MEASLES & RUBELLA PARTNERSHIP

MEASLES AND RUBELLA STRATEGIC FRAMEWORK 2021-2030

MIDTERM REVIEW

American Red Cross · Gates Foundation · CDC · Gavi The Vaccine Alliance · unicef · United Nations Foundation · World Health Organization

Contents

Executive Summary

At the midpoint of the Measles & Rubella Strategic Framework (MRSF) 2021–2030, this Midterm Review assesses global progress toward measles and rubella elimination and identifies the course corrections needed to achieve 2030 targets. While notable progress has been made, the world remains off-track to reach elimination targets. Persistent immunity gaps, rising outbreaks, inequities in access, and a tightening global health financing landscape are undermining progress. The findings below summarize the state of measles and rubella from 2021–2024 and set the stage for strategic recommendations for 2026–2030.

The first half of the decade was shaped by the COVID-19 pandemic that led to a significant disruption across global health. Countries have had to navigate the extensive impacts of the pandemic on health systems, alongside increasing fragility, resource constraints, and shifting global health priorities. Despite these challenges, progress has continued. The MRSF remains a relevant and actionable framework to guide collective efforts, and the findings of this review highlight where adaptation is needed to sustain progress toward global measles and rubella elimination.

Findings

During the first 4-years of the MRSF, measurable progress toward measles- and rubella-elimination has been made. As at the end of 2024, 83 countries were verified for measles elimination and 99 for rubella elimination. Global coverage of measles and rubella vaccination has improved following a decline during the COVID-19 pandemic: the first dose measles vaccine (MCV1) rebounded to 84% in 2024, nearing pre-pandemic levels (86% in 2019), while the second dose measles vaccine (MCV2) and the rubella containing vaccine (RCV) rose to 76% and 73% respectively—surpassing 2019 performance. The rise in MCV2 and RCV coverage is largely owing to vaccine introductions over the period. Twelve countries introduced a second measles dose (MCV2) and five introduced rubella vaccine (RCV) during the review period (2021-2024). An additional country introduced MCV2 in 2025 and three additional countries have introduced or are in the process of introducing RCV in 2025. Supplementary immunization activities reached more than 530 million children between 2021 and 2024, and the number of measles zero-dose children has begun to fall, declining from 24 million in 2021 to 20.6 million in 2024.

However, current progress remains insufficient to achieve the MRSF's 2030 elimination targets. Despite gains, overall progress across the twelve MRSF Impact Indicators has been slow, and most indicators remain off-track to meet 2030 targets. MCV1 coverage remains below the 2019 baseline—which had already begun plateauing since 2010—meaning the climb to the 2030 target of 90% is now even steeper and will require more innovative, accelerated approaches. Moreover, global averages obscure deep inequities across regions, countries, and subnational areas. Low-income countries remain furthest behind, and 75% of the world's measles zero-dose children live in these settings. More than half of all zero-dose children are concentrated in just ten countries. Fragile and conflict-affected settings carry disproportionate burden: although only 24% of the world's infants live in these contexts, they account for 54% of zero-dose infants.

Large and disruptive outbreaks have increased in recent years, and surveillance systems face growing sustainability risks. The number of large or disruptive outbreaks nearly tripled between over the period (from 21 in 2021 to 59 in 2024). Key challenges underlying these outbreaks include persistent immunity gaps, delayed detection, and resource constraints that limit timely response. These outbreaks are lasting longer and affecting larger populations, particularly in fragile and conflict-affected settings where access and health system capacity are already severely constrained. At the same time, the Global Measles & Rubella Laboratory Network (GMRLN) lost much of its annual funding in January 2025, rendering the network severely underfunded and unable to deliver on certain essential supports. The GMRLN faces significant financial uncertainty for 2026 with only 15% of historical annual funding secured for the year (as at December 2025). Without sustained investment, weakened surveillance could further hinder timely detection and undermine elimination progress.

The broader external environment for measles and rubella programmes continues to pose significant challenges. Many countries are navigating constrained global health financing and evolving donor priorities, which limit the predictability of support for routine immunization, preventive campaigns, and outbreak response. These financial pressures make it harder for countries—particularly those already facing resource constraints—to maintain the level of sustained investment required to close immunity gaps. At the same time, vaccine hesitancy is becoming more pronounced across contexts. Misinformation and declining public trust in vaccines pose a major threat to continued progress toward elimination goals. These challenges are most acute in contexts affected by conflict, migration, and climate-related emergencies, which further disrupt access to services and deepen inequities.

These findings underscore both the progress made and the scale of action required to achieve measles and rubella elimination. Closing immunity gaps, restoring momentum toward coverage targets, and addressing the widening inequities seen across countries and subnational areas will demand coordinated, sustained effort at the national, regional, and global level. The Measles & Rubella Partnership (M&RP) will continue to play a central role in driving this collective action: aligning partners around shared priorities, supporting countries with technical and operational guidance, and ensuring that equity remains core to measles and rubella resourcing.

Recommendations

1. **Reaffirm measles and rubella as a global health priority and a "must win" through prioritization at the global, regional, and national level.** Measles and rubella (MR) vaccines are among the most impactful and cost-effective public health interventions, serving as a key indicator of system equity and coverage. This underscores the need for sustained political commitment, predictable financing and continued advocacy to maintain progress and prevent further setbacks.

2. **Integration of measles and rubella activities with other antigens and health services should be prioritized to maximize reach and efficiency.** Integrating measles and rubella activities with primary care and other immunization services can expand reach, reduce missed opportunities, and improve efficiency—especially in fiscally constrained contexts. Achieving this requires breaking down silos, jointly planning delivery models, and leveraging synergies for coordinated implementation.

3. **Ensure high-coverage, sustainable measles and rubella programs by strengthening activities across all delivery modalities.** Closing persistent immunity gaps calls for a comprehensive, coordinated approach that draws on the comparative strengths of each delivery modality including routine immunization, strong inter-campaign activities, preventive campaigns, and outbreak response. Strengthening data feedback loops to identify and address systemic gaps is critical to sustainably improving coverage.

4. **Strengthen outbreak preparedness and response capacity in all countries.** Countries should adopt and operationalize the Measles Outbreak Strategy (2026–2030), strengthening systems to enable rapid detection, early action, and coordinated response. Adequate financing for outbreak response (including for middle-income countries) and sustained investment in the Global Measles & Rubella Laboratory Network will be critical to maintaining global readiness.

5. **Continue to embed the core principles of the MRSF in all measles and rubella efforts.** All actions to advance measles and rubella elimination must remain anchored in the core principles of the MRSF: people-focused, country-owned, partnership-based, and data-enabled. The M&RP will continue to play a critical role in convening partners, aligning resources, and catalysing action to ensure that every community is protected from measles and rubella.

1 Introduction

The Measles & Rubella Strategic Framework 2021-2030 (MRSF)[1] aligns the global health community with a shared vision, goals, and measurable indicators under the umbrella of Immunization Agenda 2030 (IA2030). The Measles & Rubella Strategic Framework 2021–2030 envisions a world free from measles and rubella, ultimately striving for global interruption of endemic transmission for both viruses, thereby preventing morbidity and mortality across current and future birth cohorts. Its goal for 2021–2030 is to achieve and sustain the regional measles and rubella elimination[2] goals.

Measles is highly transmissible, can cause severe illness and in some cases can be life-threatening—particularly in young children. Rubella infection during early pregnancy can cause congenital rubella syndrome (CRS) in the newborn, leading to lifelong hearing or vision challenges, cardiac anomalies, and developmental delays. Timely identification and closure of measles and rubella immunity gaps is essential to protecting children worldwide. Delayed detection and response can amplify outbreaks and result in disease spread across borders and countries. Sustained elimination depends on 95% two-dose coverage with measles- and rubella-containing vaccines, supported by sensitive case-based surveillance and timely outbreak response, making this a public health priority and a shared global responsibility.

The MRSF addresses these needs by presenting a coordinated plan for collective action: countries, regions, and partners jointly plan and implement measures to close immunity gaps, strengthen case-based and laboratory-supported surveillance, and ensure rapid, high-quality outbreak response. Elimination depends on more than achieving national averages; it requires reaching those zero-dose and under-immunized children in communities that are consistently missed, especially in fragile, conflict-affected, or vulnerable (FCV) settings. The framework also calls for measles and rubella activities to be embedded in primary health care, supporting effective vaccine delivery through routine services, integrated child health contacts, and universal health coverage.

1 Measles and rubella strategic framework 2021–2030. Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO. Available at: https://www.immunizationagenda2030.org/resources/32-measles-and-rubella-strategic-framework-2021-2030

2 Measles elimination is defined as "[t]he absence of endemic measles transmission in a defined geographical area (e.g. region or country) for ≥12 months in the presence of a well-performing surveillance system." Rubella elimination is defined as "[t]he absence of endemic rubella transmission in a defined geographical area (e.g. region or country) for ≥12 months and the absence of congenital rubella syndrome (CRS) cases associated with endemic transmission in the presence of a well performing surveillance system." Wkly Epidemiol Rec. 2013; 88(9):89–100.

Since 2000, measles vaccination is estimated to have averted 58.7 million deaths.[3] This marks a profound public health achievement: prior to 2000, measles ranked among the top five causes of death in children under five.2 Measles immunization remains one of the highest-value investments in global health. Current estimates point to a $58 return for every $1 invested,[4] with measles immunization driving up to 75% of vaccines' economic benefits and 60[5]-80%[6] of vaccine-preventable deaths averted. Yet despite the opportunities presented by sustained high measles coverage, the world remains off-track to end measles and rubella, and too many children are still missed by routine, catch-up, and supplementary immunization activities.

Following significant progress in increasing measles vaccination coverage between 1990 and 2010, progress began to plateau. Between 2011 and 2019 global MCV1 coverage increased by only two percentage points to 86%. In 2020, service disruptions and delayed campaigns during the COVID-19 pandemic led to a severe drop in coverage, followed by a period of slow recovery. Global coverage rates have only now started approaching the return to 2019 levels with global coverage for the MCV1 rising back up to 84% in 2024.

As a result, coverage remains below the 95% threshold needed to prevent outbreaks[7]—leaving the 20.6 million children unvaccinated for measles in 2024 at risk. Measles rapid spread means that when immunity gaps arise or persist, outbreaks can quickly erode hard-won progress toward elimination with each missed opportunity for vaccination having a material impact. This explains the growing number of countries experiencing large or disruptive outbreaks—in 2024, 59 countries experienced large or disruptive measles outbreaks compared to 21 in 2021.

The chronic stagnation of measles immunization coverage over the past 15 years underscores that additional and different efforts will be required to break through this threshold. Furthermore, global coverage rates mask persistent inequities: high-income countries are rebounding more quickly, while low-income countries lag far behind in regaining pre-pandemic coverage levels. In 2024, 15.5 million children in lower income countries had not received the first dose of measles vaccine—75% of the 20.6 million children globally.

This Midterm Review takes stock at the midpoint between 2021 and 2030, using 2019 as the baseline.[8] It assesses where we stand, what has shifted in the global context, and which course corrections can bring us closer to a healthier, safer, more prosperous world by 2030. Against this backdrop, the MRSF offers a practical roadmap to close immunity gaps. This review summarizes key evidence and outlines the adjustments needed for countries, regions, and partners to work together toward the IA2030 goal—a world where everyone, everywhere, at every age, fully benefits from vaccines for good health and well-being.

3 Progress towards measles elimination – worldwide, 2000–2024, Weekly epidemiological record, No 48, 2025, 100, 591–604. Available at: https://iris.who.int/server/api/core/bitstreams/8c65dd54-ee98-4438-938c-e7114851f870/content

4 Sim SY, Watts E, Constenla D, Brenzel L, Patenaude BN. *Return on investment from immunization against 10 pathogens in 94 low- and middle-income countries, 2011–30.* Health Aff (Millwood). 2020;39(8):1343–1353. doi:10.1377/hlthaff.2020.00103

5 Contribution of vaccination to improved survival and health: modelling 50 years of the Expanded Programme on Immunization. Shattock, Andrew J et al. The Lancet, Volume 403, Issue 10441, 2307 – 2316. Published Online May 2, 2024 https://doi.org/10.1016/ S0140-6736(24)00850-X

6 Sim SY, Watts E, Constenla D, Brenzel L, Patenaude BN. *Return on investment from immunization against 10 pathogens in 94 low- and middle-income countries, 2011–30*. Health Aff (Millwood). 2020;39(8):1343–1353. doi:10.1377/hlthaff.2020.00103

7 Progress towards measles elimination – worldwide, 2000–2024, Weekly epidemiological record, No 48, 2025, 100, 591–604. Available at: https://iris.who.int/server/api/core/bitstreams/8c65dd54-ee98-4438-938c-e7114851f870/content

8 Some indicators use an alternate baseline to minimize the effect of anomalies; for example, 2018 is used for disease burden indicators due to unusually high measles outbreaks in 2019. Where alternative baselines are applied, this is clearly noted and the rationale provided.

2 Trends and Context for Immunization

Coordinated Measles and Rubella Efforts: 2012 to Present Day

Before the MRSF, the Global Measles and Rubella Strategic Plan (2012–2020) supported important gains, including broader introduction of MCV2 and rubella-containing vaccines and stronger surveillance. Despite this progress, contextual changes and implementation challenges slowed momentum toward elimination targets. The MRSF 2021–2030 was developed to build on prior efforts and refocus action toward measles and rubella elimination.

After a decade of stagnating progress—84% global MCV1 coverage in 2011 to 86% in 2019—the COVID-19 pandemic caused a sharp setback. Coverage fell to 83% in 2020, dropped to 81% in 2021, and plateaued at 83% through 2023, still below pre-pandemic levels.[9] As of the latest national coverage estimates (2024) from the WHO and UNICEF, global MCV1 coverage has begun to slowly increase to 84%, but immunization gaps remain.[10]

At the same time, countries have contended with intensifying climate-related emergencies that displace families and complicate access to healthcare services. Growing geopolitical instability makes it harder to reach children who are in already hard-to-reach settings, and a shifting global health funding landscape has introduced uncertainty for critical programs.

The MRSF was developed with the aim of providing a shared vision and common goals, priorities and focus areas for the next decade to guide development of regional and national strategies and operational plans. The MRSF adopts the general structure of IA2030, including the IA2030 strategic priorities (SPs), their associated objectives and focus areas, and the IA2030 core principles.

9 Minta AA, Ferrari M, Antoni S, et al. Progress toward measles elimination — Worldwide, 2000–2023. *MMWR Morb Mortal Wkly Rep* 2024;73:1036-1042.

10 World Health Organization & UNICEF. (2025, July 15). *Global childhood vaccination coverage holds steady, yet over 14 million infants remain unvaccinated – WHO, UNICEF*. Retrieved from: https://www.who.int/news/item/15-07-2025-global-childhood-vaccination-coverage-holds-steady-yet-over-14-million-infants-remain-unvaccinated-who-unicef

Figure 1: Strategic Priorities, MRSF 2021-2030

MRSF Strategic Priorities

SP1

Primary Health Care and Universal Health Coverage

Includes all measles and rubella activities, including surveillance and case management, as key components of PHC systems in support of UHC. Develop and enhance measles and rubella surveillance as part of a comprehensive surveillance system and improve the collection and use of monitoring and surveillance data.

