IMMUNIZATION ACHIEVEMENTS IN SOUTH-EAST ASIA
THE PLATFORM FOR MEASLES ELIMINATION
The World Health Organization’s South-East Asia Region is extremely varied. It has 11 countries, from small island nations to the most densely populated. It encompasses a quarter of the world’s population. Nearly 37 million children are born every year in this Region. Making sure that safe and affordable vaccines reach those who need them most in difficult terrain, through inclement weather, during natural disasters, turmoil and often with limited resources is not an easy task. It is to the credit of Member States that despite challenges on the ground, remarkable feats have been achieved in the past decade, dramatically transforming the Region’s immunization landscape.

Some countries had a head start with long-standing high immunization coverage. Others needed more time but have worked hard in recent years to ensure that vaccines reach every child. In 2005, 27 million infants had received three doses of diphtheria-pertussis-tetanus vaccine which we use as a marker of a quality immunization system. In 2015, that number had gone up to 32.2 million. This has been possible because countries showed determination and political will, and due to the unflinching commitment of countless health-care workers working at the community level who walked long distances, climbed mountains and negotiated difficult circumstances to get a vital vaccine to a child or a woman in time.

Between 1990 and 2015, the child mortality rate in the Region decreased by 64%. Immunization coverage, the most widely scaled-up intervention, has contributed to this success story. In the past decade, child survival got a further boost with stronger immunization systems, innovations in immunization service delivery, and the introduction of new and underutilized vaccines across the Region.

Today, there are better trained staff overseeing national immunization programmes; more skilled health-care workers to administer vaccines; better cold chain facilities, injection safety and vaccine management logistics. Laboratory networks have expanded and there have been vast improvements in surveillance. In the past decade, each of the 11 countries in the Region has added two or more new life-saving vaccines to its national immunization programme. The WHO South-East Asia Regional Office has helped build the capacity of Member States at each stage of this remarkable journey and collaborated with partners, resulting in saving millions of lives.

Dramatic progress in immunization coverage formed the foundation for remarkable achievements; the South-East Asia Region was certified polio-free in March 2014 and validated in May 2016 as having eliminated maternal and neonatal tetanus. In April 2017, Bhutan and Maldives became the first countries in the Region to be verified for eliminating endemic measles. This gives a tremendous boost to our new regional immunization priority; to eliminate measles and control rubella by 2020.

These are all promising signs but we need to realize that challenges and immunization gaps remain within and between countries, and we need to work even harder to ensure the right of every child to immunization and health services.

This document offers snapshots of change, capturing the people and processes behind the transformation in the immunization landscape in the Region over the past decade, and their collective efforts in the final push against measles and rubella. It does not tell the whole story but it seeks to highlight the major turning points of an inspiring journey.

Dr Poonam Khetrapal Singh
Regional Director
The progress in child survival has been a remarkable achievement of the Region; from a staggering infant mortality rate of 118 per 1000 live births in 1990 to 43 per 1000 live births in 2015.

The South-East Asia Region of the World Health Organization (WHO) speaks with its numbers; what happens here impacts global health indicators. The Region encompasses 11 countries – Bangladesh, Bhutan, Democratic People’s Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste. It has more than 1.8 billion people – over a quarter of the world’s population – and a tapestry of memorable stories.

One of the most compelling stories from this extremely diverse Region revolves around the dramatic changes in its immunization landscape over the past decade. An estimated 37 million childbirths take place annually in this Region – the largest number among all the regions. All 11 countries launched their Expanded Programme on Immunization (EPI) in the late 1970s and early 1980s, targeting the traditional vaccine-preventable diseases of diphtheria, pertussis, tetanus, polio, measles and tuberculosis. But a decade ago, they were at different points in their evolution, with varied levels of education, socioeconomic development, health delivery systems and widely divergent health indicators. Countries with long-standing high literacy rates, good health-seeking behaviour and a good public health system have had a head start. But inequities persist not just between countries but also within the same country in many instances. In India, with nearly 27 million annual childbirths, unvaccinated children are mostly clustered in just a few states.

The Region has achieved remarkable feats with limited resources and targeted innovations, despite daunting challenges. The island nation of Sri Lanka, a pioneer among developing countries, introduced a vaccine safety surveillance system in 1996. Despite a long-running civil war from the mid-1980s until 2009, the country never faltered in its resolve to immunize children. Thailand has had universal health insurance for years. Bhutan passed a resolution in 1988 calling all children and pregnant women to have access to immunization services and be fully vaccinated. Maldives has sustained very high immunization coverage despite its people being spread out on small atolls and islands.
Democratic People’s Republic of Korea

“As a mother caring for my children, and as a health professional working for immunization for all children in the country, I will do my best to further improve immunization services all over the country, and focus on strengthening disease surveillance and improving the quality of EPI data.

Dr Kim Jong Ran, Chief of Immunization Department, Central Hygiene Anti-Epidemic Institute Democratic People’s Republic of Korea.

Timor-Leste

“This responsibility (to immunize) is not the Ministry of Health’s alone or the municipal administrator, or the community leaders or teachers. It is everyone’s responsibility. It is a collective social responsibility. Investments in immunization bring maximum returns, more than in primary education and infrastructure. As health-care workers, we cannot sit at health posts or community health centres and wait for people and mothers to come to us with their children. If they are not coming then we must go to them. We must reach the unreachable. If we can immunize every child then we can take pride in having fulfilled one of our most important responsibilities towards our children and the future of this country.”

Excerpted from the speech of Dr Rui Maria de Araújo, Prime Minister of Timor-Leste on the occasion of the World Immunization Week, 2017.

The Myanmar government elected in November 2015 included immunization as one of its top priority programmes, in particular, during the first 100 days and first six months of the new administration. Nepal has enacted a law to strengthen its national immunization programme and reduce dependency on external funding. Timor-Leste, the youngest country in the Region, has a comprehensive multiyear plan for immunization covering 2015–2020. The Democratic People’s Republic of Korea has also had free universal medical care for years. Other countries in the Region inspire because of the progress they have made, despite huge populations and a vast array of competing priorities. Almost 90% of all children in the Region are born in just three countries: Bangladesh, India and Indonesia. Bangladesh has emerged as one of the Region’s much-lauded vaccination stars. While India and Indonesia still have large numbers of unvaccinated children, both countries have in the past decade strengthened their immunization systems and mounted ambitious programmes to ensure that no child is left behind.

The progress in child survival has been a remarkable achievement of the Region; from a staggering infant mortality rate of 118 per 1000 live births in 1990 to 43 per 1000 live births in 2015. Immunization, the most widely scaled-up intervention, has contributed to this remarkable feat. In the past decade, child survival got a boost with new and underutilized vaccines. Each of the 11 countries of the Region has added two or more new life-saving vaccines to its national immunization programme. Strengthening of routine immunization and introduction of new vaccines have benefited critical segments of the health system in multiple ways. Today, there are better-trained EPI managers and health-care workers, better cold-chain structures, injection safety and vaccine management systems, expanded laboratory networks and improved surveillance.
SCALING UP

Growing political commitment by Member States, global partnerships and hard work by tens of thousands of frontline workers across the South-East Asia Region have led to millions more children being alive today. Countries, including those with limited resources, have come up with ingenious methods to get life-saving vaccines in time to those who need them. In Bangladesh, vaccines are transported on foot, in cycle-rickshaws, and sometimes by boats to far-flung river islands (known as char), which are not connected by roads or even pedestrian bridges. In Myanmar, vaccination teams go wherever the communities are – on land, on water, house to house, boat to boat. In India, vaccinators have waded through flooded areas in river basins to reach communities that otherwise would have remained out of reach. In Nepal, vaccinators have trekked in hilly communities that otherwise would have remained out of reach. In Bhutan, vaccines are transported on foot, in cycle-rickshaws, and sometimes by boats to far-flung river islands (known as char), which are not connected by roads or even pedestrian bridges. Vaccines are also transported by helicopter to remote areas in this Region.

