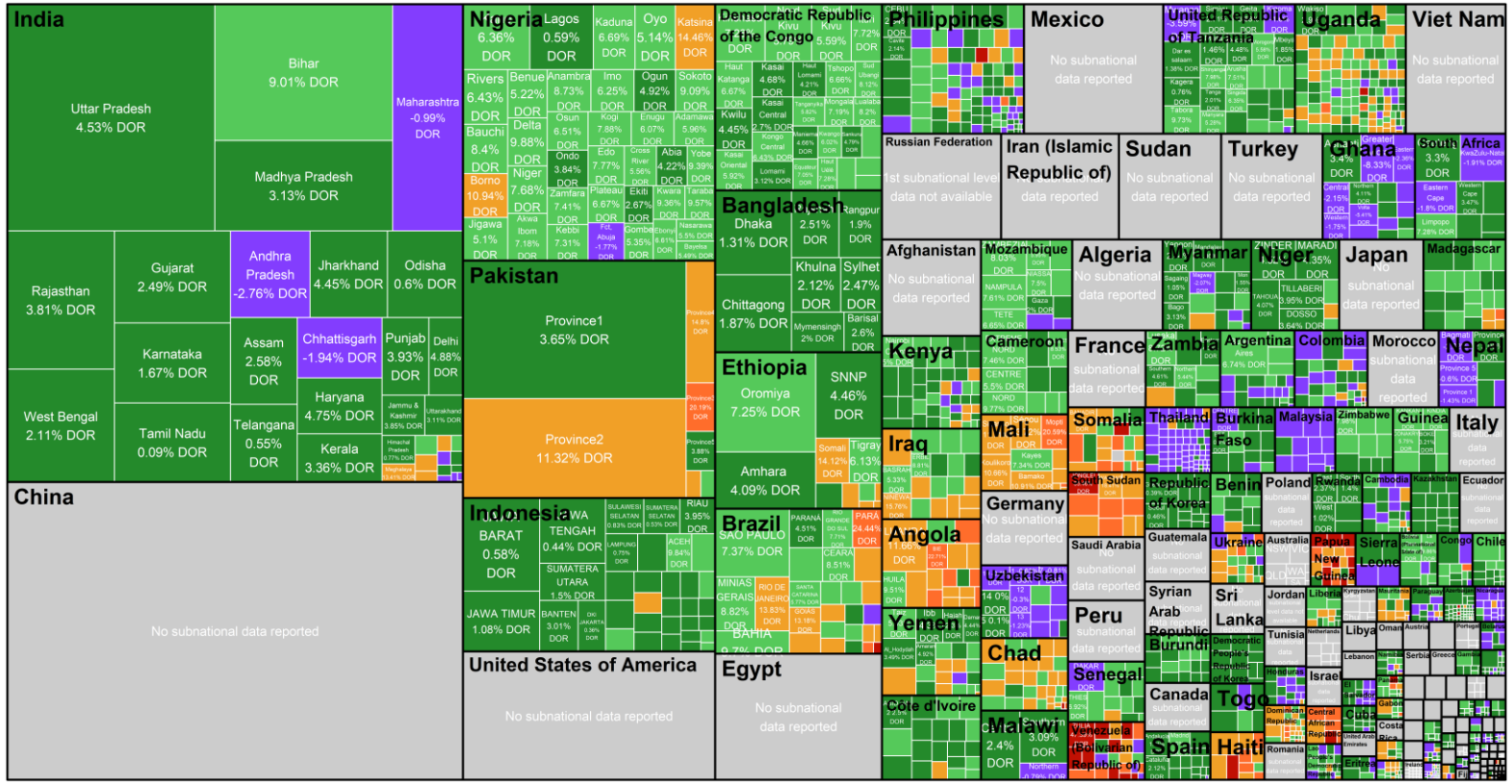
Average coverage at national level masks geographical inequalities, even in high- and middle-income countries



2019 Dropout Rate

- More than 30.0%
- 20.0% to 30.0%
- 10.0% to 20.0%
- 5.0% to 10.0%
- 0.0% to 5.0%
- Less than 0%

Squares are sized according to target population

However, average coverage at national level hides geographical and socio-economic inequalities

To reach everyone everywhere, it is necessary to identify and focus on underserved populations (including rural remote, urban slums, the poor and uneducated).

This analysis shows the drop-out, the percentage of children starting but not completing a basic course of DTP vaccine, by subnational area.