SP2

Commitment and Demand

Improve ownership and accountability of measles and rubella goals and targets at all levels and improve community demand for and uptake of measles- and rubella-containing vaccines.

SP3

Coverage and Equity

Identify and address measles and rubella immunity gaps at all relevant points of contact between individuals and the health system. Establish or strengthen contact points where needed and use targeted approaches to reach underserved populations.

SP4

Life Course and Integration

Use the life course approach to deliver the second routine dose of measles- and rubella-containing vaccines and catch-up vaccination and integrate measles and rubella activities with other health and non-health activities.

SP5

Outbreaks and Emergencies

Ensure outbreak preparedness for timely detection and effective response to limit the spread of measles and rubella and reduce related morbidity and mortality.

SP6

Supply and Sustainability

Ensure availability of high-quality measles- and rubella-containing vaccines, vaccination supplies and laboratory reagents, and ensure that measles and rubella activities, including surveillance, are sustainably financed.

SP7

Research and Innovation

Foster research and innovation to overcome barriers to achieving high measles and rubella population immunity and to generate and use high-quality disease and programme data.

Measles Outbreaks and Immunization Gaps

Because measles spreads so easily, it serves as a strong indicator of where immunization coverage is low and communities are vulnerable to outbreaks of measles and other diseases. The greatest risk is concentrated in FCV settings, where health systems are weakest and vaccination services are hardest to sustain. In these countries, coverage rates for measles remain far below global averages—only 64% of children receive the first dose and 49% receive both. Although just 24% of the world's infants live in FCV contexts, they account for 54% of all infants unprotected against measles.[11] Strengthening routine immunization in FCV settings is therefore critical to closing global immunity gaps and moving toward measles elimination.

The burden of vaccine inequities is not just a matter of missed doses but one of cascading health, social, and economic consequences for children and their families. Children in underserved communities have limited access to healthcare and face higher risks of malnutrition, disease outbreaks, severe illness, and death.

Vaccine access remains uneven across regions. In 2024, MCV1 coverage in low-income countries was 66% versus 84% worldwide.[12] While measles outbreaks occur across settings, including both high- and low-income countries, stronger immunization programs and resilient health systems can respond more quickly and effectively, lessening the devastating impact of measles outbreaks. Where protections are weaker, consequences are far more severe: in the Democratic Republic of Congo, persistent gaps in routine and supplementary immunization have led to recurring outbreaks, resulting in nearly 6,000 child deaths.[13]

Impact of Changing Global Funding Priorities

Shifting political priorities and donor reprioritization, including large reductions in foreign aid, have added uncertainty to core measles and rubella activities. As funds available to carry out immunization activities become scarcer, resource-strapped countries have less fiscal flexibility to carry out necessary measles- and rubella-immunization activities such as preventive campaigns. This places many countries at heightened risk of persistent immunity gaps and recurrent outbreaks.

Another core example of the resulting negative impact of shrinking global funding for health is that on surveillance: the Global Measles & Rubella Laboratory Network (GMRLN), a vast network of more than 760 labs worldwide tasked with providing laboratory-based surveillance of vaccine-preventable diseases and the timely detection of outbreaks to prevent rapid spread across borders, only has guaranteed funding through mid-2026. This puts outbreak detection and response at further risk of dangerous delays and wider, deadlier outbreaks.

Despite Major Setbacks, Progress Is Real and Measurable

Despite major challenges and setbacks, we have also seen bright spots. WHO's Strategic Advisory Group of Experts on Immunization (SAGE) lifted the longstanding ≥80% measles-coverage threshold for introducing rubella-containing vaccine (RCV) in September 2024. The original threshold (set in 2000) aimed to support rubella elimination through avoiding sub-optimal vaccination coverage that reduces rubella transmission without eliminating it. With suboptimal coverage, the average age at infection increases and time between outbreaks increase, which can lead to an increase in CRS cases when these outbreaks involve women of childbearing age (known as the paradoxical effect). New modelling and real-world data showed that bar to be too conservative, leading SAGE to recommend universal RCV introduction—regardless of measles coverage.

11 World Health Organization & UNICEF. (2025, July 15). *Global childhood vaccination coverage holds steady, yet over 14 million infants remain unvaccinated – WHO, UNICEF*. Retrieved from: https://www.who.int/news/item/15-07-2025-global-childhood-vaccination-coverage-holds-steady-yet-over-14-million-infants-remain-unvaccinated-who-unicef

12 https://www.who.int/news-room/fact-sheets/detail/immunization-coverage

13 https://www.nytimes.com/2024/12/18/health/measles-congo-vaccines.html

Universal RCV protects mothers and babies as rubella in early pregnancy can cause CRS in up to 90% of cases, leading to severe birth defects, infant death, and miscarriage. Momentum in achieving universal, equitable access to rubella vaccines is building. Countries without RCV in routine programs fell from 19 in 2023 to 15 in 2024. In 2025, 4 more countries introduced or started the process of introducing[14] the combined measles–rubella (MR) vaccine, leaving only 11 countries remaining to introduce RCV and moving the world closer to rubella elimination and the prevention of CRS.

The outlook for measles is also improving in some cases. The number of countries that have eliminated measles is up 4% since 2019 (by end 2024, 83 out of 194 countries have verified measles elimination). The number of measles zero-dose children dropped to 20.6 million in 2024 compared to a high of 24 million in 2021. Additionally, supplementary immunization activities are recovering; over 530 million children were vaccinated for measles and rubella through supplementary immunization activities (SIAs) between 2021-2024.

14 The DRC and Nigeria are introducing the MR vaccine through wide age-range, phased campaigns between Q4 2025 – Q2 2026.

3 Progress of MRSF Impact Metrics

Context

To measure progress against the MRSF, the M&RP has developed a comprehensive Monitoring and Evaluation (M&E) framework. The M&E framework includes twelve impact indicators (Table 1) linked to the seven strategic priorities (Figure 1) of the MRSF. The impact indicators serve to derive actionable insights on progress towards the MRSF vision and guide data-driven decision-making.

Table 1: Summary of MRSF Impact Indicators

MRSF Impact Indicators	
1. Elimination	Number of countries verified to have eliminated measles and rubella by year (re-established transmission is also reported)
2. Burden of Disease	Measles incidence rate; estimated number of deaths attributable to measles
3. Surveillance	Number of countries meeting WHO national target discard rate of ≥2 per 100,000 population
4. Commitment	Proportion of countries with a functioning National Verification Committee (NVC) or equivalent structure each year, as defined by the submission of an annual NVC report to the Regional Verification Committee (RVC)
5. Coverage	MCV1, MCV2 and RCV immunization coverage
6. Equity	MCV1, and MCV2 immunization coverage in the 20% of districts with the lowest coverage
7. Quality	Immunization dropout rates (DTP115 to MCV1; DTP316 to MCV1; MCV1 to MCV2)

15 Diphtheria tetanus toxoid and pertussis containing vaccine, 1st dose
16 Diphtheria tetanus toxoid and pertussis containing vaccine, 3rd dose

8. Introductions	Number of countries where MCV2 and RCV have been introduced
9. Large or Disruptive Outbreaks	Number of countries experiencing large or disruptive measles outbreaks as defined in IA2030 (>= 20/million)
10. Campaign Timeliness	Percentage of planned campaigns (follow-up + catch-up) that are conducted on time (prior to modelled start of high transmission season)
11. Outbreak Detection and Response	Proportion of measles outbreaks supported by the ORF with timely detection and response, as defined in IA203017
12. Vaccine Stockouts	Number of MCV vaccine stockouts at national and district level; average duration of national stockouts

Immunization data

The analysis in the sections which follow focus on progress during the MRSF to date (2021-2024), with 2019 as the baseline year for most indicator data. 2019 was selected as the baseline, in alignment with IA2030 methodology, to avoid bias introduced by the anomalous conditions of 2020, when routine immunization services were substantially disrupted by the COVID-19 pandemic. While most indicators consider 2019 for the baseline year, some indicators use an alternate baseline to minimize the effect of anomalies; for example, 2018 is used for disease burden indicators due to unusually high measles outbreaks in 2019. Where alternative baselines are applied, this is clearly noted and the rationale provided.

The data informing the analysis in the sections which follow are predominantly from the electronic Joint Reporting Form (eJRF), as collected annually from countries. This data is reviewed and quality-assured within WHO and by countries before being publicly released jointly by WHO and UNICEF (WUENIC data release). Data for other indicators are collated from a wide range of other sources (examples include the M&RP Measles and Rubella Tracker from which campaign timeliness data is drawn and Regional Verification Committee reports from which country measles and rubella elimination reporting status is drawn) and verified in dialogue with technical focal points within WHO, UNICEF and other partner organizations. Metadata for each of the MRSF Indicators can be found in Annexure A.

Some of the indicators (namely, the Elimination, Coverage, Introductions and Large or Disruptive Outbreaks indicators), are directly linked to IA2030 Strategic Priorities and Indicators and therefore available as part of the IA2030 Global Progress Report. Most data in the Global Progress Report are also made available in an interactive form through the online IA2030 Scorecard (https://scorecard.immunizationagenda2030.org/).

17 The IA2030 definition for timely detection and response for measles outbreaks is as follows:
Measles (non-endemic): 69 days from 1st case onset of symptoms to start of response vaccination campaign.
Measles (endemic): 35 days from when incidence crosses epidemic threshold to start of response vaccination campaign.

Key trends and findings

At the half-way point of the MRSF 2021-2030, this Midterm Review includes an assessment of changes in comparison to baseline[18] for each of the twelve impact indicators.

During the first 4-years of the MRSF, measurable progress toward measles- and rubella-elimination has been made. However, progress has been slow and most MRSF Indicators are off-track to meet 2030 targets. As a result of the COVID-19 pandemic, global progress in reducing the burden of measles and rubella slipped back. Since 2023, progress has rebounded, with most indicators returning to pre-pandemic levels. However, the pace of these gains is largely insufficient to ensure that MRSF targets for 2030 are met. Table 2 below provides a global snapshot of progress towards the 2030 targets for the MRSF Impact Metrics—highlighting which indicators are on track to achieve 2030 targets compared to those which are not.

While the global snapshot provides a useful high-level view of progress against the impact metrics, it does not capture the full picture. When disaggregated, the data unveils stark inequities in progress over the past 4 years. For example, low-income countries (LICs) are lagging far behind high-income (HICs) and middle-income countries (MICs) in getting back to pre-pandemic coverage levels. No new lower-middle-income countries (LMICs) or LICs have achieved measles- or rubella-elimination, and un- and under-vaccinated children are geographically concentrated: over half (55%) of the world's measles zero-dose children can be found in just ten countries—Afghanistan, Angola, the Democratic Republic of the Congo, Ethiopia, India, Indonesia, Nigeria, Pakistan, Sudan, and Yemen. This concentration highlights profound equity gaps, amplifies the risk of recurrent outbreaks, and underscores the urgent need for targeted, context-specific strategies to reach marginalized populations in underserved and high-burden settings.

Data unveils stark inequities in progress over the past four years

55% of the world's measles zero-dose children can be found in just ten countries

LICs are lagging far behind HICs and MICs in getting back to pre-pandemic coverage levels

18 2019 was selected as the baseline year for most indicators given the impact of the COVID-19 pandemic in 2020, and in alignment with IA2030 methodology. Some indicators use an alternate baseline to minimize the effect of anomalies; for example, 2018 is used for disease burden indicators due to unusually high measles outbreaks in 2019.

Table 2: Global snapshot of MRSF Imact Metrics

	Impact Indicators	Baseline	2024	2030 Target	Status
SP1	**1. Elimination**				
	Number of countries that have eliminated measles	80	83	110	***Off track***
	Number of countries that have eliminated rubella	90	99	120	***Off track***
	2. Burden of Disease[19]				
	Measles incidence rate per 1,000,000 of population	119	62	Defined regionally	***Off track***
	Estimated number of deaths attributable to measles	118,810	94,564	95,048	***On track***
	3. Surveillance				
	Number of countries meeting WHO national target discard rate of ≥2 per 100,000 population	41%	67%	70%	***On track***
SP2	**4. Commitment**				
	Proportion of countries with a functioning National Verification Committee (NVC) or equivalent structure[20]	72%	78%[21]	100%	***Off track***
SP3	**5. Coverage**				
	MCV1 immunization coverage	86%	84%	90%	***Off track***
	MCV2 immunization coverage	71%	76%	90%	***Off track***
	RCV immunization coverage	69%	73%	90%	***Off track***
	6. Equity				
	MCV1 coverage in 20% of districts with lowest coverage	67%	69%	TBD	***Off track***
	MCV2 coverage in 20% of districts with lowest coverage	56%	61%	TBD	***Off track***
	7. Quality				
	Immunization dropout rate from DTPcv1 to MCV1	4%	6%	2%	***Off track***
	Immunization dropout rate from DTP3 to MCV1	0%	1%	0%	***On track***
	Immunization dropout rate from MCV1 to MCV2	17%	10%	8%	***On track***
SP4	**8. Introductions**				
	Number of countries where MCV2 has been introduced	179	191	194	***On track***
	Number of countries where RCV has been introduced	173	178	194	***On track***
SP5	**9. Large or Disruptive Outbreaks**[22]				
	Number of countries experiencing large or disruptive measles outbreaks as defined in IA2030 (>= 20/million)	50	59	30	***Off track***
	10. Campaign Timeliness				
	Percentage of planned campaigns conducted on time (prior to modelled start of high transmission season)	38% (2024 baseline)	38%	100%	Insufficient data available
	11. Outbreak Detection and Response				
	Proportion of measles outbreaks supported by the ORF with timely detection and response, as defined in IA2030[23]	33%	0%	53%	Identified as inadequate measure

19 2018 is used as the baseline year for measles incidence and estimated deaths attributable to measles, given the unusually high number of measles cases and outbreaks in 2019 (as compared to the preceding period).

20 As defined by the submission of an annual NVC report to the Regional Verification Committee (RVC)

21 This data point draws on the most recently available data from the RVCs across regions, spanning 2022-2024.

22 An average of data from 2018-2020 is used as the baseline year for the number of large or disruptive measles outbreaks, given the large number of outbreaks in 2019 which was anomalous for the period.

23 The IA2030 definition for timely detection and response for measles outbreaks is as follows:
- Measles (non-endemic): 69 days from 1st case onset of symptoms to start of response vaccination campaign.
- Measles (endemic): 35 days from when incidence crosses epidemic threshold to start of response vaccination campaign.