Vital vaccines reach millions more children and women across the South-East Asia Region due to growing political commitment in Member States, advocacy and global partnerships.

There is a story to tell, though challenges persist and immunization gaps remain within and between countries. A few numbers offer snapshots of the sheer scale of operations. In 2005, there were 27 million infants who had received three doses of diphtheria-pertussis-tetanus vaccine (DTP3); a marker of a quality immunization system children. In 2015, that number had gone up to 32.2 million, despite a host of problems on the ground, such as limited resources, difficult terrain, natural disasters, conflict and displacement. Between 2006 and 2016, 7.5 billion doses of oral polio vaccine (OPV) were administered to millions of children across the Region multiple times in successive supplementary immunization activities. The corresponding figures for measles vaccine during the same period are 380.4 million, and 39.8 million for tetanus toxoid given to women of reproductive age.

In 2005, there were 27 million infants who had received DTP3; this number had gone up to 32.2 million in 2015.

Dramatic progress in immunization coverage led the Region to be officially certified polio-free on 27 March 2014 – a historic public health victory that few had imagined would be feasible at one time. With this certification, 80% of the world’s population now lives in polio-free certified regions. This was the outcome of tailor-made and evidence-based strategies, which are now being used to ramp up routine immunization and other health interventions across the Region.

Since May 2016, the Region has officially controlled ("eliminated") maternal and neonatal tetanus, once perceived as a major threat to the health of mothers and newborns across South-East Asia. Only a few decades ago, just one country, India, reported 150 000–200 000 neonatal tetanus cases annually. Nearly 80% of these infants would die in the absence of quality health-care services.

With stronger immunization systems, the Region is now battling its next big challenge – elimination of measles and control of rubella by 2020. The fight against measles, a major child killer, is gathering momentum. In 2015 alone, approximately 640 000 child deaths were averted due to measles vaccination in routine immunization and supplementary campaigns. And in April 2017, two countries – Bhutan and Maldives – were validated for already having eliminated endemic measles.

Behind these numbers is a fascinating story of grit and vigour, of political will, the power of partnerships, and the commitment of thousands of health officials, frontline workers, volunteers and community members. They have been working tirelessly against daunting odds to strengthen the immunization system and ensure that vital vaccines of good quality reach women and children, saving millions of lives in the process.

Thailand

“Thailand has achieved targets of elimination and control of vaccine preventable diseases. With the national EPI launched in 1977, starting with four vaccines (BCG and DTP), to date we have increased to a total of 10 vaccines in the national EPI under the Universal Health Coverage Scheme. We can maintain high vaccination coverage at all levels. All children can be protected from disability and death, and grow up with good quality of life. In mid-2017 HPV will be the 11th vaccine introduced in our national programme - this will lower the risk for cervical cancer of our female population in the future.”

Mr Tshewang Dorji Tamang

Bhutan

“Bhutan has achieved Universal Child Immunization in 1991. The nationwide measles–rubella vaccination campaign was conducted in 2006 with 98% coverage. MR vaccine has been introduced as part of the routine immunization schedule since 2006. Immunization coverage in the country has been maintained above 95%. This indicates that the immunization programme has been accorded a high priority public health intervention in the country. Bhutan is on track towards the global goals of vaccine-preventable diseases prevention, control, elimination and eradication.”

Mr Tshewang Dorji Tamang

Vaccine Preventable Disease Programme, Department of Public Health, Ministry of Health, Bhutan.

Thailand

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Dr Pornsak Touchaboon, Director of Vaccine Preventable Diseases Division, Department of Diseases Control, Ministry of Public Health, Thailand.
Strong Immunization Systems

Growing immunization typically generates headlines, either when a new vaccine is launched or a campaign gets under way to expand coverage. Many countries in the South-East Asia Region make immunization campaigns colourful, festive affairs to promote public awareness. In Bangladesh, for example, immunization centres are easily recognizable because of the yellow Moni banner – the symbol of the National Immunization Day since the first vaccination in the country back in 1995. Everyone in this densely populated country recognizes the flag with its image of a small child, surrounded by black arrows.

WHO as a catalyst; generating and sustaining political commitment for immunization and guiding countries to build strong local capacities to deliver vaccines, strengthen surveillance, logistics management and monitoring systems

What is not so widely known is the background story about the building blocks that go into the making of such powerful images of a strong immunization system – a child being administered the best-quality vaccines in a safe manner by a trained health worker. It starts with political will. It is sustained by investments in people, from the highest to the lowest, who take forward the immunization agenda. In the South-East Asia Region, building the capacity of human resources has been key to strengthening immunization systems. This has happened alongside infusion of new technology, development of new institutions, innovations and the launch of new vaccines in recent years.

WHO has supported countries at every stage of this journey, both with the software and hardware of capacity development. The first critical element is advocacy for stronger political commitment towards immunization. One important platform where immunization agendas have been shaped is the Regional Committee meeting, an important annual gathering of ministers of health from the Region, WHO officials and other key partners to discuss strategies and actions to tackle regional public health challenges. WHO’s catalytic role in helping to shape the immunization landscape in the Region extends to many other areas – it has assisted countries in developing comprehensive multiyear plans for immunization and in interagency coordination. It has also helped national technical advisory groups on immunization to take informed decisions about new vaccine introduction, and to monitor immunization goals and standards. WHO has assisted countries in conducting evaluation surveys on immunization coverage, EPI surveillance reviews and post-introduction evaluation of new vaccines to identify challenges and solutions.

Over the past decade, political commitment at the highest level to immunization has led to allocation of more resources to immunization programmes in domestic budgets across the Region. National budgets now finance a significant percentage of all spending on routine immunization – from 29% in Bangladesh to 42% in India, and 100% in Thailand and Maldives. In November 2015, the Bhutan Health Trust Fund (BHTF) formally took over the responsibility of funding supplies of drugs and vaccines for the whole country. Most of the financing for the fund comes from the government but it is also supported by donors and, more recently, receives contributions deducted from employee salaries. More than 80% of the immunization budget in Indonesia is domestically financed. In 2016, the country transitioned from support provided by Gavi, the Vaccine Alliance (Gavi). The Region has also witnessed path-breaking legislation. On 26 January 2016, Nepal signed into law the “Immunization Bill 2072”, a landmark legislation that seeks to make the country’s national immunization programme more financially sustainable as new, costlier vaccines are introduced. Nepal’s new law provides for a dedicated fund to allocate money for the immunization programme.

Maldives

“The Republic of Maldives has successfully controlled and is close to eliminating all the EPI vaccine-preventable diseases. We have had sustained vaccine coverage of above 95% of all the EPI vaccines for nearly two decades. Our success is due to a high degree of public awareness, community participation and a committed health workforce backed by sustained government commitment and funding for the National Immunization Programme. Technical and logistics support by WHO and UNICEF has been pivotal for these successes and is very much appreciated.”

