# GLOBAL VACCINE ACTION PLAN

## 2019 REGIONAL REPORTS ON PROGRESS TOWARDS GVAP-RVAP GOALS

ANNEX TO THE GVAP REVIEW AND LESSONS LEARNED REPORT

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# INTRODUCTION

In its Global Vaccine Action Plan (GVAP) Assessment Report 2015, the Strategic Group of Experts on Immunization (SAGE) made the recommendation that "WHO Regional Directors should make sure the progress towards the Global and Regional Vaccine Actions Plans is reviewed annually at Regional Committee meetings as requested in the World Health Assembly (WHA) resolution WHA65.17. Reports prepared at the country level to review and discuss the progress made should be the basis of the discussion."

As part of this process, WHO Regional Offices provide annually a report on the progress made towards the achievement of the GVAP and the Regional Vaccine Actions Plans (RVAP) goals[1].

The reports summarize the main issues, challenges, successes and opportunities for countries in each respective region in 2018.

These reports are collated in an annex of the GVAP review and lessons learned report.

Vaccine coverage data displayed in this report are based on the July 2019 revised time series of the WHO-UNICEF estimates of national immunization coverage 2010 to 2018, unless stated differently.

[1] http://www.who.int/immunization/global_vaccine_action_plan/en/

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# WHO REGIONAL OFFICE FOR AFRICA: PROGRESS REPORT FOR THE AFRICAN REGION

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## BACKGROUND/INTRODUCTION

The 47 countries of the World Health Organization's (WHO's) African Region are home to over 1 billion people, with a combined annual birth cohort of over 37 million.

The Global Vaccine Action Plan (GVAP) 2011-2020 was developed with a vision of having a world in which all individuals and communities enjoy lives free from vaccine-preventable diseases. Significant progress has been made towards the GVAP goals in the African region. The Africa Regional Strategic Plan for Immunization 2014-2020 (RSPI) which is aligned with the GVAP goals is the main guiding strategic plan for immunization in the African region. The RSPI aims at achieving universal immunisation coverage and reducing mortality and morbidity from vaccine preventable diseases (VPD) by the end of 2020. In January 2017, Heads of State from across Africa signed the Addis Declaration on Immunization (ADI) and committed to ensuring that everyone in Africa, no matter who they are or where they live, can access equitably all the required vaccines. The ADI is recognised as a political and advocacy instrument which is being used to support the implementation of the RSPI at the highest level of government.

The Business case for WHO immunization activities on the African continent 2018-2030 was developed in 2017 with the overall objective of mobilizing sufficient resources for WHO to continue supporting all Member States on the African continent to accelerate efforts toward the achievement of the GVAP targets and ADI commitments as well as to mitigate the risks of Global Polio Eradication Initiative (GPEI) and Gavi transitions. In May 2019, the Pan African Parliamentary meeting in Midrand South Africa adopted a resolution on the establishment of an African Parliamentarian Caucus on Immunization, to drive forward the body's commitment to ensuring that all children across the continent have access to the vaccines they need.

This progress report highlights the achievements made so far in expanding access to vaccines in the WHO African region, as well as challenges and perspectives in moving forward the immunization agenda on the African continent.

# ACHIEVEMENTS

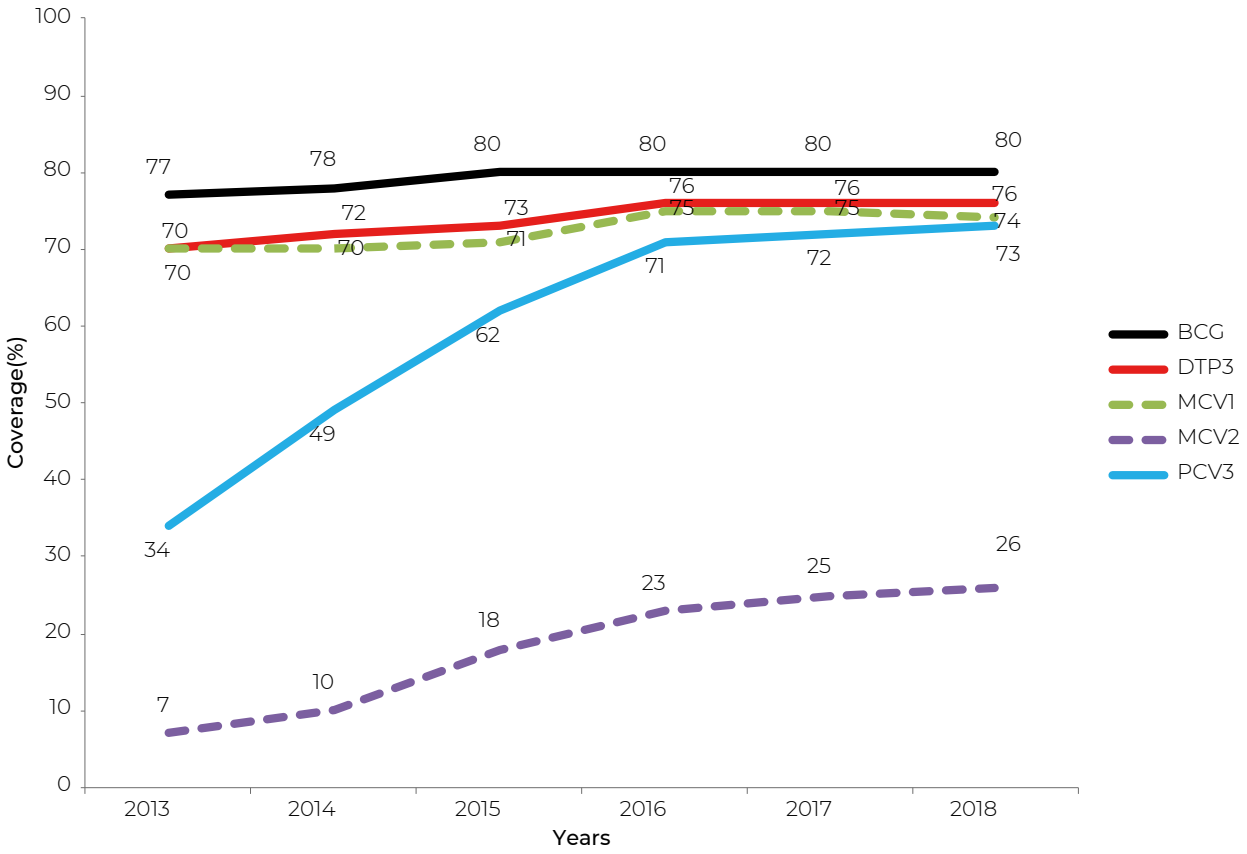
## Objective 1: Increase immunization coverage beyond the current levels

Between 2013 and 2018, the Regional coverage for the third dose of the DTP containing-vaccine (DTP3) and the first dose of the measles containing vaccine (MCV1) increased from 70 to 76% and from 70 to 74% respectively as illustrated in Figure 1: Immunization coverage, performance and progress. The coverage increased from 71 to 74% for the third dose of the oral poliovirus vaccine (OPV3) during the same period. Twenty-one countries[1] in 2018 achieved the RSPI coverage target of >=90% for DTP3, an increase from the 17 countries in 2013. Fourteen countries[2] in 2018 achieved the MCV1 coverage of at least 90% compared to the 15 countries in 2013.

The low coverage in the three largest countries[3] responsible for around 38% of the total birth cohort in the Region is the major cause of this relatively low progress. Contextual factors which negatively influenced coverage include multiple competing developmental priorities, gaps in country ownership, lack of community engagement, low data reliability and use, limited logistics capacity, inadequate and uneven distribution of the workforce, and weak health systems aggravated by insecurity and disease outbreaks in various countries (e.g. Ebola Virus Disease, yellow fever, meningococcal meningitis, cholera, etc).

Figure 1: Immunization coverage, performance and progress

**1a. Coverage for selected vaccines, 2013-2018**

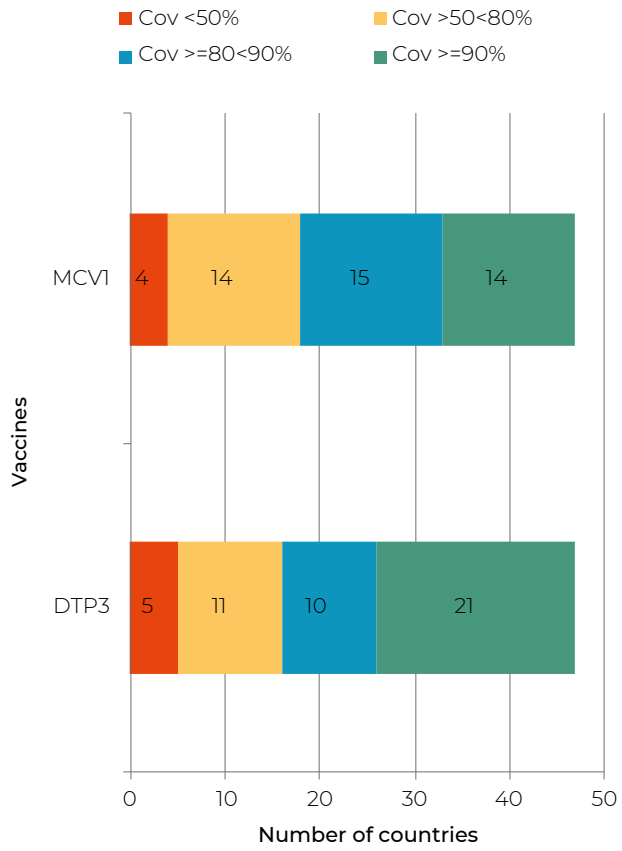



[1] Algeria, Botswana, Burkina Faso, Burundi, Cabo Verde, Comoros, Eritrea, Eswatini, The Gambia, Ghana, Kenya, Lesotho, Malawi, Mauritius, Rwanda, Sao Tome and Principe, Seychelles, Sierra Leone, Uganda, United Republic of Tanzania and Zambia.

[2] Botswana, Cabo Verde, Comoros (the), Eritrea, Gambia, Ghana, Lesotho, Liberia, Mauritius, Rwanda, Sao Tome and Principe, Seychelles, United Republic of Tanzania, Zambia

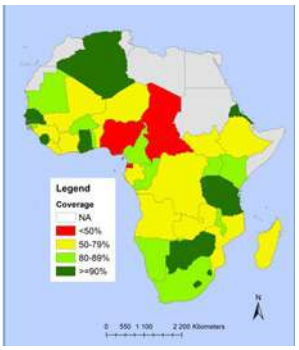
[3] DRC, Ethiopia and Nigeria

## 1b. Countries performances, DTP3 & MCV1 coverage, 2018

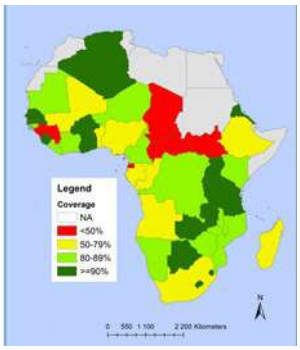



## 1c. DTP3 coverage, 2013, 2017, 2018

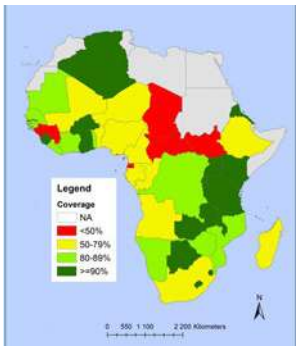
2013




2017

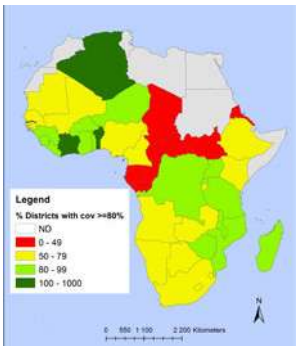



2018

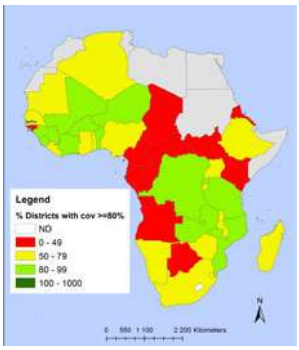



## 1d. Sub-national coverage: % of districts with at least 80% coverage

DTP3




MCV1




*Source:* reported data, JRF data, July 2019

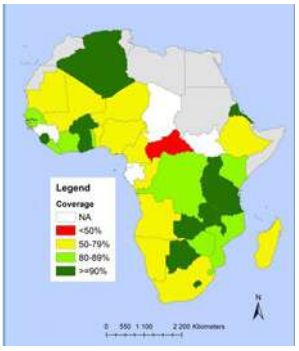
## New vaccines introduction

By the end of 2018, 40 countries in the African region have introduced pneumococcal conjugate vaccine, and the rotavirus vaccine was introduced in 35 countries while the MenAfriVac was introduced in 21 countries in campaign mode and in seven countries through routine immunisation (Figure 2: New Vaccine introduction). On-going studies in several countries in the African Region have demonstrated 38% reduction in rotavirus hospitalizations and substantial reduction in vaccine type invasive pneumococcal disease following introduction of rotavirus vaccines and pneumococcal conjugate vaccine (PCV) respectively. Surveillance for diseases targeted by new vaccines remains a priority because of the need to document the burden of diarrhoea and pneumococcal disease and concerns about serotype replacement.

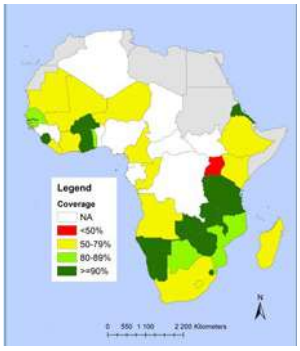
Figure 2: New Vaccine introduction

**2a. New vaccine introduction status and coverage, 2018**

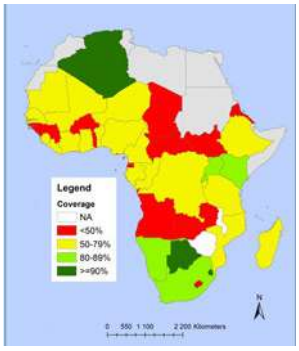
PCV in 40 countries



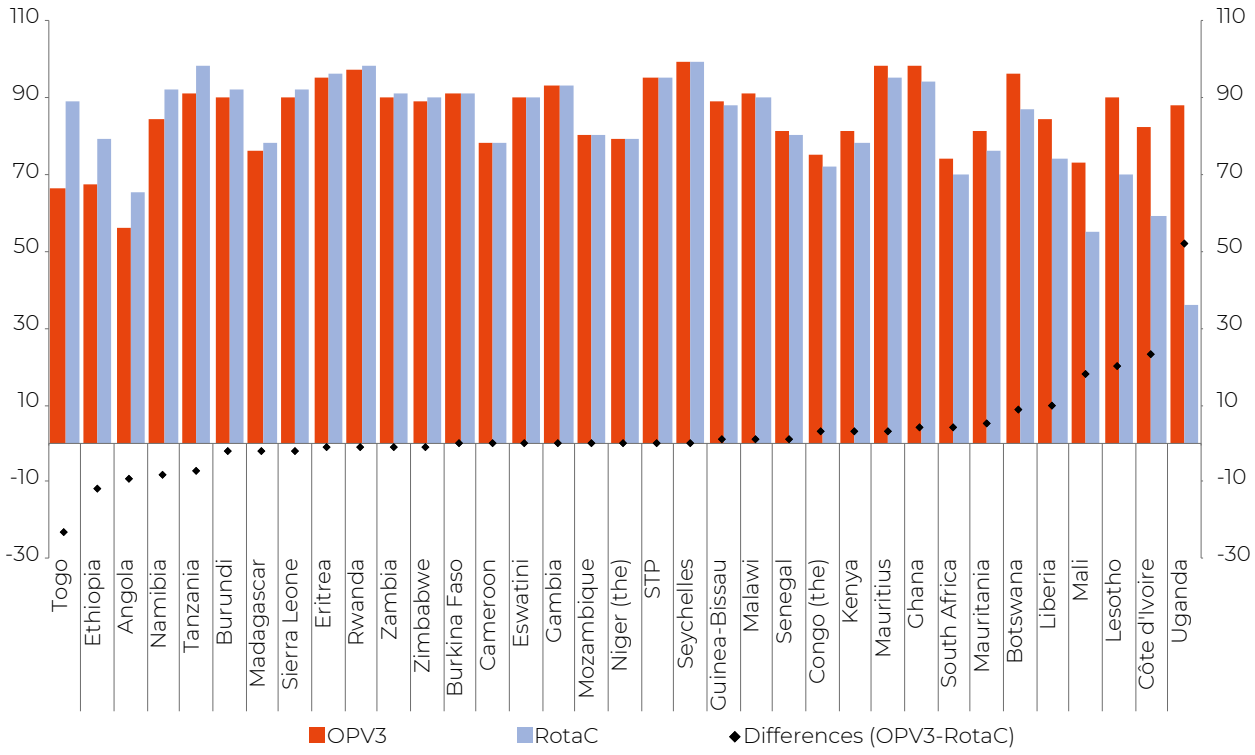

Rota in 35 countries




IPV in 45 countries




**2b. Comparison between OPV3 and Rotavirus coverage, 2018**




Despite global shortage of HPV vaccines, ten (10) of the targeted 47 countries in the region have introduced the HPV vaccine by end 2018.

The Malaria Vaccine Implementation Programme (MVIP) pilot is planned in three countries: Ghana, Kenya and Malawi. On 23 April 2019, Malawi became the first African country to introduce the Malaria vaccine in routine immunization followed by Ghana on 30 April 2019, to infants aged five and six months respectively, using a four dose vaccination schedule. The vaccine will be administered in the context of using other malaria preventive measures such as insecticide treated nets, indoor residual spraying and preventive mass chemoprophylaxis. The programme aims at evaluating the feasibility of delivering the four-dose schedule vaccine in routine immunization whilst assessing its safety profile and impact on malaria outcomes. In both countries, the sub-national malaria vaccine introduction was well received with high acceptance of the vaccine from caregivers and health workers.

Despite the successes in introducing these key life-saving vaccines, Vaccine Preventable Diseases (VPDs) still account for the death of more than half

a million children under five years of age every year in Africa representing 56% of global VPD-related deaths. Yet, the majority of these VPDs can be prevented by the new vaccine (e.g.: PCV, rotavirus vaccines, etc.) if introduced by all the countries and high coverage is achieved in all countries.

## Objective 2: Complete the interruption of wild poliovirus transmission and ensure virus containment

The region has made substantial progress towards the eradication of poliomyelitis. It reported 128 wild poliovirus (WPV) cases in 2012 representing more than half of the global figure. Since August 2016 no new case of WPV has been confirmed in the region. Interventions which led to this renewed success include improving the quality of polio supplemental immunization activities, strengthening acute flaccid paralysis (AFP) surveillance, timely response to polio outbreaks and strengthening routine immunization, and the introduction of IPV (Figure 3: Progress on polio eradication in the African region).

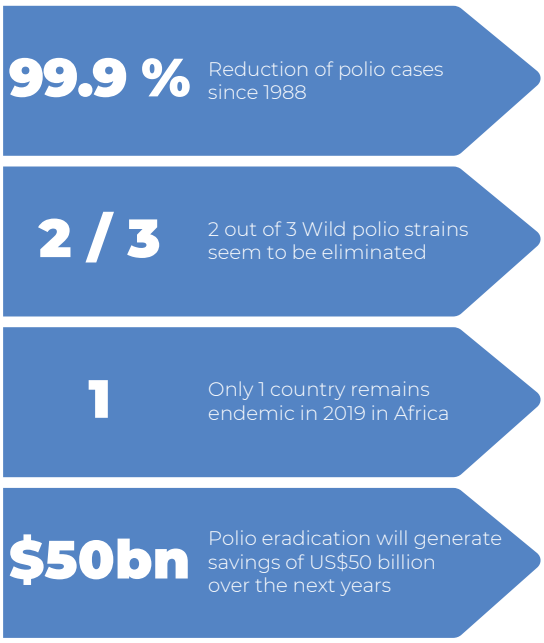
Africa is at the verge of a historic public health success with the potential certification of WPV eradication, which could occur as early as 2020. This success is a result of tremendous efforts achieved by political leaders across the continent and by traditional, religious and community leaders, public health systems, front-line health workers and, most importantly, parents. They all dedicated themselves to a single and common goal of finding and vaccinating every child against WPV, no matter where they live. The polio effort on the continent has helped to address other urgent public health challenges.

Despite the good progress made on interrupting WPV circulation in Africa, the increasing threat of circulating vaccine-derived polio viruses (cVDPVs) on the continent must also be addressed. In 2018, Nigeria was affected by two genetically distinct circulating vaccine-derived polioviruses type 2 (cVDPV2). In the Democratic Republic of the Congo, four different cVDPV2 outbreaks continued, in the provinces of Haut-Katanga, Mongala, Maniema and Haut-Lomami/Tanganyika/ Haut-Katanga/Ituri. The Horn of Africa was also affected by outbreaks due to cVDPVs, types 2 and 3. The cVDPV2 was isolated from cases of AFP as well as environmental samples in Mogadishu, Somalia and from environmental samples in Nairobi, Kenya. Genetic sequencing of this strain suggested it had been circulating without detection since 2016, underscoring the dangers of gaps in subnational surveillance. Regional outbreak response activities for both strains were implemented, in line with internationally agreed guidelines. Somalia, Kenya and Ethiopia all declared these outbreaks to be national public health emergencies.

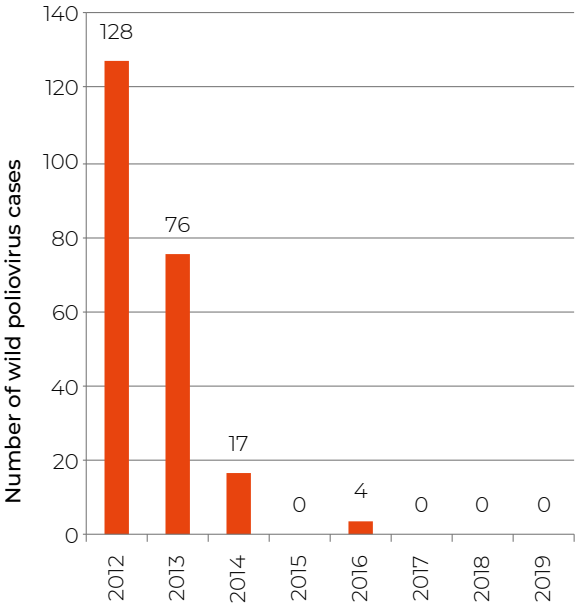
In January 2019, a case of cVDPV2 in Madagascar was confirmed. The health ministry and local public health authorities immediately launched a thorough field investigation to clearly assess the extent and original source of circulation of this virus and planned an outbreak response in line with internationally agreed outbreak response protocols.

Figure 3: Progress on polio eradication in the African region

**3a. Progress on polio eradication**




**3b. Wild poliovirus detection 2012-2019**




Source: GPEI database

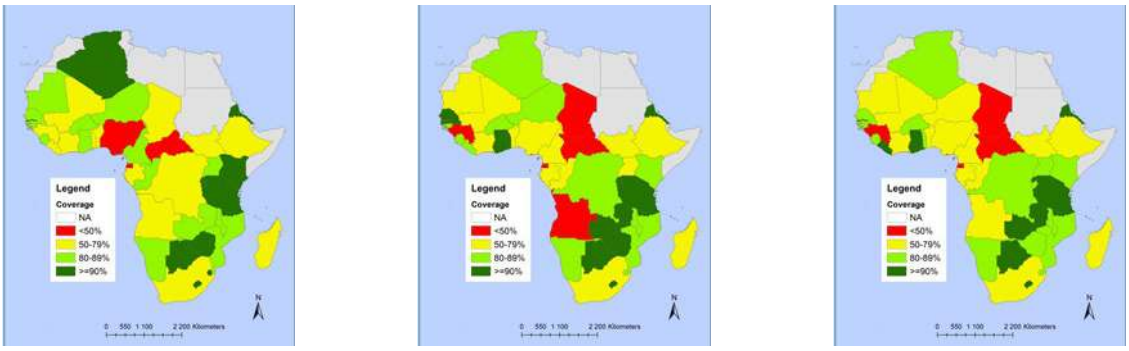
## Objective 3: Eliminate measles and advocate for the elimination of rubella and congenital rubella syndrome

The region failed to reach the targets for Measles-Containing Vaccine (MCV1). Nigeria, Ethiopia and The Democratic Republic of the Congo are home to 50% of the children not receiving MCV1. Only eight countries have MCV1 coverage of at least 95% required to sustain interrupted transmission, down from nine countries in 2013, and far from the expected target of 25 countries by 2020. Despite significant progress between 2001 and 2009 for MCV1 coverage rates (53% to 73%), MCV1 coverage levels in the region have now stagnated around 74% in the last couple of years and it is highly unlikely that the region will meet the target for elimination of measles by 2020. Also, Regional coverage levels for MCV2 are very low at 26% (Figure 4: MCV1 and MCV2 coverage, 2013-2018).

Figure 4: MCV1 and MCV2 coverage, 2013-2018

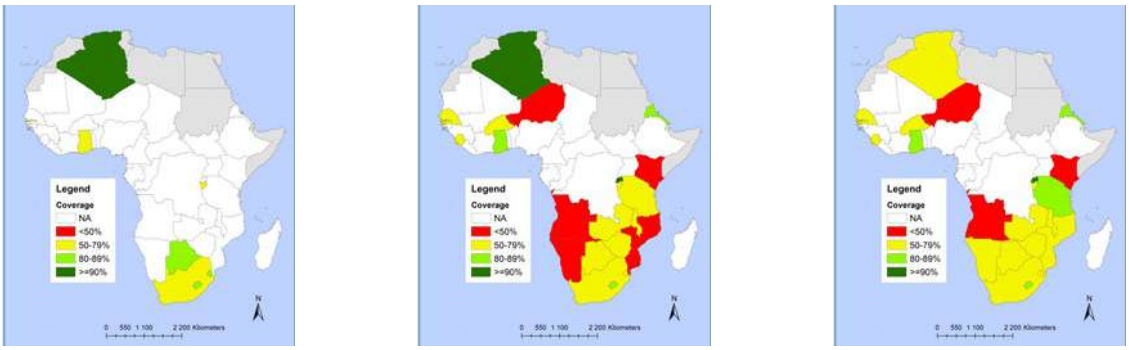
**4a. Progress of MCV1 coverage, 2013, 2017 and 2018**

2013 2017 2018




**4b. Progress of MCV2 coverage, 2013, 2017 and 2018**

2013 2017 2018




Measles Supplemental Immunization Activities (SIAs) were conducted in several countries the last five years in the Region. Between 2017 and 2018, 164 million children were vaccinated in 21 countries through SIAs. Out of the SIAs conducted, 16 reached the administrative coverage of at least 95 %. However only five of 18 post campaign coverage surveys conducted have shown a coverage ≥95% and only four SIAs have reached 100% of districts with ≥ 95% coverage. Twenty-six countries in the region have introduced MCV2 in their National Immunization Programmes so far. Although 27 countries have introduced rubella containing vaccine (RCV) in routine EPI, overall coverage in the region remains low (26%). The disease is not well recognised and often does not have a local name but is rather categorized as a fever and rash. As a result, it has been challenging to sensitize national programmes to collect the data necessary to document the burden of the disease.

## Objective 4: Attain and sustain elimination/control of other vaccine preventable diseases

Forty Member States[4] have validated maternal and neonatal tetanus (MNT) elimination as of end-2018. In addition, southern Mali and the south-eastern region of Nigeria have passed the validation for MNT elimination, in line with the efforts to validate subnational geographic areas that do not have access or security challenges in Member States that have made programmatic progress. Elimination by 2020 is however at risk due to two priority countries: Central African Republic and South Sudan. Conflict and

[4] All except: Angola, Central African Republic, Chad, Democratic Republic of the Congo, Guinea, Nigeria and South Sudan.

geographic accessibility compromise the provision of consistent quality services in remote districts. As a result, low performing districts compromise the validation of MNT elimination for the whole country. The programme faces challenges in mobilizing partnerships and resources as donors appear not to sufficiently prioritize this work, although it is an issue which disproportionally affects remote, underserved and poor populations. Eighteen countries are now using Tetanus-Diphtheria vaccine (Td) instead of Tetanus Toxoid (TT) for children ≥ 4 years of age and for women of childbearing age and the new WHO position paper on Tetanus and Diphtheria is calling for a more widespread implementation of this product switch, including use in pre-school and school platforms.

By the end of 2018, twenty-three[5] of the targeted 31 Member States have introduced the yellow fever (YF) vaccine in routine immunization, with only one additional country (Equatorial Guinea) having introduced the vaccine in 2018. The global supply situation remains problematic affecting the ability of scaling up routine immunization. There is no YF vaccine in routine immunization in seven at-risk countries and only two countries are achieving >90% coverage. MCV1 and YF vaccines are delivered simultaneously but despite improved vaccine supply there is a significant difference in coverage between the two vaccines. Investigations are ongoing to determine the true reasons for these differences. Coverage in the region has increased from 39 to 51% between 2013 and 2018 and there is an apparent shift of disease burden from West Africa to Central and East Africa.

Following the recent large outbreaks of YF in Angola and Democratic Republic of the Congo that led to the use of fractional doses, the strategy Eliminate Yellow Fever Epidemics (EYE) was launched in 2017. This strategy helps to coordinate and balance the vaccine demand and supply. Vaccines are thus made available through increased production by manufacturers and prioritized for introduction in the routine immunization schedule in the YF belt countries. In 2018 a total of 78.1 million doses were supplied to the region; 23.3 million doses for routine immunization in 28 countries, 28.7 million doses for preventive mass vaccination campaigns in Nigeria and Ghana; and 26.1 million doses for response to the outbreaks. To control yellow fever epidemics, reactive mass vaccination campaigns were conducted in the Republic of the Congo, Ethiopia, Nigeria, and Sierra Leone in 2018 and in South Sudan and Nigeria in 2019. By June 2019, 42.65 million persons have been vaccinated through reactive mass vaccination campaigns made possible by 11 ICG request prepared and approved with the technical support from AFRO since the EYE strategy was launched. Preventive mass vaccination campaigns were conducted in Nigeria and Ghana in 2018, protecting 41.8 million persons. Nigeria, Ghana and Democratic Republic of the Congo are planning to conduct YF preventive mass vaccination campaigns in 2019 to protect 43.6 million persons.

The strategy to introduce MenAfriVAC vaccine against meningococcal meningitis group A involved an initial mass campaign for population aged 1–29 years. Twenty-one countries[6] in the meningitis belt have conducted these campaigns, and seven (7) of the targeted twenty-four countries have introduced the vaccine in their routine immunization programmes. Routine introduction has often been delayed due to the time required to obtain countries' regulatory approval for use in infants from the National Immunization Technical Advisory Group (NITAG). Whilst studies have documented that the disease burden of meningitis due to group A meningococcal meningitis has substantially decreased, increasingly there are outbreaks caused by other serogroups (e.g. serogroup C in Nigeria, Niger and Burkina Faso, and serogroup W in Togo, Chad and Ghana). However, there is no documented evidence of serogroup replacement. An affordable multivalent conjugate vaccine (ACXW) currently in development is needed to reduce the risk of meningococcal outbreaks in the region, which aims at meeting the objective of defeating meningitis by 2030 currently in development.

All countries have hepatitis B vaccine included in the pentavalent vaccine. However, only 11 countries have introduced the recommended Hepatitis B birth dose vaccine. Transmission of hepatitis B from mother to child is likely still occurring before the administration of the pentavalent at 6 or 8 weeks. Unfortunately, data on the sero-prevalence of HbsAg among children under five is not systematically available, and thus progress against this indicator is not accurately measurable currently. Furthermore, the absence of the appropriate evidence is an obstacle for the implementation of targeted advocacy efforts.

## CHALLENGES

The region faces system-wide issues that are hampering sustainable immunization coverage including the lack of appropriate and sufficient infrastructure, inadequate human resource capacity especially at the peripheral level, weak information management system across the region and vaccine stock out issues. In addition, there is sub-optimal country ownership of immunization as financing mainly rely on external funding with issues related to proper governance and accountability and increasing trends of data falsification. These challenges are exacerbated in some countries with the context of political instability, conflict, insecurity, recurring and/or large disease outbreaks, population

[5] Angola, Benin, Burkina Faso, Cabo Verde, Central African Republic, Côte d'Ivoire, Cameroon, Chad, Congo, Democratic Republic of the Congo, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo.

[6] Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, The Gambia, Ghana, Guinea, Guinea-Bissau, Mali, Mauritania, Niger, Nigeria, Uganda, Senegal, South Sudan, and Togo.

movements, hard-to-reach communities and inadequate demand and Socio-Economic barriers.

Capacity for bacteriological surveillance is limited in many countries in Africa, hence the need to improve laboratory detection of the three pathogens commonly tested for as part of sentinel surveillance but also other bacterial vaccine-preventable diseases, such as diphtheria, pertussis, and typhoid. Antimicrobial resistance is a growing concern that should be monitored through sentinel surveillance and can be monitored as part of VPD surveillance. Twenty countries met the core measles surveillance indicators. There is a shortage of operational funding for surveillance including laboratory support. The measles laboratory network relies heavily on the polio infrastructure for performing case-based surveillance, which now also includes Yellow Fever. The GPEI ramp down is thus threatening progress against the control and elimination of these diseases. By end of 2018, 9 countries were nearing measles elimination and 4 countries were on track for measles elimination by 2020.

Some challenges regarding new vaccine introduction include frequent global shortages, cold chain and vaccine management (including vaccine supply) resulting in not offering vaccines on a daily basis, insufficient efforts to reduce missed opportunities for vaccination and affordability of vaccines in countries not supported by Gavi.

Countries experienced challenges in selecting appropriate HPV delivery strategy methods, with school-based implementation shown to be the best in achieving high coverage and quite expensive to deliver. Furthermore, the estimation of the denominator of targeted girls is problematic given the lack of birth registration numbers and reaching out-of-school girls was difficult. Overall, there is limited public knowledge of HPV vaccines with a few incidences of private schools reluctant to facilitate vaccination in school. A high drop-out rate between the first and second doses irrespective of the duration between the two doses has been noted. Low HPV introduction rates are thus a combination of poor demand in some instances, barriers in accessing eligible girls, high vaccine prices outside of the Gavi realm, and global supply constraints.