	12. Vaccine Stockouts				
SP6	Number of MCV vaccine stockouts at national level	21	10	0	*On track*
	Number of MCV vaccine stockouts at district level	24	14	0	*On track*
	Average duration of national MCV stockouts	2.9	3.8	0	*On track*

Key successes and enablers

Some notable achievements between 2021-2024 include:

- Cumulatively, 83 countries have verified measles elimination, and 99 countries have verified rubella elimination.
- 12 additional countries[24] introduced the second dose of measles containing vaccine (MCV2) and 5 additional countries[25] introduced the rubella containing vaccine (RCV) into their EPI programs between 2021-2024 (the analysis period for this report). In addition, during 2025[26] an additional country introduced MCV2[27] and RCV.[28] The DRC and Nigeria will be introducing RCV over phased catch-up campaigns between Q4 2025 – Q2 2026.
- Global coverage for the first dose measles vaccine is back up to 84% in 2024 (progressing towards the 86% coverage seen pre-pandemic). Since 2021, the second dose measles vaccine (MCV2) and rubella containing vaccine (RCV) have steadily risen to 76% and 73% in 2024, respectively – compared to 71% for MCV2 and 69% for RCV in 2019.
- Over 530 million children received measles vaccination through SIAs (including preventive campaigns and outbreak response) between 2021-2024.
- The number of measles zero-dose children has started to decline, dropping to 20.6m in 2024 compared to a high of 24m in 2021.
- It is estimated more than 8 million lives have been saved through measles and rubella vaccination between 2021 and 2024.[29]

Strong partnership and collective action have been pivotal in advancing MRSF goals. Over the past 5 years, the M&RP has served as steward of the MRSF. During this time the collective actions of the partnership have served as strong enablers of progress towards MRSF goals, opening the door to continued progress as we move into the next half of the MRSF.

- **Coordinated risk flagging and problem solving:** The M&RP developed a centralized database for measles and rubella SIAs. The database is leveraged at regional forums to identify planning and implementation risks early and enable timely, coordinated responses to measles and rubella campaign challenges. Through this, campaign bottlenecks are identified more quickly, thus enabling more timely resolution and reducing the risk of campaign delays.
- **Evidence generation and policy influence:** The M&RP successfully advocated for the Strategic Advisory Group of Experts on Immunization (SAGE) to lift the longstanding ≥80% measles vaccine coverage threshold for introducing rubella-containing vaccines (RCV). This policy change will make it possible for the remaining 11 countries[30] to introduce rubella-containing measles vaccines in their routine immunization programs.

24 Benin, Chad, Comoros, Côte d'Ivoire, DRC, Guinea, Guinea-Bissau, Mali, Mauritania, Somalia, Uganda and Vanuatu.

25 Comoros, Mali, Pakistan, South Africa and Sudan.

26 Given that vaccine introduction for 2025 data is readily available, the most recent data (as at the end of November 2025) have been included in this section. In the data analysis sections below, only data up to 2024 is included for consistency across indicators.

27 South Sudan

28 Guinea-Bissau

29 Progress towards measles elimination – worldwide, 2000–2024, Weekly epidemiological record, No 48, 2025, 100, 591–604. Available at: https://iris.who.int/server/api/core/bitstreams/8c65dd54-ee98-4438-938c-e7114851f870/content

30 Afghanistan, Chad, Djibouti, Equatorial Guinea, Ethiopia, Gabon, Guinea, Liberia, Madagascar, Niger, Somalia. The DRC and Nigeria are excluded from the number of countries remaining to introduce RCV, given that both countries have commenced with introduction of the MR vaccine at the time of publishing of this report.

- **Resource provision for outbreak response:** The M&RP-supported Outbreak Response Fund (ORF) – funded by Gavi – provided critical measles outbreak response support in 19 countries between 2021-2025, reaching more than 42 million children, often in remote or conflict-affected areas.
- **Strategic focus to maximize impact:** Through the establishment of clear operational priorities, the partnership has strategically focused M&RP's collective efforts on high-impact activities. Examples include channeling support to accelerate the introduction of the rubella vaccine and the development of the Measles Outbreak Strategy 2026-2030 (to be published in 2026) which provides a framework for countries to strengthen measles outbreak preparedness and response.

Strategic alignment with MRSF priorities and principles across M&RP partners. Through shared understanding and strategic focus across the individual organizations, measles and rubella continues to be prioritized as the most cost-effective (estimated $58 USD return for every $1 USD invested[31]) and epidemiologically impactful (60[32]-80%[33] of vaccine-preventable deaths averted are attributed to measles immunization) immunization program. This alignment extends to the strong focus on equity in measles and rubella immunization, including ongoing efforts to reach zero-dose populations, which are being broadened to strengthen access across the entire MCV series and beyond, ensuring continuity of protection and progress toward immunization equity. Additionally, financing support and effective resource allocation through mechanisms such as Gavi's 5.0 strategy have enhanced countries' capacity to improve vaccine access and sustain essential immunization services.

Ongoing country ownership and political will remain central to sustaining progress. Evidence across diverse contexts indicates that, where governments have prioritized immunization within national agendas and mobilized domestic resources, these actions have contributed to measurable gains, including recovery from the significant disruptions experienced in 2020–2021 through SIAs such as the Big Catch-Up and measles and rubella follow-up campaigns. The introduction of MCV2 and RCV in numerous countries—despite resource constraints and COVID-related impacts on routine services—further demonstrates the results that can be achieved through strong national commitment. Sustaining measles and rubella momentum will require ongoing country prioritization and enhanced domestic resource mobilization, particularly in the current context of a tightening global funding environment.

Key challenges and barriers

Resource limitations and competing priorities constrain program sustainability, particularly as global funding for immunization activities continues to shrink. Countries face mounting fiscal pressures, with decreased global and domestic financing and limited domestic fiscal space to expand immunization activities. This not only compromises the strength of routine immunization programs, but also the ability to deliver timely and high quality SIAs, resulting in persistent immunity gaps. This challenge will likely become more pressing in the uncertain and shifting global funding context of today.

Persistent outbreaks, exacerbated by delays in detection and outbreak response, result in significant setbacks in progressing toward global elimination targets. The number of countries experiencing large or disruptive outbreaks continues to rise—in 2024, 59 countries experienced large or disruptive outbreaks compared to 21 in 2021. Gaps in surveillance and outbreak preparedness delay the identification of outbreaks, as well as outbreak response efforts. This allows outbreaks to expand, worsening outcomes, and heightening the risk of subsequent outbreaks around the world. The high transmissibility of measles means that when immunity gaps arise or persist, outbreaks can quickly erode hard-won progress toward elimination. Each missed opportunity for vaccination has a material impact on efforts to reach and sustain the 95% coverage needed to prevent outbreaks and achieve elimination. Additionally, delays in completing

31 Sim SY, Watts E, Constenla D, Brenzel L, Patenaude BN. *Return on investment from immunization against 10 pathogens in 94 low- and middle-income countries, 2011–30*. Health Aff (Millwood). 2020;39(8):1343–1353. doi:10.1377/hlthaff.2020.00103

32 Contribution of vaccination to improved survival and health: modelling 50 years of the Expanded Programme on Immunization. Shattock, Andrew J et al. The Lancet, Volume 403, Issue 10441, 2307 – 2316. Published Online May 2, 2024 https://doi.org/10.1016/ S0140-6736(24)00850-X

33 Sim SY, Watts E, Constenla D, Brenzel L, Patenaude BN. R*eturn on investment from immunization against 10 pathogens in 94 low- and middle-income countries, 2011–30*. Health Aff (Millwood). 2020;39(8):1343–1353. doi:10.1377/hlthaff.2020.00103

campaign evaluations to assess coverage hinder countries' ability to improve the quality of SIAs, with post-campaign outbreaks often pointing to weaknesses in campaign quality.

Already stagnating measles and rubella immunization coverage rates were exacerbated by the COVID-19-related disruptions to health services. In the decade leading up to the MRSF (2010-2019), global coverage rates had already plateaued—increasing by only 2% between 2011 and 2019. In 2020-2021, coverage rates dropped to the lowest they had been in over a decade. Recovery to pre-pandemic levels has been slow, with global coverage for MCV1 at 84%, two percentage points lower than MCV1 coverage in 2019 (86%). Further, coverage remains well below the 95% threshold considered necessary to prevent outbreaks, and the path to breaching the pre-pandemic coverage threshold will require innovative approaches and targeted efforts to improve both routine immunization activities, as well as ensure timely and high-quality measles and rubella SIAs. Gaps in routine immunization have led to an over-reliance on preventive campaigns (SIAs) and outbreak response, both of which face unique complexities given the logistics and coordination required for such large-scale activities (measles and rubella SIAs typically target wide age-ranges across broad geographies in a short window).

While we have seen improvements in equitable access to immunization, challenges persist. Despite global progress towards reattaining pre-pandemic coverage for MCV1, low-income countries (LICs) are lagging. In 2024, MCV1 coverage in LICs was 66% compared to 72% in 2019. This lagging progress indicates disproportionate health system and delivery infrastructure weaknesses in LICs. Additionally, the concentration of the world's zero-dose children (75% of zero-dose children live in LICs, and 55% of zero-dose children live in just 10 countries) reflects deep equity gaps and heighten the risk of persistent outbreaks.

Similarly, 54% of zero-dose infants live in fragile, conflict-affected, and vulnerable countries—a disproportionately large number given that only 24% of infants live in these countries. These children are particularly at risk: not only are coverage rates lower (64% for the first dose; 49% for both doses) but these children also face the compounding risks of malnutrition and other vulnerabilities. Additionally, conducting high-quality measles and rubella activities in these contexts is often extremely challenging. In 2024, 56% of fragile, conflict-affected, and vulnerable countries experienced a large or disruptive outbreak, as compared to 24% of countries without these challenges. As the number of children living in fragile, conflict-affected, and humanitarian settings grows, so does the risk of outbreaks.

In addition to supply- and delivery-related challenges, growing vaccine hesitancy has negatively impacted demand for measles and rubella immunization. Global confidence in the importance and safety of vaccines has waned over the past five years,[34] contributing to reduced community uptake even in areas where vaccine availability and logistics are not limiting factors.[35] This underscores the need for robust social mobilization and targeted communications strategies to rebuild confidence in the life-saving value of immunization. Strengthening public trust, addressing misinformation, and tailoring engagement approaches to local contexts are essential to sustaining and improving both routine immunization and SIA coverage.

34 United Nations Children's Fund, The State of the World's Children 2023: For every child, vaccination, UNICEF Innocenti – Global Office of Research and Foresight, Florence, April 2023. Findings as per *The Vaccine Confidence Project*, which carried out a large-scale retrospective modelling study to investigate the extent to which vaccine confidence changed across 54 countries between 2015 and November 2019 (pre-pandemic) and in 2021 and 2022 (post-pandemic).

35 United Nations Children's Fund, The State of the World's Children 2023: For every child, vaccination, UNICEF Innocenti – Global Office of Research and Foresight, Florence, April 2023.

Looking ahead

At the midpoint of the MRSF, it is clear that the pace of progress is insufficient to achieve 2030 targets. To close immunity gaps and increase coverage, we must adapt: we will need to work closely with countries and partners to strengthen routine immunization efforts; identify and scale alternative delivery strategies to efficiently close emerging immunity gaps; and provide reliable support for high-quality and timely SIAs, employing both targeted and comprehensive approaches. Furthermore, rapid and effective outbreak identification and response capabilities are critical. These capabilities include sensitive surveillance systems, timely laboratory confirmation, and rapid initiation of outbreak response activities.

Figure 2: MRSF Core Principles

The MRSF principles—centered on a people-focused, country-owned, partnership-led and data-enabled approach—provide a valuable framework to drive this adaptation and ensure sustained progress for measles and rubella. The recommendations section of this report highlights how the MRSF will adapt over the remaining five years of the strategy.

Analysis and insights by indicator

SP1 *Primary Health Care and Universal Health Coverage*

SP1 Status: ***Not on track to achieve 2030 targets***

Elimination efforts for measles and rubella have not advanced quickly enough over the past five years to remain on track to meet IA2030 elimination targets. Progress towards elimination targets is threatened by the increasing trends in incidence of measles and rubella over the period, with a significant spike in the number of measles cases in 2023 and 2024.

INDICATOR 1: ELIMINATION

The number of countries verified to have eliminated measles and rubella by year (re-established transmission is also reported)

Status: ***Not on track to achieve 2030 targets***

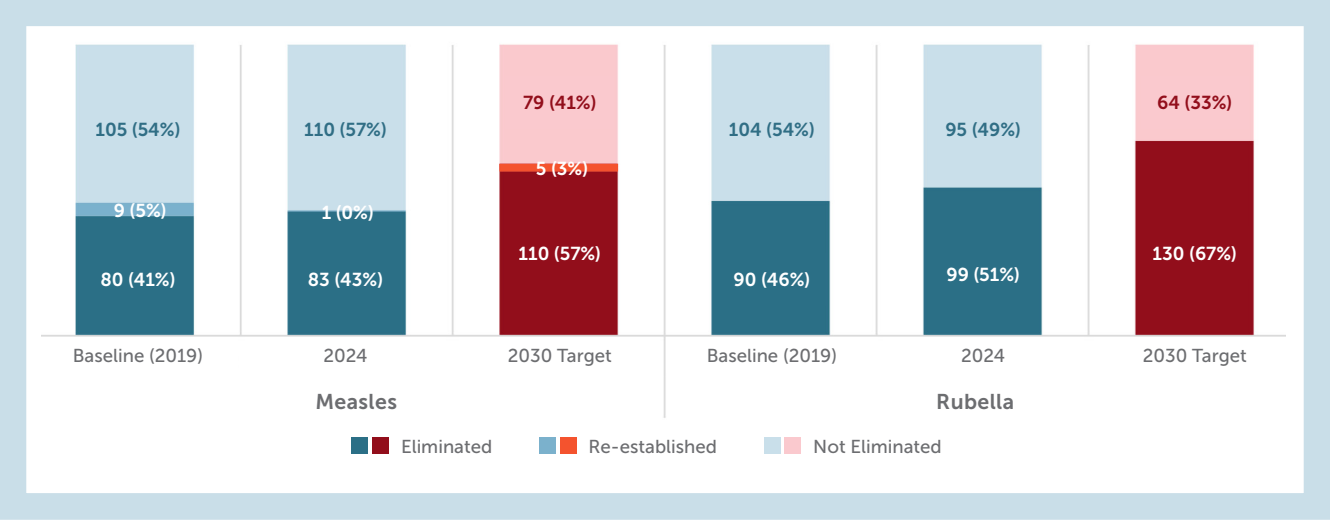
Progress towards measles- and rubella-elimination goals has been slow. Between 2019 and 2024, the number of countries verified to have eliminated measles has grown by only three[36] countries (from 80 in 2019 to 83 in 2024). During this period, no new low- or lower-middle-income countries verified elimination. The pace of progress to date indicates that we are not on track to achieve the 2030 target of 110 countries with verified elimination of measles. In 2021, nine countries that had previously verified measles elimination experienced a re-emergence of the disease. Since then, the annual number of countries with re-established transmission of measles following achieving verified elimination status has declined—in 2024 only one

36 Belgium, Egypt and Israel have achieved and maintained verified measles elimination status over the period.

country experienced re-established transmission. However, ongoing measles transmission persists in multiple with verified measles elimination status.

The number of countries verified to have eliminated rubella has seen more growth, expanding from 90 in 2019 to 99[37] in 2024. However, at this pace of progress we are not on track to achieve the 2030 target of 130 countries with verified elimination of rubella.