Dr. ABDUL AZEEZ YOOSUF, Chairperson National Certification Committee for Polio Eradication and National Verification Committee for Measles, Rubella and CRS Elimination
WHO has helped countries build capacity in every link of the immunization chain – from development of training materials, guidelines, programme planning, management to monitoring and supervision. In the process, it has significantly contributed to upgrading the skills of the entire health workforce. WHO’s training sessions have equipped health workers to achieve injection safety and better vaccine management, especially following the introduction of auto-disable (AD) syringes in their national immunization programmes in the past decade. Global training modules developed by WHO and the United Nations Children’s Fund (UNICEF) for mid-level managers tasked with supervising immunization activities have been adapted to regional needs, particularly at the district and subdistrict levels. All countries in the Region with large numbers of unimmunized children, countries with challenged health-care systems as well as those with robust health delivery systems but still reliant on external support, have adapted these modules according to the country’s specific needs.

A key part of WHO’s contribution to capacity-building in the Region has been in surveillance, including a network of laboratories that can promptly detect disease outbreaks, assess the impact of immunization and monitor progress. Robust surveillance to detect and investigate every case of polio-like acute flaccid paralysis (AFP) to confirm or exclude polio was essential for polio eradication. Indeed, better surveillance has been central to the immunization success story in the Region. The polio and measles laboratory network in the Region has 55 laboratories, all of which are accredited by WHO. The measles laboratory network, built on the foundation of polio laboratories, has expanded from eight in 2003 to 39 WHO-accredited laboratories in 2016. Today, as the South-East Asia Region mobilizes to eliminate measles and control rubella by 2020, surveillance is one of the key strategies. Any child with fever and a rash could be a suspected measles case and surveillance will determine whether this is indeed the case.

Between 2006 and 2016, over half a million children below the age of 15 years were investigated for polio, including laboratory testing of one million stool samples.

Nepal

“Surveillance Medical Officers have to think on their feet during unanticipated emergencies such as prolonged electricity outages, and support local authorities in working out quick, local solutions. In 2008, during one such outage during a polio national immunization day, parts of eastern Nepal ran out of ice packs for the cold chain. I was there and helped organize the necessary ice packs from peripheral health clinics that had ice, adjacent districts and local ice factories.”

Dr Binod Prasad Gupta, a WHO Surveillance Medical Officer in Nepal
One significant outcome of this whole process of improving capacity is the network of WHO’s surveillance medical officers (SMOs). WHO’s specially trained SMOs played a critical role in helping to defeat the poliovirus in the past decade. Today, these SMOs continue to work in several countries of the Region, providing supportive supervision to national health staff engaged in ramping up routine immunization. SMOs in Bangladesh have also significantly helped the government machinery during natural disasters such as floods and cyclones, and investigation of other disease outbreaks. India has over 330 WHO field officers, including SMOs who have contributed to building the capacity of more than a million frontline health workers in operations and interpersonal communication skills in nine states in India with low immunization coverage. In Nepal, the polio SMO network was WHO’s first line of response when a devastating earthquake struck the country in 2015.

Timor-Leste, the Region’s youngest Member State, reported in 2011 that it could reach only 67% of its 42 000 infants with routine immunization. That figure has improved in large measure due to a series of activities, including better micro-planning at the district and subdistrict levels. Community leaders – typically village chiefs – have been roped in to help identify and track children to complete their vaccination schedule. Integrated community maternal and child health services have been strengthened, and the skills of district health workers have been enhanced through mid-level management training. Partner agencies, including WHO, have supported these activities, which substantially added to Timor-Leste’s capacity. In 2015, the overall reported DTP3 coverage of the country had gone up to 95%.

Across the Region, countries have strengthened their cold chain systems, improved vaccine management and injection safety – all of which contribute towards making immunization systems stronger. Today, there are more than 35 000 cold chain points.

Myanmar

“Myanmar has always viewed immunization as an important activity because vaccine-preventable diseases kill so many people. This country had the last case of smallpox in 1967. It became free of neonatal tetanus in 2010. One of the interesting aspects about Myanmar is that midwives, who can be found even in the most remote parts of the country, carry out immunization-related tasks, despite their regular workload in maternal and child care. With peace being restored to areas ravaged by conflict, immunization services are being provided by health organizations of ethnic groups in remote and border areas, reducing the number of children not reached by vaccines.”

Dr Ye Hla, retired Director, Department of Research, Ministry of Health, Myanmar
QUALITY ASSURANCE

Vaccine safety is one of the most critical components of a successful immunization programme. WHO has helped countries with every stage of vaccine management and logistics, starting with the cold chain. The recommended temperature range to keep a vaccine is +2–8 °C. If the vaccine is kept below or above this temperature range, it will be irreversibly damaged, producing lower immunity levels and leaving children exposed to diseases. Over the past decade, national immunization programmes have expanded their cold chain infrastructure and increased their management capacities with technical support from WHO. There has also been a remarkable improvement in safe injection practices in the Region’s national immunization programmes with the introduction of AD syringes, which can only be used once. Their use was further boosted when Gavi endorsed the WHO/UNICEF/United Nations Population Fund (UNFPA) policy of bundling AD syringes with all vaccines purchased through its sources.

Photo by: Ministry of Public Health, Democratic People’s Republic of Korea

Countries in the South-East Asia Region expand cold chain systems, improve safe injection practices, strengthen regulatory networks, and step up production of high-quality vaccines

The other critical area is injection waste disposal. WHO has helped countries in the Region to have better vaccine disposal practices, such as the use of “safety boxes”, which are puncture-proof, impermeable containers made up of special cardboard for the safe collection and disposal of used syringes and needles at immunization sessions.

With the expansion of immunization services and introduction of new vaccines, there has been greater awareness regarding adverse events following immunization (AEFI) and a greater recognition of strong surveillance systems. Although serious AEFI are rare events in the range of about one per million doses, public tolerance is much lower for these than for medicines, because vaccines are given mostly to healthy infants. Since 2008, the WHO Regional Office for South-East Asia has conducted training workshops on AEFI monitoring in several countries of the Region, resulting in cases being increasingly detected and reported to national AEFI committees.

As immunization systems have matured in countries across the Region, WHO has helped strengthen and institutionalize the role of national regulatory authorities (NRAs) and national committees for immunization practices to oversee and assess the events, thus building confidence in the system. Ten years ago, there were hardly any functional NRAs in the Region. Today, there are three (India, Indonesia and Thailand). All follow WHO guidelines in key tasks. The guidelines are important not just for vaccine-producing countries but also for vaccine importers, which need to have functional NRAs to make sure that imported vaccines are safe and of good quality. Countries that rigorously implement these guidelines benefit in many ways — quality assurance assessments, product knowledge, and knowledge of what to do in case of adverse effects following the use of vaccines. WHO is also helping some countries such as Bangladesh to improve vaccine regulation capacity to monitor local vaccine production.

The South-East Asia Region has a special place because of its status as both a producer and consumer of high-quality vaccines at affordable prices. UNICEF, which supplies 40% of the EPI vaccines used globally, relies on manufactures in this Region to meet the demand. In the past decade, the production capacity of vaccine manufacturers has gone up sharply. Three of the eleven countries in the Region – India, Indonesia, Thailand – are vaccine-producing nations, and two provide a significant supply to the global market, in particular, to the UNICEF supply division. Indonesia has one large public sector manufacturer with several WHO-prequalified products, whereas India has several private sector manufacturers with multiple WHO-prequalified vaccines. One Indian company alone supplies more than 70% of UNICEF’s procurement of measles vaccine. WHO’s prequalification programme has played a very important role in ensuring that the vaccines meet quality, programmatic suitability and compliance standards. The programme hinges on vaccine-manufacturing countries having functional NRAs, which are also certified by WHO.