## PERSPECTIVES

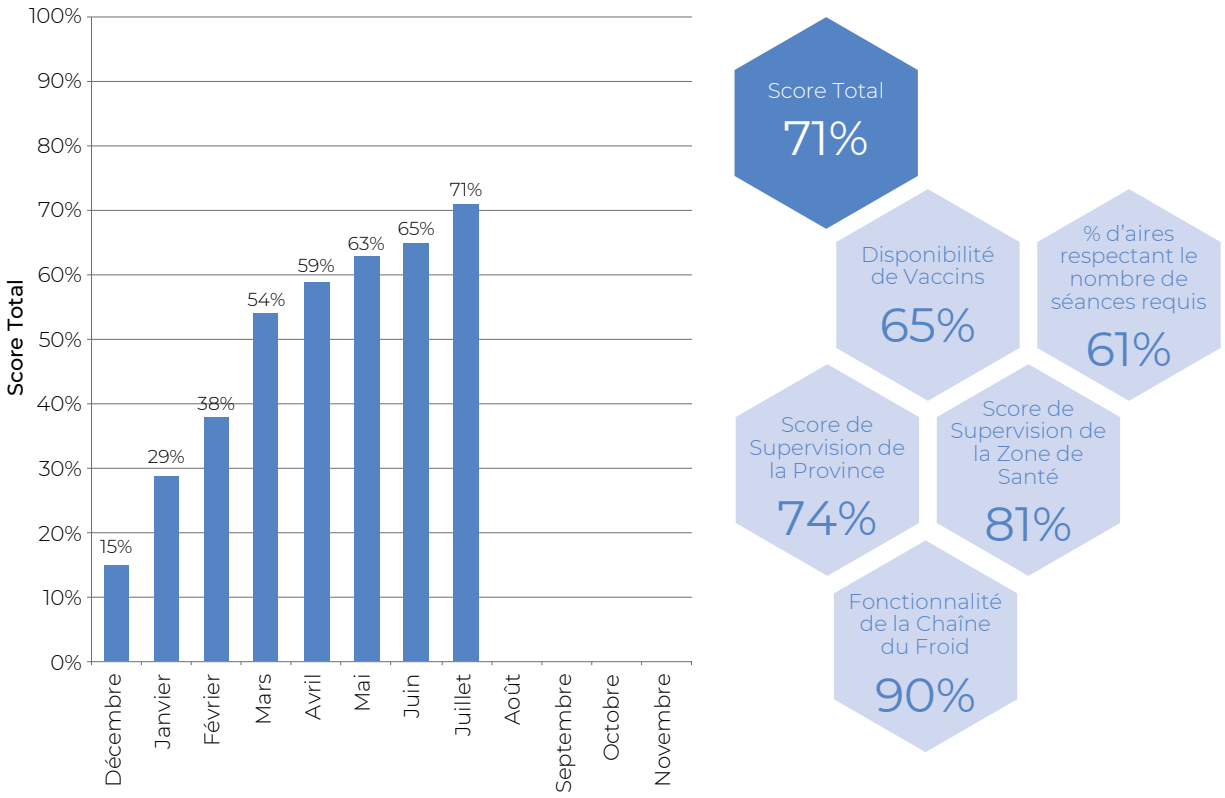
Leveraging the Addis Declaration on Immunization (ADI) commitments: The ADI is the cornerstone of the future regional and national strategies as well as the main tool to ensure alignment of all partners effort in the region to the priorities and actions endorsed by the countries. Building on the Business case for WHO immunization activities, there are continued efforts to tailor support to country needs according to their level of immunization system maturity and support to countries to strengthen their coordination mechanisms and expand them to include partners beyond the health sector to regularly review implementation of policies and plans. Furthermore, it will be important to engage CSOs and community-based organizations and encourage social accountability and focus on demand creation and strengthen effective vaccine management systems to ensure vaccines are continuously available, including during times of emergencies and conflicts. Progress report on status of implementation of each ADI commitment will be presented to the AU Heads-of-State & Government Summit (July 2019).

To foster a Universal Health Coverage approach that puts immunization at the core of primary care: the success of immunization programmes is closely linked to the functioning of the overall health system. Immunization programmes benefit from strong health systems and, conversely, specific health interventions can benefit from the high coverage generally achieved by immunization services. The region aims to re-position immunization's central role in contributing to the broader global health agenda imperatives (PHC, UHC & SDG by 2030), and build from lessons learned from the current GVAP to identify innovative approaches and partnerships to sustain and accelerate efforts to achieve existing GVAP goals. And finally, to set directions for addressing new and emerging priorities for the coming decade including risks and assumptions.

## COUNTRY HIGHLIGHTS

In response to the declining routine immunisation coverage in the Democratic Republic of Congo, an emergency plan for the revival of routine immunization in the Democratic Republic of the Congo "Mashako Plan" was officially launched for implementation on 11 October 2018, with the aim to increase vaccination session by 20%, reduce stock out by 80%, improve monitoring and evaluation, supervision and performance. Close monitoring of the plan is done using a monthly score card to monitor performance (Figure 5: DR Congo "Mashako Plan" monitoring dashboard snapshop (in French)). Overtime improved performance has been recorded.

Figure 5: DR Congo "Mashako Plan" monitoring dashboard snapshop (in French)




In Nigeria, the Federal Ministry of Health through the National Primary Health Care Development Agency (NPHCDA) declared Routine Immunization as a public health emergency on 17 June 2017. The National Emergency Routine Immunization Coordination Centre (NERICC) was established on 4 July 2017 to drive the revamping efforts of Nigeria's routine immunization program to achieve greater than 80% immunization coverage for all antigens in Nigeria, by 2028. The objectives are to improve detection and responsiveness in the resolution of routine immunization gaps, strengthen leadership and accountability, strengthen coordination, increase data visibility, quality and use for action at all levels, increase fixed and outreach services for immunization especially in the very low performing states. The country, in collaboration with immunization stakeholders, has developed the Nigeria's Strategy for Immunization and PHC System Strengthening (NSIPSS) 2018-2028.

## CONCLUSION

The Region has made progress in increasing immunization coverage and equity going from 70 to 76% between 2013 and 2018 but has not been able to reach the 90% coverage target. With regard to new vaccine introduction, the Region has achieved and exceeded the set targets. Polio is near eradication in the Region but there is need to maintain the current momentum to avoid the repeated cVDPV outbreaks. In relation to control and elimination measles and other VPD, the Region is still off-track and need to accelerate its efforts and implement innovative strategies in the context of the forthcoming immunization agenda 2020-2030, as well as the WHO business case for immunization on the African continent under the Addis Declaration on Immunization umbrella.

## Annex 1: Progress in the attainment by Member States of key targets of the Regional Strategic Plan for Immunization

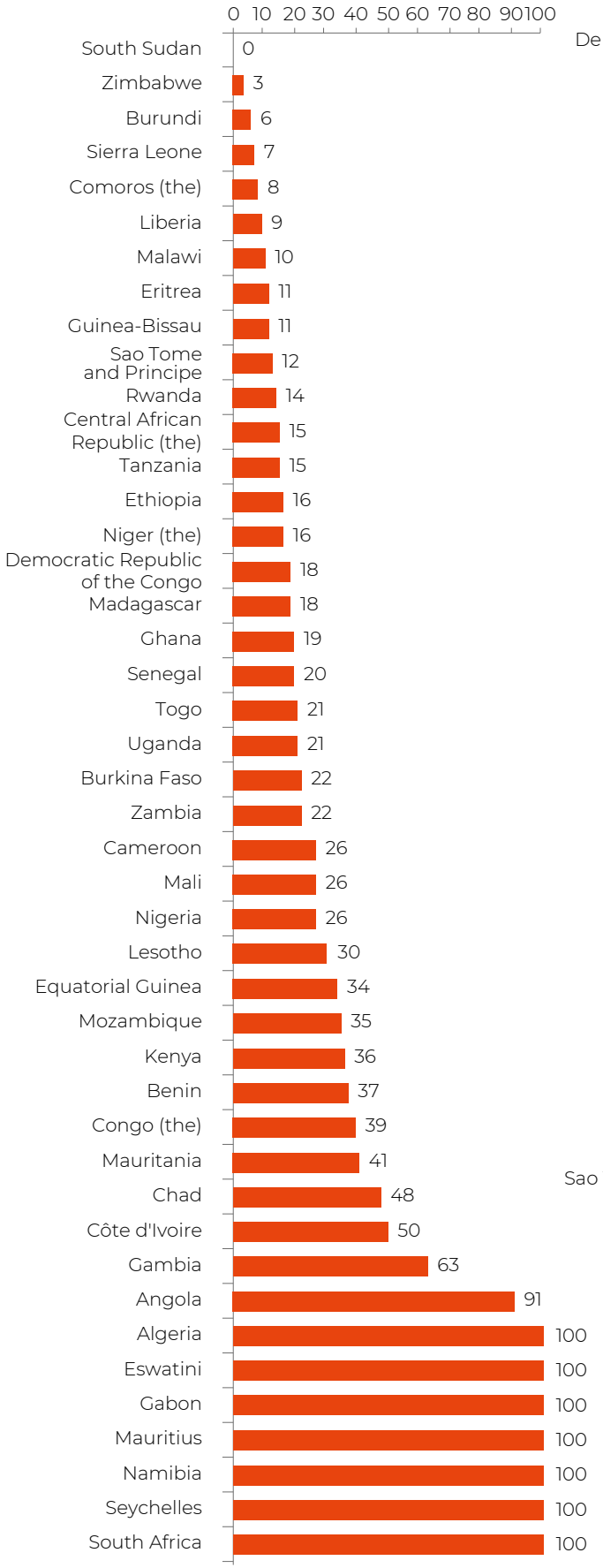
| | Number of countries | |
|---|---|---|
| RSPI Target by end-2020 | 2013 | 2018 |
| **Objective 1:** To improve immunization coverage beyond the current levels | | |
| Pentavalent-3 vaccine coverage 90% nationally in all 47 countries by 2020 | 17 | 21 |
| Pneumococcal conjugate vaccine introduced in 47 countries by 2020 | 27 | 40 |
| Rotavirus vaccine introduced in 37 countries by 2020 | 11 | 35 |
| Human Papillomavirus (HPV) vaccine introduced in 35 countries | 2 | 10 |
| Hepatitis B vaccine birth dose introduced in 25 countries | 3 | 11 |
| All countries to regularly report adverse events following immunization by the end of 2020 | 38 | 45 |
| **Objective 3:** To attain the elimination of measles and make progress in the elimination of rubella and congenital rubella syndrome | | |
| All countries to achieve an incidence of confirmed measles of less than 1 case per million population by 2020 | 15 | 15 |
| MCV-1 coverage of 95% at national level in all 47 countries | 9 | 8 |
| Rubella-containing vaccine (RCV) introduced in 25 countries by 2020 | 5 | 27 |
| **Objective 4:** To attain and maintain elimination/control of other vaccine-preventable diseases | | |
| MCV-2 introduced in 36 countries | 11 | 26 |
| Maternal and neonatal tetanus elimination achieved in all 47 countries | 30 | 40 |
| Yellow Fever vaccine coverage of 90% in 31 countries | 2 | 2 |
| MenAfriVac introduced in 15 countries in routine immunization | 0 | 7 |

## Annex 2: Regional Immunization coverage 2013-2018

| Vaccine | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 |
|---|---|---|---|---|---|---|
| BCG | 80 | 80 | 80 | 80 | 78 | 77 |
| DTP1 | 84 | 84 | 84 | 81 | 79 | 78 |
| DTP3 | 76 | 76 | 76 | 73 | 72 | 70 |
| HepB BD | 4 | 4 | 4 | 3 | 3 | 3 |
| HepB3 | 76 | 76 | 76 | 73 | 71 | 70 |
| Hib3 | 76 | 76 | 76 | 73 | 71 | 67 |
| IPV1 | 62 | 46 | 41 | 21 | | |
| MCV1 | 74 | 75 | 75 | 71 | 70 | 70 |
| MCV2 | 26 | 25 | 23 | 18 | 10 | 7 |
| PCV3 | 73 | 72 | 71 | 62 | 49 | 34 |
| Pol3 | 74 | 75 | 75 | 73 | 73 | 71 |
| RCV1 | 32 | 26 | 13 | 11 | 9 | 4 |
| rotac | 48 | 46 | 44 | 41 | 29 | 12 |
| YFV | 51 | 48 | 46 | 41 | 43 | 39 |

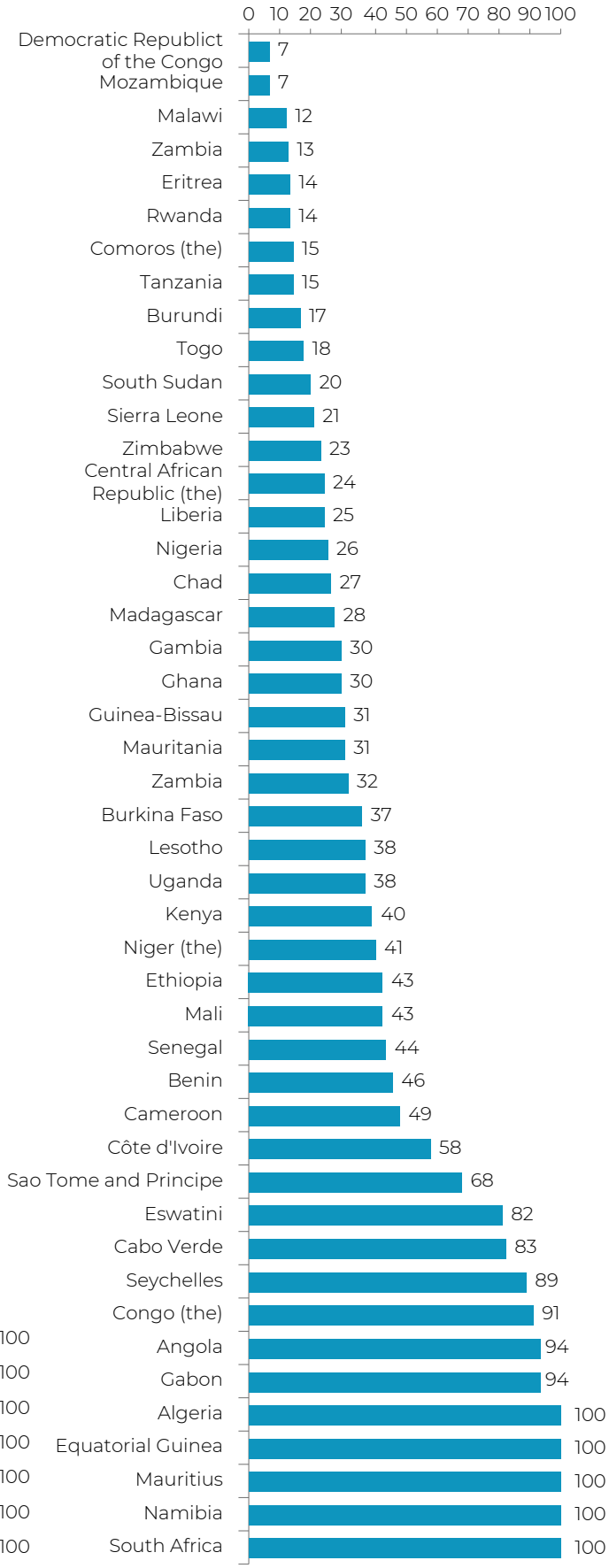
# Annex 3: Immunization financing 2018

**Percentage of total expenditure in routine immunization financed by government funds**




Botswana and Guinea did not report on this indicator in 2019.

**Percentage of total expenditure on vaccines financed by government funds**




3 countries did not report on this indicator in 2019: Botswana, Cabo Verde and Guinea.

*Source:* JRF database, July 2019

## Annex 4: DTP3 and MCV1 coverage 2013-2018

| Country | DTP 3 | | | | | | MCV1 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 |
| Algeria | 91 | 91 | 91 | 95 | 95 | 95 | 80 | 88 | 94 | 95 | 95 | 95 |
| Angola | 59 | 52 | 55 | 55 | 55 | 54 | 50 | 42 | 45 | 51 | 56 | 59 |
| Benin | 76 | 76 | 76 | 74 | 74 | 77 | 71 | 70 | 68 | 67 | 65 | 68 |
| Botswana | 95 | 95 | 95 | 95 | 95 | 95 | 97 | 97 | 97 | 97 | 97 | 97 |
| Burkina Faso | 91 | 91 | 91 | 91 | 91 | 88 | 88 | 88 | 88 | 88 | 88 | 82 |
| Burundi | 90 | 91 | 94 | 94 | 95 | 96 | 88 | 90 | 93 | 93 | 94 | 98 |
| Cabo Verde | 98 | 96 | 96 | 93 | 95 | 93 | 99 | 96 | 93 | 92 | 93 | 91 |
| Cameroon | 79 | 86 | 85 | 84 | 87 | 89 | 71 | 77 | 78 | 79 | 80 | 83 |
| Central African Republic (the) | 47 | 47 | 47 | 47 | 47 | 23 | 49 | 49 | 49 | 49 | 49 | 25 |
| Chad | 41 | 41 | 41 | 42 | 36 | 39 | 37 | 37 | 37 | 46 | 45 | 57 |
| Comoros (the) | 91 | 91 | 91 | 91 | 87 | 87 | 90 | 90 | 90 | 90 | 86 | 85 |
| Congo (the) | 75 | 69 | 71 | 80 | 90 | 85 | 75 | 70 | 67 | 80 | 80 | 80 |
| Côte d'Ivoire | 82 | 83 | 85 | 77 | 73 | 75 | 71 | 70 | 71 | 65 | 59 | 69 |
| DR Congo | 81 | 81 | 79 | 81 | 80 | 74 | 80 | 80 | 77 | 79 | 77 | 76 |
| Equatorial Guinea | 25 | 25 | 19 | 16 | 24 | 6 | 30 | 30 | 30 | 27 | 44 | 42 |
| Eritrea | 95 | 95 | 95 | 95 | 94 | 94 | 99 | 99 | 99 | 97 | 90 | 94 |
| Eswatini | 90 | 90 | 90 | 90 | 98 | 98 | 89 | 89 | 89 | 89 | 97 | 96 |
| Ethiopia | 72 | 73 | 73 | 73 | 61 | 59 | 61 | 65 | 66 | 65 | 54 | 55 |
| Gabon | 70 | 75 | 75 | 80 | 70 | 79 | 59 | 63 | 64 | 68 | 61 | 70 |
| Gambia | 93 | 92 | 95 | 97 | 96 | 97 | 91 | 90 | 97 | 97 | 96 | 96 |
| Ghana | 97 | 99 | 93 | 88 | 98 | 90 | 92 | 95 | 89 | 89 | 92 | 89 |
| Guinea | 45 | 45 | 45 | 45 | 44 | 50 | 48 | 48 | 48 | 48 | 50 | 54 |
| Guinea-Bissau | 88 | 88 | 88 | 88 | 88 | 87 | 86 | 86 | 86 | 85 | 84 | 82 |
| Kenya | 92 | 82 | 89 | 89 | 92 | 87 | 89 | 89 | 96 | 96 | 95 | 94 |
| Lesotho | 93 | 93 | 93 | 93 | 93 | 93 | 90 | 90 | 90 | 90 | 90 | 90 |
| Liberia | 84 | 86 | 79 | 52 | 50 | 76 | 91 | 87 | 80 | 64 | 58 | 74 |
| Madagascar | 75 | 74 | 77 | 69 | 73 | 74 | 62 | 60 | 59 | 58 | 64 | 63 |

| Country | DTP 3 | | | | | | MCV1 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 |
| Malawi | 92 | 88 | 84 | 88 | 91 | 89 | 87 | 83 | 81 | 87 | 85 | 88 |
| Mali | 71 | 70 | 69 | 67 | 66 | 64 | 70 | 67 | 66 | 62 | 61 | 62 |
| Mauritania | 81 | 81 | 74 | 73 | 81 | 80 | 78 | 78 | 72 | 70 | 75 | 80 |
| Mauritius | 97 | 94 | 96 | 97 | 97 | 98 | 99 | 89 | 92 | 99 | 98 | 99 |
| Mozambique | 80 | 80 | 80 | 80 | 79 | 78 | 85 | 85 | 85 | 85 | 85 | 85 |
| Namibia | 89 | 88 | 85 | 92 | 88 | 89 | 82 | 80 | 75 | 85 | 83 | 82 |
| Niger (the) | 79 | 85 | 80 | 84 | 81 | 73 | 77 | 82 | 76 | 85 | 80 | 80 |
| Nigeria | 57 | 57 | 57 | 45 | 43 | 43 | 65 | 65 | 65 | 43 | 44 | 42 |
| Rwanda | 97 | 98 | 98 | 98 | 98 | 98 | 99 | 97 | 95 | 96 | 97 | 95 |
| Sao Tome and Prin. | 95 | 95 | 96 | 96 | 95 | 97 | 95 | 90 | 93 | 93 | 92 | 91 |
| Senegal | 81 | 93 | 93 | 89 | 89 | 92 | 82 | 90 | 93 | 80 | 80 | 84 |
| Seychelles | 99 | 97 | 96 | 97 | 99 | 98 | 96 | 99 | 97 | 98 | 99 | 97 |
| Sierra Leone | 90 | 90 | 84 | 86 | 83 | 92 | 80 | 80 | 85 | 78 | 80 | 85 |
| South Africa | 74 | 76 | 76 | 85 | 85 | 81 | 70 | 70 | 85 | 86 | 84 | 78 |
| South Sudan | 49 | 47 | 45 | 46 | 50 | 53 | 51 | 51 | 51 | 53 | 55 | 58 |
| Togo | 88 | 90 | 89 | 88 | 87 | 84 | 85 | 91 | 87 | 85 | 82 | 72 |
| Uganda | 93 | 94 | 93 | 89 | 85 | 84 | 86 | 79 | 79 | 79 | 85 | 83 |
| Tanzania | 98 | 97 | 97 | 98 | 97 | 91 | 99 | 99 | 90 | 99 | 99 | 99 |
| Zambia | 90 | 94 | 91 | 90 | 86 | 79 | 94 | 96 | 93 | 90 | 85 | 80 |
| Zimbabwe | 89 | 89 | 90 | 87 | 91 | 95 | 88 | 90 | 95 | 86 | 92 | 93 |

# WHO REGIONAL OFFICE FOR THE AMERICAS: PROGRESS REPORT FOR THE REGION OF THE AMERICAS

## CONTENTS



## INTRODUCTION

The 35 countries and 17 territories of the World Health Organization's (WHO's) Region of the Americas are home to more than 1 billion people, with a combined annual birth cohort of nearly 15 million.

During the 54th Directing Council meeting of the Pan American Health Organization (PAHO) in September 2015, Member States approved a resolution to adopt the Regional Immunization Action Plan (RIAP) as the framework to identify and overcome immunization challenges currently faced by the countries of the Americas. The creation of the RIAP was the result of an extensive consultation process conducted among those involved in the Region's immunization programmes, including national managers of the Expanded Program on Immunization (EPI), PAHO immunization focal points and other key partners.

RIAP aims to provide Member States with the rationale, guiding principles, general and strategic objectives and monitoring and evaluation frameworks to enable national immunization programmes in the Region to align successfully with the Global Vaccine Action Plan (GVAP) and implement strategies to ensure that all citizens of the Americas will benefit from immunization through 2020 and beyond.

The approach of the plan through this last strategic line also permits the integration of immunization with other primary care services, such as prenatal care, adolescent sexual and reproductive health, the health of older adults and the prevention of chronic diseases, such as liver and cervical cancer.

Monitoring and evaluating the RIAP will be conducted in accordance with PAHO's results-based management framework, as well as its performance

management processes. PAHO developed an indicator template for each of the indicators included in the RIAP. The template includes the definition, purpose, the units and the frequency of the measurement. As an initial step, each country will be asked to evaluate its progress towards achieving the RIAP objectives, together with its National Immunization Committee. PAHO's TAG will then evaluate advances at the regional level and progress reports will be prepared annually for PAHO's Executive Management, as well as at the end of every biennium for PAHO's Governing Bodies. A final evaluation of the plan will be completed to determine the strengths and weaknesses of its implementation. The information needed will be obtained from the following sources: a) reports by the countries' ministries of health, b) PAHO-WHO/ UNICEF's Joint Reporting Form on immunization (JRF) and c) the compilation of research and other available sources.

This progress report provides an overview of the Region's progress towards the objectives of the RIAP 2018 and highlights the challenges that Region is still facing and it was examined by the PAHO Technical Advisory Group (TAG) on Vaccine-preventable Diseases and will be shared with the Member States for their knowledge and action.

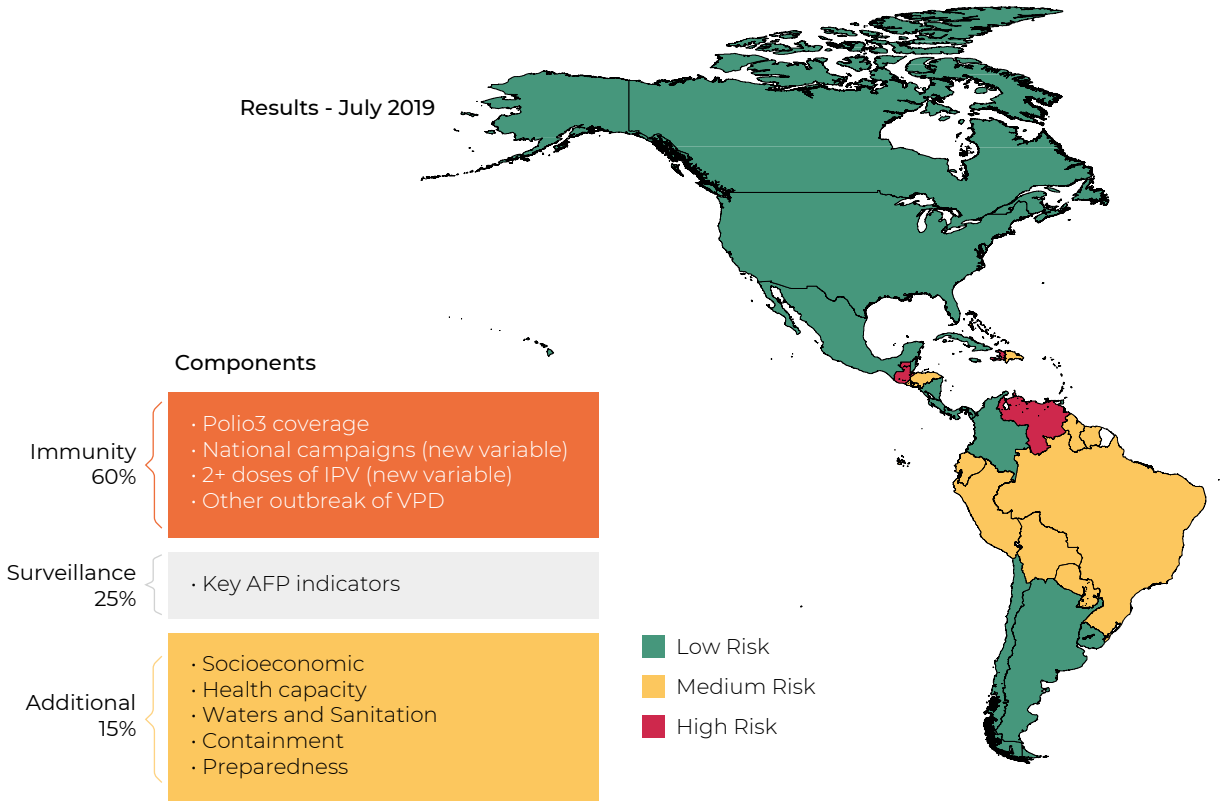
The Regional Immunization Action Plan established 13 objectives (7 general and 6 strategic) and 29 indicators. At December 2018, the situation in the Region is as follows: 17 indicators are on track, five indicators are in progress, and seven of the indicators are off track and will require a concerted effort and urgent action to achieve the targets.

# ACHIEVEMENTS

## Maintain the Region's status polio free

This year marks the 25th anniversary since the International Commission for the Certification of Poliomyelitis Eradication in the Americas (ICCPE) declared the Americas free of polio. However, while recognizing and celebrating this milestone, countries of the Americas must remain vigilant. The TAG is concerned that regional coverage for polio-3 is declining. The last two years (2017 and 2018) suffered the lowest regional polio-3 coverage since certification in 1994. Additionally, pockets of disparity remain a concern. More than a quarter (28%) of all districts in the Region have coverage below 80%. 2018 data shows that 7 out of 10 children live in a district where coverage is below the regional standard (95%). Currently, 33/52 of countries and territories of the Region use two or more doses of IPV, including Ecuador and Cuba which introduced two doses of fractional IPV following TAG's recommendation. However 19 countries are still using only one dose of IPV. This is of concern because population immunity to type 2 polioviruses continues to fall, as the cohort of children born after OPV2 withdrawal grows. In July 2019, the RCC updated the regional risk assessment for polio. The results show that three countries are at high-risk of having an importation or emergence of polio (Haiti, Guatemala and Venezuela), 17 countries and territories are at medium-risk, and the remaining 24 are low-risk (Figure 1: RCC Polio Risk Assessment). In coordination with WHO, PAHO has updated the regional standard operating procedures for responding to a poliovirus event and outbreak. The RCC has requested that all countries have a national outbreak response plan. After each submission, the PAHO conducts detailed reviews of the plan and provides recommendations for updating the plan. As of July 2019, only 29 countries have conducted polio outbreak simulation exercises.

Figure 1: RCC Polio Risk Assessment




## Regional containment status

The Region is committed to completing all goals outlined in the Polio Eradication and Endgame Strategic Plan, including GAP III, which has been adapted to the Regional-GAP III. Steps toward the fulfilment of their recommendations in the region are:

- In October 2018, at the 10th RCC meeting, the RCC fully validated 18 of 23 (22 countries + 1 Caribbean Sub region) expected reports for infectious and potentially infectious WPV2/VDPV2 materials and 16 of 23 for infectious Sabin2 materials.
- By October 2018, five countries in the Region had designated 20 Poliovirus Essential Facilities (dPEFs), Brazil: 1, Canada: 5, Cuba: 1, Mexico: 1 and USA: 12. Of them, 18 dPEF will retain WPV2/VDPV2 and Sabin2.
- In agreement with the WHO's Containment Certification Scheme (CCS), the five countries with dPEFs have nominated a National Authority for Containment (NAC).
- Regarding WPV1 and WPV3 materials, 16 of 23 reports have received RCC validation for inventory of facilities and countries are advancing with the elimination of all unneeded WPV1 and WPV3 materials.

## Introduction of vaccines and assess their impact

Significant progress was made in the introduction of new vaccines during the last years. To minimize the risk of vaccine-derived polioviruses, especially for type 2, boost population immunity and accelerate the eradication of polio, all countries successfully switched from trivalent to bivalent oral polio vaccine and introduced inactivated polio vaccine, meeting the set timelines for the global switch. Currently 40 countries and territories have introduced HPV, 37 pneumococcal conjugate vaccine, and 20 rotavirus vaccine in their routine vaccination schedule.

Additionally, the region since the introduction of pneumococcal conjugate vaccine and rotavirus vaccine countries have been carrying out effectiveness and impact studies with the technical cooperation from PAHO. As off 2018, 16 countries and territories have conducted studies prior to the introduction of new vaccines, and 18 of countries and territories that have conducted studies after the introduction of a vaccine.

## Strengthen health services for effective vaccine administration

### Maternal and Newborn vaccination as strategy for strengthen health services

Maternal immunization is a promising strategy to reduce infectious-disease-related morbidity and mortality during the first weeks of life. One of the goals of PAHO's Regional Immunization Action Plan (RIAP) is the establishment and strengthening of maternal and neonatal immunization (MNI) platforms in the context of enhancing health services for effective vaccine administration. Currently, 32 of the 52 countries and territories of the Americas recommend the tetanus-containing vaccine for women at childbearing age, 34 countries recommend vaccination of pregnant women against influenza and 16 countries recommend the administration of acellular pertussis-containing vaccine (tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine [Tdap]). Progress has also been made on Hepatitis B birth doses introduction in the national infant immunization schedules from 18 countries in 2013 to 29 countries in 2019 (which represent more than 90% of the live birth cohort) with a regional coverage with the Hepatitis B BD of 72% in 2018.

### Data quality and Electronic Immunization Registry systems (EIRs):

Countries have made great strides in strengthen their vaccination information systems. With support from PAHO, they have worked to improve data quality, availability, and utilization. During 2018, 41 countries and territories have held activities to improve the quality of the data as well the capacity of countries for analysing data. As of 2018, nine countries currently have implemented 100% of the EIR systems, 8 countries have 50-80% of implementation and 4 countries are starting the process. To support countries in the assessment of EIR introduction feasibility, development, and implementation, and taking into account their national eHealth strategies, PAHO has worked closely with countries to develop a document of practical considerations to guide countries in the consideration and implementation of such systems. Despite countries' efforts, problems persist regarding the availability, quality, and use of vaccination data to monitor EPI performance indicators. Countries face the challenges of ensuring the availability of systematic, complete, and consistent data that respond to the EPI's needs for evaluation and of strengthening the collection, analysis, and use of data at all levels of responsibility, starting by ensuring that information systems and tools used (both paper and electronic) are efficient and adaptable to different types of users.