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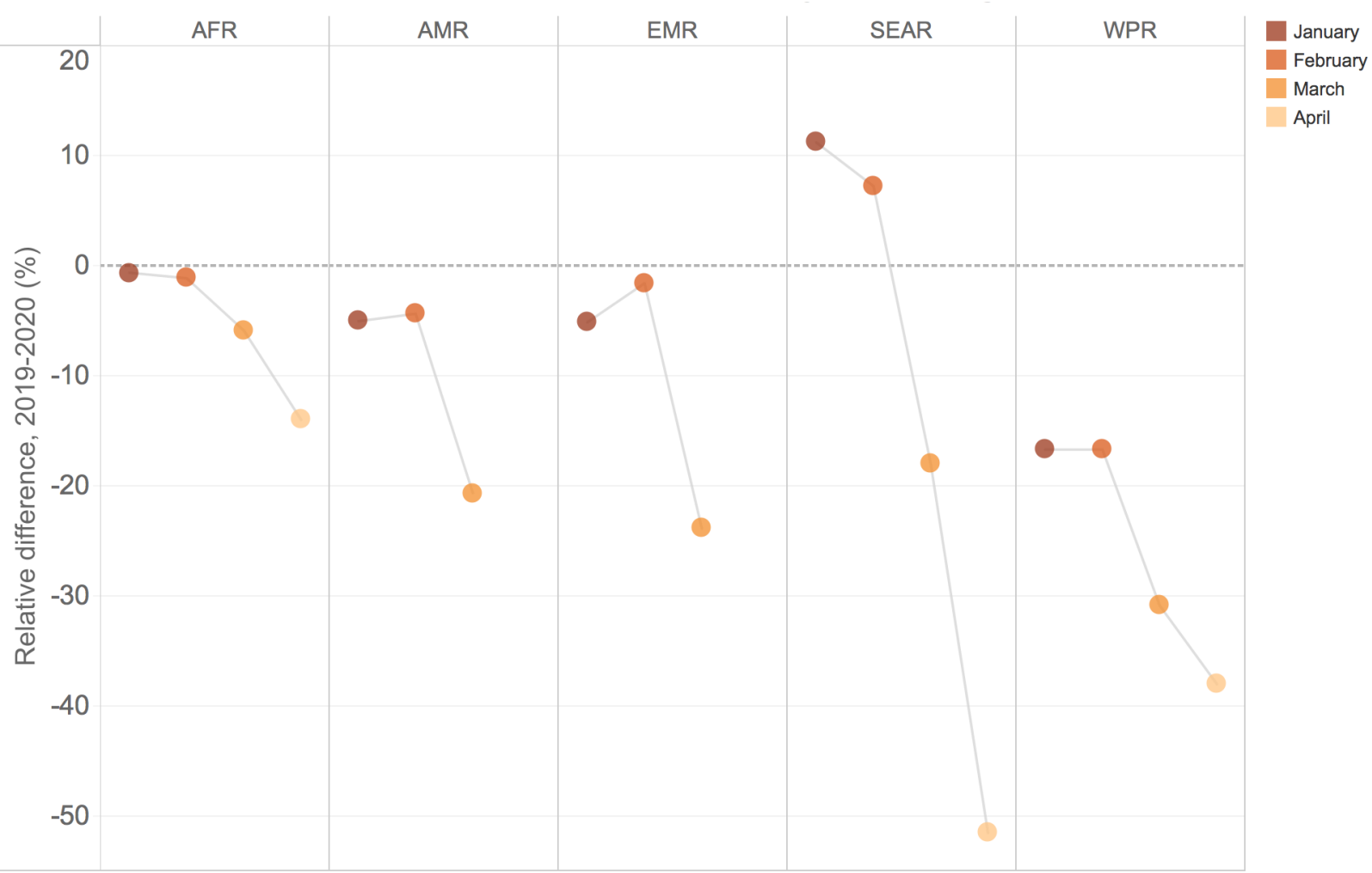
Immunization across the world affected by the COVID-19 pandemic
2020 preliminary DTP coverage data compared to equivalent 2019 period



	AFR	AMR	EMR	SEAR	WPR
Total countries	47	35	21	11	27
Countries reported (% surviving infants represented)	Jan: 42 (94) Feb: 41 (84) Mar: 41 (84) Apr: 34 (75)	Jan: 20 (23) Feb: 20 (23) Mar: 20 (23) Apr: 0 (0)	Jan: 5 (54) Feb: 5 (54) Mar: 5 (54) Apr: 0 (0)	Jan: 9 (99) Feb: 9 (99) Mar: 9 (99) Apr: 5 (24)	Jan: 5 (13) Feb: 5 (13) Mar: 5 (13) Apr: 4 (11)

Source: administrative data received from member states until 6 Jul 2020; data likely incomplete for 2020

In 2020, disruptions to the routine immunization program linked to the COVID-19 pandemic and its response measures are widespread and have affected countries in all WHO regions. Preliminary and incomplete data received from many countries suggest steep drops in the number of administered doses in March and especially April of this year, compared to last year.