Figure 3: Number of countries verified to have eliminated measles and rubella



INDICATOR 2: BURDEN OF DISEASE

Measles incidence rate; Estimated number of deaths attributable to measles

Status: ***Not on track to achieve 2030 targets***

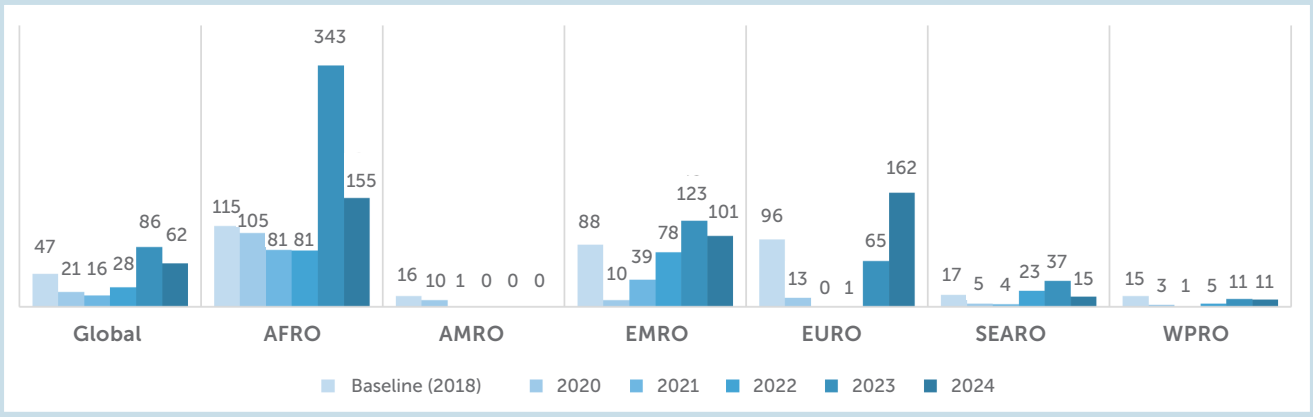
This indicator includes sub-indicators that provide insight into various aspects of the burden of measles and rubella on populations.

Measles incidence rate

2018 is used as the baseline year for this indicator, given the high number of measles cases in 2019 (119 cases per 1,000,000 population), as compared to the preceding five years. All regions saw a decline in cases in 2020-2022 (much in part due to COVID-19 non-pharmacologic restrictions), followed by a resurgence of cases in most regions in 2023 and 2024. The AFRO, EMRO and EURO regions have experienced the highest uptick in cases in 2023-2024. In 2024, the global rate of measles incidence (62 cases per 1,000,000 population) is higher than the 2018 baseline (47 cases per 1,000,000 population). Increasing incidence of measles is related to the growing number of measles outbreaks (see Indicator 11 for more information on the status of measles outbreaks) and persistent coverage gaps (see Indicators 5 and 6 for more information on the status of immunization coverage). The increasing trend of measles incidence over the past two years indicates that 2030 regional targets are unlikely to be achieved without intervention.

37 Bhutan, Democratic People's Republic of Korea, Egypt, Israel, Italy, Maldives, Singapore, Sri Lanka, and Timor-Leste achieved and maintained verified rubella elimination status over the period.

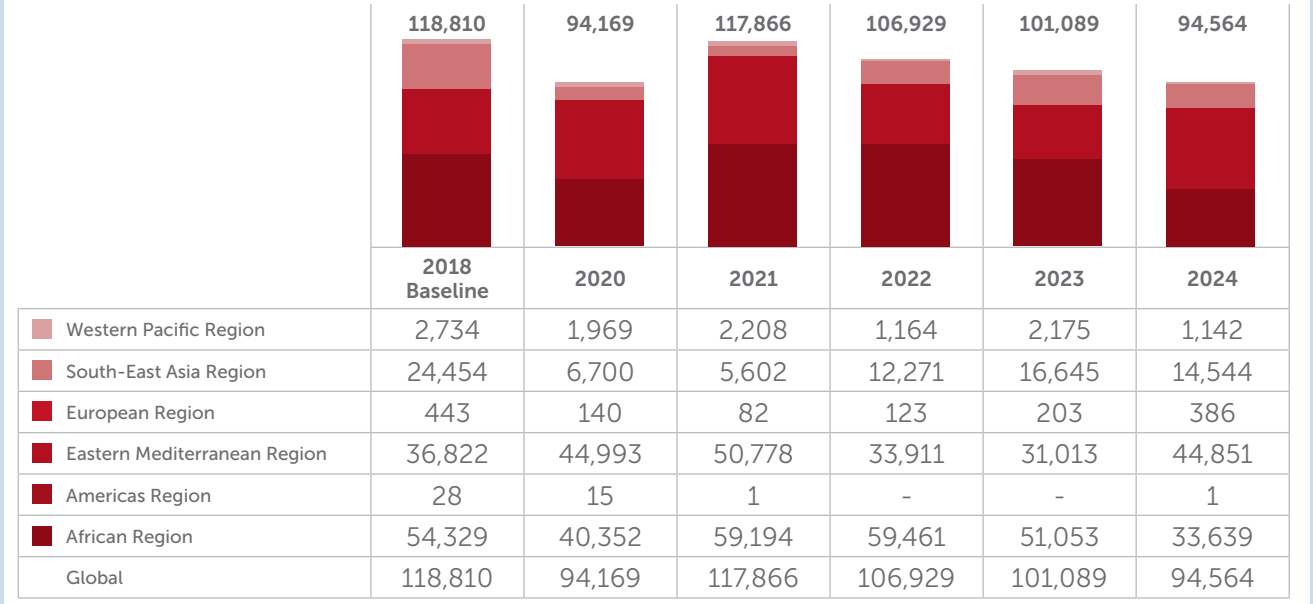
Figure 4: Measles incidence per 1,000,000 of the population



Estimated number of deaths attributable to measles

At a global level, a declining trend in the number of measles deaths is observed between 2021-2024. However, this trend varies significantly by region. While the estimated number of measles deaths has almost halved in the AFRO region, measles deaths are estimated to have almost doubled in the EMRO region and have increased substantially in the SEAR region. The reduction in the number of estimated deaths attributable to measles between 2021-2024 remains on track to achieve the 2030 target of a 20% reduction from baseline (which translates to 95,048 deaths).

Figure 5: Estimated number of deaths attributable to measles[38]



	2018 Baseline	2020	2021	2022	2023	2024
Western Pacific Region	2,734	1,969	2,208	1,164	2,175	1,142
South-East Asia Region	24,454	6,700	5,602	12,271	16,645	14,544
European Region	443	140	82	123	203	386
Eastern Mediterranean Region	36,822	44,993	50,778	33,911	31,013	44,851
Americas Region	28	15	1	-	-	1
African Region	54,329	40,352	59,194	59,461	51,053	33,639
Global	118,810	94,169	117,866	106,929	101,089	94,564

In addition to the measles-related morbidity and mortality indicators included in the MRSF Impact Metrics, rubella-related morbidity is also considered. Reported rates of rubella and congenital rubella syndrome (CRS) are estimated to largely under-represent the true burden of disease, providing little insight into epidemiological changes and dynamics between 2021-2024. The estimated number of CRS cases, based

38 Progress towards measles elimination – worldwide, 2000–2024, Weekly epidemiological record, No 48, 2025, 100, 591–604. Available at: https://iris.who.int/server/api/core/bitstreams/8c65dd54-ee98-4438-938c-e7114851f870/content

on epidemiological modelling,[39] is therefore used to better understand the burden of CRS. In 2019, it was estimated that there were ~23,700 CRS cases across the 19 countries remaining to introduce (21,000 in the AFRO region and 2,700 in the EMRO region). In 2025, this number is estimated to have dropped to 21,200 in the 14 countries remaining to introduce RCV as at the start of 2025.[40] These estimates demonstrate progress in reducing the number of CRS cases but highlight the need to ensure that RCV is introduced in all countries to eliminate CRS.

INDICATOR 3: SURVEILLANCE

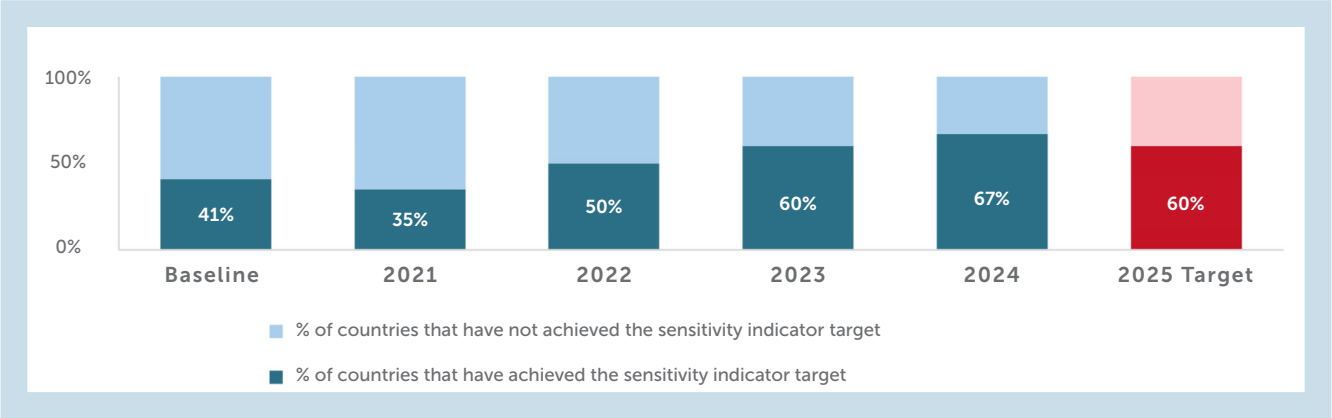
Number of countries meeting WHO national target discard rate at national level of ≥2 per 100,000 of the population

Status: ***On track to achieve 2030 targets***

This indicator serves as a proxy for the sensitivity and performance of national case-based surveillance systems. Since 2021, there has been steady year-on-year growth in the proportion of countries meeting the WHO target discard rate. In 2024, the interim target for 2025 (60% of countries meeting target discard rate threshold) was surpassed, and we remain well on-track to achieve the 70% target set for 2030.

One caveat to the observed improvement in surveillance performance is that the non-measles discard rate tends to increase during periods of elevated measles transmission. As outbreaks become more frequent, the number of suspected measles and rubella cases investigated rises, including a greater volume of non-measles rash illnesses that are subsequently discarded after laboratory testing. Consequently, higher discard rates in some settings may partly reflect increased case detection and reporting associated with outbreaks, rather than solely improved surveillance sensitivity or system performance.

Figure 6: Proportion of countries meeting WHO Target Discard Rate of ≥2 per 100,000 of the population



39 Lebo, E., Vynnycky, E., Alexander, J. P. Jr., et al. (2025). Estimated current and future congenital rubella syndrome incidence with and without rubella vaccine introduction—19 countries, 2019–2055. Morbidity and Mortality Weekly Report, 74(18), 305–311. https://doi.org/10.15585/mmwr.mm7418a1

40 These estimates do not account for the RCV introductions that occurred during 2025 (Guinea-Bissau introduced RCV during 2025, and Nigeria and the DRC are planned to introduce in late 2025).

SP2 *Commitment and Demand*

SP2 Status: ***Not on track to achieve 2030 targets***

The number of countries submitting an Annual NVC Report has increased since 2019, indicating improvement in country commitment toward measles- and rubella- elimination. Standardization of NVC/RVC Reporting in this regard will support accountability and transparency going forward.

INDICATOR 4: COMMITMENT

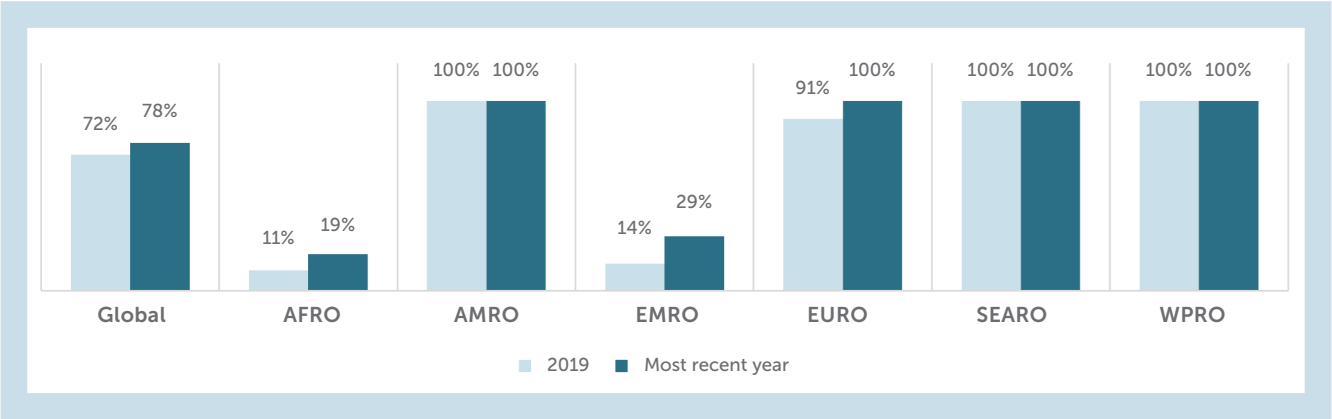
Proportion of countries with a functioning National Verification Committee (NVC) or equivalent structure each year, as defined by the submission of an annual NVC report to the Regional Verification Committee (RVC)

Status: ***Not on track to achieve 2030 targets***

Based on the most recently available data from the six Regional Verification Committees (RVCs), 78% (151 of 194) of WHO Member States submitted an annual NVC report to their respective RVCs at the most recent RVC meeting.[41] This is an increase compared to 2019 (baseline), when 72% (139 of 194) member states submitted NVC reports to their respective RVCs. However, the pace of improvement will need to ramp up substantially to achieve the 2030 target of 100% (all 194 member states).

The improvements in this indicator since 2019 are attributable to the growing number of countries in the AFRO, EMRO, and EURO regions establishing NVCs, submitting NVC reports and participating in RVCs. However, despite progress, 81% and 71% of countries in the AFRO and EMRO regions, respectively, did not submit NVC reports at the most recent RVC meeting. This underscores the importance of accelerating progress in these two regions through targeted actions, including ongoing support from the regional and global level.

Figure 7: Proportion of countries that submitted an annual NVC report to the RVC, by WHO region



The interpretation of this indicator is caveated by the fact that the underlying data across regions are drawn from different years (given the differing timing and frequency of RVC meetings across regions). Additionally, not all RVC meeting reports are publicly available, nor do they explicitly include the number of countries which submitted NVCs. Establishing minimum reporting standards for RVC meetings (such as frequency, publishing and minimum data requirements for inclusion) can enhance accountability and transparency going forward.

41 The most recent RVC differs across RVCs given that the RVCs meet at differing intervals. The most recently available data for NVC reports spans from 2022-2024 across regions. The most recent RVC meeting for which data have been made available by region can be found in the metadata in Annexure A.