“WHO has a programme that tracks a vaccine from the time it is produced, monitors how it is transported and stored till the stage when it is administered. We track the entire life of a vaccine to make sure that a child gets an absolutely safe vaccine that is of the best quality. At every stage, we have established standards that are uniformly followed everywhere and then we do capacity-building. We train doctors and health workers to follow these standards.”

Dr Pem Namgyal, Director, Department of Family Health, Gender and Life Course, WHO South-East Asia Regional Office
Vaccine safety save lives, over 2 million every year, around the world. But in many instances, children do not get vaccinated if families, communities and caregivers do not recognize the value of vaccines, or know when children need to be immunized. In the South-East Asia Region, WHO has helped countries craft different approaches to generate public demand for immunization and build trust in vaccine safety.

Vaccines save lives, over 2 million every year, around the world

Nepal has used a variety of innovative approaches to create demand for immunization services among its population. For years, female community health volunteers have taken the message of the benefits of immunization to villages across the country. The awareness campaigns triggered a race among districts into joining the list of those counted as “fully immunized”, that is, with over 90% immunization coverage. To further boost immunization, the Government of Nepal initiated an innovative method – the appreciative inquiry and transformational technologies (AI&TT) approach in coordination with WHO to mobilize local communities and ensure vaccination of every child in 2012. The underlying principle of AI, as it is popularly known, is to focus on strengths and achievements rather than on unmet goals, which can generate negativity. This strengths-based management tool aims to create an inner transformation within individuals who begin to see themselves as catalysts for change. Appreciative inquiry has helped Nepal to increase the number of “fully immunized villages”. Currently, 23 out of 75 districts in Nepal have been declared as “fully immunized” by the Government of Nepal.

Indonesia, home to the world’s largest Muslim population, has established an EPI communication forum whose members include religious bodies and professional organizations such as the Indonesian Paediatric Society. The forum has emerged as a highly effective advocacy platform to create community demand for immunization and counter unfounded fears about vaccines. In 2016, The Council of Islamic Scholars (Majelis Ulama) in Indonesia issued an edict reiterating its position that immunization is allowed in Islam to improve immunity and prevent sickness, so long as ingredients for the vaccine are derived from halal sources. The message was disseminated to mosques in the 17,000-odd islands in the country. WHO, a member of the EPI forum, helps to design technically sound messages to counter fear and vaccine hesitancy. Indonesia also has a strong school-based immunization programme (BIAS).
Indonesia

“The midwife and other health workers visit us and carry out a monthly health clinic for women and children known as the posyandu. The health workers give immunizations – including the tetanus toxoid vaccine – to babies and pregnant women, and also tell us about the importance of clean delivery and umbilical cord care. They write down details in our MCH book, which helps keep track of everything. Sometimes they visit us and check the condition of our pregnancy. I would urge every woman in Indonesia to use these services when pregnant and giving birth. I have benefited immensely from them.”

Ms Lidia Gaa, a mother and regular attendee at lwur Public Health Centre in Pegunungan Bintang, Papua province, Indonesia

Families and communities should be empowered through innovative strategies to generate public demand for immunization and build trust in vaccine safety

Annually, all children in grades 1 and 2 are given booster doses of diphtheria, tetanus and measles vaccines. This platform was found to be very effective during the introduction of vaccines, such as against HPV for adolescent girls in Jakarta province. The province has also initiated a text message-based real-time reporting system in urban slum areas, targeting the poorest communities to enhance immunization coverage.

Myanmar uses public celebrations to raise community demand for vaccines. One of the biggest special ceremonies was organized by the Ministry of Health in 2015 as part of the nationwide measles and rubella mass immunization campaign. The “felicitation ceremony” at Nay Pyi Taw, the country’s capital, was attended by Myanmar’s Vice President, senior ministers, including the Minister of Health and Sports, members of the National Health Committee, representatives of WHO, UNICEF, United Nations (UN) agencies, and international and local nongovernmental organizations (NGOs). The Vice President used the occasion to publicly recognize the country’s success in achieving a campaign immunization coverage of 95%, and thank organizations that had helped to make it a success.

Families and communities should be empowered through innovative strategies to generate public demand for immunization and build trust in vaccine safety

Sri Lanka

“One of my clients was bringing her child to the immunization clinic. The vehicle broke down on the way. When she reached the clinic, the immunization session was over and we were packing up. She pleaded with me to somehow give the vaccination and told us that she was always on time and didn’t want to delay it this time. Since all of us were present, and the vaccines were there, we gave her child the shot. The mother was so happy. She thanked us profusely.”

Ms M.T.R Kumari, Supervising Public Health Midwife, Maharagama Medical Officer of Health Area, Sri Lanka
Much of the success of the immunization story in the South-East Asia Region is due to the power of partnerships. These partnerships have brought an amazing range of stakeholders together. Tens of thousands of people across the Region – medical doctors, health workers, laboratory technicians, officials working in regulatory agencies, policy-makers in health ministries, local politicians, community activists, international agencies – have worked tirelessly, often in difficult terrain and circumstances, with a common purpose, to get vaccines where they are needed and save lives.

Global partnerships have been key to the transformation in the Region’s immunization landscape in the past decade. These partnerships link Member States, WHO, UNICEF, Gavi, NGOs and many other agencies. Gavi, an international organization created in 2000, brings together the public and private sectors with the shared goal of creating equal access to new and underutilized vaccines for children living in the world’s poorest countries. Gavi draws on the skills of a range of partners, pooling together the technical expertise of the development community with the business know-how of the private sector. Gavi’s key partners include the Bill and Melinda Gates Foundation, WHO, UNICEF and the World Bank.

Gavi has disbursed US$ 1.5 billion from 2000 until 2017 to the nine Gavi-eligible countries in the South-East Asia Region (Bangladesh, Bhutan, Democratic People’s Republic of Korea, India, Indonesia, Myanmar, Nepal, Sri Lanka and Timor-Leste), to support the introduction of new and underutilized vaccines and to strengthen countries’ health systems. Gavi has supported these countries to introduce 37 new vaccines and/or conduct immunization campaigns between 2000 and 2016.

WHO’s close partnership with other members of the UN family such as UNICEF has been instrumental in many of the positive outcomes on the ground. One telling illustration comes from the Region’s final push in the battle against maternal and neonatal tetanus. India was among the last countries in South-East Asia to eliminate this deadly disease. The Government of India, UNICEF and WHO worked in close coordination for the necessary state-by-state validation exercise to cover the whole country from 2000 to 2015. This led to India being declared free of maternal and neonatal tetanus on 3 June 2015.

Another example of the power of the WHO–UNICEF partnership goes back to 2009–2011, when some countries in the Region witnessed several unfortunate child deaths due to AEFI. This particularly impacted the national EPI programmes in Sri Lanka and Bhutan. In both countries, WHO took the lead in conducting AEFI causality assessments to verify the causes of death either due to programme or vaccine error, and UNICEF provided substantial support in communication by putting out messages in the mass media to rebuild public trust in immunization and build the capacity of local paediatricians.