# CHALLENGES

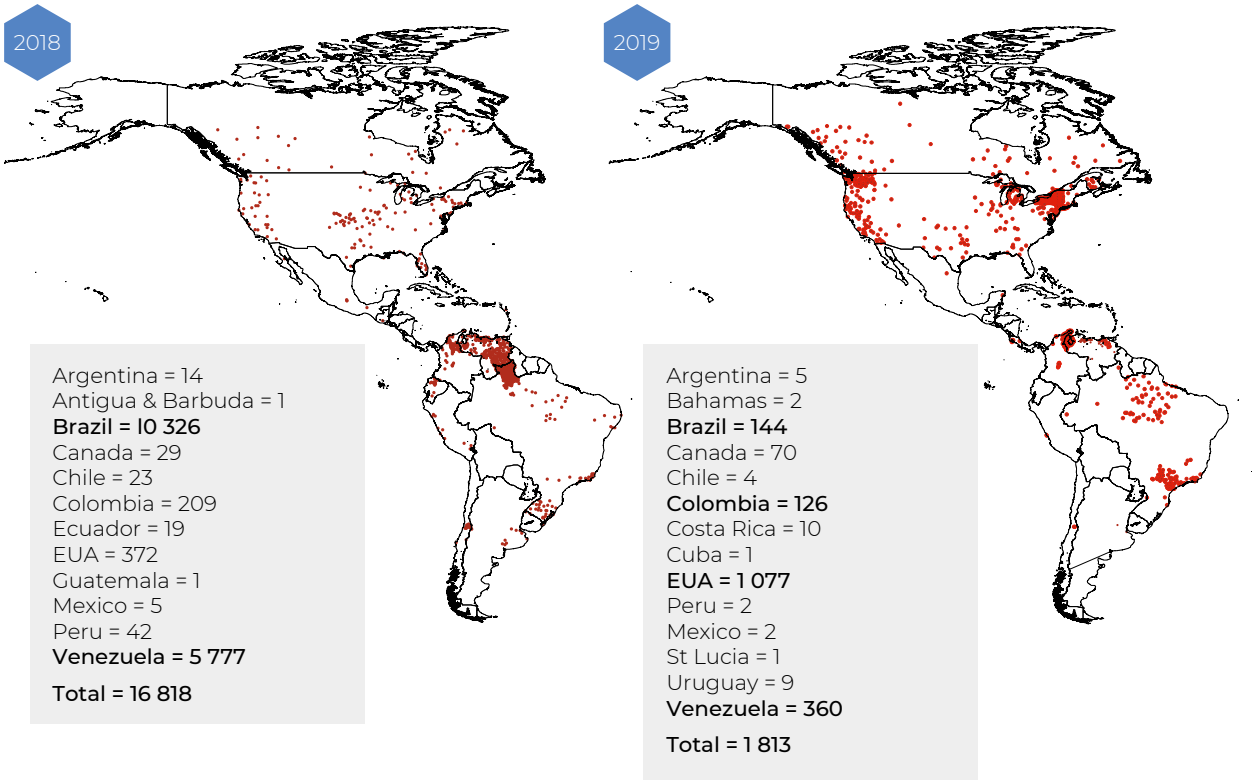
## Measles epidemiological situation in the Americas

In 2018, there were 16 818 confirmed measles cases in the Region of the Americas reported by 12 countries, with a regional incidence rate of 16.8 per million population, the highest rate recorded during the post-elimination period. This unusual increase in cases was related to low vaccination coverage in recent years. In Venezuela and Brazil, low coverage led to the reestablishment of endemic measles transmission in June 2018 and February 2019, respectively, after 12 months of continuous circulation of the measles virus (genotype D8, lineage MVi/HuluLangat.MYS/26.11) in their territories. The rapid measles virus spread within and outside Venezuela enabled importations and import-related cases in eight countries: Argentina (n=9 cases), Brazil (10 304 cases), Canada (n=1 case), Chile (26 cases), Colombia (335 cases), Ecuador (n=19 cases), Peru (24 cases), and the United States of the Americas (n=4 cases). Except for Colombia and Ecuador, the other six countries also reported imported cases from other regions of the world.

In 2019, there have been 1 813 measles cases in 14 countries, with an incidence rate of 1.8 per million population[1]. Brazil, Colombia, United States and Venezuela have had ongoing measles transmission since 2018, while the remaining ten countries have either interrupted transmission following isolated imported cases or are closely following up on secondary cases to ensure rapid interruption of virus transmission (Figure 2: Ongoing (Active) and Past (Non-Active/Interrupted) Outbreaks in the Americas, 2018-2019).

[1] Data as of epidemiological week 25, 2019

Figure 2: Ongoing (Active) and Past (Non-Active/Interrupted) Outbreaks in the Americas, 2018-2019




*Sources:* Surveillance country reports sent to PAHO/WHO's Comprehensive Family Immunization Unit and by the Ministry of Popular Power of Venezuela.

Despite the delicate situation of the Venezuelan health system, health authorities managed to organize a national campaign vaccinating 8.6 million children 6 months to 15 years of age, and 460 844 individuals 15 years and older during the second half of 2018. This campaign that reached 97% coverage at the national level resulted in a rapid decline in measles cases. Brazil also carried out a national measles vaccination campaign, vaccinating 10.9 million children for a coverage level of 98%. In Amazonas, vaccination of infants aged six months, adolescents and young adults was additionally carried out while in Roraima vaccination of infants was added. Colombia did not conduct a national vaccination campaign, but the country has managed to successfully interrupt circulation of the virus by responding rapidly to the outbreak, stepping up efforts to find and vaccinate unvaccinated children under-5 years of age and by providing free doses of the measles and rubella vaccine to 88 819 children 6-11 months of age living in municipalities with ongoing outbreaks (82% coverage). The country also applied more than 1.1 million of measles-and-rubella-containing vaccine doses to Venezuela migrants, targeting children younger than 15 years of age.

## Molecular Epidemiology on Measles

In 2018, eleven countries reported a total of 460 measles sequences to MeaNS (1 Antigua and Barbuda, 8 Argentina, 105 Brazil, 27 Canada, 17 Chile, 79 Colombia, 16 Ecuador, 1 Guatemala, 2 Mexico, 198 USA and 6 Venezuela); in 91.5% of the sequences reported, genotype D8 was identified and in 8%, genotype B3; only two sequences (0.5%) were associated with the D4 genotype. One interesting issue was related to the multiple importations of D8 genotypes and the documentation of different lineages within countries of the Region; in Argentina, two lineages; Canada, four different lineages and USA, six different lineages. For the first time in the history of measles elimination in the Americas, a country in the Region had multiple importations of the same genotype and lineage.

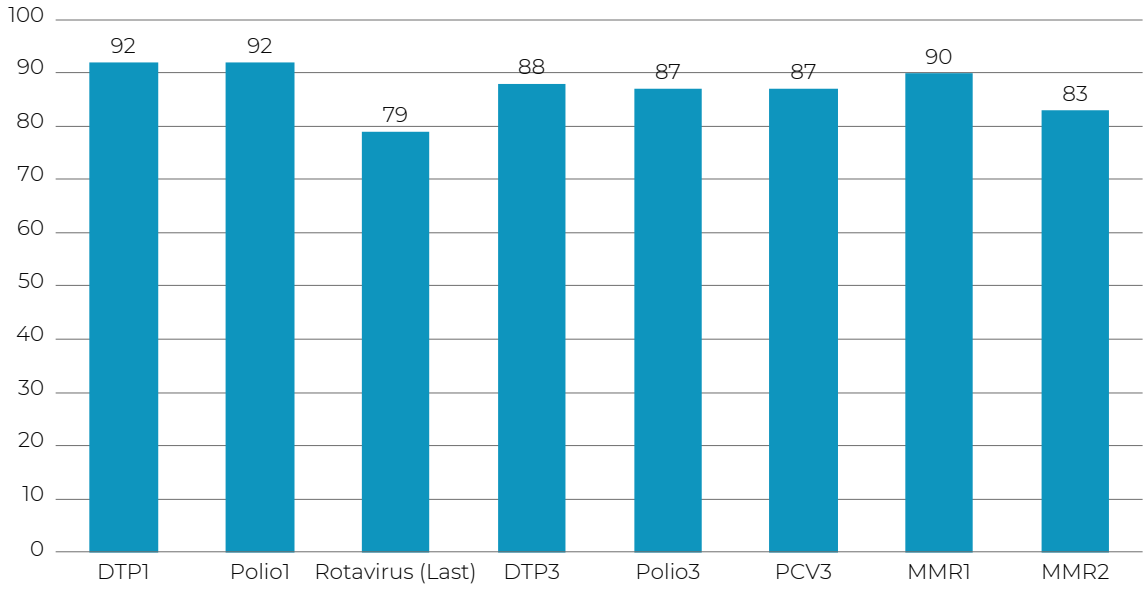
## Proposal for a Regional Framework for the Monitoring and Reverification of Measles and Rubella Elimination

The Measles Rubella Elimination Regional Monitoring and Re-verification Commission met in June to develop consensus on which elements of the original 2011 Plan of Action for verifying elimination should be maintained and which would need updating. The Commission agreed to the framework developed during the meeting, with substantial modifications to the original objectives, basic principles and essential criteria. Additionally, the Commission concluded that endemic countries applying for re-verification would need to document absence of transmission for more than one year, using rigorous criteria developed by the Commission. Those who did not meet the criteria, would not be re-verified as free of measles.

## Maintaining high and homogenous vaccination coverage at all levels

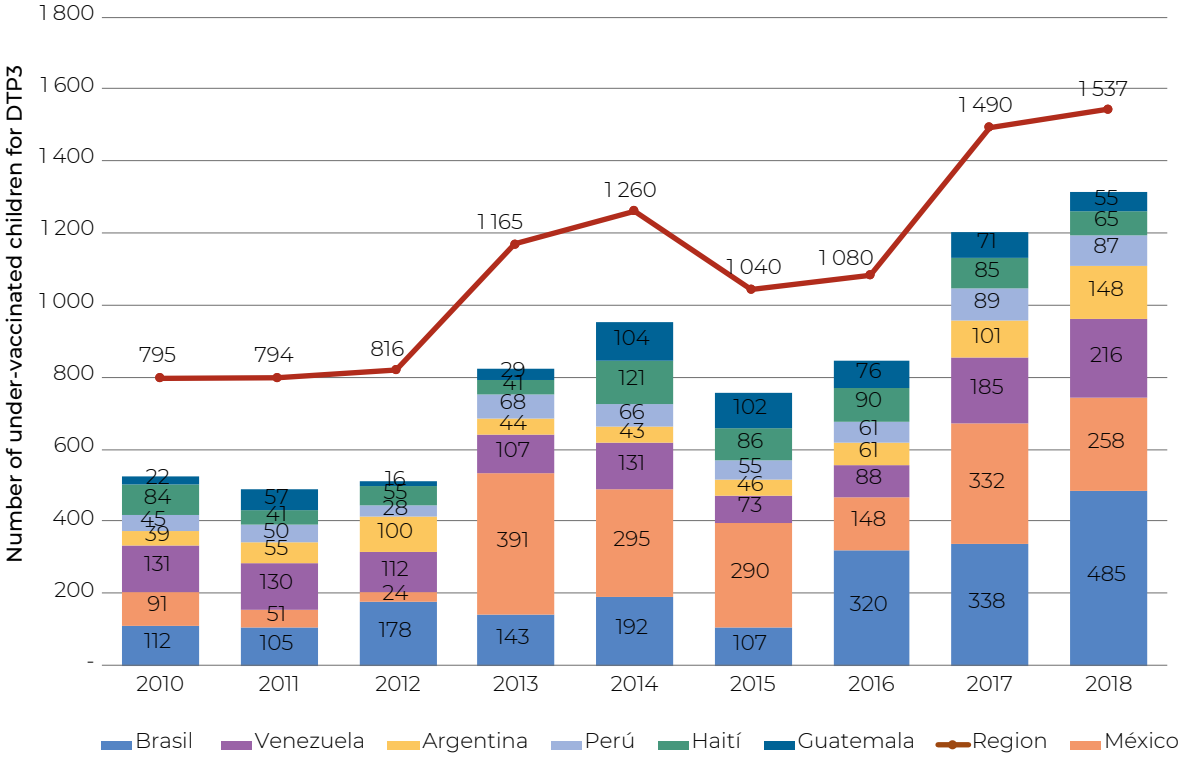
Considering coverage with DPT3 as a tracer, the latter was 88% at the regional level (Figure 3: Vaccination Coverage by Biological in The Americas Region, 2018), implying that around 1.5 million children had not been vaccinated in a timely manner. This means that, for every 25 children in the Americas, two are left behind and one does not complete the schedule.

Figure 3: Vaccination Coverage by Biological in The Americas Region, 2018



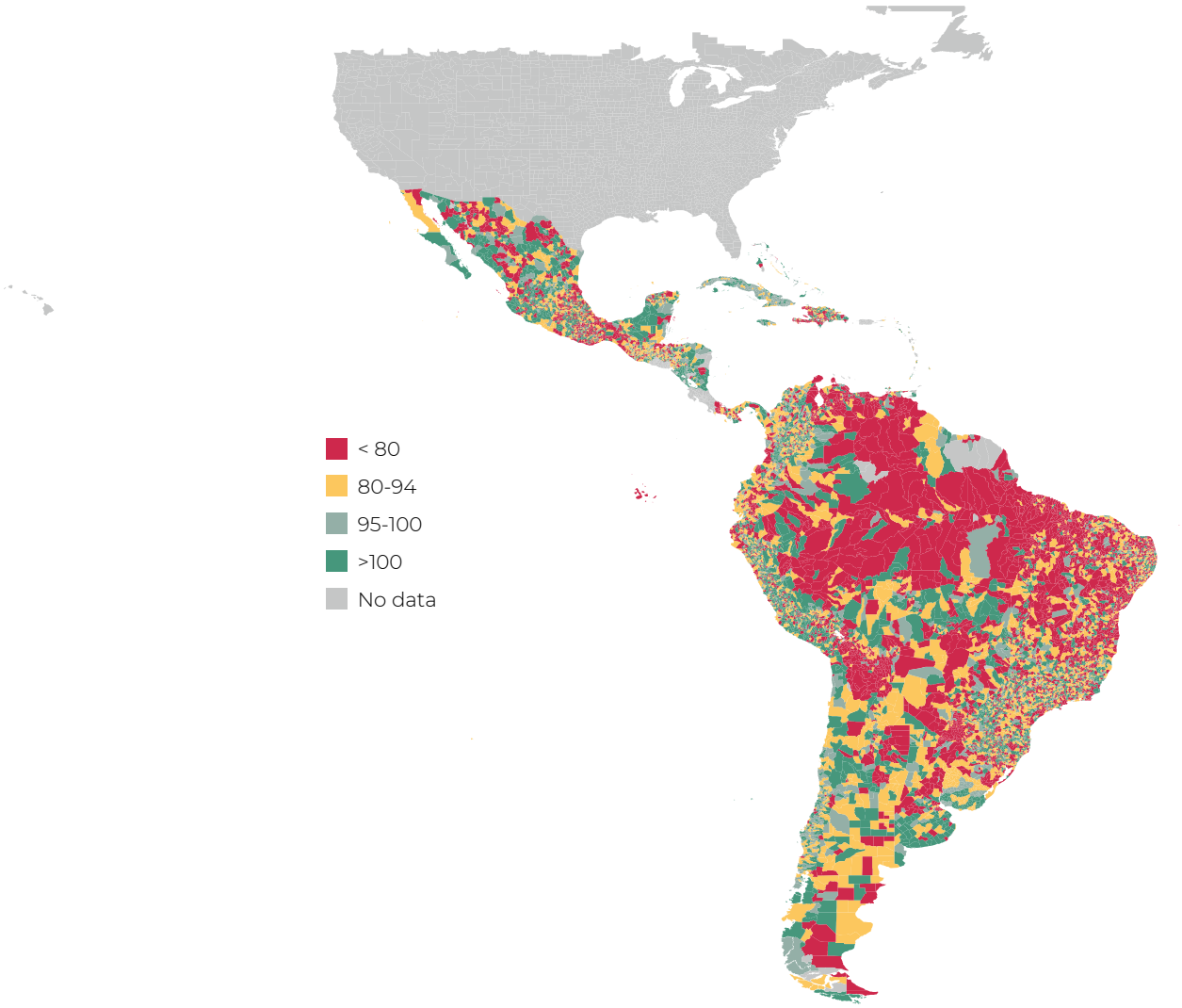

The number of children under one year of age who did not receive the DPT3 vaccine in a timely manner has increased in recent years (Figure 4: Population Under One-Year-Old Whom Have Not Been Vaccinated with the DPT3 Vaccine (in Thousands) in the Americas Region, 2010-2018), mainly due to declining coverage in countries with large cohorts of children under one year of age such as Argentina, Brazil, Mexico, Peru, and Venezuela. Haiti continues to have a significant number of unvaccinated children, although their situation improved in 2018.

Figure 4: Population Under One-Year-Old Whom Have Not Been Vaccinated with the DPT3 Vaccine (in Thousands) in the Americas Region, 2010-2018



A major challenge is not only to achieve high coverage at the national level, but to have homogeneous coverage at the subnational and local levels as well. According to 2018 data, 34% of children under one year of age in Latin America and Caribbean (LAC) live in municipalities with DPT3 coverage under 80% .

Figure 5: DPT3 coverage at municipality level LAC 2018




## Individuals and communities understand the value of the vaccines

Latin America and the Caribbean have historically benefitted from a generally high confidence in vaccines. Indeed, a 2016 global survey on the state of vaccine confidence, in which nine countries of the Americas participated, showed a general tendency for interviewees in the Americas to agree that vaccines for children were "important to have", "safe, "effective and "compatible with religious belief". Efforts to boost coverage frequently rely on an intuitive or anecdotal understanding of under-vaccination, rather than systematically collected evidence grounded in perspectives of caregivers and the population. However, a broad consensus is emerging that reliable measures to better understand why people are not being vaccinated are needed to ensure that evidence informs the design and evaluation of more tailored and targeted interventions to increase vaccine uptake.

Since 2015, the WHO/UNICEF Joint Reporting Form (JRF) has collected data on vaccine confidence and hesitancy by asking respondents to list the top three reasons for hesitancy to accept vaccines according to the national schedule in their country. Review of this data has shed light on some dimensions, however, each year only about one third of countries, globally, reported based on the evaluation of actual data in surveys or studies. Other than the information collected in the JRF, there has been no systematic assessment of vaccine acceptance and demand in the Region and published data on the topic are scarce. In this regard PAHO is developing a regional strategy for vaccine access, acceptance and demand, and support countries in identifying social and behavioral determinants of vaccination and addressing barriers to vaccination

## Cold Chain, Supply Chain Operations and Vaccine Management

The results of the JRF 2018 for Cold and Supply Chain Practices indicated that that 23/42 countries or territories had at least one stock out at national or district level; that 15/42 LAC countries are using an electronic/digital tool to manage their vaccine stocks down to the lower administrative levels. 23/42 countries indicated that they do not employ technologies at the sub-national level to continuously monitor vaccine storage temperatures. Of the 19 countries that indicated that they use technologies to continuously monitor vaccine storage temperatures, the range of establishments that have such abilities range from 100% to 50%. In regard to confirming if countries have a supply chain manager, 27 countries indicated yes, and 11 countries indicated there is no manager in place. The analysis of these results indicate that countries need to invest in more management skill building and resources to assure that they have excellent cold and supply chain operations at all levels.

### Box 1: Country Highlight: Haiti eliminated neonatal tetanus as a public health problem

Haiti was the only country in the Region that had not achieved this goal despite being implemented since 2003 the recommended strategies for the elimination of maternal and neonatal tetanus (MNT). A literature review and field visits, conducted in June 2016, concluded that there was a likelihood of the elimination of MNT in Haiti. To confirm that MNT was eliminating from Haiti, a neonatal tetanus-related neonatal mortality survey was conducted in the Southern Department with the highest risk for MNT in the country after the pre-validation.

A total of 10 516 households were surveyed and 2 302 live births were examined. Maternal coverage by Td2 was 53% (card + history). The proportion of deliveries in a health facility was 45%. The proportion of mothers who applied substances to the umbilical cord was 31%. As no cases of tetanus were identified in the 44 neonatal deaths recorded with a survey deemed of good quality, TN was considered eliminated in the Southern Department for the period from May 1, 2016 to April 30, 2017. Therefore, MNT was considered eliminated in Haiti for the same period.

# PERSPECTIVES- CONCLUSIONS

Countries have been facing many challenges, socio-political situation, migration, competing priorities. For example, countries that have undergone health sector reforms and decentralization processes have observed a negative impact on the organizational structure and human and financial resources of the immunization programme. Past programme evaluations conducted in Latin America and the Caribbean to date have suggested that barriers to vaccination were mainly associated with access to vaccines, resulting from logistical and programmatic issues. Also, studies conducted in Colombia, El Salvador, Guatemala and the Dominican Republic in 2010-2011 showed that among children aged under-5 years of age, missed opportunities for vaccination were associated with healthcare professionals' practices and logistical obstacles. Indeed, another concern from countries is the high turnover and therefore, insufficient training and awareness of healthcare workers about vaccine-preventable diseases etc.

Looking back on the years of the Regional Immunization Action Plan (RIAP), we find both progress and challenges. The progress has been consistent and reliable for example we found more countries with increases in the subnational coverage. An important lesson learned is that the RIAP has served as a framework for monitoring and evaluation of the strategies and activities implemented and has strengthened the use of immunization data. Countries have adopted the PAHO/WHO/UNICEF joint reporting form on immunization as the official source of information for the RIAP and have improved the timeliness of reporting. Furthermore, the plan of action emphasizes the commitment of the countries and territories of the Region to meeting the targets and indicators established in the RIAP. Today, we have just 2 years to meet the goals, however if we don't meet them, they remain relevant and the region should meet them within the next strategy.

The Region is committed to achieving effective and equitable universal coverage. To accomplish this, the countries and territories of the Region need to strengthen their national immunization programmes and integrate them into the health system. They should also emphasize the following:

a. Governance. Maintain and strengthen political commitment to the immunization programme; ensure available resources for the components of the programme as part of the process of integrating universal health; and protect the programme's financial and operational sustainability.

b. Vaccination services. Guarantee access to vaccination for everyone and adapt to local conditions, sociodemographic changes, and the presence of specific populations (ethnic groups, migrants, populations affected by natural disasters, etc.). Take advantage of integrated approaches within the health system (service delivery, supply chain, cold chain, surveillance,

etc.) and other care primary interventions (deworming, vitamin A, etc.) with emphasis on microplanning, supervision, evaluation, and accountability.

c. Epidemiological surveillance of vaccine-preventable diseases. Improve the quality and timeliness of reporting to provide rapid response; and strengthen case studies and laboratory capacity in order to guarantee timely response on the part of health services.

d. Information systems. Systematically monitor inequalities to inform decisions on how coverage can be improved with emphasis on vulnerable population groups, areas with migratory movements or social conflicts, unplanned urbanization, and ethnic groups. Using management tools (microplanning, conditional subsidies, etc.), implement strategies for everyone to have access to vaccination. Strengthen the quality and use of data to allow analysis and decision-making at all levels.

e. Communication and social mobilization. Evaluate the organizational, cultural, and operational obstacles to vaccination. On this basis, adopt integrated communication strategies focused on each population group in order to strengthen messages about the trustworthiness, safety, and efficacy of vaccines.

## Annex 1

| Strategic line of action 1. Sustain the achievements | | |
|---|---|---|
| General (GO) and Strategic Objectives (SO) | Indicator | Status |
| **GO 1.1 Maintain the Region's status as polio-free** | **GO 1.1.1** Number of countries and territories reporting cases of paralysis due to wild poliovirus or the circulation of vaccine-derived poliovirus (cVDPV) in the last year<br>Baseline: 0 in 2013<br>Goal: 0 in 2020 | As of 2018, 0/52 countries or territories in the Region reported cases of paralysis due to wild poliovirus or the circulation of vaccine-derived poliovirus. |
| **GO 1.2 Maintain elimination of measles, rubella, and CRS** | **GO 1.2.1** Number of countries and territories in which endemic transmission of measles or rubella virus has been re-established<br>Baseline: 0 in 2013<br>Goal: 0 in 2020 | As of 2019, 2/52 countries or territories in the Region reported endemic cases of measles or rubella virus.<br>**This indicator is off track.** |
| **GO 1.3. Maintain achievements reached in vaccine-preventable disease control** | **GO 1.3.1** Number of countries and territories that meet the indicators for monitoring the quality of epidemiological surveillance of acute flaccid paralysis (AFP) cases<br>Baseline: 2 in 2013<br>Goal: 13 in 2020 | As of 2018, 7/52 countries or territories in the Region meet the indicators for monitoring the quality of epidemiological surveillance of acute flaccid paralysis (AFP) cases. |
| | **GO 1.3.2** Number of countries and territories that meet the indicators for monitoring the quality of epidemiological surveillance of suspect measles, rubella and congenital rubella syndrome cases<br>Baseline: 9 in 2013<br>Goal: 18 in 2020 | As of 2018, 13/52 countries or territories in the region meet the indicators for monitoring the quality of epidemiological surveillance of suspect measles, rubella and congenital rubella syndrome cases. |
| | **GO 1.3.3** Number of countries and territories that administer hepatitis B vaccine to newborns during the first 24 hours<br>Baseline: 18 in 2013<br>Goal: 25 in 2020 | As of 2018, 26 countries and territories have adopted the universal birth dose vaccination policy. |

| Strategic line of action 1. Sustain the achievements | | |
|---|---|---|
| General (GO) and Strategic Objectives (SO) | Indicator | Status |
| **SO 1.1. All countries make a commitment to vaccination as a priority for health and development** | **SO 1.1.1** Number of countries and territories that have a legislative or regulatory basis for their immunization program<br>Baseline: 28 in 2013<br>Goal: 32 in 2020 | As of 2018, no additional countries have approved legislations for their immunization programs.<br>**This indicator is off track.** |
| | **SO 1.1.2** Number of countries and territories having an immunization technical advisory committee that meets WHO's criteria for good operation<br>Baseline: 15 in 2013<br>Goal: 18 in 2020 | As of 2018, 38 countries and territories report having the support of a well-functioning National Immunization Technical Advisory Group (NITAG). |
| | **SO 1.1.3** Number of countries and territories that have a current annual immunization plan of action that includes operational and financial plans<br>Baseline: 25 in 2013<br>Goal: 35 in 2020 | As of 2018, 39 countries have an up-to-date annual immunization plan that includes operational and financial plans. |
| **SO 1.2 Individuals and communities understand the value of the vaccines** | **SO 1.2.1** Number of countries and territories that report having monitored public satisfaction with vaccination during Vaccination Week in the Americas or other activities<br>Baseline: 0 in 2013<br>Goal: 15 in 2020 | As of 2018, 10 countries and territories have reported using Vaccination Week as a platform to monitor public awareness, acceptance, and satisfaction during Vaccination Week in the Americas in 2018. |

| Strategic line of action 2. Complete the unfinished agenda in order to prevent and control vaccine preventable diseases | | |
|---|---|---|
| General (GO) and Strategic Objectives (SO) | Indicator | Status |
| **GO 2.1 Eliminate neonatal tetanus as a public health problem in all countries** | **GO 2.1.1** Number of countries with municipalities reporting rates of neonatal tetanus above 1/1 000 live births<br>Baseline: 1 in 2013<br>Goal: 0 in 2020 | As of 2018, 0/52 countries or territories reported municipalities reporting rates of neonatal tetanus above 1/1 000 live births. |
| **GO 2.2 Meet vaccination coverage targets at all levels** | **GO 2.2.1** Number of countries reporting national average coverage of at least 95% with three doses of DPT vaccine in children under 1 year<br>Baseline: 19 in 2013<br>Goal: 35 in 2020 | As of 2018, 16 countries have reached at least 95% of coverage with DPT3.<br>**This indicator is off track.** |
| | **GO 2.2.2** Number of countries reporting coverage of at least 80% in each district or equivalent with three doses of DPT vaccine in children under 1 year<br>Baseline: 12 in 2013<br>Goal: 35 in 2020 | As of 2018, 22 countries report DPT3 coverage of at least 80% in each district.<br>**This indicator is off track.** |
| **SO 2.1 Immunization benefits extend equitably to all people and social groups** | **SO 2.1.1** Number of countries and territories reporting coverage by income quintile or other subgroups that make it possible to monitor vaccination equity<br>Baseline: 0 in 2013<br>Goal: 15 in 2020 | As of 2018, 3 countries in the Region have reported coverage by income quintile or other subgroups that make it possible to monitor vaccination equity.<br>**This indicator is off track.** |

| Strategic line of action 3: Tackle new challenges in the introduction of vaccines and asses their impact | | |
|---|---|---|
| General (GO) and Strategic Objectives (SO) | Indicator | Status |
| **GO 3.1 Introduce vaccines in sustainable manner** | **GO 3.1.1** Number of countries and territories that have introduced one or more new vaccines into their national vaccination schedules<br>Baseline: 32 in 2013<br>Goal: 40 in 2020 | As of 2018, 46 countries and territories have introduced one or more new vaccines [Rotavirus, Neumococo, VPH] into their national vaccination schedule. |
| **SO 3.1 Decision-making is evidence-based and impact assessments ensure that policies are adopted to maximize the benefits of vaccination** | **SO 3.1.1** Number of countries and territories that have conducted studies prior to the introduction of a vaccine (e.g., cost-effectiveness analysis)<br>Baseline: 14 in 2013<br>Goal: 20 in 2020 | As of 2018, 16 countries and territories have conducted studies prior to the introduction of new vaccines. |
| | **SO 3.1.2** Number of countries and territories that have conducted studies after the introduction of a vaccine (e.g., impact assessments, operational review, etc.)<br>Baseline: 9 in 2013<br>Goal: 15 in 2020 | As of 2018, 18 countries and territories have conducted studies after the introduction of a vaccine. |

| Strategic line of action 4: Strengthen health services for effective vaccine administration | | |
|---|---|---|
| General (GO) and Strategic Objectives (SO) | Indicator | Status |
| **GO 4.1 Achieve the expected results proposed by the Post-2015 Development Agenda for reductions in infant mortality and maternal mortality** | **GO 4.1.1** Number of countries and territories whose immunization schedules include vaccination of pregnant women against influenza and/or with tetanus-diphtheria vaccine, as tracers of maternal vaccination<br>Baseline: 27 in 2013<br>Goal: 35 in 2020 | As of 2018, influenza vaccination is indicated for pregnant women in 34 countries the Region. |
| | **GO 4.1.2** Number of countries and territories that offer other preventive interventions integrated with vaccination<br>Baseline: 4 in 2013<br>Goal: 20 in 2020 | As of 2018, 34 countries offer preventive interventions integrated with vaccination.<br>For example: Deworming, Iron and folic acid, vitamin A, etc. |

| Strategic line of action 4: Strengthen health services for effective vaccine administration | | |
|---|---|---|
| General (GO) and Strategic Objectives (SO) | Indicator | Status |
| **SO 4.1 Supplies are available for the immunization program on a sustainable basis with national resources** | **SO 4.1.1** Number of countries and territories that finance more than 90% of their immunization programs with national resources<br>Baseline: 27 in 2013<br>Goal: 35 in 2020 | As of 2018, 34 countries and territories in the Americas are able to fund their own programs with domestic resources |
| | **SO 4.1.2** Percentage of birth cohort in Latin America and the Caribbean that has access to an adequate vaccine supply of quality vaccines<br>Baseline: 100 in 2013<br>Goal: 100 in 2020 | As of 2018, 100% of the birth cohort in Latin America and the Caribbean has access to an adequate vaccine supply of quality vaccines. The Revolving Fund (RF) considers that 100% of birth cohort in the region is accessing supply of quality through participation in the RF and/or local production in countries (e.g. Argentina, Brazil, Mexico) with National Regulatory Agencies (NRAs) competent and efficient performing regulatory functions recommended by PAHO/WHO. |
| | **SO 4.1.3** Number of countries and territories that procure vaccines through the Revolving Fund that meet the criteria for accuracy of demand for vaccines and supply<br>Baseline: 10 in 2013<br>Goal: 30 in 2020 | As of 2018, 14 of 41 participating countries achieved at least forecast accuracy targets set for at least 50% of vaccines procured. **This indicator is off track.** |

| Strategic line of action 4: Strengthen health services for effective vaccine administration | | |
|---|---|---|
| General (GO) and Strategic Objectives (SO) | Indicator | Status |
| **SO 4.2 Strengthened immunization services are part of comprehensive, well-run health services** | **SO 4.2.1** Number of countries and territories that have dropout rates below 5% between the first and the third dose of DPT vaccine<br>Baseline: 11 in 2013<br>Goal: 35 in 2020 | As of 2018, 28 countries and territories have the DPT1-3 drop-out rate under 5%. |
| | **SO 4.2.2** Number of countries and territories with coverage above 95% for third dose of DPT vaccine sustained for three or more consecutive years<br>Baseline: 13 in 2013<br>Goal: 35 in 2020 | As of 2018, 6 countries and territories have maintained DPT3 coverage above 95% for three or more consecutive years. **This indicator is off track.** |
| | **SO 4.2.3** Number of countries and territories that have conducted exercises to identify and correct barriers to reaching the unvaccinated or undervaccinated Populations<br>Baseline: 22 in 2013<br>Goal: 35 in 2020 | As of 2018, 27 countries and territories that have conducted exercises to identify and correct barriers to reaching the unvaccinated or undervaccinated populations |
| | **SO 4.2.4** Number of countries and territories that have held activities to improve the quality of their coverage data and that include these activities in their annual action plans<br>Baseline: 12 in 2013<br>Goal: 25 in 2020 | As of 2018, 41 countries and territories have held activities to improve the quality of their immunization data. |
| | **SO 4.2.5** Number of countries and territories that have a national system for computerized nominal immunization registry<br>Baseline: 3 in 2013<br>Goal: 10 in 2020 | As of 2018, 19 countries have EIR systems implemented. |
| | **SO 4.2.6** Number of countries and territories that report having had a stock-out of a vaccine or related supplies for one full month or more at any level (local, subnational, or national)<br>Baseline: 11 in 2013<br>Goal: 0 in 2020 | As of 2018, 23 countries and territories have reported stock-out for Pneumo conj, Rotavirus, BCG, DPT, Measles, Yellow fever, HPV, IPV, Polio, Tdap, Hep B. **This indicator is off track.** |
| | **SO 4.2.7** Number of countries and territories that have strengthened post-marketing surveillance of vaccines in the Expanded Program on Immunization (EPI)<br>Baseline: 4 in 2013<br>Goal: 10 in 2020 | As of 2018, 42 countries and territories have strengthened post-marketing surveillance of vaccines in the Expanded Program on Immunization (EPI) having a national system to monitor adverse events following immunization. |
| | **SO 4.2.8** Number of countries and territories that hold vaccination activities geared to health workers<br>Baseline: 19 in 2013<br>Goal: 25 in 2020 | As of 2018, 37 countries and territories in the Region have been working to improve the knowledge and skill of their health workers. |

# WHO REGIONAL OFFICE FOR EASTERN MEDITERRANEAN: PROGRESS REPORT FOR THE EASTERN MEDITERRANEAN REGION

## CONTENTS



This report covers progress of the Eastern Mediterranean Region (EMR) towards implementation of the Eastern Mediterranean Vaccine Action Plan 2016-2020. It is described through reviewing the regional situation with regards to progress towards achieving the goals of the Eastern Mediterranean Vaccine Action Plan during the period of the Global Vaccine Action Plan (GVAP) 2011-2019.

## INTRODUCTION

The Eastern Mediterranean Vaccine Action Plan (EMVAP) 2016–2020 has been developed as a framework for implementation of the GVAP in the Member States of the Eastern Mediterranean Region (EMR), to guide prevention and control of vaccine-preventable diseases from 2016 to 2020 and beyond, by defining objectives, priority actions and programme indicators, considering the specific needs and challenges of Member States in the EMR.