SP3 *Equity and Coverage*

SP3 Status: ***Not on track to achieve 2030 targets***

While there has been progress towards global coverage targets for MCV1, coverage remains well below the 95% threshold considered necessary to prevent outbreaks. Additionally, progress in LICs is lagging and coverage in these countries has not yet recovered to pre-pandemic levels. Coverage in the 20% of districts with the lowest coverage has improved (globally, as well as in LICs and MICs), indicating some equity improvements in vaccine access.

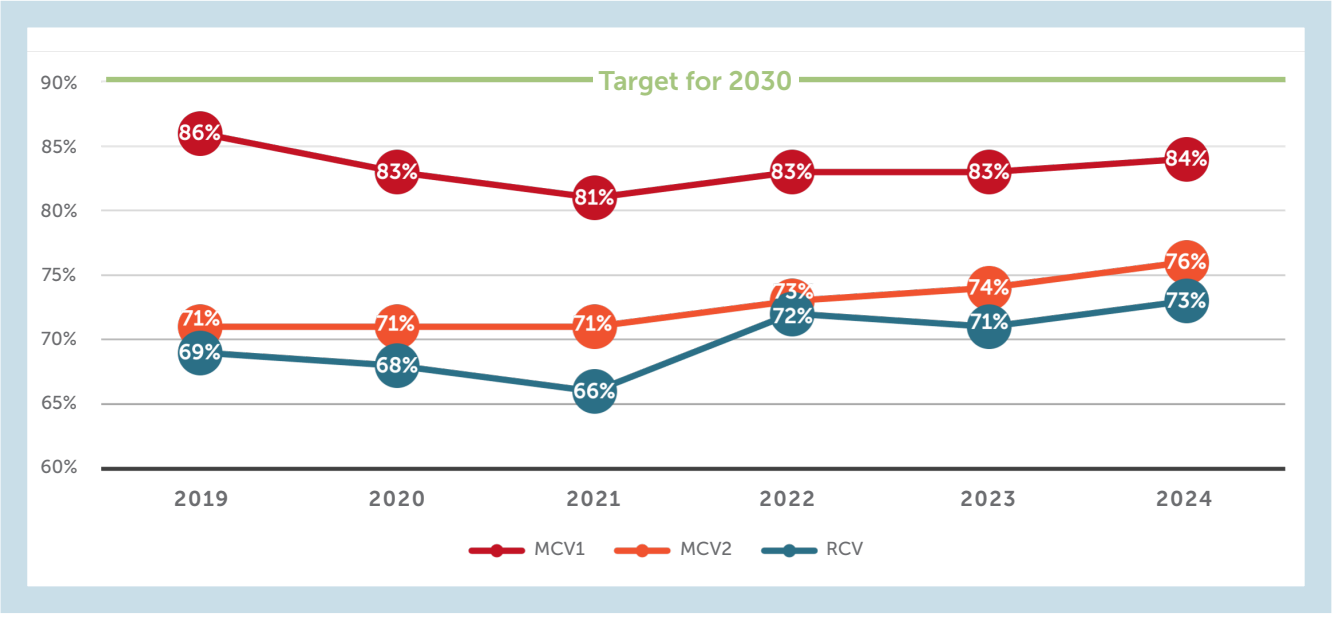
INDICATOR 5: COVERAGE

MCV1, MCV2 and RCV immunization coverage

Status: ***Not on track to achieve 2030 targets***

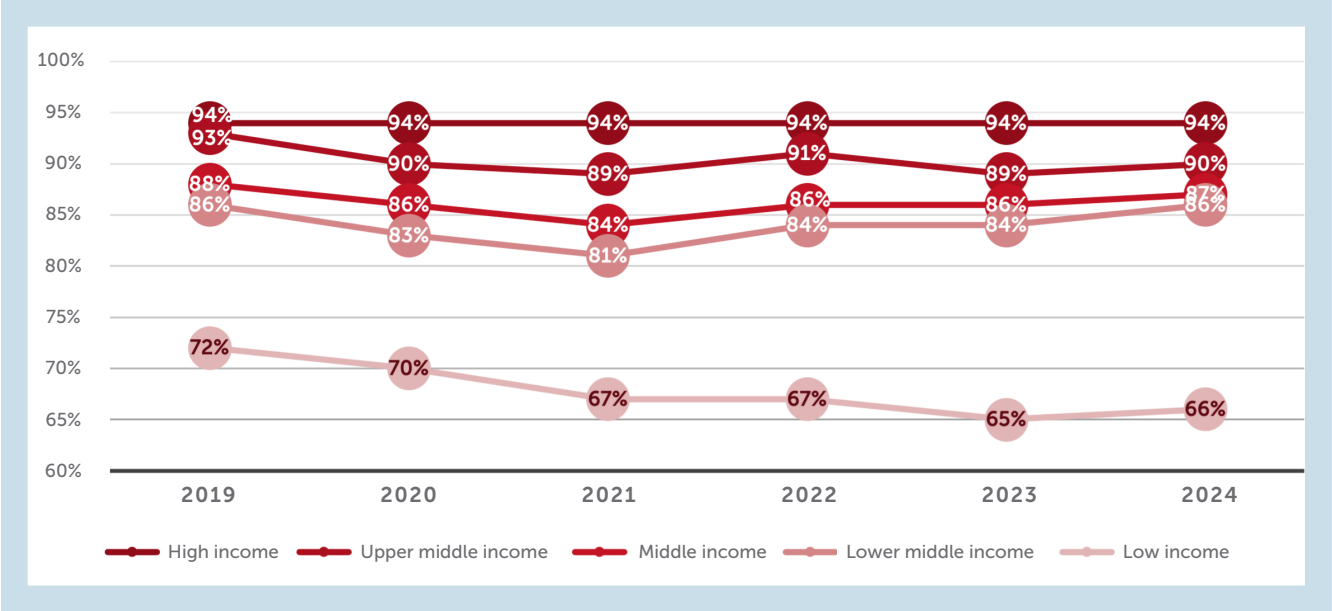
Following a significant drop in global coverage of MCV1 during the COVID-19 pandemic (86% in 2019 compared to 81% by 2021), global MCV1 coverage has slowly rebounded back to 84% in 2024. Global coverage rates for MCV2 and RCV have surpassed pre-pandemic coverage—with MCV2 coverage at 76% in 2024 and RCV coverage at 73%. The increasing trends in MCV2 and RCV coverage can largely be attributed to the increasing number of countries that have introduced these vaccines. Between 2021-2024, 12 additional countries introduced MCV2 and 5 additional countries introduced RCV (further detail on vaccine introductions can be found under Indicator 8 - Introductions).

Figure 8: Global vaccination coverage for MCV1, MCV2 and RCV



While global coverage rates provide a useful snapshot of progress, this level of aggregation masks persistent inequities: high-income countries are rebounding more quickly, while low-income countries lag far behind in regaining pre-pandemic coverage levels. In 2024, 15.5 million children in lower income countries had not received the first dose of measles vaccine—75% of the 20.6 million children globally.

Figure 9: MCV1 coverage by WB Income Group



Despite progress, measles coverage remains well below the 95% threshold considered necessary to prevent outbreaks. While global MCV1 coverage has almost returned to pre-pandemic levels, it is worth noting that global coverage rates had already begun stalling between in the previous decade (increasing by only 2% between 2011 and 2019), underscoring that additional and different efforts will be required to break through this threshold. Presently, we are not on track to meet the 2030 targets of 90% coverage across the three vaccines—MCV1, MCV2 and RCV.

INDICATOR 6: EQUITY

MCV1 and MCV2 vaccination coverage in the 20% of districts with the lowest coverage

Status: ***Data quality limitations compromise the indicator's ability to accurately capture and measure equitable access to immunization***

This IA2030 indicator (associated with Strategic Priority 3: Coverage and Equity) measures progress toward equitable access to measles and rubella immunization. However, data quality limitations compromise the indicator's ability to accurately capture and measure such progress. Collecting accurate district-level coverage data presents significant challenges. Population mobility, such as individuals seeking care outside their home districts due to supply constraints or access-related factors, combined with data capture, sharing, and system limitations, undermines the reliability of reported figures. These issues complicate the identification of districts with the lowest coverage (i.e. the denominator for assessing this indicator) and similarly affect the accuracy of coverage estimates within those districts (i.e. the numerator for this indicator). For these reasons, the data for this indicator are not considered in this Midterm Review of the MRSF.

In the absence of reliable data for the indicator initially defined to assess equitable access to immunization, trends in the number of measles zero-dose children can provide insights into equity in vaccination. As per WUENIC data, the number of measles zero-dose children has started to decline, dropping to 20.6 million in 2024 compared to a high of 24 million in 2021.

While improvements in the number of zero-dose children globally have been achieved, 55% of the world's measles zero-dose children are concentrated in just 10 countries across 3 regions: Afghanistan, Angola, the Democratic Republic of the Congo, Ethiopia and Nigeria in AFRO; India, Pakistan, Sudan, and Yemen in EMRO; and Indonesia in WPRO—reflecting deep equity gaps, heightening the risk of persistent outbreaks and underscoring the need for targeted strategies to reach marginalized populations in underserved settings.

Additionally, equity concerns for children living in fragile, conflict-affected, and vulnerable countries are worth noting. While only 24% of infants live in these countries, they make up 54% of infants without any protection against measles. Further, the risk of outbreaks increases in these countries, in part because coverage rates are lower—64% for the first dose and only 49% for both doses. In 2024, 56% of fragile, conflict-affected, and vulnerable countries experienced a large or disruptive outbreak, while only 24% of countries without these challenges did.

Recommendation for 2026-2030: define a new, appropriate indicator to adequately measure progress towards improvements in equitable access to measles and rubella immunization.

INDICATOR 7: QUALITY

Immunization dropout rates (DTP1 to MCV1; DTP3 to MCV1; MCV1 to MCV2)

Status: ***On track to achieve 2030 targets***

Overall, dropout rates have shown gradual improvement since 2021, suggesting strengthening of routine immunization delivery and follow-up systems. However, disparities remain across income groups, with higher dropout rates persisting among low-income countries.

DTP1 to MCV1

The DTP1–MCV1 dropout rate has declined globally from 7% in 2021 to 6% in 2024 but remains above the 2019 rate of 4%. Significantly higher dropout rates are observed in LICs (18% in 2024). These trends suggest ongoing challenges in maintaining engagement following first contact with the immunization system. The moderate decline globally indicates gradual improvement in continuity of service delivery and tracking, but persistent higher dropout in resource-limited settings underscores the need for targeted efforts to reduce missed opportunities and strengthen retention in the immunization system following initial encounters. Current progress is likely insufficient to meet global 2030 target of 2%.

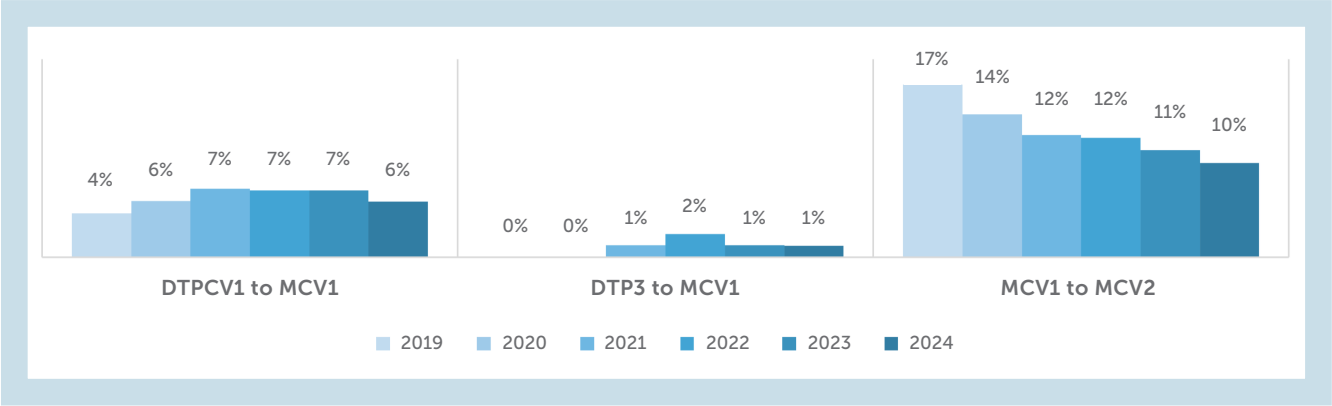
DTP3 to MCV1

Between 2019 and 2024, the DTP3–MCV1 dropout rate rose from 0% to 1%, peaking at 2% in 2022. While this rate remains comparatively low at the global level, the upward trend signals growing challenges in retaining children in the vaccination system between completion of the primary DTP series and receipt of the first measles dose. Although low-income countries continue to face the highest dropout rates, this increase is observed across all income groups, indicating that the issue is pervasive across diverse contexts—from high- to low-income settings. Multiple factors may be contributing to the increased DTP3-MCV1 drop-out rate, including access barriers, vaccine hesitancy, and gaps in follow-up systems. To remain on track to achieve the 2030 target of 0% dropout globally, targeted efforts to strengthen continuity from DTP3 to MCV1 will be essential.

MCV1 to MCV2

The MCV1–MCV2 dropout rate remains the highest among the three indicators but has improved over time, decreasing globally from 17% in 2019 to 10% in 2024. Progress has been uneven: low-income countries have reduced dropout from 56% in 2019 to 21% in 2024, while HICs have seen increased dropout rates and MICs have seen less significant declines compared to LICs. The reduction in dropout from MCV1 to MCV2 in LICs is strongly associated with the increasing number of countries that introduced MCV2 over the period (12 countries introduce MCV2 between 2021-2024, as detailed under Indicator 4). Despite these gains, dropout between MCV1 and MCV2 continues to highlight weaknesses in follow-up for second-dose opportunities and limited reach of second-year-of-life vaccination platforms. Sustained efforts to institutionalize MCV2 delivery, integrate it within broader child health contacts, and improve coverage monitoring are needed to maintain recent improvements and close persistent immunity gaps. This indicator remains on track to achieve the 8% global target for 2030.

Figure 10: Vaccination dropout rates (DTP1 to MCV1; DTP3 to MCV1; MCV1 to MCV2)



SP4 *Life course and integration*

SP4 Status: ***On track to achieve 2030 targets***

The number of countries introducing MCV2 and RCV has progressed at a steady and sustainable pace and remain on track to meet 2025 targets.