While countries have made efforts to continue providing immunization services, most outreach activities have been suspended and demand for vaccination has declined linked to fear of SARS-CoV 2 transmission in health care facilities and physical distance measures, including lockdowns and reduced transportation.

Pulse polls suggest that special efforts are being made to monitor the levels of disruption in immunization services in order to better plan vaccination catch-up activities

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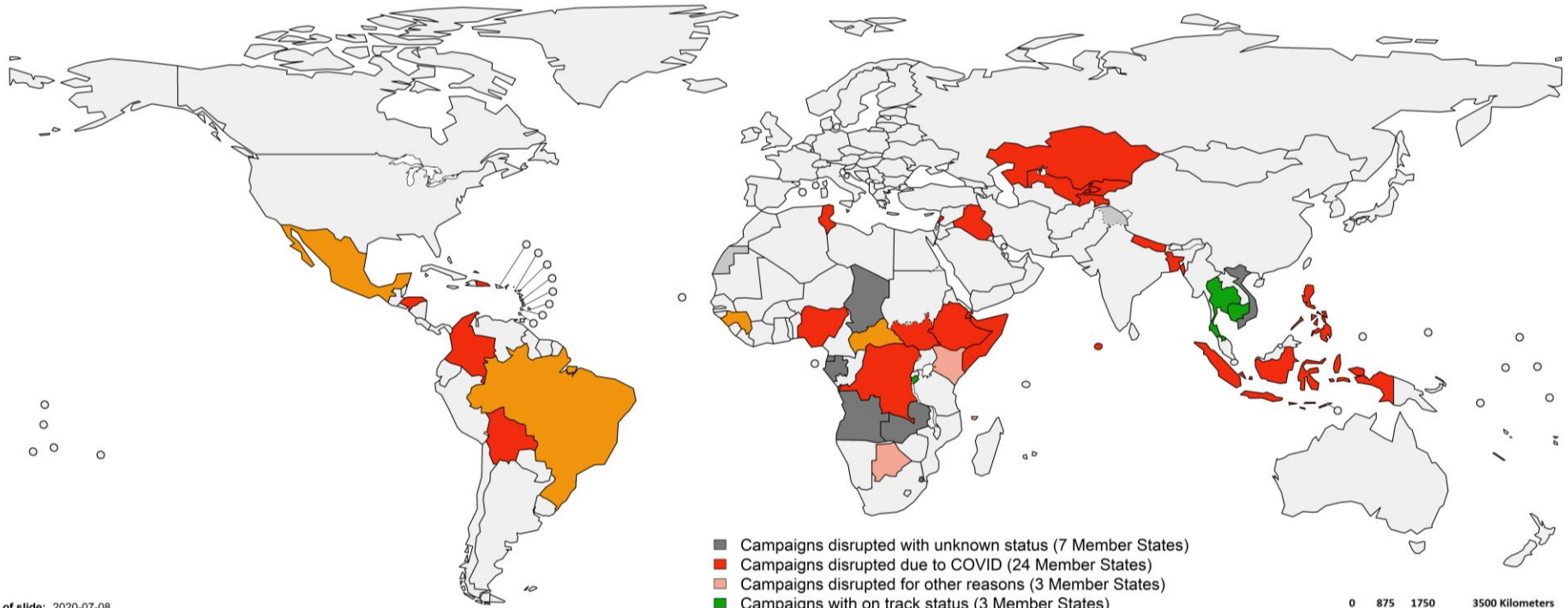
COVID-19 related disruptions affecting measles and rubella campaigns exacerbate the risk of outbreaks



Date of slide: 2020-07-08
Map production: Immunization, Vaccines and Biologicals (IVB), World Health Organization(WHO)
Data source: IVB database

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Due to the COVID-19 pandemic, at least 30 Measles and Rubella campaigns are cancelled or are at risk of being cancelled. This will likely result in intensified outbreaks in 2020 and beyond.

