The role and contribution of the integrated surveillance and immunization network to the COVID-19 response in the WHO South-East Asia Region (Bangladesh, India, Indonesia, Myanmar and Nepal)
NeXtwork – The role and contribution of the integrated surveillance and immunization network to the COVID-19 response in the WHO South-East Asia Region (Bangladesh, India, Indonesia, Myanmar and Nepal)


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The Regional Office would like to acknowledge the contributions from the ministries of health of Bangladesh, India, Indonesia, Myanmar and Nepal, the WHO Representatives to these five countries, current and former WHO staff at all levels of the Organization, as well as implementing partners, representatives of donor agencies and other key stakeholders towards this publication.

This publication is dedicated to all those who have been directly or indirectly associated with the WHO-managed surveillance and immunization infrastructure, which commenced its journey in the 1990s, to achieve the goal of a polio-free South-East Asia Region.
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In 2014 the WHO South-East Asia Region achieved the remarkable feat of being certified polio-free. Central to this achievement, which many thought impossible, was the establishment of a laboratory-supported surveillance and immunization infrastructure by the polio endemic countries in the mid-to-late 1990s. India took the lead in the Region and globally in creating such an infrastructure. Four countries of the Region – namely, Bangladesh, Indonesia, Myanmar and Nepal – soon followed, setting up similar infrastructures, hereafter referred to as the Network.

This is the first in-depth account of the Network’s contributions to public health programmes in the Region, including those for other vaccine-preventable diseases, and in response to public health emergencies and disasters. The Network has made critical contributions to the COVID-19 response with the help of its human, logistics and laboratory resources, which must continue to be leveraged.

The introductory chapter of this book offers a glimpse of the Network’s activities from the late 1990s to the present, to facilitate an understanding of the Network’s evolution, its core strengths and contributions. The second chapter highlights the Network’s role in the early phases of the COVID-19 response in the five countries in which it has a presence, and familiarizes the reader with the diverse technical and logistical assistance it has provided.

Since one of the goals of the Network is to be prepared – if and when the need arises – to take on additional immunization and surveillance activities, the concluding chapter offers viewpoints on the direction that the Network may take to meet future health challenges, or the ‘NeXtwork’. The quotes provided throughout the book have been drawn from extensive interviews with current and former WHO staff at all levels of the Organization, as well as implementing partners, representatives of donor agencies, and other key stakeholders.

While detailing the tremendous contributions made by the Network, this book invites readers not only to celebrate, but to reflect on the future of the Network and its value as a public health good, especially amid the COVID-19 response and recovery, and in recognition of the need to enhance preparedness for future health emergencies. I encourage all readers to consider the value of protecting past investments for future gains, for a fairer, healthier and more sustainable South-East Asia Region for all.

Dr Poonam Khetrapal Singh, Regional Director,
WHO South-East Asia Region
## Abbreviations and Acronyms