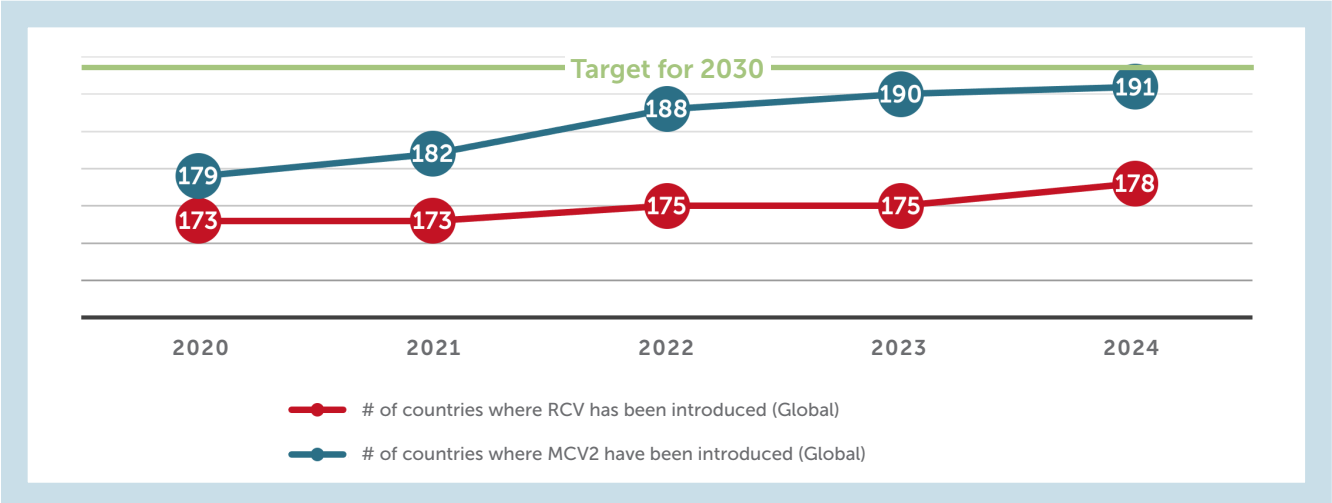
INDICATOR 8: INTRODUCTIONS

Number of countries where MCV2 and RCV have been introduced

Status: ***On track to achieve 2030 targets***

The number of countries introducing both MCV2 and RCV has been steadily increasing since 2021. Significant progress toward the 2030 target of introducing MCV2 and RCV across all 194 member states has been made –between 2021-2024, 12 additional countries[42] introduced MCV2 and five additional countries[43] introduced RCV. As at 2024, 191 countries had introduced MCV2 and 178 countries had introduced RCV. With continued country commitment and sufficient resourcing, we are well positioned to achieve this 2030 target.

Figure 11: Number of countries that have introduced MCV2 and RCV, respectively



42 Benin, Chad, Comoros, Côte d'Ivoire, DRC, Guinea, Guinea-Bissau, Mali, Mauritania, Somalia, Uganda and Vanuatu.

43 Comoros, Mali, Pakistan, South Africa and Sudan.

SP5 *Outbreaks and Emergencies*

SP5 Status: ***Not on track to achieve 2030 targets***

The number of countries experiencing large & disruptive measles outbreaks has been increasing at a rapid pace – more than doubling between 2021 and 2024. Rapid detection and response to outbreaks remain a challenge, as does monitoring progress in this regard.

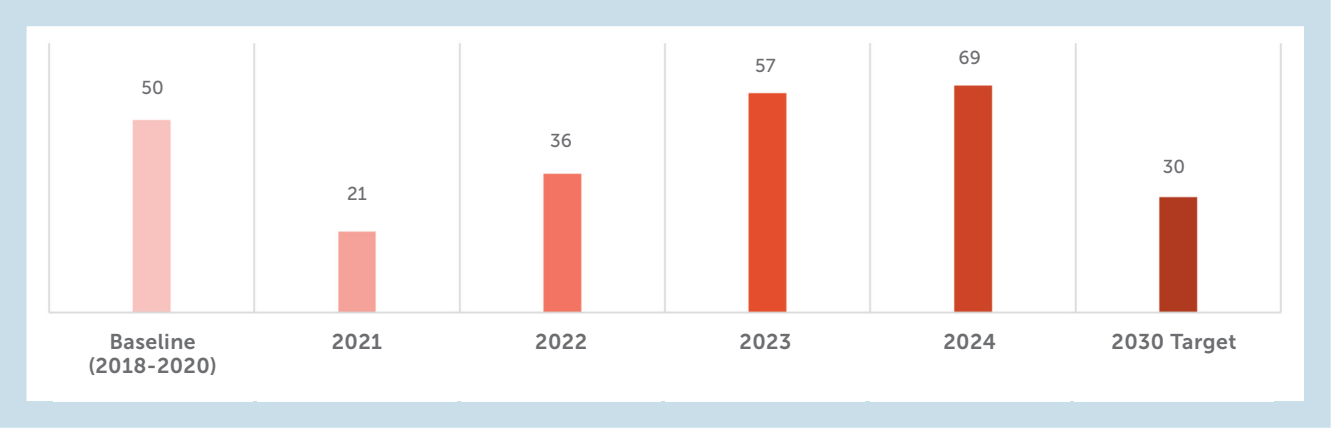
INDICATOR 9: LARGE OR DISRUPTIVE OUTBREAKS

Number of countries experiencing large or disruptive measles outbreaks as defined in IA2030 (>= 20/million)

Status: ***Not on track to achieve 2030 targets***

Since 2021, the number of countries experiencing large or disruptive outbreaks (LoDOs) has continued to increase at a rapid pace. In 2024, 59 countries experienced LoDOs—almost triple the number of countries in 2021 (21).[44] The rising number of outbreaks highlights slow progress towards emergency preparedness and rapid, effective outbreak response. Additionally, the limited progress over the past five years seen in other key indicators examined in this report—such as the burden of disease, coverage and equity indicators—are intrinsically linked to higher outbreak risk. Current trends indicate that we are significantly off-track to achieving 2030 targets for this indicator.

Figure 12: Number of countries experiencing large or disruptive measles outbreaks, as defined by IA2030 (>= 20/million)



INDICATOR 10: CAMPAIGN TIMELINESS

Percentage of planned campaigns (follow-up + catch-up) that are conducted on time (prior to modelled start of high transmission season)

Status: ***Insufficient data; only 1-year of data available***

The first year for which data for this indicator has been collected was 2024. As such, there is presently insufficient data available to determine whether we are trending positively towards meeting the 2030 target of 100% timely measles- and rubella-campaigns (SIAs).

44 The annual average number of large or disruptive outbreaks between 2018 and 2020 is used as the baseline for this indicator, given the unusually high number of outbreaks in 2019 relative to prior years.

Models that consider immunity gaps and seasonality of transmission have been used to define when campaigns should be launched to most effectively reduce transmission and burden. When compared to the 'ideal launch date,'[45] 38% of campaigns planned for 2024 were launched on time (i.e. prior to the modelled start of the high-transmission season). In Gavi-eligible countries, 47% of campaigns with an ideal launch date in 2024 were launched on time, compared to 0% in non-Gavi-eligible countries.

INDICATOR 11: OUTBREAK DETECTION AND RESPONSE

Proportion of measles outbreaks supported by the ORF with timely detection and response, as defined in IA2030[46]

Status: ***Indicator does not adequately measure progress in outbreak detection and response***

This IA2030 indicator (associated with Strategic Priority 5: Outbreaks and Emergencies) was initially included in t but does not adequately measure progress against outbreak detection and response. Its current formulation captures only outbreaks that receive support from the Outbreak Response Fund (ORF), which represents a small proportion of all reported outbreaks (e.g., 6 of 59 in 2024) and therefore provides a limited and potentially biased measure of performance. In addition, the IA2030 definition of timeliness is not well suited to the measles context given the disease's short incubation period and rapid spread. As such, this indicator does not adequately reflect countries' capacity for timely outbreak detection and response. For these reasons, the data for this indicator are not considered in this Midterm Review.

Recommendation for 2026-2030: define a new, appropriate indicator to adequately measure progress towards improvements in measles outbreak detection and response.

SP6 *Supply & Sustainability*

SP6 Status: ***On track to achieve 2030 targets***

Timely availability of sufficient vaccine supplies evident in less frequent stockouts (at both national and district levels) across almost all regions. However, the average duration of national stockouts has increased.

INDICATOR 12: SUPPLY

Number of MCV vaccine stockouts at national and district level; average duration of national stockouts

Status: ***On track to achieve 2030 targets***

Improvement in the timely availability and monitoring of vaccines supplies since 2021 is evident in the declining frequency of stockouts (at both the national and district level). Differentiation across regions is evident, but a generally declining trend is observed. Notably, significant progress has been made in reducing the number of national and regional stockouts in the AFRO region, which has historically had the highest number. In light of these improvements, attaining the 2030 target of zero stockouts across all regions (at national and district level) is within reach.

45 The ideal launch date (as defined by the M&RP) for a given country is determined using epidemiological modeling of the high transmission season for measles for a given country to estimate by when a campaign should take place to ensure that population immunity remains sufficient to avoid large measles outbreaks. The epidemiological modeling that informs these dates were conducted by WHO and the IDM.

46 The IA2030 definition for timely detection and response for measles outbreaks is as follows:
- **Measles (non-endemic):** 69 days from 1st case onset of symptoms to start of response vaccination campaign.
- **Measles (endemic):** 35 days from when incidence crosses epidemic threshold to start of response vaccination campaign.

Figure 13: Number of MCV Stockouts at the national level, by WHO region

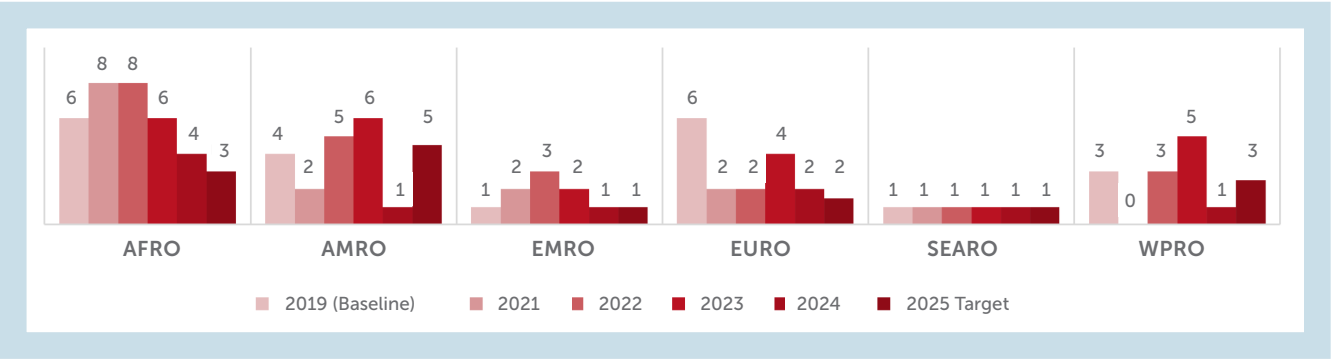
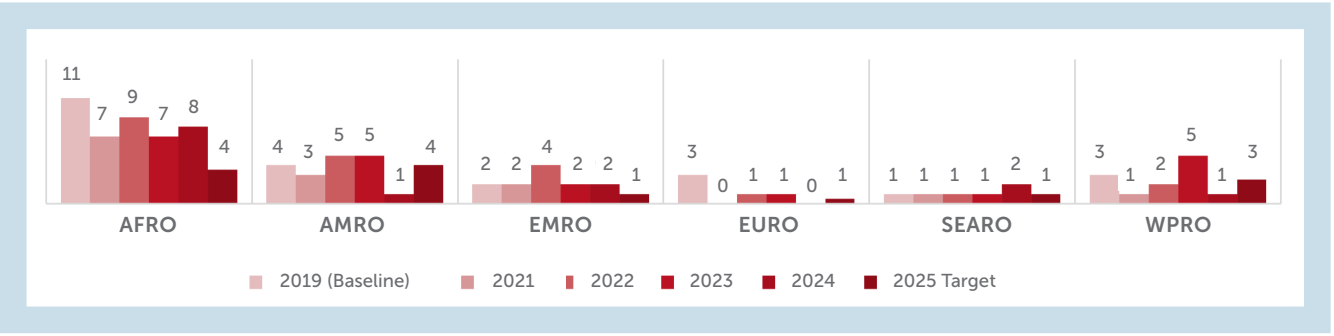
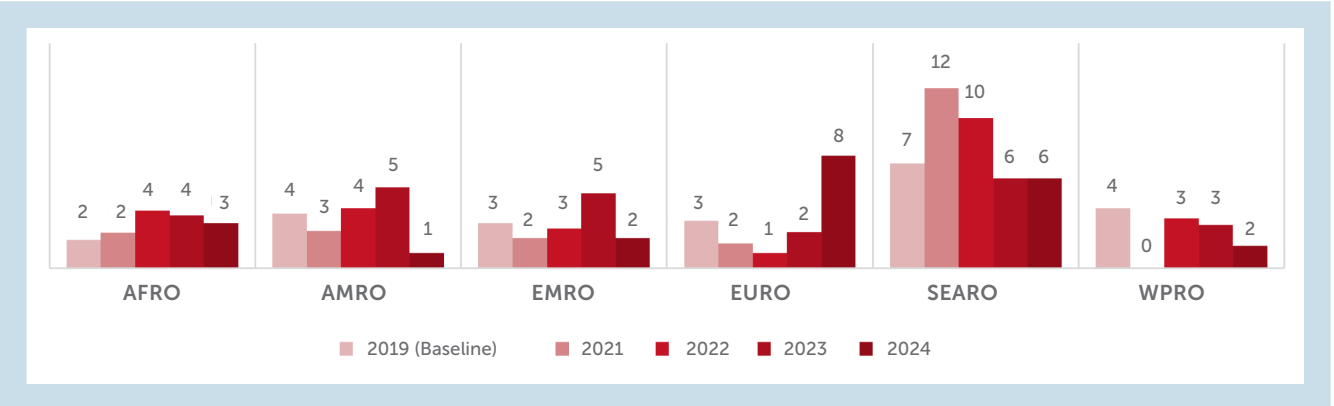


Figure 14: Number of MCV Stockouts at the district level, by WHO region



While the number of stockouts has decreased over time, the average duration (in months) of national-level stockouts has increased since 2021. It is possible that avoidable or short-term stockouts have become less common, while those that do occur are increasingly linked to more complex or severe supply chain disruptions that take longer to resolve. Additionally, given the small number of reported stockouts, even a single prolonged event can disproportionately influence the overall average duration.

Figure 15: Average duration (months) of MCV Stockout at the national level, by WHO Region



SP7 *Research and Innovation*

SP7 Status: ***No indicators or 2030 targets defined for this Strategic Priority***
Research and innovation have continued to progress, with 5-dose MR vials and MR microarray patches emerging as promising delivery innovations to expand coverage. As we pivot from restoration to acceleration, prioritizing an applied research and innovation agenda will be critical to fast-track progress. Clear indicators and 2030 targets should be developed to measure progress over the remainder of the MRSF.

During the first five years, the primary focus of the MRSF has been in restoring measles and rubella programs in a pandemic and post-pandemic world. Strengthening routine immunization programs and conducting high-quality and timely preventive campaigns (SIAs) has been at the forefront of these restorations. In parallel, research and innovation have continued to advance. Two priority areas of innovation are highlighted below.

5-dose vials for measles and rubella Immunization

Because measles-containing vaccines (measles and MR) are lyophilized, open vials must be used and discarded within six hours of reconstitution. As a result, MCV is often associated with high wastage—especially when countries use 10-dose vials for routine immunization. To avoid excessive wastage, health workers frequently report delaying vaccination until a minimum number of children are present (often six or more) or restricting measles sessions to designated days, sometimes only once every two weeks or even once a month. These practices lead to missed opportunities for vaccination, increase outbreak risk, and erode community trust in routine immunization services.