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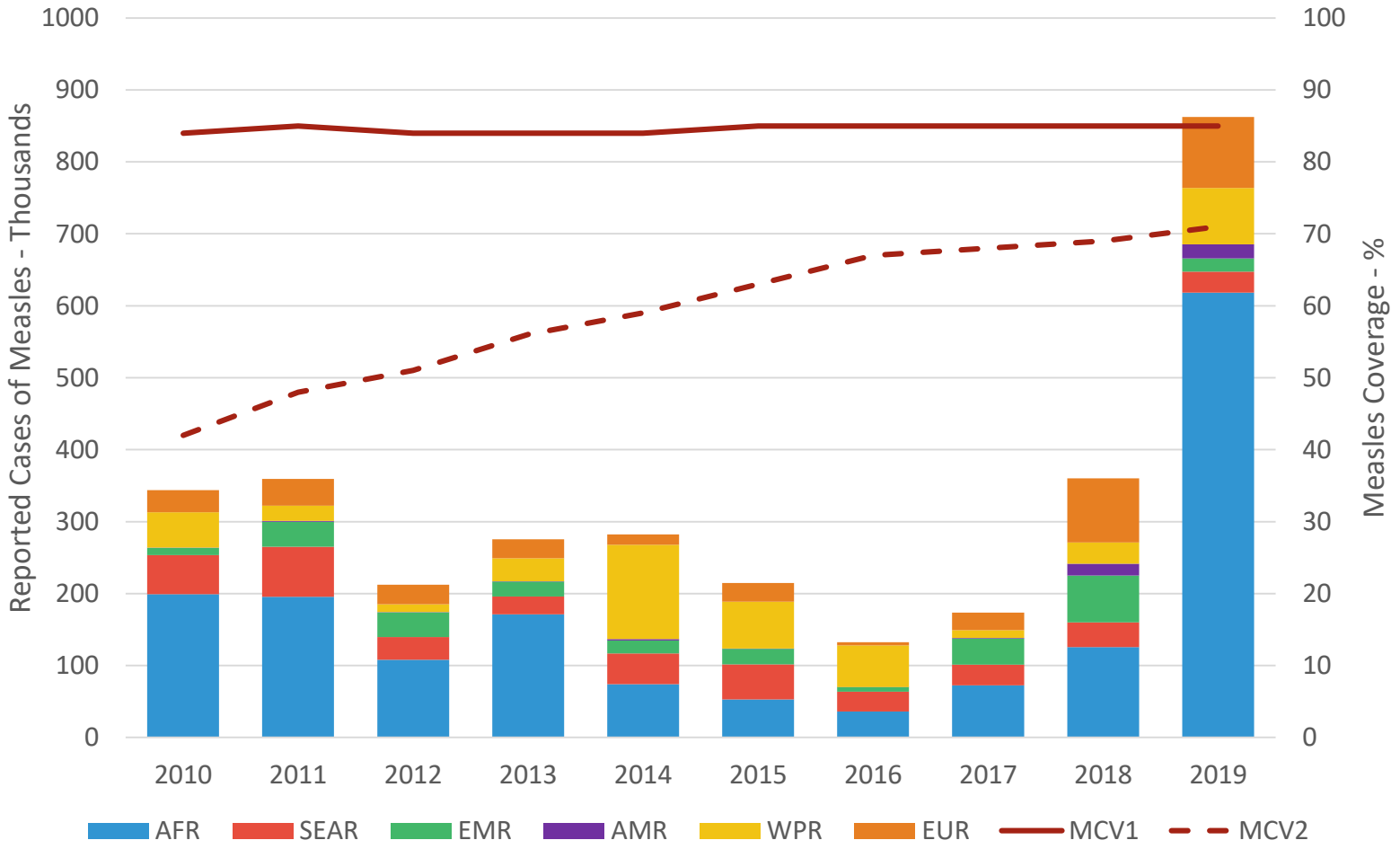
Measles cases hit decades high in 2019



863 thousand cases of measles were reported in 2019, more than twice as many as the 360 thousand cases reported in 2018.

86% of cases are reported by 10 countries

- DR Congo 39%
- Madagascar 25%
- Ukraine 7%
- Philippines 6%
- Nigeria 3%
- Brazil 2%
- Vietnam 2%
- Kazakhstan 2%
- India 1%
- Niger 1%

With low routine measles coverage, the most affected countries need frequent supplementary activities to control outbreaks of this disease.

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