**Goals of the EMVAP are:**

**Goal 1:** Attain interruption of wild poliovirus transmission and sustain polio-free status.

**Goal 2:** Meet regional routine vaccination coverage targets at all administrative levels.

**Goal 3:** Meet regional disease elimination and control targets, including:

- Measles elimination
- Maternal and neonatal tetanus elimination
- Regional hepatitis B reduction goal (reduction of prevalence of chronic hepatitis B virus infection to less than 1% among children below 5 years of age)

**Goal 4:** Introduce new and underutilised vaccines of regional and national priority.

# REGIONAL CONTEXT

The Eastern Mediterranean Region is a very diverse and troubled region – a mix of large and small, rich and poor and stable and war-torn countries. With a population of over 650 million people living in 22 countries and a birth cohort of nearly 18 million, the Region faces emergencies on an unprecedented scale, due to political conflict as well as its propensity to epidemic- and pandemic-prone diseases. More than half the population of the EMR live in countries with graded emergencies: four countries at grade 3, two at grade 2 and three at grade 1. Almost 30 million displaced persons – more than half of all displaced persons globally – originate from the Region, half of them are internally displaced. As of 2018, nine countries featured in the World Bank list of fragile situations and six are among the 15 countries identified as extremely fragile by the Organization for Economic Co-operation and Development (OECD). According to the UHC global monitoring report, as of mid-2017, around 347 million people of the region have access to basic health services, representing a weighted population coverage of 53% – below the global population weighted coverage of 64%.

# PROGRESS TOWARDS ACHIEVING REGIONAL IMMUNIZATION GOALS: CURRENT SITUATION IN THE EMR

## Goal 1: Interruption of wild poliovirus transmission

Still Afghanistan and Pakistan are polio endemic. Polio eradication is covered under a separate programme in EMRO.

## Goal 2: Routine immunization coverage

Countries of the EMR are at wide range of strength of the immunization system. While some countries have very strong and resilient systems that were capable of withstanding the shocks that happened with the geopolitical situation during the past few years and were able to keep vaccination coverage high, other countries weren't able to withstand the turmoil and have suffered from system collapse in many areas. As a result, vaccination coverage dropped significantly in those countries and outbreaks of several vaccine-preventable diseases resurged.

According to WUENIC 2018, released in July 2019, 14 countries in the EMR have achieved and maintained the vaccination coverage goal at national level (≥90% coverage of DTP3-containing vaccine), two countries, that are conflict affected, (Somalia and the Syrian Arab Republic), had some of the lowest vaccination coverage globally (42% and 47% respectively). And yet, regional coverage rates with DTP3 containing vaccine increased from 79% in 2011 to 82% in 2018. The annual number of DTP3 vaccinated children increased by 8% during the same period. More than 90% of the 3 million DTP3 unvaccinated children in the EMR are in countries facing acute or protracted emergency situation (Afghanistan, Iraq, Pakistan, Somalia, the Syrian Arab Republic and Yemen).

Despite the major challenges faced, several countries in the region, including some of those suffering from internal difficulties, succeeded in maintaining the strong immunization programme and further improving it. The governments' commitment in those countries and the population demand for vaccines contributed to maintaining high immunization coverage. Countries surrounding the Syrian Arab Republic, specially Jordan and Iraq, showed great response in provision of routine immunization to the Syrian refugees while addressing the countries' own EPI programme needs.

With the partners' support, countries of the region are undertaking different strategies, tailored for the local situation, for improving immunization coverage, including implementation of periodic implementation of routine immunization (PIRI) in Afghanistan and areas of Sudan, intensified outreach and mobile activities to reach the hard to reach populations in Yemen and the Syrian Arab Republic; using truce periods to implement multi antigens campaigns in the Syrian Arab Republic and Libya and utilizing the occasion of the world vaccination week for reaching defaulters with all antigens in the Syrian Arab Republic. The high population demands in the countries facing internal difficulties, such as Egypt, Tunisia and Libya, was instrumental in maintaining the high coverage of routine immunization despite the challenges.

## Box 1: Revitalizing routine immunization services in government inaccessible areas in the northern part of the Syrian Arab Republic

The volatile situation and destruction of the health care infrastructure in the northern part of the Syrian Arab Republic (later abbreviated as 'northern Syria') led to dramatic reduction or even absence of health care services. Vaccination services were among those heavily affected by the conflict and active war in northern Syria. The several years of interruption of vaccination services in those areas resulted in significant immunity gap and occurrence of outbreaks of several VPDs including repeated outbreaks of polio, measles, mumps and pertussis.

To fill in the gap in immunization services, Syria Immunization Group (SIG) was formed, in late 2013, of a group of organizations working in the health relief in northern Syria, led by a general assembly and Co-Chaired by WHO & UNICEF. A technical committee is formed within the SIG to represent all EPI functions. SIG, based in Gaziantep, Turkey, is responsible for managing provision of immunization services for children in northern of Syria, including routine vaccination and SIAs.

To provide all antigens to all children who have missed any vaccine dose in northern Syria, three rounds of multi antigen campaigns were implemented in 2015-2016 targeting all children who were born since the conflict. After clearing up all accumulated susceptible children, it was time for resuming routine immunization services. The plan for resuming RI included establishment of 98 vaccination centers by end of 2018. Routine immunization revitalization plan entailed mapping the health centers that are potentially capable of providing immunization services, equipping those centers with required cold chain and other equipment; training of new vaccinators and refresher courses for the old vaccinators, implementing outreach activities, especially among nomadic population, IDPs and hard to reach communities. EPI was re-launched in northern Syria in March 2017, starting with only five EPI centers, to reach 98 health centers that provide vaccination services in January 2019.

WHO is supporting the operational costs for 40 out of the 98 working centers in addition to operational cost of the SIG, while the remaining health centers are run by the local and international NGOs. UNICEF is providing vaccines and cold chain that have been provided by exceptional support from GAVI during the past two years. The annual target of less than one-year old children in those areas is reported to be around 15-20% of the national target. Periods of interruption of the function of some of those health centers are recurring due to active war.

Figure 1: Progress in the number of operating EPI centres in the northern Syria between March 2017 and February 2019

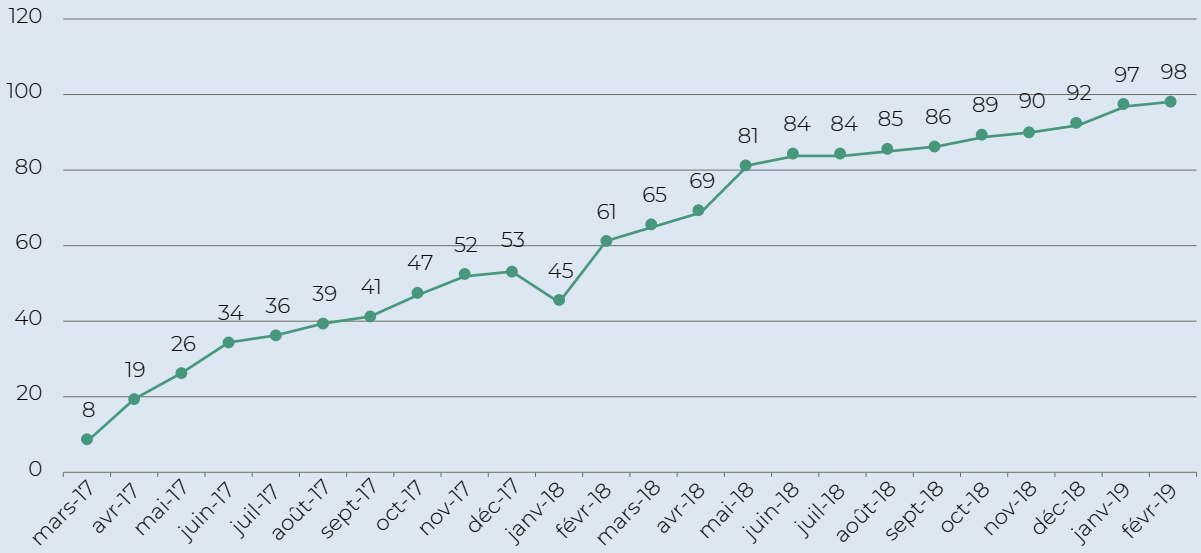
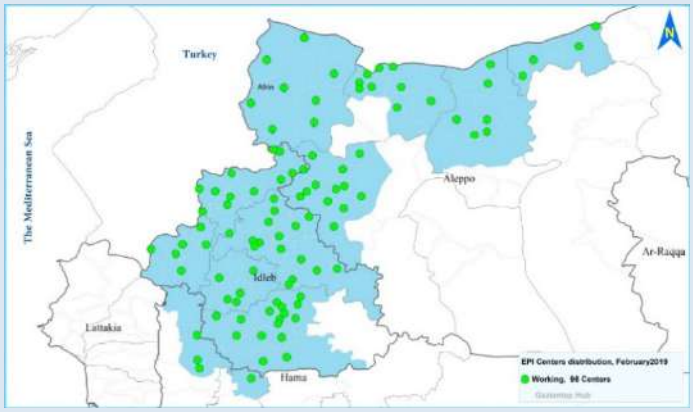


Figure 2: Map of operating EPI centres in northern Syria, as of February 2019




## Box 2: Root cause of low routine immunization in Iraq: analysis of the situation in lowest coverage districts in Iraq

The Government of Iraq pays due attention to strengthening immunization system and improving routine immunization coverage in Iraq. Upon request of His Excellency the Minister of Health, an in-depth analysis of the situation of immunization programme in 30 low coverage districts (out of total of 144 districts) was conducted. The main problems identified include:

- Interruption of vaccine supply: whether due to stock out or difficulty in distribution due to conflict situations
- Decreasing population demand to immunization due to competing priorities
- Considerable proportion of the health facilities are not providing immunization services
- Human resource problems: Inadequate staff at district level and rapid turn-over at provincial level; lack of motivation and career path, lack of guidelines and reference materials.

Since conducting the root-cause analysis in March 2019, the Ministry of Health has taken urgent steps for implementation of the actions rated as “high priority”, including:

- Revising the national vaccination schedule and vaccine procurement procedures to ensure more efficiency and cost-effectiveness of the supply chain
- Conducting effective vaccine management assessment and development of EVM improvement plan is ongoing
- Districts microplanning and addressing the local problems started immediately
- National and Field Guidelines on immunization have been developed and a training plan will be implemented
- National immunization policy will be developed mid-August and Comprehensive multi-year plan will be developed in October 2019
- Reviewing the situation of the health facilities that are not providing immunization is underway
- Comprehensive EPI review is planned for early 2020

# Goal 3: Disease elimination and control

## Goal 3.1: Measles elimination

All countries of the EMR have adopted the regional strategy for measles elimination with different degrees of success. While half of the countries are still struggling with repeated measles outbreaks, the other half of the countries has shown remarkable progress towards measles elimination.

More than 64 000 measles cases have been reported to EMRO through the measles surveillance network in 2018, around 90% of these cases were in two countries: Pakistan and Somalia. EMR countries suffering from outbreaks of measles have done great efforts in implementation of measles SIAs. More than 75 million people have been vaccinated with measles-containing vaccines through SIAs during 2017-2018.

Figure 3:Monthly distribution of measles cases in the EMR from January 2008 to April 2019

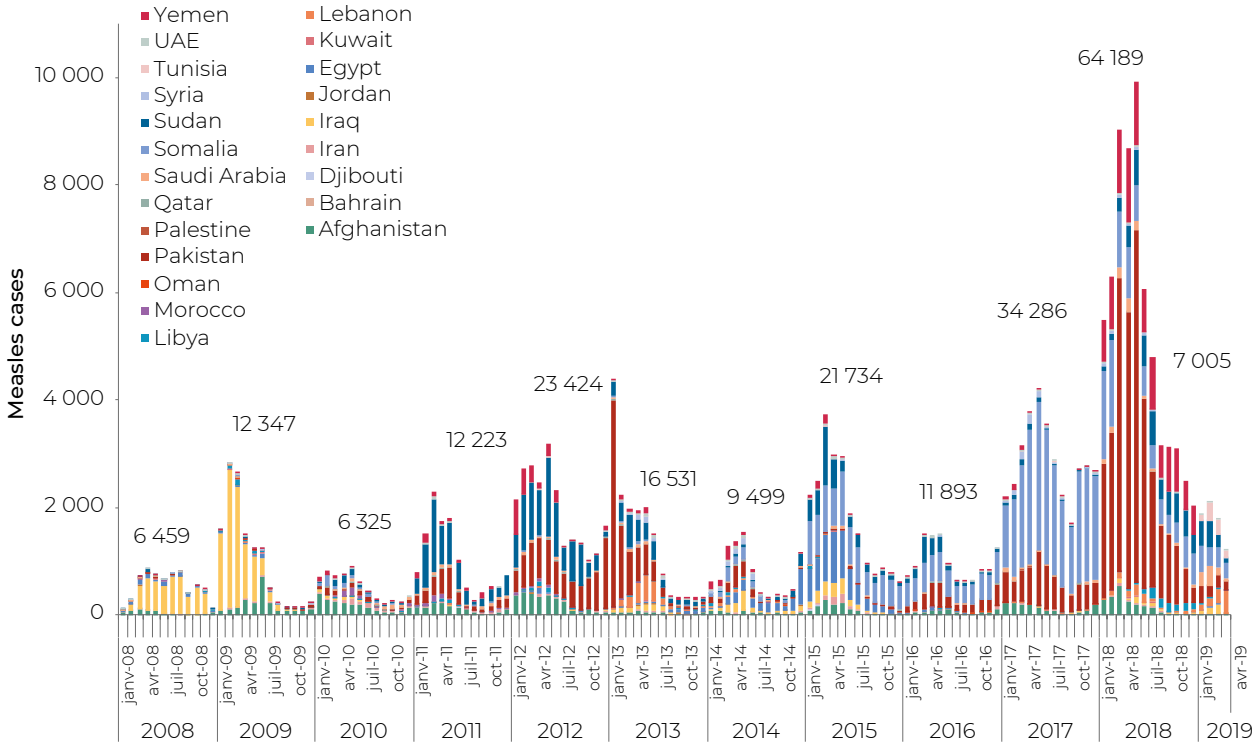
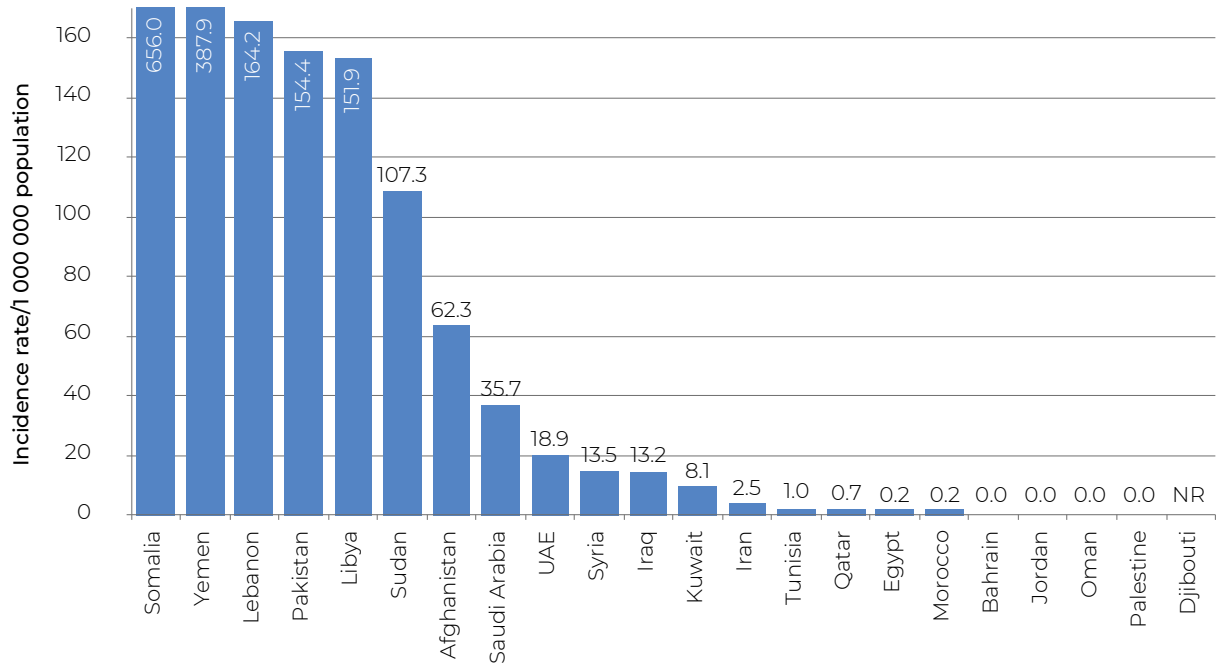



Figure 4: Measles incidence (per million population) in EMR countries in 2018

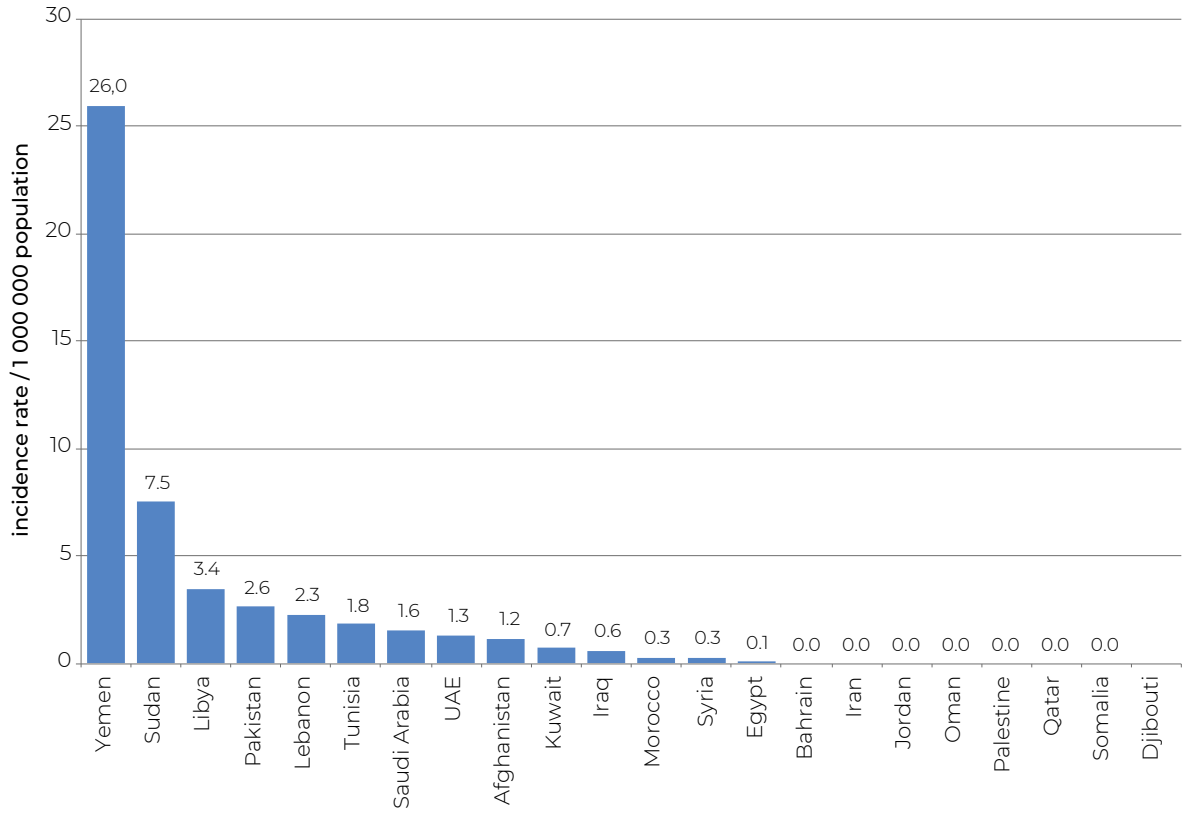


## Rubella Vaccine Use in Countries of the EMR

So far, 17/22 countries in EMR have been using rubella vaccines in their national immunization programme.

Available data denotes that several countries might have already achieved rubella elimination.

Figure 5: Incidence rate (per million population) of rubella cases in EMR countries in 2018




Achieving the target of measles elimination is challenged, mainly, by the current security and humanitarian situation in several countries and the unpredictable mass population displacements and resettlements that complicate delivery of routine vaccination services and planning and implementation of SIAs. The inadequate visibility of the measles elimination target, the inadequate managerial capacity and the competing public health priorities in most of the countries are major challenges. The inadequate financial resources to implement the planned SIAs, has significantly contributed to delayed implementation of the planned follow up SIAs and occurrence of outbreaks.

### Box 3: Verification of measles and rubella elimination in the EMR

At its 44th session in 1997, the Regional Committee for the Eastern Mediterranean Region adopted a resolution for measles elimination in all Member States of the Region by 2010 (EM/RC44/R.6). In 2011, due to delay in achieving the measles elimination goal, the Regional Committee decided to revise the target year of measles elimination to 2015 (Resolution EM/RC58/R.5). However, this goal was not achieved by the target date and the regional vaccine action plan 2016–2020, adopted by the Regional Committee in 2015, called for this goal to be achieved as soon as possible and for elimination to be verified in any country that achieved it without waiting for regional elimination. While the Eastern Mediterranean Region has not yet established a regional target for rubella/CRS elimination, several countries have set national rubella and/or CRS elimination targets.

To verify achieving the elimination goal, regional commission for verification of measles and rubella elimination (RVC-MR) was notified by RD/EMRO in February 2018. Implementation of the verification process started immediately after where a regional workshop, facilitated by RVC members, was conducted for briefing of the national verification been briefed on documentation of elimination of measles and rubella as well as developing countries' reports and requests for verification of elimination. Subsequently, three countries (Bahrain, Iran and Oman) submitted their national reports requesting verification of measles and rubella elimination.

The regional verification commission for measles and rubella elimination for the EMR (RVC-MR) met in Amman, Jordan, 15-16 May, to review the reports submitted by the three countries and decide on status of elimination of measles and rubella in those countries.

**RVC decision on the status of elimination of measles and rubella in the three countries as of end 2017:**

Based on the review of submitted initial country reports and the discussion with the participants from the three countries during the RVC meeting, the RVC declared the status of achievement of elimination of measles and rubella in the 3 countries as follows:

1. Bahrain
   - The RVC verified that Measles and Rubella have been eliminated in Bahrain.
2. Iran
   - The RVC verified that Rubella has been eliminated in Iran
   - The RVC concluded that further molecular evidence and more information on cases of unknown source are needed to verify the status of achievement of elimination of measles.
3. Oman
   - The RVC verified that Measles and Rubella have been eliminated in Oman.

## Goal 3.2: Maternal and neonatal tetanus elimination

The EMR has made progress toward reaching the global goal of maternal and neonatal tetanus (MNT) elimination. Elimination of MNT has finally been validated in Djibouti in 2018. However, four out of the 22 EMR countries (Afghanistan, Somalia, Sudan and Yemen), haven't achieved this goal and Pakistan has partially achieved this goal with validation of elimination in Punjab, the province that hosts more than half of the total population of Pakistan. Pre-validation of elimination, in Sindh, the second biggest province in Pakistan, was conducted in December 2018. Based on recommendations of the mission, two rounds of SIAs have been conducted in high risk districts early this year. Pre-validation will be repeated end of 2019.

The financial constraints and inability to allocate/mobilize required resources for implementation of the required SIAs in the high risk districts, together with the other competing priorities, are the main factor behind the failure in achieving this long delayed goal. As all the countries that have not achieved this goal in the EMR are Gavi eligible countries, financial support by GAVI might be a possible solution. This is going to be relatively small investment compared to the overall partners/donors investment in immunization but will potentially result in major public health impact.

## Goal 3.3: Hepatitis B reduction

In October 2009, Regional Committee (RC) of the Eastern Mediterranean passed a resolution adopting a regional Hepatitis B control goal to "reduce prevalence of chronic Hepatitis B virus infection to <1% among children aged under-5 years by 2015" (EMRC56R.5).

EMRO has developed a regional strategy for achieving Hepatitis B control target with the following components:

1. Strengthening routine infant hepatitis B immunization: a. provision of a birth dose of Hepatitis B vaccine to all newborns within the first 24 hours of life; b. increasing routine coverage with HepB3 to at least 90% and to complete the schedule during the first 6 months of life.
2. Ensuring vaccine effectiveness.
3. Advocacy and communication.
4. Monitoring and evaluation of the vaccination programme and progress towards achieving the target.

EMRO has been helping countries with the development and implementation of national strategies to achieve the regional hepatitis B control goal. The number of countries that are implementing Hepatitis B birth dose has increased from 13 in 2009 to 18 countries in 2018, including Pakistan that has partially introduced the birth dose (in one province) and in the process of expanding its use. The main challenge behind the delayed introduction of the birth dose continued to be the financial implication in the GAVI-eligible countries that are dependent on donors' funding for procurement of all vaccines. Advocacy is ongoing for introduction of the birth dose in the remaining countries.

### Box 4: Verification of achieving hepatitis b control target in EMR countries

Encouraged by the positive available information, from sero-surveys conducted in several countries and monitoring the programme performance that indicates that Hepatitis B reduction target might have been achieved in many countries.

Regional Commission for verification of achieving hepatitis B control target in EMR countries (RVC-HepB) was notified by the regional director of WHO EMRO. The Commission met in Amman, Jordan during the period 11-12 June 2019 and:

1. **Reviewed and endorsed regional guide on verification of Hepatitis B control.**
2. **Reviewed and finalized a template for the national report to be submitted by the country for verification of achieving the target.**
3. **Reviewed and finalized template of the RVC review report on verification of achieving the target.**

The commission will meet early 2010 for reviewing countries report on verification of achieving the target. So far, one countries (Egypt) has submitted its report requesting verification of achieving the target.

## Goal 4: Introducing new and underutilized vaccines of regional and national priority

Introduction of the new life-saving vaccines witnessed remarkable progress in the EMR during the past few years. During the period 2011-2019, 48 introductions of all types of new and underutilized vaccines in the region. As a result, currently, *Haemophilus Influenzae* type B (Hib) vaccine has been introduced in the national immunization programme in all EMR countries. Pneumococcal conjugate vaccine (PCV) has been introduced in 17 countries and rotavirus vaccine in 15 countries. IPV has been introduced in all countries. Meningococcal A conjugate vaccine (MenAfriVac) was introduced in routine immunization in Sudan and quadrivalent meningococcal vaccines (conjugate and polysaccharide) is in use in the national immunization programme in seven countries. HPV vaccine is now in use in Libya and was launched in UAE. A typhoid conjugate vaccine (TCV) campaign is starting in Pakistan in October 2019 and expected to be introduced in national immunization programme early 2020.

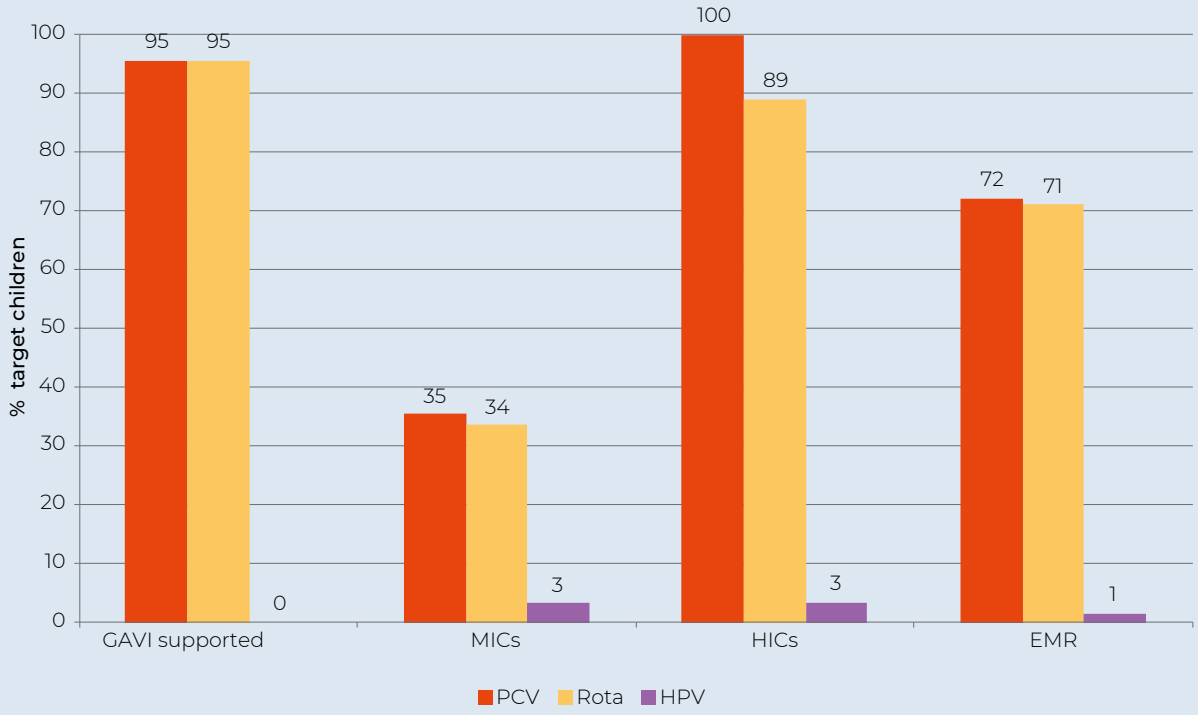
The support of GAVI, the Vaccine Alliance, to the eligible countries and the governments' commitments to fulfilling the co-financing components, has been pivotal in facilitating introduction of new vaccines in those countries. The exceptional commitment of the governments of the middle-income countries to fully finance their immunization programmes, including introducing new vaccines is worth highlighting.

## Box 5: Equity in access to new and underutilized vaccines: Middle-income, never Gavi eligible, countries in the EMR are lagging behind

Middle-income, never Gavi eligible countries (MICs), continue to be lagging behind in introduction of new and underutilized vaccines. This is due mainly to the combined effect of the high cost of the vaccines and the inadequate allocation of the necessary domestic resources. In terms of number of countries, 40% and 50% of MICs haven't introduced PCV and rotavirus vaccines respectively. The corresponding proportions for Gavi-eligible countries is 17% for both vaccines. All HICs have introduced PCV vaccine and one remaining country is in the process of introducing rotavirus vaccine.

The picture is even more striking when we consider the number of children born in those countries. as shown in Figure 6, only one third of the children born in MICs have the chance to access PCV or rotavirus vaccine, which is far below the chance that the children born in HIC or Gavi- eligible countries have.

Figure 6: Proportion of target population who have access to new vaccines according to income category, as of July 2019




## CHALLENGES FACING ACHIEVEMENT OF THE IMMUNIZATION GOALS IN THE EMR

- Security and humanitarian emergency situation in half of the EMR countries: over 90% of DTP3 unvaccinated children in the region are living in countries affected by acute or protracted emergency situation. Active conflicts and its after effect has changed people's priorities. Demand to vaccinations has decreased significantly where shelter and food are lacking. Reaching unvaccinated children, vaccine distribution and execution of vaccine delivery are challenged by the destruction, disagreement among opponents on allowing vaccination services and active war in many occasions.
- Inadequate managerial capacity, rapid turn-over of national staff, migration and displacement of health workers, further constrained by the multiple competing priorities and increasing demands for health workers for facing the humanitarian emergency situation in many countries.
- Inadequate attention to or visibility of the immunization goals and lower priority given by the respective authorities to routine immunization in view of the more pressing needs in some countries.
- Uncertainty about the target population in several countries due to inadequate civil registration systems, poor/old census data and continuous internal and/or external population movement.

- Inadequate financial resources: the overall share of total domestic expenditure for the vaccination programmes has increased in most of the EMR member states with introduction of the new vaccines and implementation of disease eradication and elimination strategies. However, that expenditure has not reached the sufficient level for implementation of the strategies and activities necessary for achieving the global and regional immunization goals, especially with the financial requirements for implementation of the strategies related to measles/rubella elimination, MNT elimination and introduction of new vaccines.

## CONCLUSION

Despite the major challenges the region has been facing, several successes were achieved. Thanks to the high dedication and devotion of the front line health workers, who are risking their life while trying to reach every child with life-saving vaccines; thanks to the trust in vaccines by the governments and populations; thanks to the continuous allocation of resources required for EPI by the governments in several countries that are passing by economic difficulties; thanks to the partners and donors who gave hands and provided exceptional support to the people in need, EPI was maintained and progressed in the region. Regional DTP3 coverage had 3% increase and the number of vaccinated children increased by 8% during these difficult years and several new vaccines were introduced even in countries in conflict, verification of achievement of the elimination and control goals has started and planned SIAs were successfully implemented under difficult situation. While this is a modest progress, it opens hopes for rapidly progressing towards achieving the global and regional goals while starting recovery and development plans in several countries.

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# WHO REGIONAL OFFICE FOR EUROPE: PROGRESS REPORT FOR THE EUROPEAN REGION

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## IMMUNIZATION PERFORMANCE IN THE EUROPEAN REGION IN 2018

The 53 countries of the World Health Organization's (WHO's) European Region are home to over 900 million people, with a combined annual birth cohort of over 11 million.

Immunization performance for the European Region (Region) as a whole improved in 2018. Coverage for all vaccines in the Region as in the WHO–United Nations Children's Fund (UNICEF) estimates of national immunization coverage[1] have either increased or remained the same.

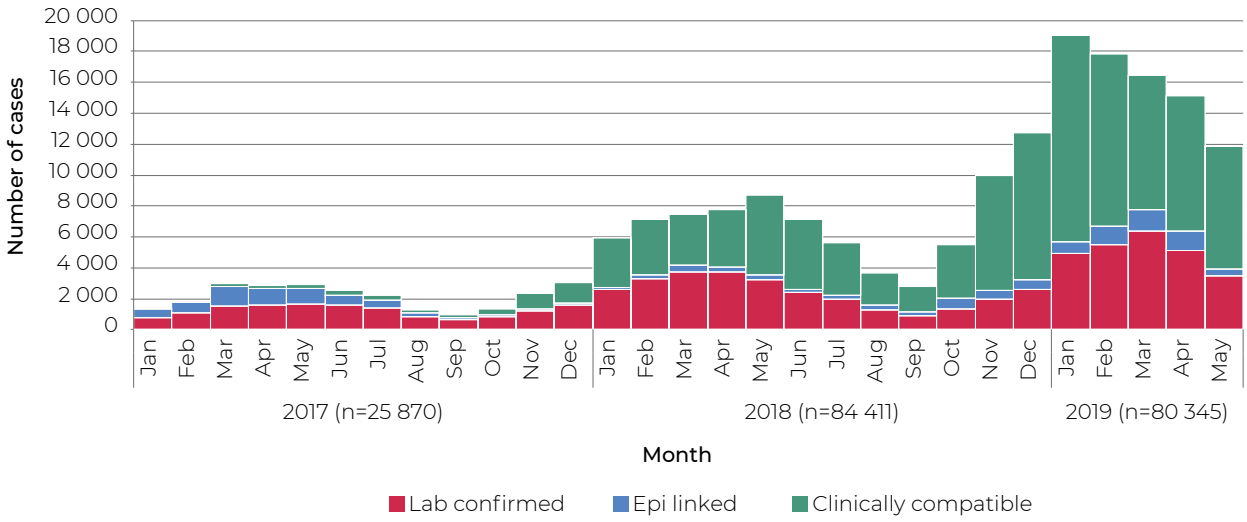
The Region achieved 91% immunization coverage for the second dose of measles containing vaccine in 2018 - the second consecutive year in which the level of coverage reached a record high in the Region. Increases were also realized for vaccination against tuberculosis, hepatitis B, polio and pneumococcal diseases.