Over the past five years, a strong evidence base has supported the shift to fewer-dose vials, prompting many countries to adopt 5-dose presentations.[47] As of December 2025, ~40 Gavi-supported countries are using 5- or fewer-dose vials—up from ~20 in 2020—including three high-priority countries that switched in 2025 (Ethiopia, Pakistan, and Nigeria). In the AFRO region, 17 countries (~36%) now use fewer-dose vials for routine immunization, compared to only eight before 2020, and the region has set a goal for 70% of countries to transition by 2030.[48]

In addition to expanding awareness and uptake of 5-dose vials, countries that engage in intentional planning have used the switch to 5-dose vials as an opportunity to strengthen routine immunization delivery overall by targeting specific gaps in the program. Effective implementation includes investing in health worker training to reinforce open-vial policies, improving stock management systems to ensure accurate usage and wastage tracking, and integrating relevant indicators into M&E systems (e.g., session frequency, adherence to open-vial policy, vaccine availability, coverage, and wastage). In the next strategic period, partners are prioritizing improved implementation planning—both for countries that have already transitioned and those preparing to switch—to ensure strong performance and cost-effective use of fewer-dose vials.

Microarray patches

Microarray patches (MR-MAPs) are a needle-free vaccine delivery innovation with anticipated high potential to simplify delivery of MR vaccines and expand their reach. A MAP contains one dose of an MR vaccine and is expected to be easier to administer as well as have increased thermostability—allowing for easier delivery in hard-to-reach areas without extensive cold chain infrastructure.[49] The potential for MR-MAPS to expand reach to zero-dose children and support last-mile delivery is promising.

47 Balcha Girma Masresha et al. Switching from 10-dose to using 5-dose measles-containing vaccine vial presentation: lessons from 7 countries in the WHO African Region. Pan African Medical Journal. 2025;51(1):15. Available at: https://www.panafrican-med-journal.com/content/series/51/1/15/full/

48 MCV 5-dose Transition Tracker. Internal analysis, December 2025.

49 Ko M, Frivold C, Mvundura M, Soble A, Gregory C, Christiansen H, Hasso-Agopsowicz M, Fu H, Jit M, Hsu S, Mistilis JJ, Scarna T, Earle K, Menozzi-Arnaud M, Giersing B, Jarrahian C, Yakubu A, Malvolti S, Amorij JP. An Application of an Initial Full Value of Vaccine Assessment Methodology to Measles-Rubella MAPs for Use in Low- and Middle-Income Countries. Vaccines (Basel). 2024 Sep 19;12(9):1075. doi: 10.3390/vaccines12091075. PMID: 39340105; PMCID: PMC11435702.

Between 2020–2025, MR-MAPs moved from concept to clinical evidence: the first clinical trial conducted in nine-month-old infants in The Gambia (a randomized, double-blind study) found MR-MAPs to be to have similar safety and immunogenicity when compared to MR vaccines delivered subcutaneously.[50] MR-MAPs have been prioritized by the Vaccine Innovation Prioritisation Strategy (VIPS)—a collaboration between the Gavi Secretariat, WHO, Gates Foundation, UNICEF and PATH to develop a single integrated framework to evaluate, prioritise and drive forward vaccine product innovations.[51] After the success of the Phase 1/2 trial in the Gambia, a manufacturing site is being built to produce MAPs for the Phase 3 trial and launch. As such, it is expected that MR-MAPs will become commercially available after 2030.

50 A measles and rubella vaccine microneedle patch in The Gambia: a phase 1/2, double-blind, double-dummy, randomised, active-controlled, age de-escalation trial. Adigweme, Ikechukwu et al. The Lancet, Volume 403, Issue 10439, 1879 - 1892

51 Gavi, The Vaccine Alliance. *Vaccine Innovation Prioritisation Strategy (VIPS).*Available at: https://www.gavi.org/our-alliance/market-shaping/vaccine-innovation-prioritisation-strategy-vips#prioritisation

4 Implementing the MRSF: Challenges and barriers

This section explores the key challenges and barriers experienced in implementing the MRSF over the past five years, using the MRSF Core Principles as a framework to identify gaps and areas for improvement. Before turning to the specific challenges using this framework, the analysis first outlines the broader contextual factors that have shaped implementation dynamics over this period.

Shifting context

Over the past five years, the global development landscape has undergone significant shifts that have affected the momentum, prioritization, and resourcing of immunization systems. These broader contextual challenges have influenced the implementation of the MRSF and shaped the capacity of countries and partners to sustain progress toward immunization goals.

Immunization activities were negatively impacted by the health system disruptions during the COVID-19 pandemic and many countries have been slow to recover. During the pandemic many routine health services, including immunization activities, were placed on hold as resources were diverted to manage the crisis at hand. For measles and rubella (and many other vaccine preventable diseases), this translated to a major setback and erosion of historical gains in immunization coverage. As the world begun emerging from the pandemic in 2022, data shows that coverage has started recovering from its impact. However, progress has been slow as countries work to reinstate ongoing routine health services while simultaneously catching up on services missed during the peak years of the pandemic. At the end of 2024, global coverage for MCV1 was still below 2019 levels, with many countries struggling to regain momentum and lagging far behind pre-pandemic immunization functioning.

The fiscal environment for health and development has become increasingly constrained. Following an uptick in health spending during the pandemic, the world saw the first decline in health spending as a percentage of gross domestic profit [GDP] (aggregated at the global level) in real terms since the start of the millennium.[52] The decline in health spending is explained by decreases in both domestic funding and external aid. Following a record high during the pandemic, development assistance for health (DAH) has

52 Global spending on health: emerging from the pandemic. Geneva: World Health Organization; 2024. Licence: CC BY-NC-SA 3.0 IGO.

continued to decline—dropping more than US$30 billion between 2021 (US$80.3 billion) and 2024 (US$49.6 billion). In 2024, DAH had already dropped below pre-pandemic resourcing.[53] In an already austere fiscal environment for health, 2025 brought substantial funding cuts from most major providers of DAH. It is estimated that DAH dropped by more than US$10 billion (21%) between 2024 and 2025, including a US$9 billion (67%) decrease in funding from the US government as well as significant reductions in funding from the UK (39% decrease), France (33% decrease) and Germany (12% decrease).[54]

Limited resources translate to trade-offs, affecting health system strength and resilience; the impact is particularly acute in in low- and middle-income countries with fragile health systems. During the first half of the MRSF (2021-2025) this has surfaced in the challenges of raising routine coverage, conducting timely and high-quality SIAs, driving prioritization of RCV introductions, and outbreak preparedness.

This trend of declining fiscal resources for health is expected to continue as we enter the remainder of the MRSF (2026-2030). Over the next five years, the MRSF will need to adapt to this resource-strapped environment—optimizing resources to maximize health impact, identifying opportunities for integration, and prioritizing sustainability.

Over the past five years, declining public confidence in vaccines has increasingly undermined global immunization efforts. Confidence in the importance of vaccines has declined in the past five years[55] with negative impacts on vaccine uptake.[56] Following the pandemic, misinformation, distrust, and weakening community engagement have emerged as key obstacles to recovering immunization coverage, including in areas where logistics and supply are not binding constraints.[57] This increasing trend of vaccine hesitancy has contributed to challenges not only in increasing coverage but also in maintaining elimination gains and the growing number of outbreaks. The high transmissibility of measles means that each missed opportunity for vaccination has a material impact on efforts to prevent outbreaks and achieve elimination. Vaccine confidence trends suggest that renewed investments in trust-building, community engagement, and tailored communication strategies will be required to close emerging coverage gaps.

Partnership-based

The implementation of the MRSF has been led by the organizations that constitute the M&RP. Through collective action and strong partnership, the M&RP successfully advanced and sustained momentum towards MRSF goals over the past five years (as highlighted in the Progress towards MRSF Impact Metrics - Key successes and enablers Section of this report). Here we explore challenges and areas for improvement to guide the partnership's role in the remaining five years of the strategy.

Cross-program and cross-partner resource coordination remain aspirational. Over the past five years, the M&RP has struggled to effectively leverage synergies across initiatives and antigens. Collaboration across antigens and disease specific initiatives (DSIs) remains opportunistic, and campaign integration is rarely strategically driven from the planning phase. As a result, opportunities for effective integration and shared learning (for example, sharing best practices and drawing on lessons learned through implementation from other antigens) have been missed. As we move into an increasingly resource-strained ecosystem, the need to unlock cross-program efficiencies and reduce siloed operations across disease programs will become even more important.

53 Institute for Health Metrics and Evaluation (IHME). Financing Global Health 2025: Cuts in Aid and Future Outlook. Seattle, WA: IHME, 2025.

54 Institute for Health Metrics and Evaluation (IHME). Financing Global Health 2025: Cuts in Aid and Future Outlook. Seattle, WA: IHME, 2025.

55 United Nations Children's Fund, The State of the World's Children 2023: For every child, vaccination, UNICEF Innocenti – Global Office of Research and Foresight, Florence, April 2023. Findings as per The Vaccine Confidence Project, which carried out a large-scale retrospective modelling study to investigate the extent to which vaccine confidence changed across 54 countries between 2015 and November 2019 (pre-pandemic) and in 2021 and 2022 (post-pandemic).

56 de Figueiredo, Alexandre, et al., 'Mapping Global Trends in Vaccine Confidence and Investigating Barriers to Vaccine Uptake: A large-scale retrospective temporal modelling study', The Lancet, vol. 396, no. 10255, 26 September 2020, pp. 898–908, <https://doi.org/10.1016/S0140-6736(20)31558-0> (see abstract and p. 905).

57 United Nations Children's Fund, The State of the World's Children 2023: For every child, vaccination, UNICEF Innocenti – Global Office of Research and Foresight, Florence, April 2023.

Clear operational pathways and ownership are vital to success and driving measurable progress. The M&RP has faced challenges in moving from ambition to action where operational pathways and ownership are not clearly defined. In some cases, goals have been tied to areas that the M&RP, as a global partnership, is poorly positioned to directly influence—such as faster implementation of outbreak response activities in countries experiencing outbreaks. In cases like these, the M&RP can drive action by ensuring that a lever for influence and associated activities is identified and clearly articulated at the outset.

An incomplete approach to ecosystem influence has limited traction in driving systemic change. M&RP's ability to shape the broader immunization and measles and rubella ecosystem has been constrained by structural and contextual barriers, including funding constraints and uncertainty. While the partnership has seen many wins—including driving key, evidence-based policy change—external barriers have hindered follow-through operationalization of such influence. For example, collective action by the M&RP successfully led to the removal of the SAGE 80% measles coverage requirement for RCV introductions. However, delays in the publishing of updated Gavi Vaccine Funding Guidelines, resulting from various external factors, translated to significant delays in operationalizing the policy change and advancing progress toward universal RCV introduction. While external factors remain beyond the control of the M&RP, early identification of potential risks and proactive mitigation plans can serve to lessen the impact of such factors. There is opportunity for the M&RP to explore broadening its membership base to strengthen its ability to respond to the evolving immunization landscape.

Country-owned

The MRSF was designed around the principle that sustainable progress in measles- and rubella-elimination depends on strong country ownership. While many countries have demonstrated leadership and commitment to measles and rubella goals, experience from the past five years highlights persistent challenges in translating this to full ownership in the realms of planning, financing, and implementation.

Competing priorities and funding constraints create dependence and vulnerability. Among other factors, funding tradeoffs have led to differing levels of prioritization of measles programs within national immunization programs. In several settings, measles and rubella activities remain primarily driven by global partners, rather than being fully integrated into national immunization strategies and budgets. This dependency has created vulnerabilities, leaving countries increasingly subject to external forces and putting measles and rubella programs at risk. In particular, as global health funding support contracts, countries with limited domestic fiscal flexibility are less likely to be able to sustain co-financing commitments for measles and rubella SIAs. Looking ahead, the next phase of MRSF implementation (2026–2030) will require renewed emphasis on financial sustainability, including strengthening domestic resource mobilization.

Challenges raising routine coverage have led to an over-reliance on preventive campaigns (SIAs) and outbreak response in many settings. A multitude of factors across the immunization ecosystem contribute to local challenges in raising routine coverage, many of which have been examined throughout this report. Where countries have been unable to overcome these challenges and gaps in routine coverage persist, an over-reliance on SIAs and outbreak response can emerge. While SIAs and outbreak response are important components of measles and rubella programs, strong routine immunization should serve as the foundation and is central to building a sustainable immunization system. Country-ownership is required to strengthen routine immunization through approaches tailored to the local context.

Delays in outbreak detection response worsen outcomes and increase the risk of regional and global spread. These delays often stem from systemic weaknesses in surveillance capacity and outbreak preparedness. To shift towards proactive outbreak prevention, countries need to continue to invest in strengthening surveillance and developing robust preparedness plans. The Measles Outbreak Strategy 2026-2030 provides a comprehensive strategic framework to prevent, prepare for, respond to, and recover from measles outbreaks over the coming decade. It builds on the 2021–2023 Measles Outbreaks Strategic Plan emphasizing sustained, integrated outbreak management embedded in health systems rather than ad-hoc emergency response.

Integration has strong potential to improve the impact and efficiency of immunization efforts, but many countries still face structural and coordination barriers to integrating measles and rubella campaign planning and delivery. While countries increasingly recognize the value of integrating measles and rubella campaigns with other health interventions, existing coordination and planning mechanisms often remain siloed, limiting opportunities for joint implementation. In many settings, immunization programs continue to operate within vertical frameworks that make it difficult to align planning cycles, financing, and accountability structures across health initiatives. This fragmentation can constrain country-led ownership of integrated approaches, even where political commitment is present.[58] Over the past five years, integration of measles and rubella campaigns has largely been ad hoc or considered too late in the planning process to maximize effectiveness. Strengthening cross-program collaboration, shared planning, and joint process harmonization will be essential to realizing the efficiencies and broader health impact that integration can offer.

People-focussed

To achieve a world free of measles and rubella, every child, regardless of geography, gender, or circumstance, must have access to life-saving vaccines. Persistent inequities in immunization access and outcomes over the past five years highlight the substantial progress still required to achieve this goal.

The concentration of measles zero-dose children reflects deep inequities in access to life-saving measles and rubella vaccines. Despite global progress, 20.6 million children (as of 2024) remain unvaccinated for measles—15 million of which live in LICs, and 11 million of which live in fragile, conflict-affected, and vulnerable settings. As explored in the Progress of MRSF Impact Metrics Section of this report, large disparities in measles and rubella immunization coverage exist—both across and within countries. The same ten countries account for the majority of measles zero-dose children almost every year, heightening the risk of persistent outbreaks and underscoring the need for targeted strategies to reach marginalized populations in these underserved settings. Access to the measles vaccine is often used as a proxy indicator for general access to health services, meaning that in addition to lower levels of protection against measles children in marginalized and FCV settings are less likely to have access to other health services, compounding the risk of measles-related morbidity and mortality.