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<tr>
<td>AES</td>
<td>acute encephalitis syndrome</td>
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<td>AFP</td>
<td>acute flaccid paralysis</td>
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<td>ASHA</td>
<td>accredited social health activists</td>
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<td>CEPI</td>
<td>Coalition for Epidemic Preparedness Innovations</td>
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<td>CEU</td>
<td>central epidemiology unit</td>
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<td>CSOs</td>
<td>civil society organizations</td>
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<td>DSOs</td>
<td>divisional surveillance officers</td>
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<td>EPI</td>
<td>Expanded Programme on Immunization</td>
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<td>EGA</td>
<td>external quality assurance</td>
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<td>EWARS</td>
<td>Early Warning Alert and Response System</td>
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<td>FLWs</td>
<td>frontline workers</td>
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<td>Gavi</td>
<td>Gavi, the Vaccine Alliance</td>
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<td>GPEI</td>
<td>Global Polio Eradication Initiative</td>
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<td>GPLN</td>
<td>Global Polio Laboratory Network</td>
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<td>HMIS</td>
<td>health management information system</td>
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<td>HPV</td>
<td>human papillomavirus</td>
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<td>IBD</td>
<td>invasive bacterial disease</td>
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<tr>
<td>ICMR</td>
<td>Indian Council of Medical Research</td>
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<td>IDSP</td>
<td>Integrated Disease Surveillance Programme</td>
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<td>IEC</td>
<td>information, education and communication</td>
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<tr>
<td>IECDR</td>
<td>Institute of Epidemiology, Disease Control and Research</td>
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<tr>
<td>ILI</td>
<td>influenza-like illness</td>
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<tr>
<td>IMS</td>
<td>incident management system</td>
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<td>IMT</td>
<td>incident management team</td>
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<tr>
<td>IPC</td>
<td>infection prevention and control</td>
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<td>IPD</td>
<td>immunization preventable diseases</td>
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<td>IPV</td>
<td>inactivated polio vaccine</td>
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<td>IVD</td>
<td>immunization and vaccine development</td>
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<td>JE</td>
<td>Japanese encephalitis</td>
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<td>MoH</td>
<td>Ministry of Health</td>
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<td>MoHFW</td>
<td>Ministry of Health and Family Welfare</td>
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<td>MoHP</td>
<td>Ministry of Health and Population</td>
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<td>MoHS</td>
<td>Ministry of Health and Sports</td>
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<td>MR</td>
<td>measles and rubella</td>
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<td>NCDC</td>
<td>National Centre for Disease Control</td>
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<td>NGOs</td>
<td>nongovernmental organizations</td>
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<td>NFL</td>
<td>National Health Laboratory</td>
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<td>NTAG</td>
<td>National Immunization Technical Advisory Group</td>
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<td>NV</td>
<td>National Institute of Virology</td>
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<td>NPHL</td>
<td>National Public Health Laboratory</td>
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<td>NISP</td>
<td>National Polio Surveillance Project, since renamed as National Public-health Support Programme</td>
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<td>OPV</td>
<td>oral polio vaccine</td>
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<td>PCR</td>
<td>polymerase chain reaction</td>
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<td>PEN</td>
<td>Polio Eradication Nepal</td>
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<td>PHOs</td>
<td>provincial health officers</td>
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<td>PLN</td>
<td>Polio Laboratory Network</td>
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<td>PPE</td>
<td>personal protective equipment</td>
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<td>RCE</td>
<td>risk communication and community engagement</td>
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<td>RI</td>
<td>routine immunization</td>
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<td>RSO</td>
<td>regional surveillance officer</td>
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<td>RVV</td>
<td>rotavirus vaccine</td>
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<td>SARI</td>
<td>severe acute respiratory infection</td>
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<td>SEA</td>
<td>South-East Asia</td>
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<td>SEAR TCG</td>
<td>South-East Asia Regional Technical Consultative Group</td>
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<td>SIA</td>
<td>supplementary immunization activity</td>
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<tr>
<td>SIMO</td>
<td>surveillance and immunization medical officer</td>
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<td>SIMO</td>
<td>surveillance medical officer</td>
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<td>SOPs</td>
<td>standard operating procedures</td>
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<tr>
<td>TIMB</td>
<td>Transition Independent Monitoring Board</td>
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<td>TWG</td>
<td>Technical Working Group</td>
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<td>US CDC</td>
<td>United States Centers for Disease Control and Prevention</td>
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<tr>
<td>VPD</td>
<td>vaccine preventable disease</td>
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<td>WHE</td>
<td>WHO Health Emergencies Programme</td>
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<td>WHO</td>
<td>World Health Organization</td>
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CHAPTER 1 - THE INSIDE STORY

The inside story
CHAPTER 1 - THE INSIDE STORY

Introduction

Once the clarion call was sounded, it took the countries of the WHO South-East Asia (SEA) Region almost a quarter of a century to eliminate a scourge that has been an unwanted companion since ancient times. In 1988, the World Health Assembly passed a resolution for the worldwide eradication of poliomyelitis. This resolution marked the launch of the Global Polio Eradication Initiative (GPEI), spearheaded by national governments, WHO, Rotary International, the US Centers for Disease Control and Prevention (US CDC) and UNICEF, and later joined by additional key partners, including the Bill and Melinda Gates Foundation and Gavi, the Vaccine Alliance.

In March 2014, the WHO SEA Region was certified as polio-free, a historic achievement in the sphere of public health. What made this possible? In a press release on 27 March 2014, Dr Poonam Khetrapal Singh, WHO Regional Director for South-East Asia, highlighted several factors that contributed to this victory. She also stressed that a sensitive surveillance system was of critical importance in the prompt detection and identification of any importation and in guiding a programmatic response. Indeed, one of the main pillars of success of the polio eradication programme was the establishment of laboratory-supported surveillance and immunization infrastructures in five countries (Bangladesh, India, Indonesia, Myanmar and Nepal) of the Region back in the late nineties. This infrastructure, referred to as the Network hereafter, has been in existence for more than two decades, during which a large investment has been made in terms of time, effort and resources. The Network has a strong foundation, owing to its robust architecture and impeccable design.

The regional vision was set at the first meeting of the SEA Regional Technical Consultative Group (SEAR TCG) for the Expanded Programme on Immunization (EPI) in 1994. The meeting passed a resolution that the strategies for polio eradication must be inclusive and aim to control all vaccine-preventable diseases (VPDs). The TCG recommended that mechanisms be established for smooth coordination among partners and donors. Since then, the Network has not only been actively engaged in the Region’s polio-related activities, but also in pursuing its goal of eliminating measles and rubella by 2023, in contributing to broader immunization goals, and in providing technical assistance during emergencies and disasters. Time and again, it has demonstrated its worth, which is highly valued by the Member States.