The improving regional performance is a welcome trend, but just a start. The Region's 91% coverage with the second dose of measles-containing vaccination, for example, is higher than that of any other WHO Region for 2018, but it is not enough to prevent the transmission of measles. It also masks serious gaps in coverage at national level for some countries and at subnational level even in countries with high national coverage, which are often not identified until outbreaks occur.

Measles has resurged in the Region, reaching a decade high in 2018, with 47 of 53 countries together reporting 84 411 cases. This trend has continued into 2019. The dramatic increase compared to previous years has been a wake-up call for individuals and governments that the disease is serious, highly infectious and a persistent health risk for any susceptible child or adult, no matter where they live.

[1] WHO-UNICEF national immunization coverage estimates (WUENIC) [https://www.who.int/immunization/monitoring_surveillance/data/en/]

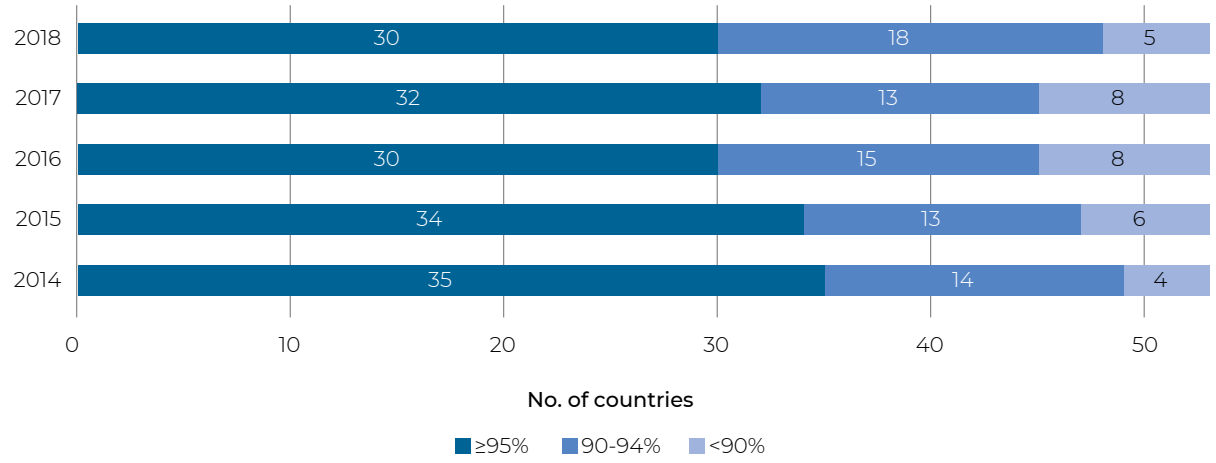
Figure 1: Measles cases by month in the WHO European Region, 2017–May 2019




**Note:** Criteria for date of case inclusion may differ in accordance with Member States' surveillance systems.
*Source:* Monthly aggregated and case-based data reported by Member States to WHO/Europe directly or via ECDC/TESSy, data as of 4 July 2019

Regional vaccination coverage as a whole for other antigens also masks trends within countries, which reveal a more mixed picture. The number of countries in the Region that achieved coverage ≥95% with the third dose of diphtheria-tetanus-pertussis vaccine (DTP3) decreased from 35 in 2014 to 30 in 2018.

Figure 2: DTP3 coverage in the European Region, 2014-2018




*Source:* WHO-UNICEF estimates of national immunization coverage (WUENIC)

The decrease in number of countries in the Region with ≥95% DTP3 coverage in 2018 is concerning and this points towards an accumulation of susceptible infants for all primary vaccines in the national immunization schedules. Of the 38 countries which have reported district level coverage for the year 2018, as of date, only 18 reached the target of ≥ 90% districts with DTP3 coverage ≥90% established in the European Vaccine Action Plan 2015-2020 (EVAP)[2].

## VACCINATION CHALLENGES FACED IN MIDDLE-INCOME COUNTRIES IN THE EUROPEAN REGION

The European Region has 21 middle-income countries (MICs), which together account for 46% of the Region's population and 54% of the birth cohort. Immunization programmes in MICs that do not benefit from external support face difficulties in achieving and sustaining high immunization coverage and are especially lagging behind the rest of the Region in terms of newer vaccine introductions (specifically vaccines against pneumococcal disease, rotavirus and human papillomavirus).

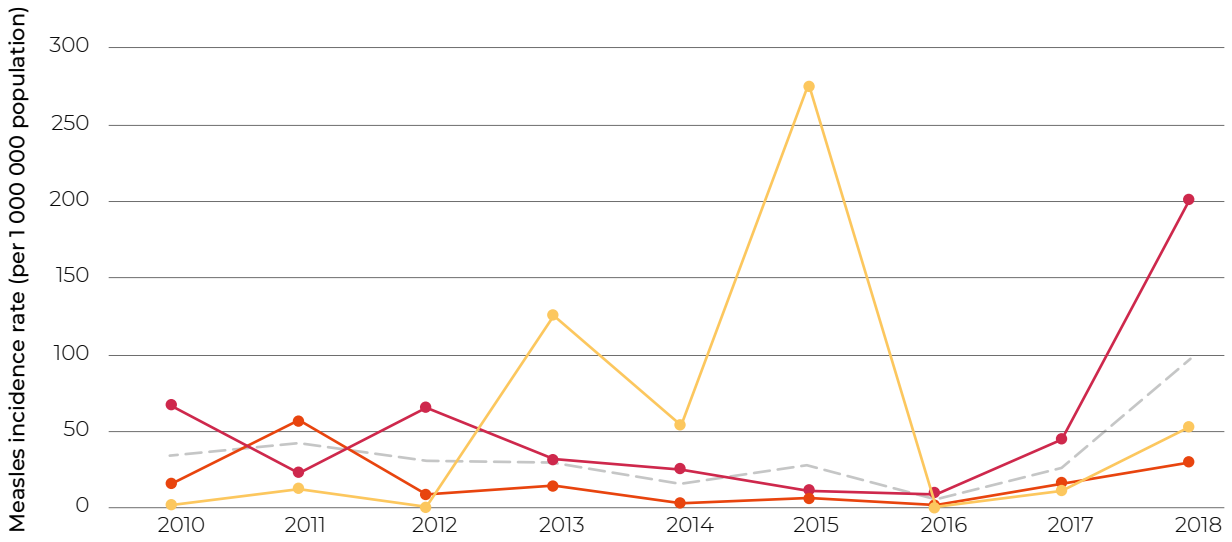
The mid-term evaluation of EVAP carried out in 2018 (indicative of data until 2017) showed that

[2] European Vaccine Action Plan 2015–2020 Copenhagen: World Health Organization Regional Office for Europe; 2014 [ http://www.euro.who.int/en/health-topics/disease-prevention/vaccines-and-immunization/publications/2018/european-vaccine-action-plan-2015-2020-midterm-report]

unless corrective measures are taken, the decline or stagnation in the performance of several MICs could pose a threat to their national progress and the regional achievement of EVAP goals and targets[3].

The evaluation of progress in 2018 indicates that the situation has not changed significantly. In 2018, for example the Region saw the highest incidence of measles since the start of the decade (Figure 1). This measles resurgence represents a setback to the regional achievement of measles elimination by 2020.

Figure 3: Measles incidence by country income category and availability of donor support, 2010-2018*

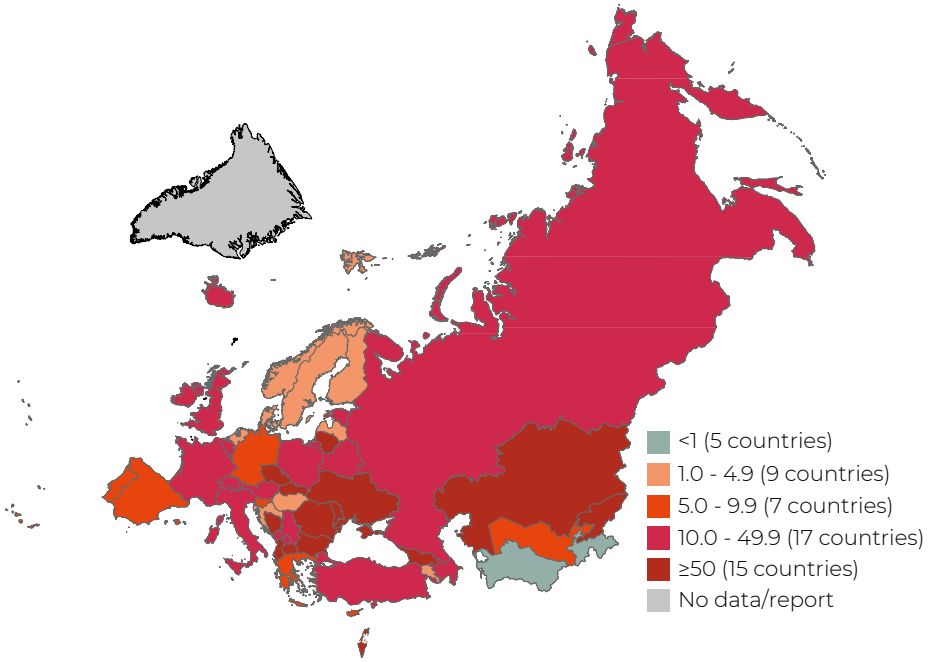



*For 2018, the monthly measles data from Luxembourg considered in the absence of 2018 WHO/UNICEF JRF

Data source: WHO/UNICEF JRF, 2010-2018. Population source: United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2017 Revision.

While an increase in incidence was seen across all countries in the Region, seven of the top ten countries in the Region in terms of measles incidence in 2018 were MICs (Figure 4).

Figure 4: Measles incidence per 1 million population in the WHO European Region, 2018



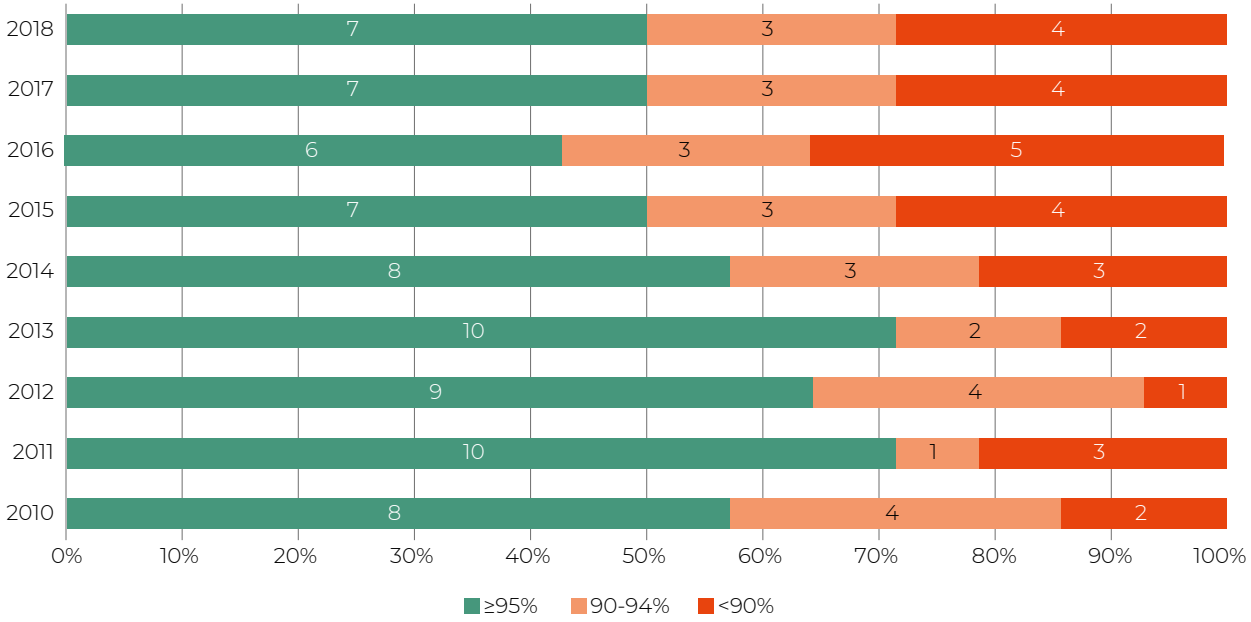

| Top 10 countries | |
|---|---|
| Country | Incidence |
| Ukraine | 1209.25 |
| Serbia | 579.32 |
| Georgia | 563.84 |
| Albania | 499.60 |
| Israel | 373.60 |
| Montenegro | 322.62 |
| Greece | 196.82 |
| Kyrgyztan | 180.01 |
| Romania | 111.85 |
| Slovakia | 104.96 |

Population source: United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2017 Revision.

[3] European Vaccine Action Plan 2015-2020 - midterm report Copenhagen: WHO Regional Office for Europe; 2018 http://www.euro.who.int/en/health-topics/disease-prevention/vaccines-and-immunization/publications/2018/european-vaccine-action-plan-2015-2020-midterm-report.

Though at 94% immunization coverage with the third dose of diphtheria, tetanus and pertussis vaccine (DTP3) for the Region as a whole in 2018, the highest among all WHO regions, it remains below the 95% target, with half of fully self-financing MICs among the countries falling short of this target in 2018.

Figure 5: DTP3 coverage in the 14 fully self-financing MICs, 2010-2018




Data source: WHO/UNICEF coverage estimates (WUENIC), as of 15 July 2019

Population source: United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2017 Revision.

The MICs have also been slower to introduce newer vaccines such as pneumococcal conjugate vaccines (PCV), rotavirus (RV) and human papillomavirus (HPV) vaccines.

Table 1: Introduction of new vaccines by income category and eligibility for donor support, by 2018

| Income category | Number of vaccines introduced by Member States (of PCV, RV and HPV) | | | | |
|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | Total |
| HIC | 0 | 4 | 14 | 14 | 32 |
| MIC (no donor support) | 4 | 9 | 0 | 1 | 14 |
| MIC (donor support) | 1 | 2 | 1 | 3 | 7 |
| Total | 15 | 30 | 54 | 53 | 15 |

## RESPONDING TO THE CHALLENGES IN MIDDLE-INCOME COUNTRIES IN THE REGION

The challenges faced by the MICs in the Region are multi-dimensional requiring a tailored, prioritized, multi-dimensional response. It is imperative that concerted efforts are made in the Region to address these challenges to ensure equitable provision of immunization services and to thereby protect their entire populations from vaccine-preventable diseases.

To address this performance gap, the WHO Regional Office for Europe is developing a first-of-its-kind immunization strategy for MICs in the European Region, which focuses on resolving critical gaps standing in the way of concrete immunization

gains in these countries. Drawing on the global MIC strategy developed by WHO headquarters[4] and based on a series of consultations with the Ministers of Health and other high-level country representatives, donors and partners, the European MICs strategy will emphasize the need for coordinated partner action across the following five workstreams identified as critical enablers for immunization gains in MICs.

The strategy will emphasize the need to:

1. establish evidence-based policies for the optimal and sustained use of vaccines;
2. achieve sustainable financing through the optimal allocation and efficient use of financial resources to achieve immunization and disease control targets;
3. secure an uninterrupted supply of vaccines of assured quality at an affordable cost through strengthening procurement legislation and processes, and creating cross-country collaborations;
4. sustain high demand for vaccination by identifying barriers to vaccination, translating evidence into effective interventions, testing innovative strategies for increased uptake and promptly responding to events that may erode confidence;
5. achieve equitable vaccination coverage using equity-based policies, strategies and targeted actions.

An implementation roadmap will outline the roles of national immunization programmes, ministries of health and their agencies in finalization and roll-out of the MIC strategy in the Region. The required coordinated actions from all relevant immunization stakeholders in the Region, including partners, will be pivotal in ensuring the targeted MICs receive the required assistance to address their challenges through country-specific tailored interventions. Roll-out of the strategy is expected to be operational by late 2019.

## THE BIGGER PICTURE: IMPACT BEYOND THE EUROPEAN REGION

The Vaccine-preventable diseases and immunization programme (VPI) of the WHO Regional Office for Europe provides a broad range of support to countries in the WHO European Region to help protect their populations from vaccine-preventable diseases. The team's activities and publications are well-received within the immunization and disease surveillance communities in the Region. In addition, several innovative approaches have attracted global attention and been recommended or adapted for implementation in other WHO regions. Below is a small selection of these innovations developed in the past several years.

### Tailoring immunization programmes (TIP)

Closing immunity gaps and equitably extending the benefits of vaccination to all population groups are crucial to meeting immunization targets and thereby also several global Sustainable Development Goals. To help close immunity gaps in the European Region, VPI developed in 2013 a methodology based on principles of social and behavioural sciences to diagnose the factors influencing vaccination intentions, decisions and behaviours so that immunization services can be tailored accordingly. The TIP approach[5] has subsequently been rolled out in several countries, including Bosnia and Herzegovina, Sweden and the United Kingdom, as well as in countries beyond the European Region, including Australia, Mauritania and South Africa.

The TIP approach has also been adapted for influenza (TIP FLU) and antimicrobial resistance (TAP) to diagnose and address issues related to behaviour and decision-making in these areas.

Creating a critical mass of trained social scientists and immunization programme staff who can facilitate implementation of this key methodology to ensure equitable access of immunization services is one of VPI's priority activities. Introduction to the TIP approach is part of an annual Behavioural Insights Summer School (BISS) organized jointly by WHO/Europe and the University of Erfurt in Germany. The growing group of BISS graduates, including participants from 26 countries in the European Region as well as Argentina, Australia, Burkina Faso, China, Philippines, South Africa and Viet Nam, demonstrates the Summer School's recognized value and global reach. A similar one-week training programme is being developed in Australia, combining TIP and other vaccine acceptance and demand training materials developed by VPI.

### Polio Outbreak Simulation Exercise (POSE)

An outbreak of imported poliovirus in Tajikistan in 2010 threatened the European Region's polio-free status. It also demonstrated the need for heightened preparedness to quickly respond to any such events in the future. To address this need, VPI designed a two-day tabletop exercise (Polio Outbreak Simulation Exercise, or POSE), which simulates a specific scenario, evolving from detection of a suspected polio case to cross-border transmission. By addressing legislation, communication, coordination and collaboration at national and international levels, the exercise gives countries the opportunity to critically review and update their national response plans, including use of the International Health Regulations mechanism.

[4] Sustainable Access to Vaccines in Middle-Income Countries (MICs): A Shared Partner Strategy Report of the WHO-Convened MIC Task Force, March 2015 http://www.who.int/immunization/sage/meetings/2015/april/Cernuschi_MIC_Strategy_SAGE_Apr2015.pdf?ua=1&ua=1

[5] http://www.euro.who.int/en/health-topics/communicable-diseases/poliomyelitis/activities/tailoring-immunization-programmes-to-reach-underserved-groups-the-tip-approach

Since 2011, sub- and inter-regional exercises have been conducted with representatives from Armenia, Azerbaijan, China, Czech Republic, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Mongolia, Republic of Moldova, Romania, Slovakia, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. VPI has also supported planning and organization of POSE exercises to be conducted in the WHO Western Pacific Region in March 2019 and the Eastern Mediterranean Region in April 2019.

## POSE and poliovirus containment

Eleven countries in the European Region plan to keep polioviruses for vaccine manufacturing or critical research purposes after the virus is no longer circulating anywhere in the wild. To do so, they must apply for certification of a poliovirus essential facility (PEF), where the materials can be safely stored and contained. Any breach of poliovirus containment is of serious international concern.

Preparing for biosafety accidents helps to prevent them and limit their impact should they occur. To help countries prepare and qualify for PEF certification, VPI adapted the POSE to focus on potential poliovirus containment breaches. The first-ever adapted exercise was conducted in October 2018 for the countries with planned PEFs. The scenario of the exercise was based on a real event, namely the accidental spill and exposure of 2 laboratory workers to poliovirus type 2 in a vaccine manufacturing plant in the Netherlands in 2017.

Given the need for heightened preparedness in every country during the final stage of global poliomyelitis eradication, these POSE exercises have immense programmatic value. The Global Certification Commission for Poliovirus Eradication (GCC) has commended the POSE exercises designed by VPI and recommended that they be rolled out to all WHO regions.

## Electronic Annual Progress Report (e-APR)

Every year, an independent panel of international public health experts in the European Certification Commission for Poliomyelitis Eradication (RCC) reviews annual poliomyelitis progress reports (APRs) on immunization, surveillance and outbreak preparedness submitted by all 53 countries in the Region and reports its findings and recommendations to the Regional Director of the WHO European Regional Office. Until recently, these APRs were submitted as paper reports. To facilitate submission of these reports by countries and their analysis by the RCC, VPI developed an electronic APR (e-APR) in 2018. This new web-based application was pilot-tested in 2018 (for reporting of 2017 data) and rolled out to all 53 countries in the Region in 2019 for reporting of 2018 data. At its annual meeting in May 2019, the RCC commended VPI for its leadership in developing and introducing the new platform, which will significantly improve the system and quality of data analysis. The GCC has also recommended that the platform be adapted and rolled-out globally.

## Field guide to qualitative research for new vaccine introduction

Before introducing a new vaccine into a country's routine immunization schedule, it is important to understand the public's concerns, beliefs and needs for information about the new vaccine. Such insights can be obtained fairly quickly and affordably through qualitative formative research, and they can be critical to the success of communications activities and ultimately vaccine uptake. To help countries include this vital step in their preparations for a new vaccine introduction, VPI developed a first-of-its-kind field guide for designing, conducting and analysing qualitative formative research with key target groups, and using the findings to develop targeted communication activities.

The guide was developed based on field experience, lessons learned and literature on qualitative formative research and communication in the context of new vaccine introduction. It was pre-tested in the field with immunization programmes in Armenia, Georgia and Republic of Moldova and can be easily adapted to all settings and vaccines.

## Strengthening capacities of NITAGs

WHO/Europe provides ongoing support to national immunization technical advisory groups (NITAGs) in low- and middle-income countries, in part by building their capacity to provide scientific recommendations to their ministries of health on immunization policy and practice.

To this end, VPI and the United States Centers for Disease Control and Prevention (CDC), together with WHO headquarters, developed training materials and have jointly conducted training workshops on development of evidence-based recommendations in immunization policy and practice. Training focuses on enhancing NITAGs capacity to develop recommendations on introduction of new vaccines based on rigorous and systematic evaluation of the available evidence. This support will enable the Member States to extend the benefits of new and underutilized vaccines to the population ensuring equity in immunization, achieving SDG Goal 3 and reducing health inequalities as enshrined in the Health 2020.

Beyond the European Region, these training materials have also been used in the WHO South-East Asia Region and shared with the Global NITAG Network. Observers from other regions have also attended training meetings in Europe.

## Vaccine product price and procurement (V3P) project

Increasing the transparency of vaccine prices empowers countries to make informed decisions on vaccine introduction and procurement.

In the past decade, while many middle-income countries were facing challenges in accessing affordable and new vaccines, data on vaccine price and procurement were mostly non-existent at regional and global levels. In 2014, VPI, in collaboration with WHO headquarters' Vaccine Product, Price and

Procurement (V3P) project initiated the collection of prices of procured vaccines from Member States in the WHO European Region through the previously established immunization reporting mechanism – the annual WHO/UNICEF Joint Reporting Form. A minimum framework of reporting vaccine pricing information was developed and implemented at the Regional level, which allowed data to be collected and compiled for the first-ever review of vaccine price data, thereby documenting important price disparities (http://www.euro.who.int/__data/assets/pdf_file/0009/284832/Review-vaccine-price-data.pdf?ua=1)

This pioneering work has been expanded globally, starting 2017, and has contributed to WHO establishing one of the largest repositories of vaccine product price and procurement information - the WHO V3P portal. As of 2018, the portal had captured price data for 85% of countries, which represents 95% of the global birth cohort (https://www.who.int/immunization/programmes_systems/procurement/v3p/platform/module1/en/).

## Annex 1: Progress toward achievement of EVAP goals

In adopting EVAP in 2014, the 53 Member States of the European Region made an unprecedented commitment to ensure the sustainable and predictable investment in immunization and the political commitment needed to achieve six goals:

- sustain the European Region's polio-free status;
- eliminate measles and rubella;
- control hepatitis B infection;
- meet regional vaccination coverage targets at all administrative levels throughout the Region;
- make evidence-based decisions about introduction of new vaccines;
- achieve financial sustainability of national immunization programmes.

EVAP proposes innovative strategies to meet these goals, by defining five strategic objectives, priority action areas and a framework to evaluate and monitor progress towards them.

Mixed progress towards these goals continued in 2018.

### EVAP goal 1: Sustain the European Region's polio-free status

At its 33rd annual meeting, held on 28–29 May 2019 in Copenhagen, Denmark, the European Regional Commission for the Certification of Poliomyelitis Eradication (RCC) concluded that there was no poliovirus transmission in the WHO European Region in 2018 and that any importation or circulation of a poliovirus would have been detected promptly by existing health/surveillance systems.

The RCC further acknowledged improvements and significant efforts taken by some countries to reduce the risk that a poliovirus could circulate if imported into the Region. Nevertheless, 4 countries, Bosnia and Herzegovina, Romania, Ukraine, and provisionally Poland, were considered to be of concern due to lack of sufficient population immunity, outbreak preparedness plans and/or sensitivity of surveillance (Fig. 6).

Progress continues in the Region to implement the WHO global action plan to minimize poliovirus facility-associated risk after type-specific eradication of wild polioviruses and sequential cessation of oral polio vaccine use (GAPIII). In addition to biorisk management and auditor training, country visits and translation and dissemination of guidelines, WHO/Europe has initiated polio outbreak simulation exercises focused on poliovirus containment for countries planning to retain materials in certified facilities (see p. 7).

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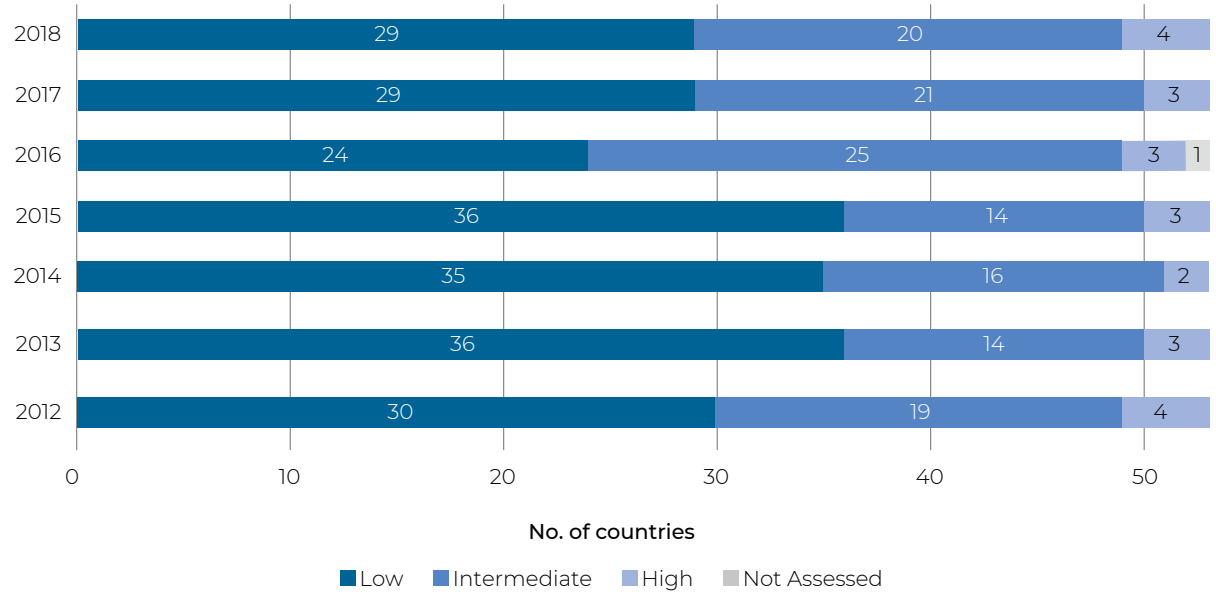
Figure 6: Countries in the European Region assessed by the RCC as being at low, medium or high risk of sustained transmission in the event of a wild poliovirus importation or emergence of circulating vaccine-derived poliovirus, 2012–2018

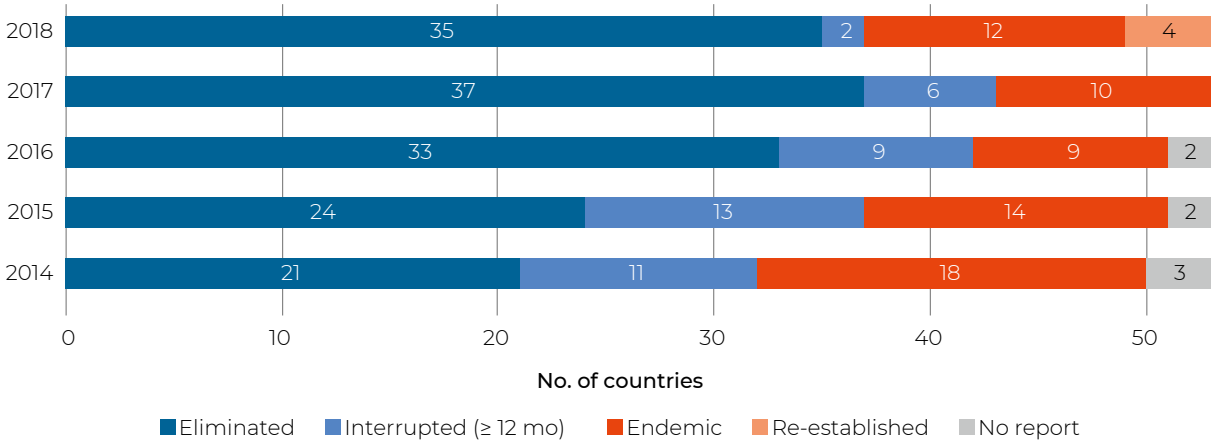



*Source:* Conclusions of the European Regional Certification Commission for Polio Eradication (RCC), data as of 17 July 2019 (final report for 2019 meeting pending)

## EVAP Goal 2: Elimination measles and rubella

While immunization against measles has increased for the Region as a whole (see section 1), the resurgence in measles cases in the European Region over the past two years has been a setback for long-term efforts to eliminate the disease. For the first time since the Framework for the verification process in the Region was established in 2014[6], the number of countries verified by the European Regional Verification Commission for Measles and Rubella Elimination (RVC) as having achieved or sustained elimination status decreased (from 37 for 2017 to 35 for 2018)[7]. Four countries that had been assessed by the RVC as having eliminated measles experienced consistent transmission lasting more than 12 months and were therefore designated as re-established.

Figure 7: Measles elimination status of countries in the European Region, 2014-2018




*Source:* Conclusions of the European Regional Verification Commission for Measles and Rubella Elimination based on country reporting 2014-2018, data as of 17 July 2019 (final report for 2019 meeting pending)

The status of rubella elimination in the Region did not change significantly in 2018 compared 2017. Incidence in the Region increased from 0.76 per 1 million population (702 cases) reported by 19 countries in 2017[8] to 0.93 (854 cases) reported by

[6] Eliminating measles and rubella. Framework for the verification process in the WHO European Region, 2014 (http://www.euro.who.int/en/health-topics/communicable-diseases/measles-and-rubella/publications/2014/eliminating-measles-and-rubella.-framework-for-the-verification-process-in-the-who-european-region)

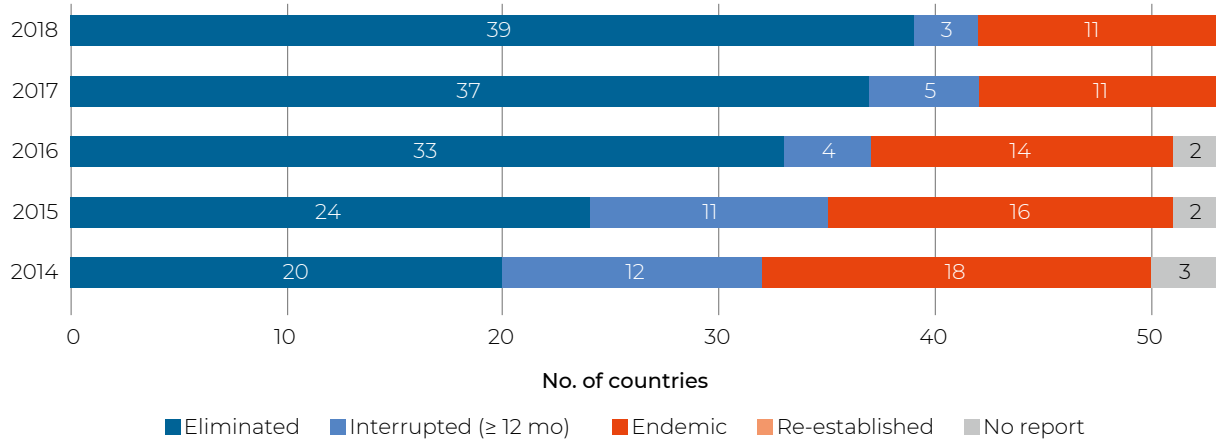
[7] Conclusions of the 33rd annual RVC meeting took place 12-14 June 2019 (meeting report pending)

[8] WHO EpiData, 1/2019 (data as of 1 Feb 2019) (http://www.euro.who.int/__data/assets/pdf_file/0004/394060/2019_01_Epi_Data_EN_Jan-Dec-2018.pdf?ua=1)

21 countries in 2018.[9] As in previous years, the majority of rubella cases (450 cases) were reported by Poland.

The number of countries having achieved or sustained rubella elimination as assessed by the RVC increased from 37 in 2017 to 39 in 2018. Unfortunately, the number of countries considered to be endemic for rubella (11) remained the same.

Figure 8: Rubella elimination status of countries in the European Region, 2014-2018




*Source:* Conclusions of the European Regional Verification Commission for Measles and Rubella Elimination based on country reporting 2014-2018, data as of 17 July 2019 (final report for 2019 meeting pending)

## EVAP Goal 3: Control hepatitis B infection

Hepatitis B vaccination policies vary among countries of the European Region. Of the 46 countries reporting coverage with the third dose of hepatitis B vaccination, 21 achieved the target of ≥95%, an increase compared to 2017 but still fewer than in earlier years (Table 2). Two additional countries also reported birth dose coverage of ≥95% in 2018 compared to 2017 (Table 3).