WHO Regional Office for South-East Asia and the two UNICEF regions that overlap with the WHO region: the UNICEF Regional Office for South Asia and the East Asia and Pacific Regional Office. What evolved into a very productive and effective partnership was built on a joint strategic vision and very frequent exchange of information. From the onset, there was commitment to take immediate action where and when required, regardless of organizational boundaries. The switch was successfully conducted across the South-East Asia Region in April/May 2016 and the Region was the first in the world to validate its completion. The WHO Regional Office and UNICEF ROSA and EAPRO are now looking to replicate the successful partnership in other areas.

“Strong routine immunisation services are key to better control measles and other vaccine preventable diseases. South East Asia has been at the forefront of vaccine delivery and we commend countries and partners in the region on their commitment to protect all children with life-saving vaccines”.

Dr Seth Berkley, CEO of Gavi, the Vaccine Alliance
A decade ago, it seemed impossible. But the South-East Asia Region did it. All the 11 countries strove together to make the Region polio-free—a momentous milestone in the global battle to eradicate the wild poliovirus. This achievement was validated by an independent commission in March 2014.

The Region was certified as polio-free on 27 March 2014 and the status has been sustained since then. Maternal and neonatal tetanus—the silent killer—was eliminated in South-East Asia in May 2016.

Countries with traditionally strong routine immunization coverage were the early winners in the battle against polio. Seven countries were already polio-free before 2000. Other countries tapped into WHO-supported networks to step up surveillance and immunization coverage in the last-mile battle against poliovirus. The strategy behind this victory rested on four main pillars: a massive strengthening of routine immunization, large-scale mass polio vaccination campaigns, surveillance to detect the disease and targeted “mop-up” immunization campaigns carried out in specific areas where the virus is known or suspected to still be circulating. By 2000, all countries in the Region had established case-based AFP surveillance. Five countries (Bangladesh, India, Indonesia, Myanmar and Nepal) benefited from WHO’s SMOs who provided critical technical support for polio eradication, continuously building the capacity of national health staff.

India, which accounted for more than half of the world’s polio cases until 2009, overcame huge challenges...
to stop poliovirus transmission, through innovative approaches such as the deployment of the “107 Block Plan” in two states—Uttar Pradesh and Bihar—where the battle against polio was at its most acute. This strategy targeted the underlying factors such as gaps in routine immunization, sanitation, diarrhoea management and exclusive breastfeeding. In a country where millions are always on the move in search of greener pastures, special plans targeted migrant populations working in brick kilns and construction sites, and living in slums and shanties and nomadic settlements. India followed this up by introducing the bivalent oral polio vaccine (bOPV), which sought to halt both wild poliovirus serotypes 1 and 3 in 2010. Besides vaccine innovations, intense social mobilization campaigns played a key role in the last-mile strategy in defeating polio.

The second game-changer in the WHO South-East Asia Region in the past decade has been elimination of maternal and neonatal tetanus, with all districts across the 11 countries having reduced the number of cases to less than one per 1000 live births. The goal had always been a part of the discussions to prevent death and agony for newborns and mothers but it took a long time and sustained efforts to finally neutralize the risk of tetanus infection. At the turn of the millennium, women and children in many regions, including South-East Asia, continued to be at risk. In 1999, WHO, UNICEF and UNFPA re-launched the elimination campaign with a greater emphasis on maternal tetanus. At the heart of the reinvigorated efforts were three simple strategies: immunization, clean deliveries and cord care practices, and disease surveillance. Countries were willing to go the extra mile to make sure that pregnant women received the tetanus toxoid shot.

In Bangladesh, health assistants used one-to-one counselling during home visits to ensure that every pregnant woman received the tetanus toxoid shot. This was supplemented by informal group sessions where women of childbearing age as well as pregnant women were invited along with their mothers-in-law. In Myanmar, health workers paid special attention to communities that had scant access to modern health facilities. Mothers and traditional birth attendants were counselled against applying potentially infectious material on umbilical cords as was customary.

India battled maternal and neonatal tetanus through strengthening routine immunization, including tetanus toxoid coverage, promoting institutional births, clean delivery and training birth attendants. Indonesia followed a similar course and also vaccinated “brides-to-be” and students in schools. The persistence and the hard work paid off. In May 2016, the last of the country-by-country and sometimes area-by-area validation confirmed that the WHO South-East Asia Region had successfully eliminated maternal and neonatal tetanus.

**Bangladesh**

“I’ve been working as a field-level immunization worker for over 15 years. During this time, it has been an immense joy to be part of maternal–neonatal tetanus elimination efforts and to make childbirth safer in my upazila and across Bangladesh. To eliminate the problem, we employed a number of strategies, but always had to be innovative and flexible. For example, in order to mobilize women to receive the ‘TT’ vaccine, we employed traditional counselling techniques, while at the same time, we involved community leaders in the dissemination of positive messages. Similarly, if a case of maternal or neonatal tetanus occurred, a team would be sent to the area to offer house-to-house vaccinations. We’re immensely proud to have overcome the problem and will pull out all stops to make sure it never returns.”

*Mr Motiar Rahman*

*Health Assistant, Phulbari Upazilla, Bangladesh*
The South-East Asia Region has learnt to manage diverse emergencies – from internal conflicts to natural disasters. Each one has left a trail of havoc – dislocation of the population, overcrowded camps, scarcity of safe water, poor sanitation, inadequate shelter and lack of access to proper health care. Typically, families and communities are at grave risk of vaccine-preventable diseases and children are particularly vulnerable. Emergencies offer key messages for national immunization systems.

Good immunization coverage protects health during a crisis. Immunization offers an invaluable opportunity to build back better during the recovery stage of an emergency. First, it is a preparedness measure. In other words, good immunization coverage protects health during a crisis. Countries with well-functioning immunization systems are simply better equipped to deal with calamities and other emergencies. Sri Lanka is a telling example. It was one of the six countries in South-East Asia impacted by the devastating December 2004 tsunami that claimed 227,000 lives across the Region. Affected countries were at risk for outbreaks of infectious diseases such as measles. Sri Lanka’s capacities were overwhelmed by the destruction caused by the tsunami waves. But the island nation had a robust public health system protected by all parties – everyone recognizes its value as a critical health service is widely recognized, not just in times of calamity but even during conflict, and is protected by all parties – everyone recognizes its role as a preparedness measure, and key intervention during the response and recovery phases to improve existing systems.

WHO also played a role in providing vaccines, cold chain facilities, material for administration and disposal, and operational costs for campaigns, along with training of vaccinators to replace staff lost due to the disasters.

Immunization is not just an intervention during the “response” phase of an emergency. The immunization infrastructure, including human resources, supports immediate needs during this period. In the aftermath of the April 2015 earthquake, which impacted 35 out of the 75 districts in Nepal, WHO’s SMOs were among the first to be deployed for rapid assessment of the health situation. Subsequently, they supported the Ministry of Health in planning, implementing and monitoring vaccination campaigns for measles and rubella in the affected areas. WHO also played a role in providing vaccines, cold chain facilities, material for administration and disposal, and operational costs for campaigns, along with training of vaccinators to replace staff lost due to the disasters.