As the MRSF moves into its second half (2026–2030), achieving equity will require renewed focus on zero-dose reduction, resilient service delivery in FCVs, tailored approaches for hard-to-reach areas and integration of measles and rubella activities with broader primary health care and humanitarian initiatives.

Data-enabled

The MRSF envisions a data-enabled ecosystem in which countries and partners use high-quality evidence to guide decision-making, strengthen program quality, and ensure accountability for results. Over the past five years, notable gains have been made in surveillance, SIA planning and performance monitoring, but feedback loops remain sub-optimal and funding challenges have placed surveillance improvements at risk.

The Global Measles and Rubella Laboratory Network (GMRLN) faces significant sustainability challenges. Shifting political priorities and donor reprioritization have introduced funding uncertainty for the GMRLN, which plays a critical role in laboratory-based surveillance of measles, rubella and other vaccine-preventable diseases. However, the evolving financing landscape has placed the network's long-term sustainability at risk, affecting its ability to maintain quality assurance, coordination, and operational capacity. Ensuring predictable and diversified funding will be essential to safeguard its contribution to global disease detection and response.

58 Health Campaign Effectiveness (HCE) Coalition. Collaborative Action Strategy for Health Campaign Effectiveness. Atlanta, GA: Task Force for Global Health; 2024. Available at: https://campaigneffectiveness.org/wp-content/uploads/2024/01/Collaborative-Action-Strategy-for-HCE_Final.pdf

Delays in timely completion of campaign evaluations undermine learning and limit the quality of subsequent SIAs. In many countries, post-campaign coverage evaluations are conducted many months after implementation or not at all—too late to inform immediate corrective measures or strengthen upcoming activities. These delays constrain the ability to identify and address operational weaknesses. This is particularly important in settings that experience post-campaign outbreaks, indicating poor campaign quality. The M&RP is currently supporting research into barriers to post-campaign evaluation completion and timeliness, the findings of which should inform strategies to strengthen the use of data to drive campaign quality, identify coverage gaps, and tailor approaches to reach under-immunized children. Moving forward, there are concerns post campaign evaluations will become even more challenging as financial support wanes.

Looking ahead

The challenges highlighted in the preceding sections underscore the need for the partnership to adapt as it enters the second phase of the MRSF (2026–2030). The next five years must build deliberately on lessons from the first, consolidating what has proven effective while adapting to meet a rapidly shifting global and programmatic context. This will require doubling down on the activities and approaches that have effectively driven impact, while also evolving ways of working to enhance efficiency, accelerate progress and build resilience.

5 Recommendations for 2026-2030

Under the MRSF, meaningful global progress has been made toward advancing measles and rubella elimination; however, the pace of progress remains insufficient to achieve the 2030 targets established by IA2030 and the MRSF. The evolving immunization ecosystem and shifting fiscal landscape for global health further underscore the need to adapt strategies and implement innovative approaches to sustain and accelerate momentum. The following recommendations outline priority actions to accelerate progress and deliver on global measles and rubella elimination goal as we move into the final phase of the MRSF (2026-2030).

1. **Reaffirm measles and rubella as a global health priority and a "must win" through prioritization at the global, regional and national level.** Measles vaccination has contributed to 60-80% of all lives saved through immunization and remains one of the most cost-effective vaccines. Administered together, measles and rubella vaccination have among the highest positive impact on population health across immunization programs, successfully protecting children from life-threatening disease as well as congenital disorders caused by CRS. As a well-established tracer of immunization system performance, measles serves as a critical indicator of equity, coverage, and access to essential health services.

   Reaffirming measles and rubella as a global health priority will require sustained political commitment, predictable financing, and continued advocacy at global, regional, and national levels. It will also require ongoing support for priority areas: equipping countries with the resources, tools, and data needed to maintain prioritization in fiscally constrained environments, while promoting a holistic, systems-oriented approach that integrates measles and rubella within broader immunization and primary health care strategies.

2. **Integration of measles and rubella activities with other antigens and health services should be prioritized to maximize reach and efficiency.** Integrated service delivery models can unlock synergies and efficiencies. In this period of austerity, the need to drive such efficiency is becoming more pressing. Evidence from the past decade shows that innovative approaches will be required to close outstanding immunity gaps and successfully implement last-mile delivery. The integration of measles and rubella activities within primary care and other immunization services has a key role to play in maximizing reach and reducing missed opportunity for vaccination.

Disease verticals will need to break down siloes and work together to find the most effective integrated models for delivery. Such models should be rooted in context and could vary from joint-planning to co-delivery. Developing and implementing integrated models will require close coordination, early planning, and systematic collaboration across disease programs. Measles is well positioned to play a leadership role in leading integration efforts given the timing of health system touchpoints for routine measles vaccination, as well as the scale of measles and rubella campaigns. The overlap in countries experiencing measles and polio outbreaks presents a key opportunity for integration across measles and polio activities.

3. **Ensure high-coverage, sustainable measles and rubella programs by strengthening activities across all delivery modalities.** Closing persistent immunity gaps calls for a comprehensive, coordinated approach that draws on the comparative strengths of each delivery modality including routine immunization, strong inter-campaign activities (e.g. intensification, PIRIs), preventive campaigns, and outbreak response immunization. In doing so, the long-term goal should be moving towards more proactive and resilient immunization systems with high quality routine systems capable of identifying and addressing emerging immunity gaps early. This will require strategically refocusing efforts on the inter-campaign period to reinforce routine service delivery, while simultaneously doubling down on timely and high-quality preventive campaigns.

   Current evidence from low-coverage settings points toward an over-reliance on campaigns despite signs of systemic weaknesses in routine immunization. For example, persistently high drop-out rates from the first to second dose of the measles vaccine (MCV1-MCV2) indicate RI challenges that cannot be resolved through campaigns alone. Strengthening data feedback loops is essential to better understand and respond to the underlying drivers of emerging gaps. This will require driving political will, sustained funding and provision of reliable tools and supports for data collection and evaluation methods, including root cause analyses following outbreaks and post campaign evaluations.

4. **Strengthen outbreak preparedness and response capacity in all countries.** The scale and persistence of measles outbreaks over the past five years (which have become larger, more frequent, and harder to control) underscore the need for a systematic and strategic approach to strengthening country preparedness, including early detection and response capacity. In response, the M&RP has led the development of Measles Outbreak Strategy (MOS) 2026–2030 (to be published in early 2026). The MOS provides a comprehensive strategic framework for countries to prevent, prepare for, respond to, and recover from measles outbreaks and enables countries to shift toward proactive, system-strengthening approaches that can rapidly address and contain emerging measles outbreaks and protect every community.

   Measles outbreaks pose a threat to progress and elimination gains globally. The availability of funding to rapidly respond to outbreaks is essential to containing this threat to global health security. The M&RP Outbreak Response Fund (ORF), which provides funding for measles outbreak response to Gavi-eligible countries, has secured funding through 2030. In addition to supporting Gavi-eligible countries experiencing outbreaks, the growing number of measles outbreaks in MICs (18 in 2022 to 32 in 2024[59]) emphasizes the need to secure and operationalize funding levers available to support countries not eligible for ORF support.

   Surveillance is central to effective outbreak preparedness and response. The Global Measles & Rubella Laboratory Network (GMRLN) underpins this capacity by enabling timely case confirmation and data sharing essential for early detection and control. However, with funding secured only through 2026, the network faces a critical sustainability gap that threatens its continued operation and the broader measles and rubella elimination agenda. Securing long-term, predictable financing through coordinated global partnership, domestic co-investment, and integration within broader health security frameworks is imperative to preserve this global public good and ensure ongoing readiness to detect and contain outbreaks worldwide.

59 Immunization Agenda (IA2030) Scorecard. scorecard.immunizationagenda2030.org.

5. **Continue to embed the core principles of the MRSF in all measles and rubella efforts**. All actions to advance measles and rubella elimination must remain anchored in the core principles of the MRSF: people-focused, country-owned, partnership-based, and data-enabled. As we enter the final phase of the strategy, renewed collective commitment to these principles is essential to drive coordinated, country-led implementation and sustain progress toward a world free of measles and rubella. The M&RP will continue to play a critical role in convening partners, aligning resources, and catalysing action to ensure that every community is protected from measles and rubella.

Annexure A

Metadata

Indicator 1: Elimination	
Sub-indicators	Measles » Number of countries (WHO Member States) verified to have eliminated measles » Number of countries (WHO Member States) with measles re-established transmission (previously achieved verified measles elimination) Rubella » Number of countries (WHO Member States) verified to have eliminated rubella » Number of countries (WHO Member States) with rubella re-established transmission (previously achieved verified rubella elimination)
Definition	Count of countries with antigen verified elimination or re-established transmission status in given year
Data source	IVB Database
Baseline	2019
Notes	When data were not available ["N/A" / "Not Classified"] for a given year, the last known classification is used (N/A is most prevalent in 2024).

Indicator 2: Burden of disease	
Sub-indicators	» Measles incidence rate » Rubella incidence rate » CRS reported cases » CRS estimated cases » Measles estimated deaths
Definition	» Measles Incidence Rate per 1,000,000 population = (Number of confirmed measles cases in a 12-month period / Total population in the same geography and time period) × 1,000,000 » Rubella Incidence Rate per 1,000,000 population = (Number of confirmed rubella cases in a 12-month period / Total population in the same geography and time period) × 1,000,000 » CRS Reported Cases = Count of total CRS reported cases in 12-month period in specific geography » CRS Estimated Cases = Modeled count of estimated total CRS cases in 12-month period in specific geography » Measles estimated deaths = Count of total measles estimated deaths in 12-month period in specific geography
Data source	WHO/UNICEF Joint Reporting Form on Immunization (measles and rubella incidence rates, reported CRS cases)
Baseline	2019
Notes	For global and regional incidence, the denominator includes only countries that reported data for each year

Indicator 3: Surveillance	
Sub-indicators	Countries meeting target discard rate
Definition	Among the number of countries that reported discarded cases in a given year, the number of countries that achieved the measles surveillance sensitivity indicator target of two or more discarded cases per 100,000 population. Calculation: # suspected cases that have been investigated and discarded as a non-measles and nonrubella case (or a non-measles case (AFRO) using (a) laboratory testing in a proficient laboratory or (b) epidemiological linkage to a laboratory-confirmed outbreak of another communicable disease that is neither measles nor rubella in a 12-month period (or annualized) / national population x 100,000
Data source	Provisional MR surveillance data reported to WHO on a monthly basis (not available for all countries)
Baseline	2019
Notes	Not applicable

Indicator 4: Commitment	
Sub-indicators	Proportion of countries with a functioning National Verification Committee (NVC) or equivalent structure each year, as defined by the submission of an annual NVC report to the Regional Verification Committee (RVC)
Definition	Proportion of countries that submitted an annual NVC report = number of countries that submitted an annual NVC report / 194 WHO Member States
Data source	RVC Reports
Baseline	2019
Notes	The following RVC Reports were used to inform the latest year of data included in the indicator:

Region	Year of most recent available RVC report	Epidemiological Data Year for NVCs
AFRO	2023	2022
AMRO	2024	2023
EMRO	2025	2023
EURO	2025	2023
SEARO	2025	2024
WPRO	2024	2023

Indicator 5: Coverage	
Sub-indicators	Coverage rates » MCV1 coverage » MCV2 coverage » RCV coverage Proportion of countries achieving 90% coverage targets » MCV1 » MCV2 » RCV
Definition	Coverage percentage for relevant antigen
Data source	WUENIC
Baseline	2019
Notes	Not applicable

Indicator 6: Equity	
Sub-indicators	MCV1 and MCV2 vaccination coverage in the 20% of districts with the lowest coverage
Definition	Coverage percentage for relevant antigen in 20% of districts with lowest coverage
Data source	WHO/UNICEF Joint Reporting Form on Immunization
Baseline	2019
Notes	Not applicable

Indicator 7: Dropout rates	
Sub-indicators	» Dropout rate: DTP1 to MCV1 » Dropout rate: DTP3 to MCV1 » Dropout rate: MCV1 to MCV2
Definition	Dropout rate = Annual coverage of first antigen- Annual coverage of second antigen (in specific geography)
Data source	WUENIC
Baseline	2019
Notes	Not applicable

Indicator 8: Introductions	
Sub-indicators	» Number of countries where RCV has been introduced » Number of countries where MCV2 has been introduced
Definition	» Count of the number of countries that have introduced the RCV vaccine (cumulative) » Count of the number of countries that have introduced the MCV2 vaccine (cumulative)
Data source	WHO/UNICEF Joint Reporting Form on Immunization
Baseline	2021
Notes	Not applicable

Indicator 9: Outbreaks	
Sub-indicators	Number of countries experiencing large or disruptive measles outbreaks as defined in IA2030 (>= 20/million)
Definition	Number of countries experiencing large or disruptive measles outbreaks as defined in IA2030 (>= 20/million)
Data source	IA2030 Scorecard
Baseline	2019
Notes	Not applicable

Indicator 10: Campaign timeliness	
Sub-indicators	Percentage of planned campaigns (follow-up + catch-up) that are conducted on time (prior to modelled start of high transmission season)
Definition	Percentage of planned campaigns (follow-up + catch-up) that are conducted on time (prior to modelled start of high transmission season)
Data source	M&RP MR Tracke
Baseline	2024
Notes	Not applicable

Indicator 11: Outbreak detection and response	
Sub-indicators	Proportion of measles outbreaks supported by the ORF with timely detection and response, as defined in IA2030
Definition	Proportion of measles outbreaks supported by the ORF with timely detection and response, as defined in IA2030: » Measles (non-endemic): 69 days from 1st case onset of symptoms to start of response vaccination campaign » Measles (endemic): 35 days from when incidence crosses the epidemic threshold to the start of a response vaccination campaign
Data source	IA2030 Scorecard
Baseline	2019
Notes	Not applicable

Indicator 12: MCV Vaccine Stockouts	
Sub-indicators	» Number of MCV stockouts at national level » Number of MCV stockouts at district level » Average duration of national level MCV stockouts (months)
Definition	Frequency of stockout events = Total count of reported stockout events within a 12-month period at the national or district level for each WHO region » For each country within a WHO region, if a country reports a stockout event within the defined year, it is counted as one stockout for that year (i.e., answer "yes" in the JRF to the question "Was there a stock-out at the national/district level of MCV vaccine?") » The total number of stockouts for a WHO region is obtained by summing the reported stockouts from reporting countries in that year and region Average duration of stockouts at national level = Average of reported duration of stock-outs in a given 12-month period » For each stockout duration event reported by a country within a WHO region, the duration of that stockout is reported (i.e., a country answers a number of months in the JRF to the question "What was the duration of stock-out in months of Measles Containing vaccine?") » The total duration of all reported stockouts in the region is summed. » The average duration of stockout for a WHO region is then calculated by dividing the total duration by the number of countries reporting a stockout duration in that year and region
Data source	WHO/UNICEF Joint Reporting Form on Immunization
Baseline	2019
Notes	The number of reported stockouts reflects only the count of stockouts events reported by countries in the given year in a given WHO region. The total number of countries reporting stockouts events may vary from year to year, and is not accounted for in the overall calculation. The total number of countries reporting stockout duration data can vary from year to year and is not accounted for in the calculation.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