Table 2: Coverage with third dose of hepatitis B, European Region, 2014–2018

| Coverage | No. of countries | | | | |
|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | 2018 |
| ≥95% | 26 | 22 | 23 | 20 | 21 |
| 90-94% | 12 | 15 | 14 | 17 | 17 |
| <90% | 7 | 8 | 8 | 8 | 8 |
| Total countries reported | 45 | 45 | 45 | 45 | 46 |

Table 3: Coverage with hepatitis B birth dose, European Region, 2014–2018

| Coverage | No. of countries | | | | |
|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | 2018 |
| ≥95% | 19 | 18 | 16 | 16 | 18 |
| 90-94% | 2 | 3 | 5 | 4 | 2 |
| <90% | 2 | 1 | 1 | 2 | 2 |
| Total countries reported | 23 | 22 | 22 | 22 | 22 |

[9] WHO EpiData, 6/2019 (data as of 4 July 2019) (http://www.euro.who.int/__data/assets/pdf_file/0009/406980/2019-06-Epi_Data_EN_June2018-May2019.pdf?ua=1)

## Goal 4: Meet regional vaccination coverage targets at all administrative levels throughout the Region

High and equitable coverage for all routine vaccinations is critical to achieve and sustain vaccine-preventable disease eradication, elimination and control goals. As a proxy for the state of immunization coverage in general in the Region, coverage with three doses of DTP-containing vaccines (DTP3) is often used. Looking specifically at this measure, the Region appears to have stalled at a regional average of 94%. However, a closer look reveals that progress and also setbacks have occurred within countries, with fewer countries reporting ≥95% but also fewer reporting <90% (Figure 2).

Objective 3 of the EVAP calls for the benefits of vaccination to be equitably extended to all people through tailored, innovative strategies. The target for this objective is that ≥90% of districts (or equivalent administrative units) achieve ≥90% DTP3 coverage. The number of countries reporting district-level coverage increased to 38 in 2018, the highest number since 2014. Unfortunately, the number of countries reaching the district-level target decreased during the same period from 25 to 18 (Table 4). DTP3 coverage below 80% was reported by 223 (of the total 2575) districts in 23 (of the total 38) countries that reported district-level coverage.

Table 4: District-level DTP3 coverage, European Region, 2014–2018

| District-level reporting | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| No. of countries reporting district level coverage | 36 | 37 | 36 | 32 | 38 |
| No. of countries with ≥90% districts with DTP3 coverage ≥90% | 25 | 27 | 25 | 21 | 18 |

## Goal 5: Make evidence-based decisions about introduction of new vaccines

The Region continues to make progress in establishing NITAGs and in strengthening their capacities to provide credible, well-informed recommendations to the national governments based on a thorough review of the available evidence. WHO also supports the gathering of evidence to support NITAG decisions, such as through a network of sentinel surveillance sites that conduct surveillance for invasive bacterial vaccine-preventable diseases and RV. As of the end of 2018, 50 of 53 countries in the Region had established a NITAG, according to country reporting through the WHO/UNICEF Joint Reporting Form (JRF), and the majority of them have made recommendations related to vaccines against pneumococcal disease, RV and HPV.

Table 5: Number of countries whose NITAGs (or equivalent bodies) made evidence-informed recommendations related to PCV, RV or HPV vaccines (by close of 2018)

| Status | Vaccine | | |
|---|---|---|---|
| | PCV | RV | HPV |
| NITAG made a recommendation | 39 | 30 | 36 |
| NITAG did not make a recommendation | 5 | 14 | 10 |
| Not applicable (no NITAG) | 3 | 3 | 3 |
| Not known | 2 | 1 | 1 |
| Decision made before NITAG was established | 4 | 5 | 3 |
| No. of countries that introduced the vaccine | 41 | 21 | 37 |

## Goal 6: Achieve financial sustainability of national immunization programmes

As of the end of 2018, 51 of 53 countries in the Region are self-sufficient in procuring vaccines in their national immunization schedules. However, this does not indicate that they have sufficient financial resources to achieve and sustain the EVAP goals and vision. As noted above, 14 MICs that are not eligible for any donor support are lagging behind in reaching immunization targets, including introduction of newer vaccines, while they also pay higher prices for vaccines than countries that are eligible for donor support.

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# WHO REGIONAL OFFICE FOR SOUTH-EAST ASIA: PROGRESS REPORT FOR THE SOUTH-EAST ASIA REGION

## CONTENTS



## INTRODUCTION

The 11 countries of the World Health Organization's (WHO's) South-East Asia (SEA) Region are home to more than 1.8 billion people, with a combined annual birth cohort of nearly 37 million. All countries in the Region give high importance to their national immunization programmes (NIPs). Since 2010, immunization has prevented millions of deaths and disabilities, stopped the transmission of wild poliovirus across the Region, eliminated maternal and neonatal tetanus (MNT), eliminated indigenous transmission of measles in five out of 11 countries, controlled rubella in six countries and controlled hepatitis B in four countries.

Recalling World Health Assembly resolution WHA58.15 on Global Immunization Vision and Strategy, the Sixty-fourth session of the WHO Regional Committee for South-East Asia in September 2011 declared 2012 as the "Year of Intensification of Routine Immunization in South-East Asia". The Sixty-sixth session of the WHO Regional Committee for South-East Asia in September 2013 adopted the Resolution on elimination of measles and control of rubella/congenital rubella syndrome (CRS) in the SEA Region by 2020.

The South-East Asia Regional Vaccine Action Plan (SEARVAP) 2016-2020 has been developed and serves as the framework for implementation of all immunization activities within the Region. The SEARVAP defines a clear vision for immunization and is backed by a set of guiding principles – ownership, responsibility and partnership, equity, integration, sustainability and innovation. The Plan describes a set of goals and objectives for immunization and highlights priority actions, targets and indicators that address specific needs and challenges of countries of the Region. The SEARVAP has eight goals and a set of strategic objectives and recommended activities to achieve the goals. The eight goals include:

**Goal 1:** Routine immunization systems and services are strengthened

**Goal 2:** Measles is eliminated, and rubella/CRS controlled

**Goal 3:** Polio-free status is maintained

**Goal 4:** Elimination of maternal and neonatal tetanus is sustained

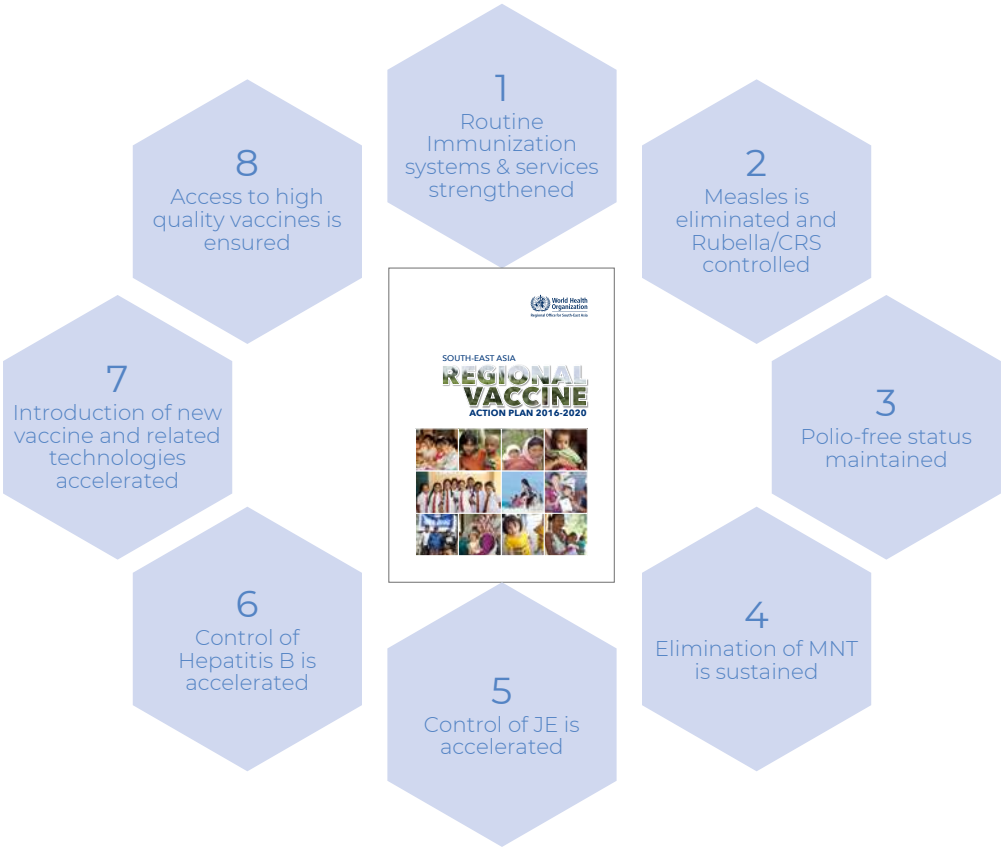
**Goal 5:** Control of Japanese encephalitis is accelerated

**Goal 6:** Control of hepatitis B is accelerated

**Goal 7:** Introduction of new vaccines and related technologies is accelerated

**Goal 8:** Access to high quality vaccines is ensured

The Region has made significant progress over recent years to achieve the targets outlined under each goal of the SEARVAP, while identifying the challenges and implementing strategies to overcome these challenges. A summary of the progress in key areas of work in the Region is described below:




# PROGRESS REPORT ON THE REGIONAL GOALS

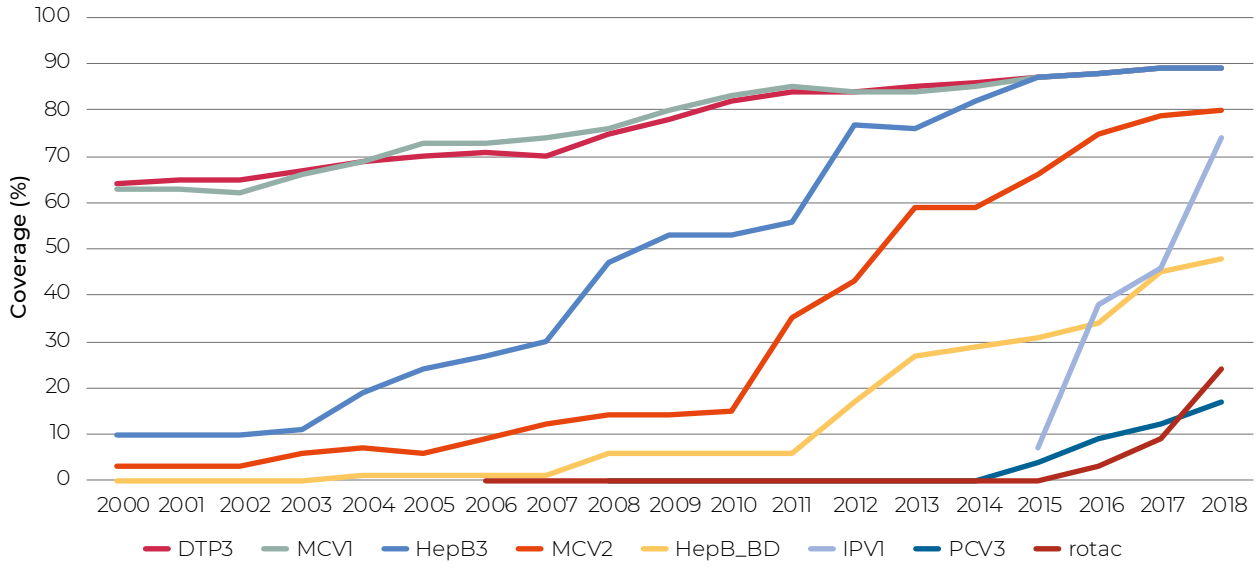
## Routine immunization systems and services are strengthened

Strengthening immunization systems and services with the objective of improving immunization coverage in all countries of the Region has remained the overarching goal of immunization related work in the Region. Concerted efforts are being made by all countries to improve coverage with all vaccines provided in their national programme. Plans for intensification of routine immunization have been incorporated into comprehensive multi-year plans for immunization in all countries.

### Progress and status

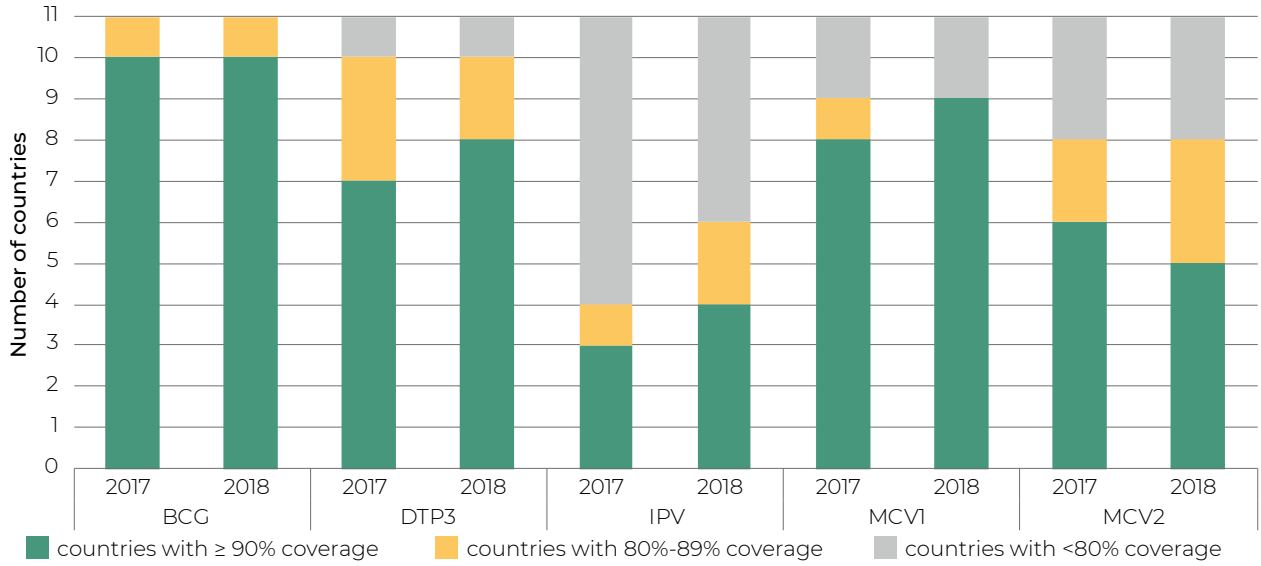
The overall coverage with three doses of DPT vaccine (DPT3) in the Region increased from 83% in 2010 to 89% in 2018 (Figure 1). In addition MCV1, MCV2 and Hepatitis B coverage increased rapidly since 2010.

Figure 1: Immunization coverage in SEAR 2000-2018




Eight countries in the Region have achieved more than 90% DPT3 coverage in 2018 (Figure 2). These include Bangladesh, Bhutan, Democratic People's Republic of Korea, Maldives, Myanmar, Nepal, Sri Lanka and Thailand. Four countries have achieved the target of 80% or more coverage with DPT3 in all districts. These include Bangladesh, Democratic People's Republic of Korea, Maldives, and Sri Lanka. A total of 95% districts in Bhutan and 90% districts in Thailand have reported more than 80% DPT3 coverage. Countries that have not yet achieved the desired 90% DPT3 coverage, but have shown an improvement in coverage since 2012, including India (89% in 2018 compared with 82% in 2011) and Timor-Leste (83% in 2018 against 67% in 2011).

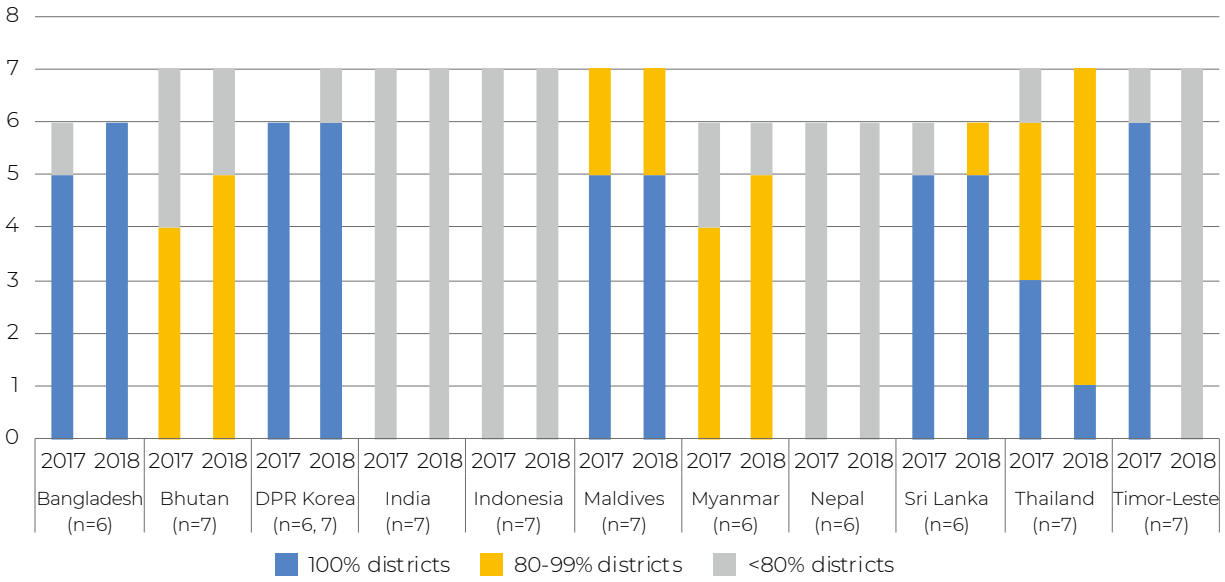
Figure 2: Number of countries with coverage of EPI vaccines in SEAR Region, 2017–2018




*Source:* WHO and UNICEF estimates 2019

Maldives and Sri Lanka have achieved more than 90% coverage for all vaccines provided during infancy and first year of life in their national immunization programme, while Bangladesh, Bhutan and DPR Korea have achieved more than 90% coverage for all vaccines, except for the inactivated poliovirus vaccine (IPV), primarily due to global shortage of this vaccine.

Figure 3: Number of vaccines with more than 80% coverage in all districts: 2017–2018




National immunization technical advisory groups (NITAGs) have been established in all countries in the Region. The NITAGs are involved with the monitoring of progress in immunization coverage. Efforts to strengthen capacity of NITAGs have continued in the Region. The South-East Asia Regional Immunization Technical Advisory Group (SEAR-ITAG) monitors the progress of implementation of national immunization plans and the recommendations of the EPI reviews. All NITAGs presented progress towards each goal of RVAP in the country, during the SEAR-ITAG meetings in 2018 and 2019, with a detailed report on achievements, challenges and future actions.

Periodic reviews of Expanded Programme on Immunization (EPI) and surveillance of vaccine-preventable diseases (VPDs) continue to be conducted in countries of the Region to assess performance of immunization and VPD surveillance systems. Recommendations from these reviews are followed up to ensure improvement in immunization coverage.

Several interventions have been undertaken by countries in the Region to improve immunization coverage with a focus on identification of high-risk populations and underserved areas for targeted and tailored approaches to reach children in these areas. Notable among these interventions are the following:

- Bangladesh: A review of the EPI and VPD surveillance programme was conducted in 2018 to identify gaps/challenges and propose actions. The national DPT3 coverage has been sustained above 90% and coverage in all districts has been above 80% during the last five years. Bangladesh is further intensifying routine immunization by mapping hard-to-reach areas using GIS mapping tools, revising micro-plans for immunization and providing additional funding support for improving full immunization coverage in hard-to-reach areas. Several innovative actions such as electronic registration of beneficiaries, evening and Friday sessions for working mothers, experience sharing visits among City Corporations, mobilization of local leaders and mapping of slum areas have been initiated to overcome challenges of rapid urbanization in four densely populated city corporations with sub-optimal coverage. An urban immunization strategy for all urban areas in the country is under development.
- Bhutan: The country has achieved and maintained high coverage nationally and in all districts except one and continues to focus on the areas with significant migration as well as on hard-to-reach populations by identifying these areas and populations and conducting periodic catch-up vaccination campaigns to maintain high population immunity against all vaccine-preventable diseases (VPDs). Pneumococcal-conjugate vaccine was introduced into routine immunization schedule in January 2019 and is fully funded by the Bhutan Health Trust Fund. Coinciding with the World Immunization Week 2019, a catch-up campaign with polio, measles and rubella vaccines was conducted in the only district with sub-optimal immunization coverage. The country is planning to introduce influenza vaccine for health workers and pregnant women by end-2019.
- DPR Korea: DPR Korea has maintained more than 90% DPT3 coverage nationally and in all districts. A coverage evaluation survey conducted in 2017, validated the high immunization coverage in the country. Nationwide micro-planning, installing solar driven drive (SDD) refrigerators at rural Ri levels to overcome electricity issues, tracking and immunization of children who missed out immunization on the planned day of immunization on an alternate day by household doctors have contributed to sustained high national and provincial routine immunization coverage and minimal inter-provincial variation of immunization coverage. The EPI and VPD surveillance review conducted in 2018 made recommendations to improve the quality of immunization service delivery, to further strengthen vaccine preventable disease surveillance to reach regional surveillance

standards, and to expand and strengthen vaccine supply chain. Most of the technical recommendations have been addressed with support of in-country technical partners and the operational and logistic recommendations have been linked to Gavi's health system strengthening support and performance-based funding (PBF).

- India: With the aim to achieve 90% fully immunization coverage, India launched "Mission Indradhanush" a major multi-phase campaign to boost Routine Immunization. This equity-focused mission identified high-risk populations in traditionally low-coverage or underserved areas with insufficient health services; from 2015 to 2017, 6.7 million children were fully immunized while 6.8 million pregnant women received vaccines during this intensification effort. During 2017–2018 India reassessed the achievements and targeted 173 districts and 17 cities through the "Intensified Mission Indradhanush", followed by Gram Swaraj Abhiyan (GSA) in 16 850 villages and Extended Gram Swaraj Abhiyan (EGSA) in 117 districts, followed by another round of Mission Indradhanush in 75 districts with less than 50% fully immunized coverage; 1.5 million children were fully immunized and 1.9 million pregnant women were vaccinated during this effort. In 2018, a coverage evaluation survey (CES) was conducted in 190 districts to measure the impact of Mission Indradhanush. The percentage of fully immunized children in those districts has increased from 50.5% (as per the National Family Health Survey conducted in 2015) to 69% in CES 2018. A comprehensive review of the Universal Immunization Programme has been conducted in five high priority states and based on the results coverage improvement plans have been developed in these states. Government of India has developed a road map for achieving 90% full immunization and is implementing it in collaboration with all stakeholders.
- Indonesia: The Ministry of Health has identified EPI as one of the three national priority programs and declared 2018 as the "immunization acceleration year". Eighty districts are being targeted for intensification of routine immunization through various strategies such as sustained outreach strategy and drop out follow-up and immunization sweeps. Five major urban areas with large number of immunization drop-outs are being supported through a Rapid Pro program. Remote islands and hard-to-reach areas were identified and supported for immunization coverage improvements; additional operational costs were allocated for these areas; additional new cold chain equipment was provided. Due to challenges during the second phase of the MR immunization campaign a communication strategy for immunization that includes directives from religious leaders in support of the immunization programme was developed. Additional IEC materials including messages from religious leaders have been prepared and disseminated. Defaulter-tracking guidelines for health centers have been revised for better tracking of partially vaccinated children. Private sector reporting is being intensified, and a web based electronic routine reporting pilot is being developed.
- Maldives: Immunization is a high-priority programme in the country. One of the best practices followed is the verification of completion of childhood vaccine doses at the time of entry into school. The country has maintained very high coverage with DPT3 since 2012. The strong routine immunization platform has been used to introduce many new vaccines in Maldives with human papillomavirus vaccine (HPV) as the most recent introduction in May 2019.
- Myanmar: New approaches such as providing immunization services through 98 major hospitals, developing township-level operational annual workplans, improvement of cold chain capacity and data management capacity by using modern information technologies have contributed to improved coverage in Myanmar. The country has focused on closing immunity gaps in hard-to-reach areas through improvements in microplanning and close monitoring. Several innovative approaches such as prioritization of townships for service delivery improvement, improved micro-planning, intensified EPI data management activities, monitoring and evaluations, improved demand creation and robust leadership management capacity as well as coordination activities are being implemented utilizing the health system strengthening support from GAVI. Catch-up immunization of the underserved population in various conflict affected areas was organized in the last quarter of 2018.
- Nepal: Nepal introduced the concept of achieving fully immunized districts through the Full Immunization Declaration (FID) initiative in 2012. The initiative aimed to increase community ownership and commitment through positive behavioural reinforcement of individuals and groups. Health workers follow a rigorous method of line-listing target children and immunizing them, followed by a validation by the district team. A full immunization declaration of the district is done only after all subdistrict-level units have been validated. As of April 2019, 56 out of 77 districts in the country have been declared fully immunized. An Immunization Act was passed in Parliament in 2016 ensuring the right to vaccination and the provision of quality vaccines for children. The country celebrates the month of April as the month of RI Intensification and conducts various innovative activities during the month to motivate health workers as well as to enhance routine immunization coverage. Nepal has maintained > 90% national coverage for all basic EPI vaccines in infancy in 2018.
- Sri Lanka: Sri Lanka maintained 99% DPT3 coverage nationally and more than 90% coverage in all districts. The Parliament and the Cabinet approved the National Immunization Policy 2014 that envisages a political, economic and highly technical environment to support the intensification and strengthening of routine immunization. Regular supervision, national

and subnational EPI/VPD reviews and field-level coverage surveys are used by the national programme to identify gaps in immunization programme performance and address these in a timely manner.

- Thailand: Thailand has maintained high vaccination coverage at the national level through its strong routine immunization system. The country has also started to monitor sub-national data to support actions to enhance coverage, where required. A memorandum of understanding for health service data sharing between the Ministry of Public Health (MoPH) and Bangkok Metropolitan Administration (BMA) was signed in 2018. This will provide a platform for MoPH to track vaccination coverage in BMA. The vaccination coverage survey conducted every five years has been used to validate data quality from the routine data recording system. The latest survey conducted in 2018 suggested optimal vaccination coverage is maintained at national level. However, the survey confirmed sub optimal vaccine coverage in deep-south provinces of Thailand. The strong routine immunization platform has been used to introduce many new vaccines in Thailand. Thailand introduced HPV in 2017 and has replaced tetravalent (DTP-HB) with pentavalent (DTP-HB-Hib) vaccine in June 2019. In addition, the targets for vaccination have been expanded throughout the life-course. In 2019, Thailand launched the nationwide Adult Vaccine Programme.
- Timor-Leste: The DPT3 immunization coverage of Timor-Leste increased from 67% in 2011 to 83% in 2018. The country ensured strong advocacy for adequate funding for outreach immunization services, and rapidly built capacity of the immunization workforce with close monitoring by external consultants at the subnational level. The country has increased the number of vaccine storage cold chain points from 68 (community health centre level) to 127 (health post level). An effective vaccine management (EVM) assessment was conducted and an improvement plan is under implementation. A twinning programme has been initiated with the EPI programme in Sri Lanka to strengthen the technical capacity of national and subnational programme managers. In 2018 the coverage evaluation survey was conducted to validate the reported coverage. In view of the fragility of the health systems in the country, Gavi has extended its health system strengthening support to Timor-Leste to ensure continued national and sub-national technical assistance, cold-chain expansion and introduction of new vaccines.

## Key challenges

- Despite the increase in the regional coverage of DPT3 to 89% in 2018, an estimated 3.8 million children in the SEARO do not receive three doses of DPT vaccine, with an estimated 2.6 million of these being in India and 1 million in Indonesia.
- Outbreaks of vaccine preventable diseases (VPDs) continue to occur in many countries of the Region, indicating low vaccination coverage pockets, even in countries/provinces/districts with high coverage. Diphtheria outbreaks in India, Indonesia, Myanmar and among migrants from Myanmar in Bangladesh have exposed pockets of low vaccination coverage and the need to further intensify activities to improve equity in routine immunization. Measles outbreaks have occurred recently in Bangladesh, India, Indonesia, Myanmar, Nepal and Thailand, indicating sub-national pockets with immunity gaps.
- Many migrating and displaced populations have low routine immunization coverage and outbreaks of vaccine preventable diseases often occur in these populations.
- Despite immunization being acceptable to communities of the region, in some areas and communities there is a need to create demand for the vaccination, specially to mitigate the emerging problem of vaccine hesitancy mainly due to hoax messages in social media and misinterpretation of religious believes.
- Some countries are experiencing issues with quality of data at sub-national levels and challenges in ascertaining the denominator for the coverage estimates leading to difficulties in ascertaining the true coverage in districts.
- Polio-funded human resources are supporting overall immunization activities. However, funds from Global Polio Eradication Initiative (GPEI) have declined since 2017 and GPEI has indicated funds will eventually stop. Even though transition planning is ongoing in all five priority countries, this could potentially inhibit progress towards the achievement of immunization goals unless alternative sources of funding are identified.
- Some low- and middle-income Member States in the Region are transitioning out of support by the GAVI Alliance and have suboptimal immunization coverage. This poses a risk for the improvement of immunization coverage in these countries unless alternative funding sources, including from the national government, are quickly mobilized. Financial sustainability is a challenge to maintain the gains of equity and coverage that have been achieved, even in countries that have achieved high coverage. Nepal is currently undergoing transition to a federal three-tiered governance structure. While the newly empowered autonomous urban and rural municipalities are enthusiastic about the immunization program there are challenges owing to human capacity gaps at the local level.
- While surveillance standards for polio and measles have been maintained to support the maintenance of a polio-free status and achieve measles elimination efforts, surveillance for other VPDs especially laboratory support remains suboptimal in most countries of the Region.

Table 1: Measles achievements in 2018 in SEAR

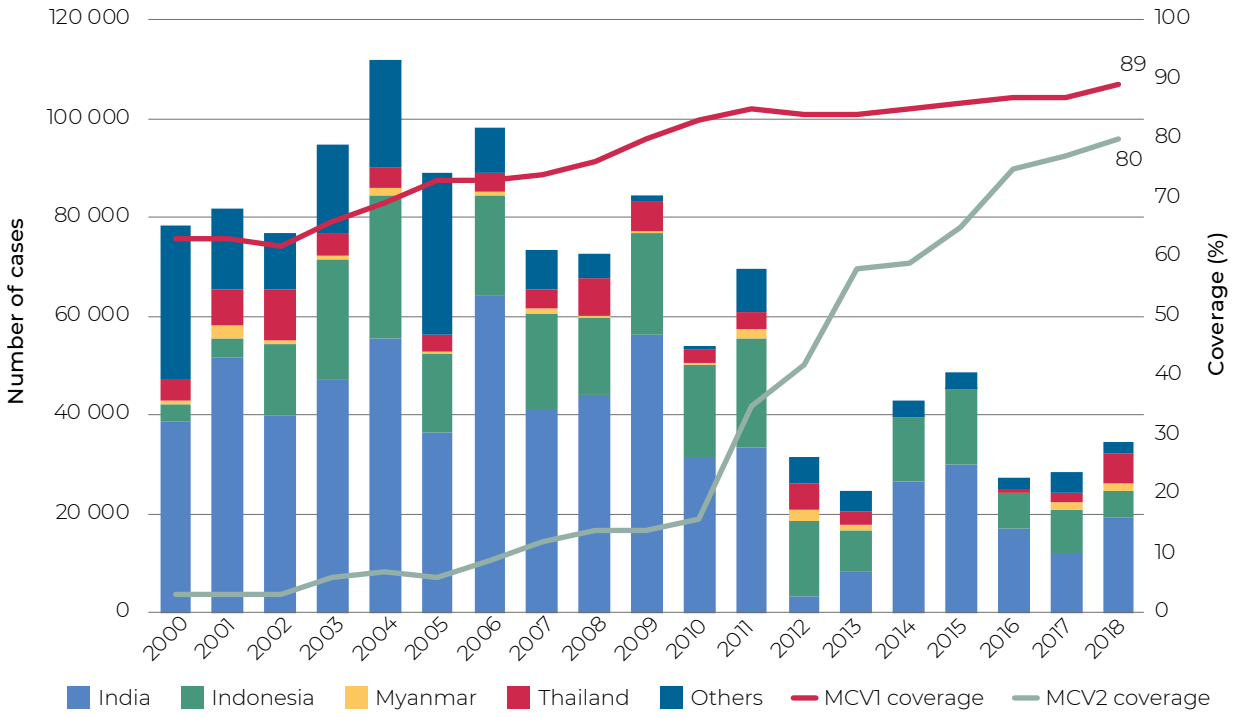
| | |
|---|---|
| 5 | Countries have achieved measles elimination. |
| 6 M | Countries have achieved rubella and congenital rubella syndrome control. |
| 167 M | Infants received MCV 1 in RI |
| 137 M | Infants received MCV 2 in RI |
| 485 M | Additional children vaccinated through mass campaigns |
| 8.1 M | Additional number of infants in 2018 cohort vaccinated with MCV2 compared to 2014 cohort |

In September 2013, the Sixty-sixth session of the WHO Regional Committee for South-East Asia endorsed resolution SEA/RC66/R5, in which the 11 Member States of the WHO South-East Asia Region adopted the goal of measles elimination and rubella/congenital rubella syndrome (CRS) control by 2020. Measles elimination and rubella/CRS control by 2020 is one of the Flagship Priorities for the Region. To ensure adequate technical guidance to accelerate progress towards the goal, the Strategic Plan for Measles Elimination and Rubella and Congenital Rubella Syndrome Control 2014–2020 was developed.

## Progress and status

Five countries in the South-East Asia Region – Bhutan, DPR Korea, Maldives, Sri Lanka and Timor-Leste – have been verified by the South-East Asia Regional Verification Commission for measles and rubella (SEA-RVC) as having eliminated endemic measles. Six countries of the Region – Bangladesh, Bhutan, Maldives, Nepal, Sri Lanka and Timor-Leste – have been verified as having controlled rubella and CRS.