Second, immunization is an important intervention during the response and recovery stage of an emergency, and offers an invaluable opportunity to build back better. All countries in the Region acutely affected by disasters such as the December 2004 tsunami or the May 2008 Cyclone Nargis that lashed Myanmar prioritized immunization with specific antigens as part of the response to prevent outbreaks. WHO, UNICEF, other agencies, NGOs and community-based organizations worked closely with governments in affected countries to begin non-routine immunization campaigns targeting children and vulnerable adults for epidemic-prone, vaccine-preventable diseases such as measles, typhoid, Japanese encephalitis (JE) and meningitis. In areas not covered by routine immunization, children were immunized for measles. Immunization was done for other diseases too, if they were detected by the surveillance system, or assessed as a risk.

Third, countries should have immunization systems that are resilient and able to cope with crises both of the short-term kind, such as natural disasters or prolonged ones, as in the case of a long drawn-out internal conflict. On 15 November 2007, Bangladesh was struck by Cyclone Sidr. The country had planned two rounds of polio national immunization days (NIDs) in the last quarter of that year. Despite the natural calamity, one of the worst in recent memory to hit this densely populated country, Bangladesh’s immunization system was robust enough to continue the scheduled polio vaccination activities, alongside battling the ravages of the cyclone. On 8 December 2007, the NID was conducted as scheduled. In the nine worst-affected districts, a house-to-house campaign was carried out over an extended period of five days. Sri Lanka's vaccination drives were not seriously affected through the 26 long years (1983–2009) of civil war in the north and north-east. Immunization’s value as a critical health service is widely recognized, not just in times of calamity but even during conflict, and is protected by all parties – everyone recognizes its role as a preparedness measure, and key intervention during the response and recovery phases to improve existing systems.

“Cold chains that are absolutely vital to vaccine transportation and storage were maintained through battery-operated refrigerators when there was no electricity. The WHO supported training programmes (under the biennial work plan) for health staff in Sri Lanka continued uninterrupted through the years of turmoil, and internally displaced populations huddling in various camps were unfailingly immunized. Battery-operated refrigerators were only used during conflict time and the situation has been perfectly normal again for a long time.”

_A WHO official (Dr Navaratnasingam Janakan) posted in Vavuniya in the Northern Province of Sri Lanka during the conflict_
All countries in the South-East Asia Region have introduced two or more vaccines in their national immunization programmes in the past decade

NEW VACCINES

ew vaccines have raised the hopes of millions in the South-East Asia Region. Consider just one telling statistic. According to the WHO World Health Statistics 2011, pneumonia and diarrhoea remain major killers of young children in this Region and together account for around 30% of all deaths among children below 5 years of age. This results in the loss of an estimated 1.3 million young lives each year in South-East Asia. This does not hit the headlines but it equates to a jumbo jet full of children crashing every eight hours.

Use of vaccines against Streptococcus pneumoniae (Spn) and Hib, the two most common bacterial causes of childhood pneumonia, and against rotavirus, the most common cause of childhood diarrhoea deaths, can substantially reduce the disease burden and deaths caused by these infectious agents. Use of vaccines against measles and pertussis in national immunization programmes also sharply reduces pneumonia and child deaths. Hearteningly, in the past decade or so, support from WHO, UNICEF and Gavi have helped national governments in the South-East Asia Region to rapidly introduce new vaccines in national immunization schedules.

All countries in the Region have introduced two or more vaccines in their national immunization programmes in the past decade. As examples – all countries have introduced HepB-containing vaccines in the national immunization schedule, and eight countries (Bhutan, Democratic People’s Republic of Korea, India, Indonesia, Maldives, Thailand and Timor-Leste) provide the HepB birth dose. All countries in the Region, except Thailand, have included Hib vaccine as a pentavalent formulation. Four countries (India, Nepal, Sri Lanka and Thailand) have introduced the live SA-14-14-2 JE vaccine, and two countries (Bhutan and Thailand) give HPV vaccine. Bangladesh and Nepal have conducted HPV demonstration projects with Gavi support and plan for national introduction. Bangladesh, Nepal and Myanmar have introduced pneumococcal conjugate vaccine (PCV). India is planning for the state-wise use of PCV. India and Thailand have included rotavirus vaccine in their national schedules.

As part of the polio eradication end-game strategy, all countries in the South-East Asia Region have introduced injectable inactivated polio vaccine (IPV) and switched from trivalent oral polio vaccine (OPV) to bivalent oral polio vaccine (bOPV) in their national immunization schedules. The polio vaccine switch, complemented with IPV introduction, is expected to boost the Region’s efforts at protecting children against polio until the crippling disease is eradicated globally.

Most countries in South-East Asia are using Gavi support as an opportunity to strengthen immunization systems services through the introduction of new vaccines. Depending on their eligibility, countries have been using this funding opportunity to support the introduction of new vaccines, and strengthen immunization systems and health systems, including injection safety.

Indonesia

“The Indonesian government has a strong commitment towards the immunization programme. We have secured additional resources for the introduction of MR, HPV and JE vaccines. By the end of 2016, Indonesia had graduated from Gavi support, and will now be funding more than 90% of the cost of routine vaccines from domestic budgets. This means a lot to me. I am happy. We will see a lot more lives being saved.”

Dr. Jane Soepardi, MPH
Director of Surveillance and Health Quarantine, Directorate General of Disease Prevention and Control, Ministry of Health, Indonesia
Whenever measles strikes, it is an indicator of more than just an outbreak of a single disease. It shows that children are not only not being vaccinated against measles but that immunization coverage in general for all vaccine-preventable diseases is lower than what it should be.

Countries in South-East Asia are leveraging their immunization systems and working towards the target of measles elimination and rubella control by 2020.

Measles is contagious and a deadly child killer. It spreads by contact with an infected person through coughing and sneezing. When one person has measles, most people they come into close contact with will become infected, if they are not already immune or not vaccinated. The symptoms include high fever, severe skin rash and cough. Measles weakens the immune system leading to other health problems such as pneumonia, blindness, diarrhoea and others. Poor children who are malnourished are likely to suffer from severe complications of measles.

Rubella is generally a mild disease but can have serious consequences for pregnant women and their children. If infected with rubella in the first trimester, women have a very high risk of giving birth to a child with congenital rubella syndrome (CRS), which often results in multiple birth defects such as heart problems, deafness and blindness. Countries that lead in measles deaths typically have large numbers of children who are unvaccinated or not fully immunized against vaccine-preventable diseases.

The eradication of polio and the elimination of maternal and neonatal tetanus have generated enormous goodwill for immunization in the South-East Asia Region. Much stronger immunization systems as compared to a decade ago, along with greater political commitment towards immunization, have thrown up an invaluable opportunity for the next stage. Elimination of measles and control of rubella/CRS is now on the top of the health agenda in the Region and the goal of elimination by 2020 was officially adopted in September 2013 at the Sixty-sixth session of the WHO Regional Committee for South-East Asia. Representatives of the ministries of health of all 11 countries were present on the occasion and signed the resolution, underscoring their high level of political commitment.
Since 2006, more than 345 million children got the first dose and 132 million children a second dose of measles vaccine, averting over 5.9 million measles-related deaths in the Region.

Support to the larger countries to intensify measles elimination and rubella control activities.

Today, national governments of big and small countries in South-East Asia recognize that measles outbreaks are major obstacles to development and that measles, rubella and CRS are entirely preventable with an effective combined vaccine that costs about US$ 1 to deliver and gives a return equivalent to at least US$ 17. Several countries in the Region have ambitious national strategies that include mass vaccination campaigns to fight measles and control rubella to close immunity gaps. For example, between 2010 and 2013, India, with the largest number of measles-related deaths in the Region, targeted over 135 million children (aged 9 months to 10 years) and vaccinated them with measles vaccine.