Figure 4: Measles cases and coverage of MCV1 and MCV2 in SEAR, 2000-2018

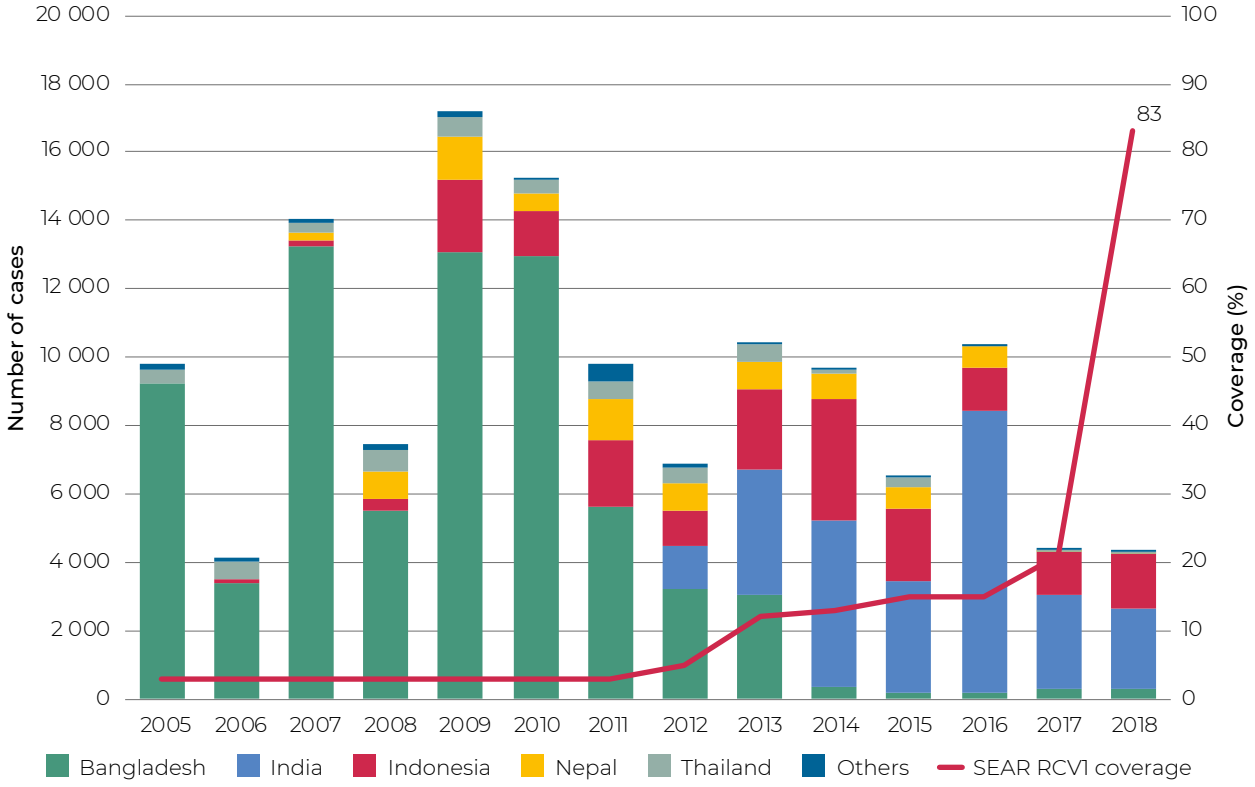



Coverage with the first dose of measles-containing vaccine (MCV1) in the Region in 2018 was 89% compared with 63% in 2000. Six out of the 11 countries of the Region (Bangladesh, Bhutan, DPR Korea, Maldives, Sri Lanka and Thailand) achieved more than 95% coverage for MCV1 in 2018, while three (India, Myanmar and Nepal) reported coverage between 80%–95% and two (Indonesia and Timor-Leste) have coverage between 75%–80%. Similarly, the coverage of the second dose of measles-containing vaccine (MCV2) in the Region was 80% in 2018 compared with 59% in 2014 and only 3% in 2000. Three countries (DPR Korea, Maldives and Sri Lanka) have achieved more than 95% coverage for MCV2, five (Bangladesh, Bhutan, India, Myanmar and Thailand) have achieved coverage between 80%–95%, and in three (Indonesia, Nepal and Timor-Leste) the coverage is less than 80%. As of end-2018, all countries in the Region are administering two doses of MCV under their routine immunization programmes and 10 countries have introduced rubella-containing vaccine (RCV) in their

programme. DPR Korea, the only remaining country, has plans to introduce RCV before the end of 2019.

The coverage for first dose of RCV in the region has steeply increased form 13% in 2017 to 83% in 2018.

Figure 5: Rubella cases and RCV coverage in SEAR, 2005-2018




An estimated 400 million children will be reached through mass vaccination campaigns with measles and rubella (MR) vaccine in the Region by the end of 2019. Almost 366 million children have already been reached through mass vaccination campaigns with a measles-rubella (MR) vaccine in the Region since January 2017. Of these, nearly 305 million children were in India and 58 million in Indonesia.

Laboratory supported case-based surveillance for measles and rubella has been initiated in all countries in alignment with the Regional guidelines, with India and Indonesia expected to complete the expansion by end-2019. Congenital rubella syndrome (CRS) surveillance has been initiated in all 11 Member States, either as sentinel surveillance or as part of the case-based surveillance system. All countries in the Region have at least one proficient national laboratory to support measles and rubella case-based surveillance. The measles-rubella laboratory network has expanded from 23 laboratories in 2013 to 50 in 2018 with 41 laboratories accredited as "proficient" for measles and rubella testing.

## Key challenges

- Immunity gaps for measles and rubella remain in various population groups in several countries due to suboptimal coverage of measles- and rubella-containing vaccines under the routine immunization programme.
- Surveillance sensitivity was below the desired targets in four of the 11 countries in 2018, leading to under-reporting and under-estimation of the exact disease burden in these countries.
- Financial insufficiency to accelerate implementation of activities for measles elimination and rubella/CRS control remains a challenge in the way of achieving the 2020 target.
- Laboratory network support including for diagnostic kit procurement services is becoming a challenge. Most countries are still dependent on WHO for procurement of laboratory diagnostic kits for measles and rubella.

A mid-term review, conducted in 2017, of the Strategic Plan for Measles Elimination and Rubella and Congenital Rubella Syndrome Control in the South-East Asia Region (2014–2020) concluded that the current strategies are sound but the measles elimination and rubella/congenital rubella syndrome (CRS) control by 2020 is unlikely to be achieved in the Region due to suboptimal implementation of the strategies in some Member States. The Regional Immunization Technical Advisory group as well as the Regional Verification Commission for Measles elimination and rubella control have endorsed these findings of the mid-term review and recommended that the targets should be revised to adopt a goal of "measles and rubella elimination by 2023."

## Polio-free status is maintained

### Progress and status

The WHO South-East Asia (SEA) Region and remove (SEAR) was certified polio-free in March 2014 and has maintained its polio-free status. Surveillance for poliovirus detection has been maintained. The overall non-polio AFP rate in the Region in 2018 was 6.57 per 100 000 population under 15 years of age. Two stool samples were collected at least 24 hours apart and within 14 days of onset from 86% of the reported AFP cases in the Region, as against the globally recommended target of at least 80%. For both performance indicators there is though considerable national sub-national variance. Environmental Surveillance (ES) is being conducted through 74 sites in six countries (Bangladesh, India, Indonesia, Myanmar, Nepal and Thailand). In 2019, a circulating vaccine-derived poliovirus type 1 (cVDPV1) was confirmed in Papua province of Indonesia and in Kayin state of Myanmar. Outbreak response is being carried out in both countries. The SEAR polio laboratory network (RPLN) has 16 laboratories in seven countries (Bangladesh, DPR Korea, India, Indonesia, Myanmar, Sri Lanka and Thailand) and includes one global specialized laboratory and two regional reference laboratories. The network tested >78 000 stool specimens in 2018.

All countries in the Region switched from tOPV to bOPV in April 2016. IPV is now available and is being administered in all countries in the Region through routine immunization programme. Four countries in the Region (Bangladesh, India, Nepal and Sri Lanka) are providing intradermal IPV. In 2018, four countries (Bhutan, Maldives, Sri Lanka and Thailand) have reported IPV coverage above 90%, while two (Myanmar and Timor-Leste) have coverage between 80–90%.

Activities to contain type 2 polioviruses in facilities under GAPIII requirements are progressing in the Region. Two poliovirus essential facilities (PEF) have been identified to store/handle type 2 polioviruses in two countries of the Region, namely India (research facility) and Indonesia (vaccine manufacturer). National authorities for containment (NAC) have been established in both countries. The Global Certification Commission (GCC) has endorsed the certificate of participation (CP) submitted by the vaccine manufacturer in Indonesia as designated poliovirus essential facility (PEF) through the Indonesia national authority for containment (I-NAC).

While WPV2 and VDPV2 inventories have been completed by all countries; inventories for Sabin2 potentially infectious materials seem to be complete in six countries and in process in four; Indonesia has yet to start. WHO is supporting countries in preparation of a national response framework for use in the event of a breach of poliovirus containment.

The Regional Certification Commission for Polio Eradication (RCCPE) and National Certification Committees for Polio Eradication in all 11 countries remain functional and continue to provide oversight and guidance for polio eradication activities.

Polio transition efforts are being considered as a critical opportunity to strengthen immunization systems, vaccine-preventable disease surveillance and to strengthen capacity for implementation of the IHR (2005). A country-centric approach is being adopted to develop polio transition plans by countries of the Region. The pace of development and implementation of national transition plans is being guided by country readiness (technical, financial and managerial capacity), available financing as well as operational modalities.

### Key challenges

- Maintaining high-quality AFP surveillance and sustaining high population immunity against polioviruses is becoming increasingly difficult during the post-eradication phase as countries turn towards other priorities and become complacent in implementing activities targeted to maintain polio-free status.
- Although containment activities have been agreed and are in process, decreased funding and the need to address other priorities may distract countries from completing poliovirus containment activities in accordance with Global Action Plan III to minimize poliovirus facility-associated risk after type-specific eradication of wild polioviruses and sequential cessation of routine OPV.
- Operationalization of transition plans. The involvement and engagement of countries is critical for the operationalization of these plans to mitigate the programmatic risks associated with the winding down of polio funds.

## Elimination of maternal and neonatal tetanus is sustained

While regional maternal and neonatal tetanus (MNT) elimination was achieved in 2016 after the last remaining area in Indonesia had been validated, several countries achieved the goal many years before. Still, sustaining MNT elimination requires a continuous and comprehensive multi-pronged approach and should also use the opportunity to expand protection to the whole population, requiring strong coordination between different health programmes targeting different age groups.

### Progress and status

In the Region all countries follow the WHO recommendation on vaccinating pregnant women with tetanus toxoid containing vaccine (TTCV). Five countries (Bangladesh, DPR Korea, Maldives,

Sri Lanka and Thailand) have reported ≥90% coverage with two or more doses of TTCV in pregnant women (TT2+) for several years (source: WHO/UNICEF Joint Reporting Form – JRF). Even lower coverage does not necessarily indicate weak programme performance; as women of reproductive age accumulate repeated vaccine doses during multiple pregnancies and supplementary immunization, they become non-eligible during future pregnancies while still contributing to the target denominator. However, data management needs to be adjusted accordingly and TTCV coverage compared with antenatal care coverage and skilled birth attendance; to estimate risk for MNT. Elimination of MNT is measured at the district level and as relatively high national coverage may mask significant subnational variance, respective data submission to SEARO commenced in 2018 (AERF).

Infant immunization against tetanus (DTP and Penta vaccines) rose from 56% in 2000 to 89% in 2018 (source: JRF). Several countries have booster doses in early childhood or integrated TTCV vaccination into their school health programmes. Five countries have 6 doses TTCV in their national schedule; however, coverage rates are not available beyond the primary series. In another five countries so far only short-term protection is achieved without booster doses and this continues to create protection gaps between early childhood and child bearing age for females and after early childhood for males. Most national immunization programmes provide a combination of tetanus and diphtheria toxoid as late childhood booster doses and/or for pregnant women; however, TT was still used in 2018 in 3 countries.

The number of reported neonatal tetanus (NT) cases declined to 252 in 2018; from six countries. None of the countries exceeded the "elimination" definition of <1 NT case per 1000 live births in each district (3rd administrative level of a country). The total number of reported tetanus cases continued to increase but it is not known if this is due to better reporting.

### Key challenges

- Maintaining MNT elimination status is challenging throughout the Region due to (a) the existence of areas of low immunization coverage, (b) the occurrence of a significant number of births without skilled attendants and (c) an inadequate focus on NT surveillance.
- Despite improvements, it can be challenging to assess the quality of NT surveillance and NT cases may still occur unreported. Analysis of non-neonatal tetanus cases reported in JRF remains limited and no regional module is yet available for non-neonatal tetanus surveillance.
- Full implementation of the recommendations of the 2017 WHO position paper on tetanus vaccines is yet to be achieved and conduct of post validation assessments still limited.

## Control of hepatitis B is accelerated

It is estimated that 39 million people representing 2% of the Region's total population are living with chronic hepatitis B virus (HBV) infections and 296 000 people die annually of hepatitis B in the South-East Asia Region. Most of these deaths are from liver cirrhosis and liver cancer, the consequences of chronic HBV infection.

Recognizing the significant public health burden, hepatitis B control has gained promising momentum in the Region over the past few years, especially through the following:

- Regional control target of ≤1% hepatitis B surface antigen (HBsAg) seroprevalence among children aged 5 years by 2020 recommended by the Immunization Technical Advisory Group (ITAG); aligned with the Global Health Sector Strategy on Viral Hepatitis 2016–2021 (GHSSVH).
- Regional Vaccine Action Plan 2016–2020 with the goal of accelerating hepatitis B control and providing strategic objectives and a monitoring framework.
- Regional Action Plan for Viral Hepatitis 2016–2021 adopted by the WHO Regional Committee for South-East Asia.

### Progress and status

In 2018, all 11 countries in the SEAR continued to have hepatitis B vaccine (HepB) in their routine immunization schedules as part of combination vaccines, and eight countries (Bhutan, DPR Korea, India, Indonesia, Maldives, Myanmar, Thailand, Timor-Leste) had a universal HepB birth dose (HepB BD) (WHO Monitoring System 2018).

The overall HepB3 coverage with three doses HepB (HepB3) in the Region increased from 54% in 2010 to 89% in 2018 (Source: WUENIC best estimates in JRF 2018). As per WHO/UNICEF best estimates in 2018 the HepB3 coverage was reported to be ≥90% in eight countries (Bangladesh, Bhutan, DPR Korea, Maldives, Myanmar, Nepal, Sri Lanka, Thailand). India reported 89%, Indonesia 79% and Timor-Leste 83%. Among the eight countries that included HepB BD in their vaccination schedule in 2018, coverage was >90% in four (Bhutan, DPR Korea, Maldives, Thailand). India and Indonesia reported 54% and Myanmar and Timor-Leste where the HepB-BD was introduced in 2016 reported 14 and 61%, respectively. Several countries have sustained high HepB BD and HepB3 coverage for at least 5 years and likely achieved the target of reducing chronic hepatitis B prevalence to £1% among children.

Nationally representative sero surveys among children at least 5 years of age are available in Bangladesh, Bhutan, Nepal and Thailand and indicate low post-vaccination infection rates in the surveyed cohorts. Maldives is implementing a national school-based survey among Grade 1 children and DPR Korea is planning to conduct a national household-based survey among children aged over 5 years.

Subsequently, to measure progress towards and verify the achievement of this goal, the Regional Director appointed a Regional Expert Panel for Verification of Hepatitis B Control (SEA REP) in May 2019. Since its inception, the SEA REP had two consultations (28-29 May 2019 and 25-26 June 2019), finalized the verification framework and prepared a verification workplan and timelines. The respective 'Guidelines for verification of achievement of hepatitis B control target through immunization in the WHO South-East Asia Region' were endorsed by the 10th SEAR ITAG meeting held from 8–12 July 2019.

The verification guidelines include as main evidence needed for verification the prevalence of chronic hepatis B among vaccinated cohorts and sustained high immunization coverage; to be demonstrated by the following means:

- HBsAg prevalence among children: at least one source of nationally representative data among children 5 years or older born after the nationwide implementation of universal hepatitis B infant immunization.
- HepB BD and HepB3 at national and subnational levels; for at least 5 years with coverage levels in line with the RVAP targets.
- If other sources of data, such as antenatal HBV screening, are available they may be included as supplemental information to help the SEA REP decisions.

Following SEA REP review of the first four country verification reports received in June 2019, Bangladesh, Bhutan, Nepal and Thailand have achieved the 2020 regional control target of ≤1% HBsAg seroprevalence among children aged 5 years. The SEA REP made several specific recommendations for each country to sustain and further accelerate hepatitis B control, particularly through annual review as to whether verification status has been maintained by the NITAGs based on hepatitis B immunization coverage and other relevant data and reporting to the ITAG.

### Key challenges

- High immunization coverage for HepB BD has not been attainable in countries where home births and unskilled birth attendance are the norm.
- Monitoring private-sector immunization with HepB BD requires new systems for communication and data sharing between private providers and the government.
- Complexity and resource requirements for high quality sero prevalence surveys.
- No standardized approach for the verification process and alignment with GHSSVH monitoring framework and triple elimination verification process.
- Coordination between hepatitis B immunization strategies and targets and national strategies for viral hepatitis control.

## Introduction of new vaccines and related technologies is accelerated

### Progress and status

Since 2012 all countries have introduced two new or underutilized vaccines while 10 countries have introduced three or more new or underutilized vaccines. Priority vaccines that have been introduced are Hepatitis B vaccine, Heamophilus influenza-b vaccine, pneumococcal conjugate vaccine (PCV), HPV, Japanese encephalitis (JE) vaccine, rotavirus vaccine and rubella containing vaccine. In the process of a new vaccine introduction specific activities that were conducted include analysing disease burden, involvement of national technical advisory group in decision making, conducting cost effectiveness of the introduction, develop comprehensive plans for vaccine introduction, training of health personnel, monitoring after introduction and conducting post introduction evaluations. These efforts have contributed to the efforts in intensification of routine immunization. Table 2 summarizes information on national and sub-national introduction of new vaccines between 2016 and 2020 and planned introductions in 2019-2020.

Table 2: Introduction status of new vaccines at national and sub-national level between 2016 and 2018 and planned introductions in 2019-2020, by country

| Country | National introductions | Sub-national introductions | Planned national introductions |
|---|---|---|---|
| **Bangladesh** | | HPV vaccine (1 district) | Rotavirus vaccine (2020) |
| **Bhutan** | MMR, PCV | | Influenza vaccine (Pregnancy) |
| **India** | MR | Rotavirus vaccine (11 states), PCV (6 states), HPV (2 states: Punjab and Sikkim) | |
| **Indonesia** | IPV, MR | HPV (1 province and 4 districts), PCV (3 districts), JE (1 province) | |
| **Maldives** | MR, HPV | | |
| **Myanmar** | MR, PCV, JE | | Rotavirus vaccine (2020), HPV (2020) |
| **Nepal** | | HPV (1 district) | Rotavirus vaccine (2019) |
| **Sri Lanka** | HPV | | |
| **Thailand** | HPV, Hib | Rotavirus vaccine (1 province) | Rotavirus introduction |
| **Timor-Leste** | IPV | | Rotavirus vaccine (2019), PCV (2021) |

### Key challenges

- Shortages of vaccines, notably rotavirus vaccine and HPV vaccine have delayed their introduction despite readiness in countries to introduce.
- Delayed or declined new vaccines introduction because of the long-term sustainability implications to national budgets.
- Insufficient data on economic benefits and cost effectiveness of a new vaccine leading to delay in policy-decision making on introduction of new vaccines.

## CONCLUSIONS

Several initiatives to reach the goals of the Regional Vaccine Action Plan have been implemented by countries of the Region that have helped to improve immunization coverage and equity. The Region has made progress to strengthen routine immunization through various time tested and innovative initiatives. This has enabled the Region to sustain polio free status and elimination of maternal and neonatal tetanus as well as make steady progress towards measles elimination and rubella control. New vaccine introductions have contributed to improve the routine immunization coverage through the training of health personnel and enhanced monitoring and supervision.

All countries need to increase the effectiveness and efficiency of national immunization programmes in their efforts to achieve universal health coverage and allocate adequate financial and human resources to immunization programmes according to national priorities, considering the ongoing polio transition, Gavi transition and well-documented information on the economic benefits of immunization.

To sustain the immunization gains in South-East Asia, immunization partners need to support critical needs, including human resources, until they are fully transitioned to the government health system. Meanwhile there is an urgent need to promote awareness on immunization, underlining its benefits to communities and the safety of vaccines, and strategic actions to counter vaccine hesitancy.

## Annex 1: Key regional indicators and targets for monitoring progress towards immunization goals

| Goals | Indicator | Baseline (2015) | Progress as of July 2019 | Target for 2020 |
|---|---|---|---|---|
| **Goal 1: Routine immunization systems and services strengthened** | Number of SEA Region countries with 90% national coverage and 80% coverage in every district or equivalent for all vaccines in national programmes, unless otherwise recommended | Five SEA Region countries have 90% national coverage and 80% coverage in every district or equivalent for all* vaccines in national programmes (WUENIC 2016 & JRF 2015) | Two SEA Region countries have 90% national coverage and 80% coverage for all vaccines. Three countries have achieved 90% national coverage and 80% coverage in all districts for all vaccines except IPV due to the unavailability of vaccines | All SEA Region 11 countries will have 90% national coverage and 80% coverage in every district or equivalent for all vaccines in national programmes |
| **Goal 2: Measles is eliminated and rubella/CRS controlled** | Number of SEA Region countries with absence of endemic measles transmission for ≥12 months in the presence of a well-performing surveillance system | None of the SEA Region countries have an absence of endemic measles transmission for ≥12 months in the presence of a well-performing surveillance system | Five SEA Region countries have eliminated measles | All 11 SEA Region countries will have an absence of endemic measles transmission for ≥12 months in the presence of a well-performing surveillance system |
| | Number of SEA Region countries that have achieved rubella/CRS control defined as 95% reduction of rubella and CRS cases as compared with the 2008 national baseline | None of the SEA Region countries have achieved rubella/CRS control | Six countries have controlled Rubella/ CRS | All 11 SEA Region countries will have achieved rubella/ CRS control |
| **Goal 3: Polio-free status is maintained in the Region** | Number of WPV and cVDPV cases in the Region | No WPV transmission is re-established in the Region and cVDPV responded to as per global guidelines | Region is polio-free since 2011. In 2019 two cVDPV outbreaks have been identified and are responded to as per global guidelines | No WPV transmission is re-established in the Region and cVDPV responded to as per global guidelines (to be confirmed by the RCCPE) |
| **Goal 4: Elimination of maternal and neonatal tetanus (MNT) is sustained** | Number of SEA Region countries with validated MNT elimination defined as < 1 NT case/1000 LB in each district | Ten SEA Region countries have validated MNT elimination defined as < 1 NT case/1000 LB in each district | Eleven SEA Region countries validated for MNT elimination defined as < 1 NT case/1000 LB in each district and have maintained status | Eleven SEA Region countries continue to have maintained MNT elimination defined as < 1 NT case/1000 LB in each district |
| **Goal 5: Control of Japanese encephalitis (JE) is accelerated in the Region** | Number of SEA Region countries that have introduced immunization against JE in nationally-defined high-risk areas | Currently four SEA Region countries have introduced immunization against JE in nationally-defined high-risk areas | Six countries in the Region have introduced immunization against JE in all nationally defined high-risk areas | Seven SEA Region countries will have introduced immunization against JE in nationally-defined high-risk areas |

| Goals | Indicator | Baseline (2015) | Progress as of July 2019 | Target for 2020 |
|---|---|---|---|---|
| **Goal 6: Control of hepatitis B is accelerated in the Region** | Number of SEA Region countries that have reduced the seroprevalence of chronic hepatitis B infection, measured through hepatitis B surface antigen (HBsAg) to less than 1% in 5-year-old children at national level | In three countries nationally, representative post-hepatitis B vaccine introduction impact serosurveys indicate HBsAg below 1% in 5-year –old children | Four countries have been verified as having reached the control target of less than 1% HBsAg in children 5 years old | Ten SEA Region countries will have reduced the seroprevalence of chronic hepatitis B infection, measured through HBsAg to less than 1% in 5-year-old children at national level |
| **Goal 7: Introduction of new vaccines and related technologies is accelerated** | Number and type of additional new or under-utilized vaccines that have been introduced in SEAR countries from 2012 - 2016 | Each country in the SEA Region has introduced at least two additional new vaccines between 2010 and 2015 | Six countries have introduced at least two additional new vaccines since 2016 | Each country in the SEA Region will have introduced at least two additional new vaccines from 2016 to 2020 |
| **Goal 8: Adequate production and availability of safe and efficacious vaccines is ensured** | Number of SEA Region countries manufacturing vaccines of assured quality | Three SEA Region countries manufacture vaccines of assured quality | Three SEA Region countries manufacture vaccines of assured quality | Five SEA Region countries will manufacture vaccines of assured quality |
| | Number of SEA Region countries with (a) no national-level stock-outs for any routine vaccine and (b) no subnational level stock-outs for any routine vaccine | Nine SEA Region countries had no stock outs at national and no subnational level stock outs (JRF 2015) | Seven SEA Region countries had no stock outs at national and no subnational level stock outs (JRF 2018) | Eleven SEA Region countries will have no stock outs at national and subnational levels |

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# WHO REGIONAL OFFICE FOR THE WESTERN PACIFIC: PROGRESS REPORT FOR THE WESTERN PACIFIC REGION

## CONTENTS



Presented to the July 2019 meeting of the Technical Advisory Group on Immunization and Vaccine-Preventable Diseases in the Western Pacific Region

## BACKGROUND

The Western Pacific Region (WPR) of WHO consists of 27 countries and 10 Areas with a population of 1.9 billion and a birth cohort of around 23.6 million. The Regional Framework (RF) for Implementation of the Global Vaccine Action Plan (GVAP) in the Western Pacific was endorsed by Technical Advisory Group (TAG) on Immunization and Vaccine-Preventable Diseases (VPD) in June 2014 and the Regional Committee (WPR/RC65.R5) and in October 2014.

The RF is aimed to translate strategies and activities recommended by the GVAP into the context of the WPR. The RF has specified eight regional immunization goals for the Western Pacific: 1) sustaining polio-free status; 2) maternal and

neonatal tetanus (MNT) elimination[1]; 3) measles elimination; 4) accelerated control of hepatitis B; 5) rubella elimination; 6) accelerated control of Japanese Encephalitis (JE); 7) meeting regional vaccination coverage targets; and 8) introduction of new vaccines. Since 2014, the region is making steady progress towards achieving its set goals. (Annex 1) the Region has maintained its polio-free status, MNT elimination has been not yet achieved in only one country, rubella elimination is on track and there have been tremendous strides in the accelerated control of hepatitis B. Further, The WPR is on track with new vaccine introduction overall. As a whole, the Region has improved and maintained high coverage of third dose of Diphtheria-Pertussis-Tetanus (DTP) (93.4% in 2018) and first dose of measles containing vaccines (MCV) (94.4% in 2018), indicating public demand, acceptance and improved service delivery in immunization.

To achieve GVAP 6 strategic objectives in the WPR and to accelerate achievements of 8 regional immunization goals, the RF proposes 20 innovative strategies and 36 priority actions. This report provides progress and achievements towards global and regional immunization goals on GVAP and RF for the period of 2014 to mid-2019 in line with 5 goals of Decade of Vaccines (DoV). It also highlights the remaining challenges that will need to be overcome to meet the set goals.

## Achievements

In early 2019, the Western Pacific Regional Office (WPRO) conducted an evaluation of implementation of 36 proposed priority actions in RF for 6 strategic objectives in GVAP. Eighteen priority actions were selected according to the availability of relevant information in WHO-UNICEF Joint Reporting Forms (JRF) (from 2014-2017).

Fourteen Countries and Areas (Australia, Cambodia, China, Fiji, Guam, Hongkong SAR, Kiribati, Republic of Korea, Malaysia, Mongolia, New Caledonia, New Zealand, Philippines and Viet Nam) reported implementing 14 priority actions. Another 16 Countries and Areas [Cooks Islands, Federated States of Micronesia, French Polynesia, Japan, Lao People's Democratic Republic (PDR), Macao SAR, Marshall Islands, Niue, Palau, Papua New Guinea (PNG), Samoa, Singapore, Solomon Islands, Tokelau, Tonga and Tuvalu] reported implementing 09 to 13 priority actions. Nauru and Vanuatu reported 8 priority actions. Northern Mariana Islands, Wallis and Futuna, and Brunei Darussalam) reported implementing 7, 6, and 5 priority actions respectively.

[1] Defined as less than one NT case per 1000 live births in every district per year

Figure 1: Regional Framework Priority Actions* reported at least once by countries in WHO-UNICEF JRF reports 2014-2017


**Note:** 36 Priority Actions recommended by Regional Framework for the implementation of GVAP in the WPR, 2014. Only 18 Priority actions are selected and presented in Figure 1

## Sustaining polio free status

Overall population immunity against poliovirus in the Region is high: with majority of the countries officially reported more than 90% coverage with three doses of polio vaccines in 2018. Performance of surveillance for polioviruses in the Region is well above the regional targets for the main indicators[2]. In 2015, 15 out of 17 eligible countries in WPR have introduced at least one dose of Inactivated Polio Vaccine (IPV) into their national immunization schedules (Annex 2). Remaining two countries, Viet Nam and Mongolia, introduced one dose of IPV in September 2018 and April 2019 respectively.

High quality polio laboratory network has been maintained throughout the years and in 2019, 42 out of 43 network laboratories have capacity for intratypic-differentiation of polioviruses. In the WPR, five countries (Australia, China, Japan, Republic of Korea and Viet Nam) have designated poliovirus-essential facilities for handling and storing wild poliovirus type 2, vaccine-derived poliovirus type 2 and Sabin/oral polio vaccine type 2 materials in national polio laboratories, research and diagnostic facilities and vaccine manufacturers.

## Maternal and neonatal tetanus elimination

In 1999, globally 57 countries had not eliminated MNT and 6 countries of the WPR were included on this list, with 5 of these countries subsequently being validated as having achieved MNT elimination: Viet Nam in 2005, China in 2012, Lao PDR in 2013, Cambodia in 2015 and most recently, Philippines in 2017. By the end of 2018, PNG is the only remaining country in the region, to be validated for MNT elimination.

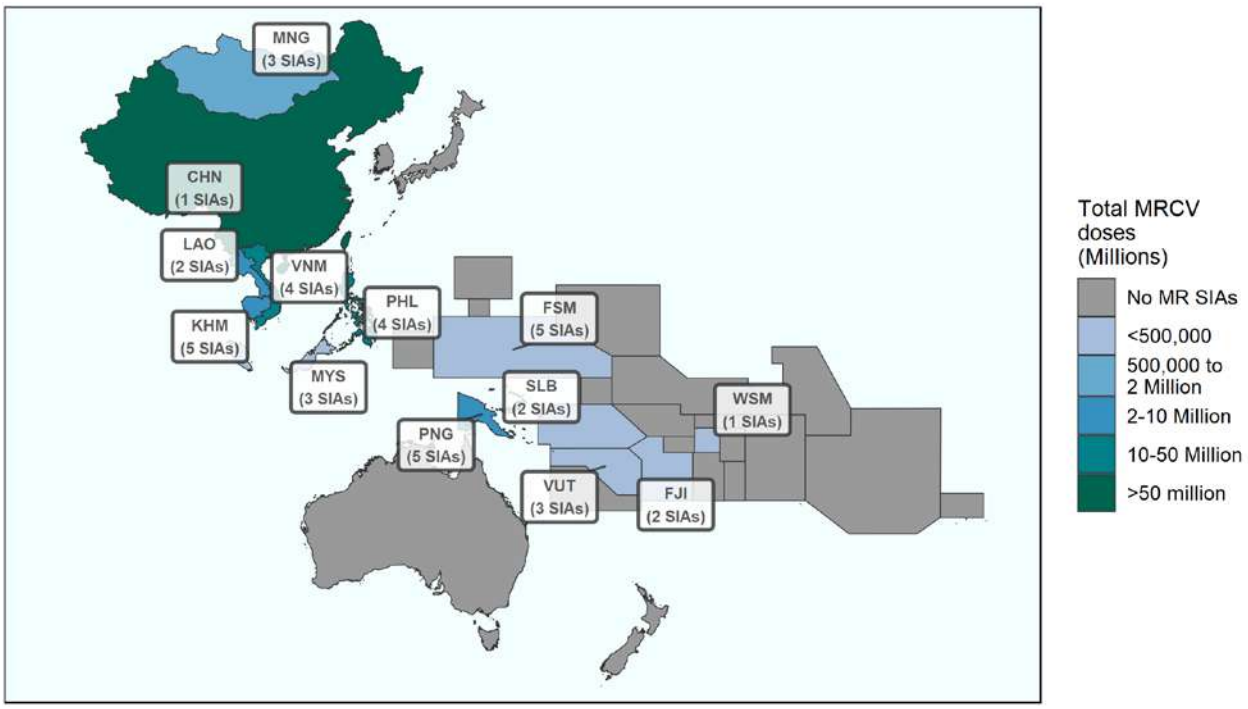
[2] Non-polio AFP rate at 2 cases per 100 000 under 15 population, 90% adequate stool specimens collection rate and 98% AFP cases investigated within 48 hours of notification

## Measles elimination

As of September 2018, nine countries and areas [Australia , Brunei Darussalam, Cambodia, Hong Kong SAR (China), Macao SAR (China), Singapore, Japan, Republic of Korea, and New Zealand] have been verified as having achieved and sustained measles elimination.

From 2010 to 2019, nine countries [Japan (2008-2012), Lao PDR (2011 and 2014), Philippines (2011 and 2014), Mongolia (2012, 2016 and 2019), Cambodia (2013 and 2017), Viet Nam (2014-2015), PNG (2015-2016), Fiji (2017), and Samoa (2017)] carried out 14 nationwide wide age-range Measles-rubella Supplementary Immunization Activities (MR-SIAs). Nationwide wide age-range MR-SIA is planned in Kiribati during 2019.

Figure 2: Nation-wide supplemental immunization activities (SIAs) using measles and rubella-containing vaccine (MRCV) conducted in the Western Pacific Region, 2010—2019




All countries except China established and are sharing with WPRO case-based surveillance data on measles and rubella. Four countries have used the new WPR Regional Strategy and Plan of Action for Measles and Rubella Elimination to develop final or draft national action plans.

## Accelerated control of Hepatitis B

The 2017 regional sero-prevalence target of 1% among immunized cohorts of children at least 5 years of age was met and immunization programmes in this Region have averted an estimated 7 million deaths and 37.6 million chronic hepatitis B cases among children born between 1990 and 2014.

As of May 2019, 21 countries and areas have been verified as meeting the 2017 goal. An additional 4 countries have sero-survey evidence of meeting the <1% goal but have not been verified to date.

## Rubella elimination

In 2017 the WPR Regional Committee formally adopted a goal of achieving regional elimination of rubella. As of September 2018, five countries and areas [Australia, Brunei Darussalam, Macao SAR, Republic of Korea and New Zealand] have been verified as having achieved rubella elimination.

From 2010 to 2015, seven countries in the Region [the Philippines (2010), Lao PDR (2012), Cambodia (2013), Solomon Islands (2013), PNG (2015), Vanuatu (2015) and Viet Nam (2015)] introduced rubella-containing vaccine (RCV) into their national immunization programmes. Consequently, all countries in the Region have introduced RCV (i.e. MR or MMR) into their national immunization programme.

## Introduction of new vaccines

By mid-2013, **Haemophilus influenza-b (Hib) vaccine** had been introduced into the national immunization programmes of 26 countries in the Region that report data to WHO; the vaccine has been introduced in 17 of the 18 lower middle- and upper middle-income countries (all but China) in the Region. China is considering introducing Hib vaccine and convened a Hib working group meeting in December 2017 to assist with the decision process and planning by China's National Immunization Advisory Committee.

As of 2018, **Human Papilloma Virus (HPV) vaccine** has been introduced into the national immunization programmes of 13 countries in the Region. HPV vaccine has been introduced in 6 of the 18 lower middle-and upper middle-income countries, including three during 2010-2018. Two lower middle-income countries (LMICs) - Lao PDR and Solomon Islands will be introducing HPV vaccine nationally in 2019. One LMIC (Cambodia) initiated an HPV vaccine demonstration project in 2018. Four Pacific island countries (PIC) [one LMIC and three upper middle-income countries (UMIC)] are planning to introduce HPV vaccine during 2020-2021with support from the Asian Development Bank.

As of 2018, **Pneumococcal Conjugated vaccine (PCV)** has been introduced in 17 countries, including 10 during 2010-2018. PCV has been introduced in 10 of the 18 LMIC and UMIC, including 8 during 2010-2017 (7 in LMICs and 1 in an UMIC).

As of 2018, **rotavirus vaccine** has been introduced in 8 countries in the Region. Rotavirus vaccine has been introduced in four of the 18 LMICs and UMICs, including two during 2010-2018 (one in a LIMIC and one in an UMIC).

# CHALLENGES

Despite the gained achievements, WPR still has to address a few fundamental challenges: Uneven immunization coverage, particularly at subnational levels, leading to population immunity gaps and resulting in outbreaks (e.g. measles, rubella, diphtheria); gaps in VPD surveillance and immunization coverage monitoring, which challenge monitoring immunization programme and timely response; and concerns with vaccine and immunization safety particularly with new vaccines due to limited vaccine pharmacovigilance and response capacity.

## Emergence and outbreaks of circulating vaccine-derived polioviruses (cVDPVs)

An emerging challenge for the Region, which has become most serious since 2015, is emergence and outbreaks of circulating vaccine-derived polioviruses (cVDPVs) due to inadequate routine immunization levels coupled with subnational gaps in surveillance in high-risk countries. Since 2000 emergence of cVDPVs was reported in the Philippines (2001), China (2004, 2011 and 2012) and Cambodia (2005). Recent emergence of cVDPVs in Lao PDR (2015) and PNG (2018) resulted in big outbreaks with 11 and 26 paralytic cases respectively. The only and surest way to prevent emergence and circulation of vaccine-derived polioviruses in the future is to stop use of oral polio vaccine.

Expansion of environmental surveillance (ES) for polioviruses is ongoing in the Region requiring additional human and financial resources.

Implementation of polio laboratory containment as outlined in WHO Global Action Plan (GAP III) is delayed due to lack of national legislation and insufficient human resources. Some countries with designated poliovirus-essential facilities (PEF) have not yet established a functional National Authority for Containment (NAC) and nominated members of NAC who will be responsible for certifying PEFs as described in WHO's "Containment Certification Scheme (CCS)".

The polio transition in the Western Pacific Region will largely affect countries and areas which are currently benefiting from the technical and financial support from WHO and other partners[3]. As GPEI funding is being scaled down for non-endemic countries, WHO support to the affected Member States in maintaining Polio Essential Functions will be affected in 2020 and beyond.

## Ongoing measles transmission in some countries

After achieving the historically lowest measles incidence for the Region in 2012, the Western Pacific was affected by Region-wide measles resurgence in 2013–2016. The regional measles resurgence was attributed to: (i) increased measles virus transmission in endemic countries, including China, Malaysia, and Viet Nam; (ii) large-scale high-mortality outbreaks following importation in countries with low transmission, including PNG (2014), Solomon Islands (2014), and Mongolia (2015—2016); (iii) multiple importations in countries having achieved or near interruption of endemic measles virus transmission (including Australia, Japan, Singapore, and Republic of Korea); and (iv)

[3] Cambodia, China, Lao PDR, Mongolia, Pacific Island Countries, Papua New Guinea, Philippines and Viet Nam

re-establishment of measles virus transmission after elimination in Mongolia (an outbreak in 2015—2016 lasted over 12 months, leading to loss of measles elimination status).

Following an intensified response to the 2013—2016 outbreak including MR-SIAs and investment in routine immunization and outbreak preparedness, WPR Member States achieved a new historical low measles incidence in the WPR in 2017; however, in 2018—2019 a worldwide resurgence of measles occurred, including a large nationwide measles outbreak in Philippines, which has had high mortality.

The outbreak in the Philippines occurred due to accumulation of a large immunity gap among children due to chronically suboptimal routine immunization coverage in that country; and recent national SIAs have not sufficiently improved immunity among hard-to-reach populations who are not protected through routine vaccination.

WHO has supported Philippines to respond to the outbreak, plan and conduct nationwide outbreak response immunization activities; while the rate of new cases is declining, there is still widespread transmission and there have been multiple exportations of measles virus to other WPR Member States from this outbreak.

The ongoing worldwide resurgence, affecting all six WHO Regions, has led to an increase in importation-related outbreaks in countries with low incidence or that are verified as having achieved measles elimination. Although in all countries with importation-related outbreaks, widespread transmission has been prevented due to high population immunity and aggressive and effective outbreak response, these importations from endemic to non-endemic areas represent a significant burden on the public health system and each outbreak represents a risk to the great progress made towards measles elimination in the region.

## PERSPECTIVES

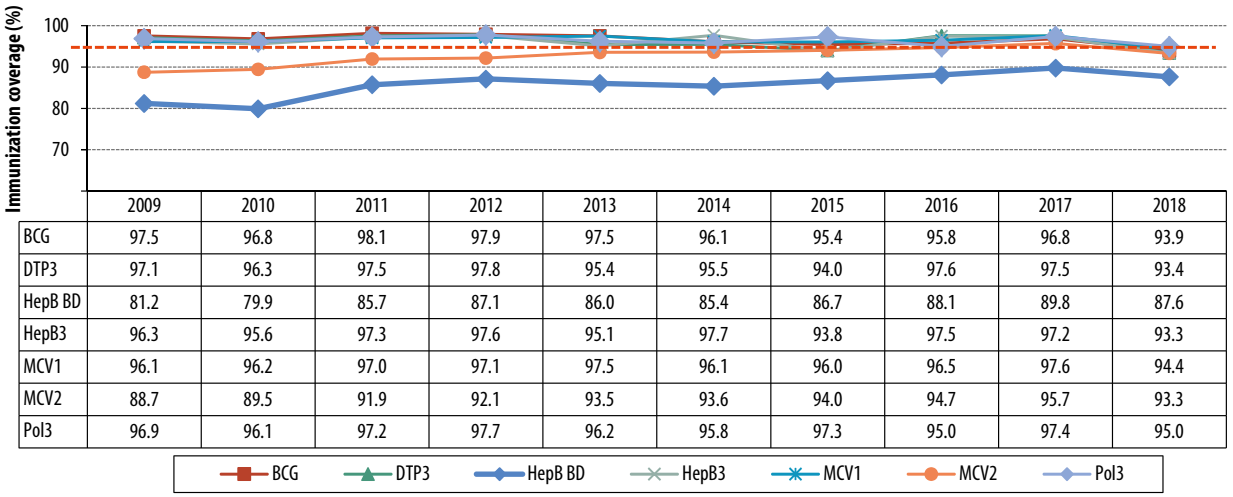
### Sustainable domestic immunization financing

Budget and financing is a core component of immunization system to ensure sustainable domestic immunization financing and resource mobilization. In WPR, 18 countries are in middle income category [4] (10 are high income and no low income country in WPR) and therefore at a risk of decreasing donor support. The 5 Gavi eligible countries need to prepare for transition out from Gavi support and thereby need to rely on domestic financing.

In October 2017, the 68th Regional Committee for the Western Pacific endorsed "sustainable financing for essential public health functions - transition to domestic financing", which is expected to further support countries in strengthening their commitment to immunization. Programmatic sustainability requires critical national capacities. Early engagement and planning in addressing health and immunization systems bottlenecks and institutional constraints and progressive phasing out of support are important in successful transition from donor support. With this the region is focusing cost cutting innovative strategies, such as 'integrated service delivery'.

Kiribati and Mongolia transitioned out from Gavi support and have adopted 'financing under integrated service' as an alternative strategy to best use of available limited government funds. In Kiribati, EPI Programme is well integrated into other public health programmes such as Reproductive, Maternal, Neonatal, Child & Adolescent Health and TB Programme. This has resulted saving significantly high transport cost in this small islands country. Similarly, Mongolia has 'Health Budget Package' integrated with immunization. The domestic financing for vaccines has increased from 88% in 2014 to 100% in 2017, while total domestic financing for National Immunization Programme (NIP) P has increased 77.6% to 94.7% for same time period.

[4] World Bank , 2018




| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| BCG | 97.5 | 96.8 | 98.1 | 97.9 | 97.5 | 96.1 | 95.4 | 95.8 | 96.8 | 93.9 |
| DTP3 | 97.1 | 96.3 | 97.5 | 97.8 | 95.4 | 95.5 | 94.0 | 97.6 | 97.5 | 93.4 |
| HepB BD | 81.2 | 79.9 | 85.7 | 87.1 | 86.0 | 85.4 | 86.7 | 88.1 | 89.8 | 87.6 |
| HepB3 | 96.3 | 95.6 | 97.3 | 97.6 | 95.1 | 97.7 | 93.8 | 97.5 | 97.2 | 93.3 |
| MCV1 | 96.1 | 96.2 | 97.0 | 97.1 | 97.5 | 96.1 | 96.0 | 96.5 | 97.6 | 94.4 |
| MCV2 | 88.7 | 89.5 | 91.9 | 92.1 | 93.5 | 93.6 | 94.0 | 94.7 | 95.7 | 93.3 |
| Pol3 | 96.9 | 96.1 | 97.2 | 97.7 | 96.2 | 95.8 | 97.3 | 95.0 | 97.4 | 95.0 |

## Sustainable demand and acceptance on vaccines and immunization

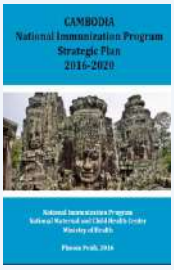
The demand and acceptance for vaccines and immunization in the region are high. However, public trust has eroded in few countries (Dengvaxia® issue in Philippines, 2 infant deaths following MMR vaccination in Samoa) due to vaccine safety concerns and failure to response timely and evidence based manner. According to the report WHO –UNICEF Joint Report Form for 2015-2018, vaccine safety remain as one lead reasons for hesitancy, in addition to some cultural beliefs and also barriers to access for to immunization service. The survey done in Philippines (2018) has reported similar findings on hesitancy.

The TAG recommended developing a regional guidance document to support countries to overcome vaccine hesitancy and generate acceptance and demand and WHO has drafted a guide 'Generating acceptance and demand for vaccination: strategies for supporting vaccination uptake and addressing hesitancy'. This draft document was presented at TAG meeting in 2018 for review and further guidance on finalizing it. Further, WPRO has focused strengthening WHO Country Office (CO) capacity to support countries in addressing vaccine and immunization safety issues more efficiently and effectively. With this regard first-ever regional workshop aiming to train WHO staff engaged in immunization and regulatory activities was conducted in April 2019. The work on social networks related to vaccine confidence is of great interest and all CO have developed two year work plans including demand generation.

# COUNTRY HIGHLIGHTS

## **Cambodia:** Leadership in successful implementation of NIP Strategic Plans

As of 2017, Cambodia was the only low income country in WPR. (In 2018, the country is categorised by low MIC by WB). National Immunization Programme (NIP) of Ministry of Health (MOH) had worked closely with WHO and other partners and took leadership in implementing the "National Immunization Programme Strategic Plans 2008-2015 and 2016-2020". As a result country has achieved successfully many immunization targets.


Since 2010, Cambodia has been making progress including increasing trend of national vaccination coverage, achievement of measles elimination and maternal and neonatal tetanus elimination in 2015 and hepatitis B control goal in 2018. Cambodia has been heavily engaged towards achieving Rubella elimination goal. Over the last decade, Cambodia introduced four new and underutilized vaccines such as Hib, PCV, IPV and JE vaccine into routine immunization system and conducted HPV vaccine demonstration programme in two provinces. Cambodia also successfully responded to the multiple VPD outbreaks especially measles outbreak in 2016/17.

## China: Regional and world largest populated country with historically lowest incidences of VPD

China, the world highest population country with a birth cohort of 17.2 million has made great progress towards the regional goals during 2010-2018: maintaining polio-free, verified maternal and neonatal tetanus elimination in 2012, verified children under 5 were HBV-infected decreased to 0.32% in 2014, dramatically and consistently reduced VPDs incidences to historically recorded low level by 2018 (e.g., 2.8 per million population for each measles and for rubella, and 1.3 per 100 000 for Japanese encephalitis), and achieved over 95% national coverage for all vaccines used for infants in 2018.

Figure 3a: Incidences of vaccine preventable diseases, China, 1950-2016

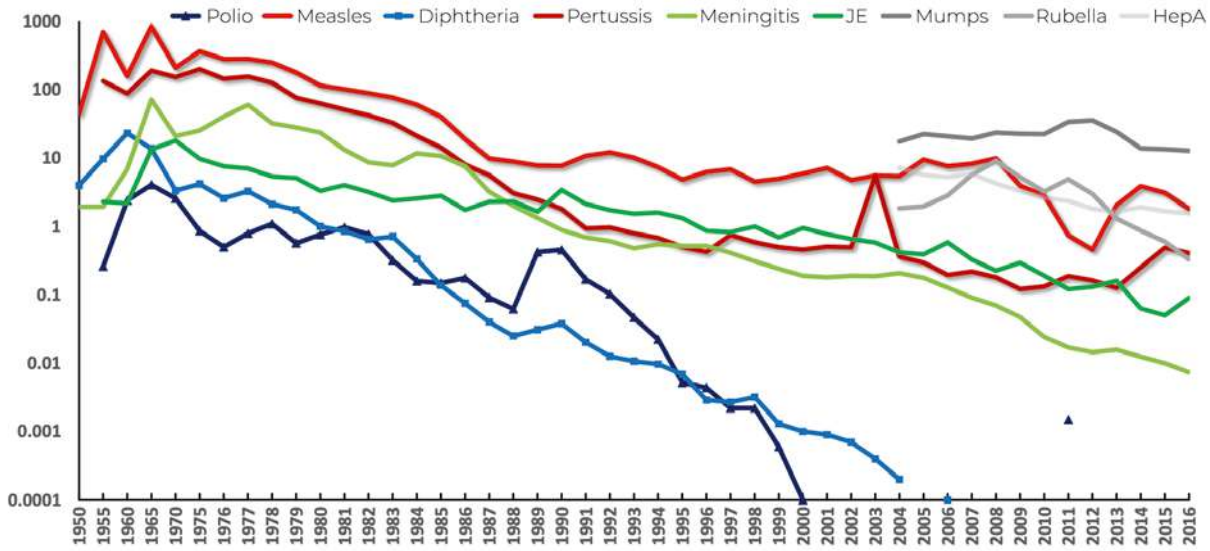
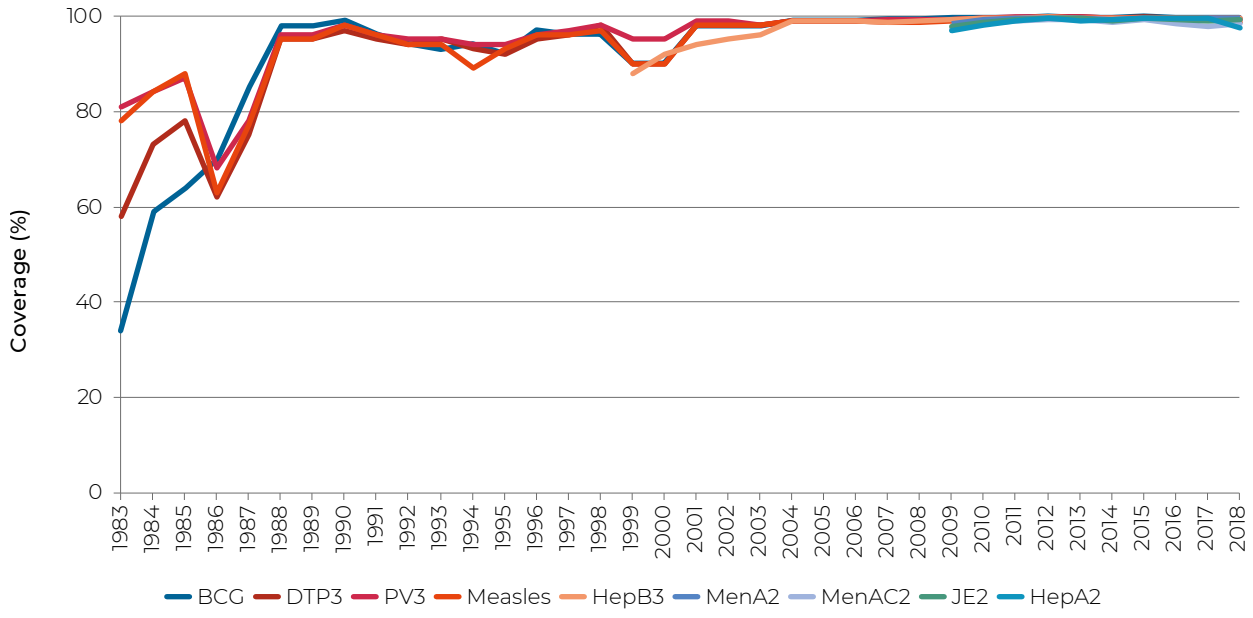



Figure 3b: Routine immunization coverages, China, 1983-2018




These achievements mainly attributed to (1) a robust vaccination services system: with 176 000 rationally deployed vaccination sites cross country; (2) upgrading legislations on vaccine distribution and vaccination management, surveillance on adverse events following immunization (AEFI). In responding to vaccine incidents caused worrisome of public hesitancy to vaccine quality, safety and vaccination program, a law for vaccine management is being developed in 2019; (3) increasing investment: In 2012, central government financially invested 280 million RMB in equipping EPI laboratories. During 2009-2011, a nation-wide Hep B vaccination campaign was conducted among all unvaccinated children under 15 years. In 2010, China also conducted measles SIA with 104 million people vaccinated. In 2017, central government invested 3.564 billion RMB for vaccination program.

To complete the unfinished regional goals in China for poliovirus containment security and optimized

IPV schedule, measles and rubella elimination, new vaccines introduction (e.g., Hib, PCV, rotavirus, HPV), and universal high vaccination coverage. China will continue the efforts with targeting impact on VDPs reduction and elimination, leveraging innovations in driving coverage and equity for vaccines, collaboration while staying focused and practical, incorporation of lessons learned, building on existing health initiatives and partnerships, and strengthening vaccination services system in align with broader health agenda- health emergency, SDG, UHC and PHC.

## **Papua New Guinea:** Emergency Operation Centres

The outbreak of cVDPV1 in PNG was confirmed on 22 June 2018. Since July 2018 the National Department of Health (NDOH) of PNG, supported by the international partner and donor organizations, implemented wide range of outbreak response activities. Along with achieving the main objective (interrupting circulation of poliovirus) response activities greatly contributed to strengthening primary health care at the provincial and district levels.

To ensure effective and efficient management of response activities emergency operation centers (EOCs) were established in all provinces. This greatly contributed to building capacity and increased ownership of provincial health authorities and health workers in managing field operations. Series of trainings and practical work strengthened knowledge and skills of health workers in surveillance of vaccine-preventable diseases and microplanning, implementing, supervising, and monitoring supplementary immunization activities. With the EOCs guide, in total seven rounds more than 10 million doses of oral polio vaccine were given to children under 15 year of age to close the immunity gap accumulated in many years. The country has low routine immunization coverages and during polio SIAs routine vaccines were provided to the children who missed their regular doses in hard-to-reach areas. Vitamin A supplementation was provided in two rounds of OPV vaccination to children under 5.

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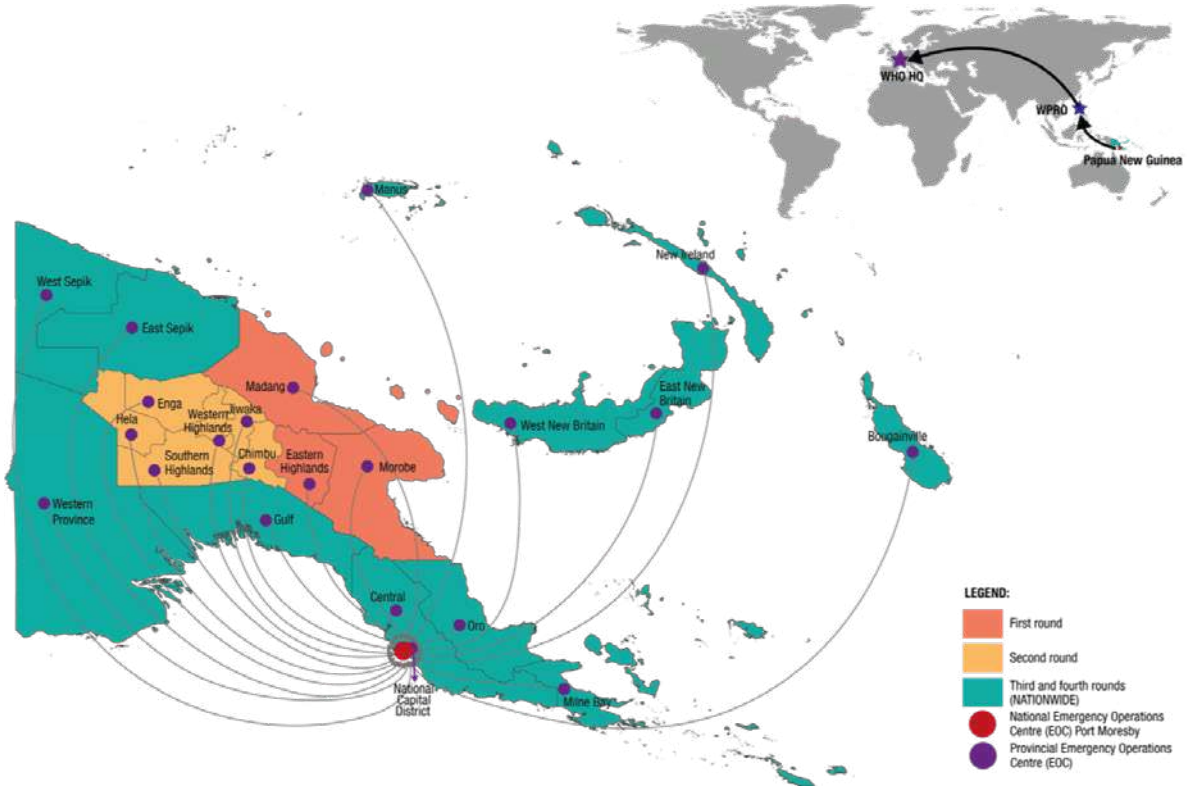


## **Solomon Islands:** Successful partnerships

The Ministry of Health and Medical Services (MHMS) in Solomon Islands has shown leadership over the years by declaring immunization as a priority intervention in the National Health Strategic Plan

2016-2020- to ensure all provinces and communities have >90% of children and girls vaccinated appropriately for age. In 2010, Solomon Islands coverage for MR was only 74%, and DPT3 coverage was 83%. Since then, the country has made steady gains in its vaccination coverage, with 93% MR and 94% DPT3 coverage by 2018.

WHO with partners (UNICEF, PATH, CDC, GAVI) have supported many of the country achievements, particularly with new vaccine introductions and innovations: (i) Vaccine introduction achievements – 2014-IPV introduction, 2015-PCV introduction and HPV pilot, and 2018-MR 2nd dose, 2019-HPV introduction and Rota virus vaccine introductions scheduled for roll-out in 2019/2020; and (ii) Innovative approaches, including the pilot for out of cold chain Hep-B vaccination, to achieve better coverage in regions with depleted cold chain equipment.

Currently the country is progressing its GAVI Transition plan, which will continue until 2023, this aims to support the country in securing health systems aspects of the immunization programme such, as the governance and finance of the programme, regulatory bodies and capacity in the Provincial regions.

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All these gains have been possible through the strengthening of the immunization system to be an integral part of the health system and through predictable funding for key immunisation activities, a commitment to reaching the most remote communities and through new vaccine introductions.

## CONCLUSIONS

Closing to the end of the DoV, the WPR is steadily making significant progress towards achieving global and regional immunization goals including implementing many Priority Actions proposed by the RF.

The potential risk of resurgence of vaccine preventable diseases such as measles, polio, diphtheria and pertussis due to the population immunity gaps is high concern in the region. Therefore, intensifying all available strategies to strengthen immunization services is necessary; closing existing population immunization gaps through reaching unreached populations, ensuring availability and access to vaccine and other supplies, laboratory supported enhanced surveillance are essentially necessary.

The commendable commitment by the governments and partners continued support are the key factors of making continued progress. Therefore, continued government commitments, particularly to ensure sustainable domestic financing for immunization and partners' highest support are essentially important to way forward for a healthier VPD free region.

The WPRO has initiated developing the Western Pacific Regional Framework for immunization and elimination of VPD in 2021-2030. It will focus on structural and functional changes immunization system and programmes to sustaining achievements and overcoming challenges in line with regional and global needs in next decade.

# Annex 1: Summary of progress on RVAP indicators

Table 1: Progress towards the Regional Framework immunization goals (using indicators as given in the Regional Framework)

| Immunization goal | Indicators and targets | Regional progress as of 31 April 2019 |
|---|---|---|
| 1. Sustaining polio-free status | Sustain regional polio free status until global certification. | On track |
| | Ensure timely detection and response to any wild, vaccine-related and Sabin polioviruses. | On track |
| | Eliminate vaccine-derived poliovirus (VDPV) risk by introducing in OPV-using countries at least one dose of IPV by end-2015, and withdraw the type 2 component of trivalent OPV by April 2016. | Achieved<br>Remaining countries, Viet Nam and Mongolia, introduced one dose of IPV in September 2018 and April 2019 respectively. |
| | Initiate and implement phases of the poliovirus laboratory containment. | Delayed<br>Certification of containment of poliovirus essential facilities has not yet started (Phase II ) .<br>Ongoing - implementation of the Phase I for identification of Sabin 2 polioviruses has started in April 2018 with publication of WHO guidance document to identify poliovirus potentially infectious materials that may contain Sabin type 2 polioviruses in non-polio laboratories. |
| 2. Maternal and neonatal tetanus elimination | By 2015, achieve maternal and neonatal tetanus elimination in the WPR, defined as <1 neonatal tetanus (NT) case/1000 live births in each district. | On track / In progress<br>PNG is the only remaining country in the region yet to achieve MNT elimination. TT SIA has been delayed in PNG, the first round of the campaign has been conducted in Jiwaka, Madang and Hela provinces. Other identified risk provinces have not completed the TT SIA. |
| | Maintain elimination in every country and area (based on annual WHO/UNICEF District Data Spreadsheet). | On track<br>NT cases, TT coverage and other indicators are reported on regular basis to national level and also reported in the Joint WHO/UNICEF Reporting Forms. |
| 3. Measles elimination | By 2012, the WPR should eliminate measles. | Delayed<br>In 2012, the WPR achieved historically low measles incidence. However, the region-wide measles resurgence was experienced in 2013-2016. In 2017, another historical low was achieved. Despite a global measles resurgence during 2018—2019, including a large outbreak in Philippines, and an increased rate of measles virus importation, most countries and areas have sustained low incidence and have successfully prevented widespread transmission after import-related outbreaks. |
| | National Verification Committees (NVCs) should annually submit progress reports to the Regional Verification Commission describing progress towards measles elimination | On track<br>Since 2013, NVCs started submission of progress reports and for the 7th RVC meeting in September 2018, all NVCs of 16 countries and areas in the WPR, and the Sub Regional Verification Committee for the Pacific (representing 21 countries and areas) submitted progress reports. |

| Immunization goal | Indicators and targets | Regional progress as of 31 April 2019 |
|---|---|---|
| **4. Accelerated control of hepatitis B** | Reduce the seroprevalence of chronic hepatitis B infection, measured through hepatitis B surface antigen (HBsAg), to less than 1% in 5-year-old children by 2017.<br>[Note: In 2016, the WHA adopted WHO's Global Health Sector Strategy on Viral Hepatitis, calling to eliminate viral hepatitis as a public health threat by 2030 by decreasing the HBsAg prevalence in children to 0.1% by 2030] | On track<br>A 2016 Vaccine study that was endorsed by the WPRO Hepatitis B Expert Resource Panel showed the Regional prevalence of HBsAg among children born in 2012 was estimated to be 0.93%, indicating that the 2017 target of reducing HBsAg in children ≥ 5 years to <1% was met. |
| **5. Rubella elimination** | All Member States that have not yet introduced RCV in their routine immunization programmes should do so as soon as possible. | On track<br>Before 2017, all countries and areas had introduced RVC into the national immunization programme. |
| | Rubella case-based data should be submitted to the WPRO for the Western Pacific. | On track<br>All of 36 countries and areas in the WPR have developed and run rubella case-based surveillance. 33 out of 36 countries and areas in the Region submit rubella case-based data to WPRO. |
| **6. Introduction of new vaccines** | All low- and middle-income countries introduce one or more new vaccines during 2010 to 2020. | On track<br>Of 18 MICs (10 are lower middle-income), 3 ( 1 LMICs and 2 UMICs) had introduced all new vaccines (Hib, HPV, PCV and rotavirus vaccines) by 2010 .<br>Of the 16 countries that had not introduced all 4 vaccines before 2010, 11 (69%) countries introduced at least one of these new vaccines during 2010-2018; all 9 (100%) of the 9 LMICs and 2 (29%) countries of 7 UMICs introduced at least one these new vaccines during 2010-2018. |
| **7. Meeting regional vaccination coverage targets** | Reach >95% national coverage for all vaccines used in the national immunization programmes, unless otherwise recommended, by 2020. | In Progress<br>While the WP Region as whole has achieved 93.4% DTP3 coverage, there are disparities among countries.<br>16of 36 countries and areas have achieved national coverage of ≥95% DTP3 (regional target) in 2018, and 20 countries achieved ≥ 90% national coverage (GVAP target). |
| | Reach >90% coverage in every district or equivalent administrative unit for all vaccines used in the national immunization programmes, unless otherwise recommended, by 2020. | Slow Progress<br>12 countries and areas have achieved DTP3 coverage ≥90% in all districts.<br>13 countries and areas have reached ≥ 90% national DTP3 coverage with all districts ≥80%, which is the GVAP target and showing that disparities at subnational level are still existing |

| Immunization goal | Indicators and targets | Regional progress as of 31 April 2019 |
|---|---|---|
| **8. Accelerated control of Japanese encephalitis (JE)** | Accelerate the control of JE by extending vaccination to all JE risk areas where JE incidence exceeds very low levels. | On track<br>10 of 12 countries with endemic JE transmission have introduced JE vaccine in some (Malaysia) or all (Australia, Cambodia, China, Japan, Lao PDR, Republic of Korea and Viet Nam) JE risk areas or have very low levels of disease without vaccination (Brunei-Darussalam; Singapore). Of the two remaining countries with JE virus transmission risk, Philippines initiated a subnational JE vaccination campaign in February 2019 and will consider whether to introduce JE vaccine into the routine immunization schedule by 2021. PNG is continuing to assess its JE burden after which it will make a decision about if and when to introduce JE vaccine. |
| | Reach regional vaccination coverage targets with the primary series of JE vaccine in routine immunization programmes, and ≥90% coverage for a primary series of JE vaccine among children under 15 years old in each country's JE risk area overall, by a year to be determined. | On track<br>Of the 8 countries in the Region that have JE virus transmission risk and which have introduced JE vaccine, 6 reported JE vaccination first dose coverage in the 2017 JRF – 4 of these countries use live attenuated JE vaccine, for which only one dose is recommended by WHO. Median coverage for the primary series for the 4 countries was ≥91.6% (range 39.0 - >99.4%). At the 2016 TAG meeting, an intermediate target for Member States that do not have high-quality JE surveillance was recommended: coverage of ≥95% with primary JE vaccine series among the targeted population (typically children <15 years old) in affected areas (national and subnational): ≥95% with primary series among children <15 years. At the Second JE Consultation on Accelerated Control of JE in the WPR, held in Manila in May 2018, 2030 was proposed as the year to achieve this target. |
| | Consider an incidence target of less than 0.5 per 100 000 children under 15 years old in every national or subnational JE risk area, by a year to be determined. | In progress<br>At the 2016 TAG meeting, an incidence target of <0.5 cases per 100 000 in the target population (typically children <15 years old) in affected areas (national and subnational) was recommended. At the Second JE Consultation on Accelerated Control of JE in the WPR, held in Manila in May 2018, 2030 was proposed as the year to achieve this target. |

## Annex 2: Polio vaccines used in routine immunization schedule of countries in the Western Pacific Region (as of 1 July 2019)

| IPV (≥3 doses) (20) | bOPV+ IPV (single dose) (15) | Sequential IPV& bOPV (1) |
|---|---|---|
| American Samoa | Cambodia | Singapore |
| Australia | China | |
| Brunei Darussalam | Cook islands | |
| French Polynesia | Fiji | |
| Guam | Kiribati | |
| Hong Kong SAR (China) | Laos | |
| Japan | Mongolia (from 2018) | |
| Macao SAR (China) | Nauru | |
| Malaysia | Papua New Guinea | |
| Marshall Islands | Philippines | |
| Micronesia | Samoa | |
| New Caledonia | Solomon Islands | |
| New Zealand | Tonga | |
| Niue | Vanuatu | |
| Northern Mariana Islands | Viet Nam (from 2018) | |
| Palau | | |
| Republic of Korea | | |
| Tokelau | | |
| Tuvalu | | |
| Wallis and Futuna | | |

IPV: Inactivated Polio Vaccine; OPV: Oral Polio Vaccine; bOPV: bivalent OPV

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