Key achievements
In the battle against measles and rubella, the South-East Asia Region has made considerable progress in the past decade in four key areas – immunization, surveillance, expansion of WHO-accredited laboratories and firming up the outbreak response. Some telling numbers are given below.

Immunization
All 11 countries of the Region have introduced two doses of measles-containing vaccine in their routine immunization programme. Since 2006, more than 345 million children have been reached with the first dose and 132 million children with the second dose of measles-containing vaccine. What does this really mean? WHO experts say this has helped to avert more than 5.9 million deaths due to measles in the Region. Further, 325 million more children have been reached with an additional dose of measles-containing vaccine, which might have averted 600 000 more deaths due to measles. However, there is no room for complacency – measles shots during routine immunization are still not reaching 5.5 million children annually.

Surveillance
The other area where there has been a marked improvement is surveillance. Effective surveillance was one of the key factors that helped eradicate polio in this Region. Now, all countries are leveraging this platform to tackle measles and rubella, and are conducting nationwide surveillance for measles and rubella cases. They have investigated more than 3 million suspected cases in the past decade. However, surveillance has identified less than 5% of the total estimated measles cases in the Region in the past decade and thus needs to be further expanded to identify more suspected cases.

Laboratory networks
Expansion and strengthening of the regional network of accredited measles and rubella laboratories are critical for effective surveillance, as they confirm suspected cases of measles. A network of 39 proficient laboratories has been established in the Region, including at least one WHO-accredited laboratory, in each of the 11 countries, supporting case confirmation and classification. Six additional laboratories have been added in the past decade.

Maldives

"It is a matter of great satisfaction that Maldives achieved the status of measles elimination well before the regional target of 2020. This achievement is the result of the strong political commitment and dedication of our healthcare workers at every level of the health system combined with the collaboration and cooperation of the UN agencies, and other partners. I congratulate each Maldivian for this remarkable success and thank every citizen for playing their part to ensure we maintained measles vaccination coverage above 98 percent since several years. Maldives is committed to sustain measles free status by maintaining high vaccination coverage status amidst the challenges of the unique geography and limited human resource.”

Mr. Abdulla Nazim Ibrahim, Minister of Health, Maldives
What needs to be done?
To eliminate measles and control rubella, governments need to achieve and maintain 95% population immunity against both diseases. This means strengthening immunization programmes so that all children are vaccinated on time, irrespective of where they live. This is not an easy task in countries with a substantial number of annual births such as India, Indonesia and Bangladesh. Often, vaccines must be transported across choppy waters to atolls or across hilly terrain, in scorching heat and bitter cold. Millions in the Region are constantly on the move, going from villages to cities and across borders, often with their families. Key strategies therefore include conducting supplementary vaccination campaigns for children who may have been missed out by routine immunization. This also needs to be backed up by strong surveillance systems that can detect and respond to measles outbreaks as quickly as possible so that the contagion does not spread. WHO is playing a key role – building capacity, laying guidelines and offering technical support to countries across the Region as they invest in strong immunization systems and embrace the goal of eliminating measles and controlling rubella by 2020. National verification committees on measles
Bhutan

"Validation of measles elimination in Bhutan is an indicator of the strong health care delivery system in Bhutan. While this is a huge achievement to celebrate and motivate ourselves to achieve more, the work is not yet over. We still have to strengthen our routine immunization services and ensure that no one is left behind. Considering the possible threats of measles virus being brought back into the country, we need to continue our efforts to maintain and sustain the elimination status and work with our close allies – WHO and UNICEF – to ensure there is no complacency.”

H.E. Lyonpo Tandin Wangchuk
Minister for Health, Bhutan

The race towards measles elimination and rubella control – some snapshots

An iconic image captures Bangladesh’s political commitment to battling measles and rubella and saving children’s lives. The image is of a little girl on the lap of Bangladesh Prime Minister Sheikh Hasina as she inaugurated Bangladesh’s mass immunization campaign against measles and rubella in 2014. “I am also a grandmother; I am used to working with grandchildren in my lap,” said the Prime Minister. The child also had something to say to the audience. “I’ve been vaccinated. You should also take the vaccine. Don’t be afraid of the shot. Together, we’ll all be healthy.”

It was a dramatic moment in the vaccination campaign that targeted 52 million children between nine months and 15 years. Bangladesh has also strengthened surveillance for measles and rubella, and is trying to detect each case of measles in the country and respond as part of its commitment to the elimination of measles from the country by 2018.

Bhutan, the first country in the world to pursue happiness as a State policy, has reason to be happier this year. In 2017, it knocked off measles. In April 2017, this land-locked, mountainous country was verified as having eliminated endemic measles. However, there is no room for complacency. It still faces the threat of reintroduction of the measles virus. To mitigate the risk, Bhutanese authorities are identifying pockets of the population in high risk areas and vaccinating everyone from 9 months to 40 years of age with the measles and rubella vaccine. Bhutan aims to vaccinate about 150 000 of its population who were not previously protected against measles to raise the immunity bar.

With no cases of polio since 1996 and elimination of maternal and neonatal tetanus before 2000, the Democratic People’s Republic of Korea is now inching steadily towards measles elimination. It has strengthened case-based surveillance of measles and established a National Measles Elimination Verification Committee. Plans are under way to pursue other health gains by administering new vaccines such as the rubella vaccine, PCV, rotavirus and JE vaccine to children in the country in the coming years.

India launched one of the world’s largest vaccination campaigns against measles and rubella on 5 February 2017. The first phase covered nearly 36 million children in five states/union territories – Karnataka, Tamil Nadu, Puducherry, Goa and Lakshadweep. The campaign is aimed at vaccinating more than 410 million children in the age group of nine months to less than 15 years over the next two years across the country. The targeted children live in all kinds of communities, in cities and villages.

The campaign, launched with technical support from WHO and other stakeholders, is a major step...
towards reducing childhood mortality and addressing birth defects in the country. This is the first time that the rubella vaccine has been introduced in India’s childhood immunization programme. It is estimated that CRS causes birth defects such as irreversible deafness and blindness in nearly 40,000 children every year. Under the measles rubella (MR) immunization campaign, all children in the target age group will be given a single shot of MR vaccine, irrespective of their previous vaccination or disease status.

Maldives continues to celebrate public health achievements. The country made up of nearly 1200 islands, with 20 administrative atolls, was validated to have eliminated measles in April 2017. Since its launch in 1976, the National Immunization Programme has made tremendous progress. The country has maintained near 100% coverage for all vaccines during the last decade or more. Reporting of vaccine preventable diseases is rare. The country met the health targets of MDGs and contribution to SDGs is included in all planning. The country has introduced vaccines to protect against 10 childhood diseases, including two doses of measles and rubella containing vaccine. Yellow fever, meningitis, cholera and influenza vaccines are provided to all traveling to relevant endemic areas. However, Maldives remains on constant alert to the threat of importation of measles virus and other eliminated pathogens. As a favorite tourist destination and high number of immigrant workers, Maldives has invested in quality surveillance systems and an outbreak response plan to tackle the issue.

Key challenges
Measles elimination and rubella control activities in the Region have thrown up unique opportunities to strengthen routine immunization systems, but challenges remain. The year 2017 has started well with two countries officially becoming measles-free. However, countries must continue to pull out all stops to ensure routine immunization programmes with more than 95% coverage of two doses of the vaccine, and reach all districts. Currently, around 5.5 million children still miss the routine first dose of measles-containing vaccine and resurgence of measles in some countries is a problem. The biggest challenge is ensuring adequate funds for all the activities; especially in countries with a large number of annual childbirths.

It is also critical to ensure adequate supplies of the vaccines. As countries mount mass immunization campaigns against measles and rubella, more vaccines will be required and countries will have to coordinate to ensure that campaigns are staggered to avoid a huge spurt in demand at any given point in time. Local manufacturers need to be urged to maintain a focus on vaccines that address public health priorities in the developing world.

Efforts are continuing unabated to raise more resources, encourage countries to embark on mass vaccination campaigns to close immunity gaps, and strengthen routine immunization services, as they are the backbone of the Regional Strategy to Eliminate Measles and Control Rubella by 2020.
While national immunization coverage rates have improved in countries across the South-East Asia Region, there are still persistent inequalities within each country. These translate into major gaps in coverage between the richest and the poorest, and between children whose mothers have diverse levels of education.

**TURNING CHALLENGES INTO OPPORTUNITIES**

The Region has shown that it can achieve goals when there is sufficient political will and effective partnerships. The battle against polio, which seemed so daunting ten years ago, is now a thing of the past. Vaccine-preventable diseases are on the back foot in South-East Asia. Five main strategies are critical for this positive trend to continue.

The first is maximizing the reach of immunization programmes. As a matter of routine, traditional vaccines, as well as new and underutilized vaccines that are safe, efficient and affordable, need to be deployed as widely as possible. No child should be left behind, and no opportunity missed to confer immunization’s life-saving benefits. Vaccination is a right, and carries positive obligations that must be fulfilled.

The second is enhancing capacity to manage immunization programmes through ensuring that technical advisory committees in all countries are functional, and appropriate policy frameworks are in place and facilitating operations. Where capacity is inadequate, it needs to be rapidly enhanced, allowing programme managers to act with efficiency and in synergy with other preventive health interventions.

The third is mobilizing individuals and communities at the grass-roots. By creating positive immunization experiences and highlighting the benefits vaccines bring, grass-roots demand can be stimulated. The resurgence of measles in other parts of the world indicates the need to increase awareness and overcome vaccine hesitancy in a more coherent manner. Effective communication strategies are vital to this effort.

The fourth is maintaining and strengthening partnerships. Partnerships between service providers and the community, between different technical programmes, and between national governments and the global community at large are crucial for continued progress. WHO is continuing to leverage collective strengths to advance public health across the Region.

The fifth is monitoring progress by expanding and strengthening disease surveillance for better informed programmatic decision-making. At the same time, immunization information systems need to be linked to national health information databases. Periodic joint programme reviews should be conducted to guide future actions.

While challenges remain, the final push to eliminate measles and control rubella by 2020 offers the South-East Asia Region a unique opportunity to not only rid itself of this deadly disease but also to further strengthen national immunization and disease surveillance systems. This will have health and financial benefits.

As the battle against measles in the Region gathers momentum, routine immunization is being strengthened and reaching more people. Supplementary immunization activities have reached 328 million children in all Member States during the past decade (2006–2016). Higher political commitment has resulted in subsequent increases in budgetary allocation for measles, as in the case of India and Indonesia.

One of the biggest benefits of the ongoing campaign against measles has been multisectoral and societywide mobilization. In Maldives, a country which is now officially free of measles, support was generated by bringing diverse sectors together – education, tourism, defence, sports and youth, housing, Islamic affairs ministries, as well as the media, youth groups, civic-minded organizations and businesses. This synergy can be tapped to advance other public health goals.

As another trickle-up effect of the MR campaigns, vaccine hesitancy of different forms is being addressed much more strongly, as witnessed in India, Maldives and Thailand. Further positive outcomes are the strengthening of microplanning, injection safety mechanisms, and AEFI surveillance and management in all countries.

Surveillance has got a shot in the arm. Approximately 3000 suspected measles outbreaks have been investigated in 2016 alone, leading to the strengthening of national capacity to conduct epidemiological investigation of vaccine-preventable diseases and routine immunization.
Strong immunization systems built over the past decade ensure that over 32 million infants are now fully immunized annually and more than 90% of the population in the Region is accessing the benefits of life-saving vaccines. They have established the foundation for polio-free certification, maternal and neonatal tetanus elimination and the first verifications for endemic measles elimination.

These achievements are an immense source of pride and testimony to the work of political decision-makers, and the millions of health workers and volunteers supporting immunization programmes. Now the health and well-being of millions of children in our Region depend on not only sustaining but also intensifying immunization efforts. Measles elimination and rubella control by 2020 is one of eight Regional priorities requiring high-level resolve and the full commitment of EPI programmes in each country, and unwavering support from national and international partners. Through our collective effort we have the power to fortify and expand routine immunization across the Region. We have the power to prevent, control and eliminate vaccine-preventable diseases, including measles.”

Dr Poonam Khetrapal Singh, Regional Director, WHO South-East Asia Region
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<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tr>
<td>AD</td>
<td>auto-disable (syringe)</td>
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<tr>
<td>AEFI</td>
<td>adverse events following immunization</td>
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<td>AFP</td>
<td>acute flaccid paralysis</td>
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<tr>
<td>AT&amp;TT</td>
<td>appreciative inquiry and transformational technologies (approach)</td>
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<tr>
<td>BCG</td>
<td>bacillus Calmette-Guerin</td>
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<td>bOPV</td>
<td>bivalent oral polio vaccine</td>
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<td>CRS</td>
<td>congenital rubella syndrome</td>
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<tr>
<td>DPT</td>
<td>diphtheria-tetanus-pertussis</td>
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<tr>
<td>EAPRO</td>
<td>UNICEF East Asia and Pacific Regional Office</td>
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<td>EPI</td>
<td>Expanded Programme on Immunization</td>
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<td>Gavi</td>
<td>the Vaccine Alliance</td>
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<td>HepB</td>
<td>hepatitis B</td>
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<td>Hib</td>
<td>Haemophilus influenzae type b</td>
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<td>HPV</td>
<td>human papillomavirus</td>
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<td>IPV</td>
<td>injectable inactivated polio vaccine</td>
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<td>JE</td>
<td>Japanese encephalitis</td>
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<td>MR</td>
<td>measles-rubella</td>
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<tr>
<td>NGO</td>
<td>non-governmental organization</td>
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<td>NID</td>
<td>national immunization day</td>
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<tr>
<td>NRA</td>
<td>national regulatory authority</td>
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<tr>
<td>OPV</td>
<td>oral polio vaccine</td>
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<tr>
<td>PCV</td>
<td>pneumococcal conjugate vaccine</td>
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<td>ROSA</td>
<td>UNICEF Regional Office for South Asia</td>
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<tr>
<td>SDG</td>
<td>Sustainable Development Goal</td>
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<td>SEA</td>
<td>South-East Asia</td>
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<tr>
<td>SMO</td>
<td>surveillance medical officer</td>
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<tr>
<td>tOPV</td>
<td>trivalent oral polio vaccine</td>
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<td>UN</td>
<td>United Nations</td>
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<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<td>UNICEF</td>
<td>United Nations Children's Fund</td>
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<td>World Health Organization</td>
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