The Network’s latest contribution has been to lend support to the countries of the Region in their fight against the COVID-19 pandemic, which hit the world in 2020, a year that will go down in history books as one of the darkest. This book is a collection of stories highlighting some of the work and experiences of the Network during the initial months of the pandemic, when national borders were sealed and people were confined to their homes.

The story will remain incomplete without a glance at the Network’s journey, which commenced in the late 1990s. Thus, this introductory chapter touches upon how the Network came to be formed, the key milestones achieved by it, and the historic moment when the Region was certified to be polio-free. It highlights the Network’s potential and its contributions beyond polio. It also celebrates the courage of the last five polio survivors of the Region.
The polio journey

1580-1350 BC  The Egyptian stele pictured here clearly portrays a priest with a withered leg, attesting to the existence of polio in ancient times.

1789  Polio was confirmed as a disease that is spread by a virus.

1909  The inactivated polio vaccine (IPV) was developed by Dr Jonas Salk and first administered in 1955.

1953  The live oral polio vaccine (OPV) was developed by Dr Albert Sabin and first administered in 1961.

1956  The Thirty-third World Health Assembly officially announced that smallpox had been eradicated.

1957–1979  The EPI was launched in Indonesia (1977), India and Myanmar (1978), and subsequently in Bangladesh and Nepal (1979).

1974  The Twenty-seventh World Health Assembly resolved to build on the success of the smallpox eradication programme and established the EPI to ensure that all children in all countries benefited from the life-saving vaccines available (e.g. diphtheria, pertussis, tetanus, measles, polio, tuberculosis and smallpox).

1980  The EPI was launched in Indonesia (1977), India and Myanmar (1978), and subsequently in Bangladesh and Nepal (1979).

06 07  NeXtwork

The Egyptian stele at the Ny Carlsberg Glyptotek Museum in Copenhagen, Denmark
Photo credit: Dr Patrick O’Connor, Team Lead, Disease Control and Elimination, WHO Regional Office for Europe
Rotary International launched PolioPlus, the first and largest internationally coordinated private-sector campaign in support of a public health initiative for the global eradication of polio.

1985

The Forty-first World Health Assembly passed a resolution for the worldwide eradication of polio. This marked the launch of the GPEI, which was spearheaded by national governments, WHO, Rotary International, the US CDC, and UNICEF. These were later joined by other key partners, including the Bill and Melinda Gates Foundation and Gavi, the Vaccine Alliance.

1988

The WHO South-East Asia Regional Polio Laboratory Network was established. It comprised three regional reference laboratories and eight national laboratories, one in Bangladesh, four in India and three in Indonesia.

1990

N Nationwide campaigns were conducted for polio vaccination in polio-endemic countries, i.e. Bangladesh, India, Myanmar and Nepal, as well as in Indonesia.

1995–1996

The Global Polio Laboratory Network (GPLN) was established by WHO and the governments of the SEA Region to detect the presence of poliovirus.

1993

The WHO South-East Asia Regional Polio Laboratory Network was established. It comprised three regional reference laboratories and eight national laboratories, one in Bangladesh, four in India and three in Indonesia.

1994

The first meeting of the SEAR-TCG for the EPI was held in Nonthaburi, Thailand.

• It resolved that the strategies for polio eradication must be inclusive and aim to control VPDs such as neonatal tetanus and measles.

• It recommended the formation of an interagency coordinating committee, which should meet at least annually, to improve coordination between the partners and donors.

1995

1996

1997–1999

2000–2001

2006

2007

2010

2011

2014

All countries in the Region were conducting surveillance for clinically confirmed paralytic poliomyelitis.

Bangladesh, India, Indonesia, Myanmar and Nepal instituted intensive training for public health officials and physicians in clinical practice to equip them for immediate reporting and investigation of all cases of acute flaccid paralysis (AFP).

Emergence of the polio surveillance network – during this period, surveillance and immunization networks managed by WHO were established in Bangladesh, India, Indonesia, Myanmar and Nepal to conduct highly sensitive epidemiological and laboratory surveillance for AFP, meeting the global standard performance criteria, to identify all remaining reservoirs of wild poliovirus.

Indonesia and Bangladesh reported their last case of wild poliovirus.

All countries in the Region, except the Democratic People’s Republic of Korea, switched from the clinical to the virological classification scheme for AFP cases.

India reported its last case of wild poliovirus.

Myanmar reported its last case of wild poliovirus.

Nepal reported its last case of wild poliovirus.

In a landmark triumph over the dreaded virus, the SEA Region was declared polio-free by the Regional Certification Commission for Poliomyelitis Eradication.

Myanmar reported its last case of wild poliovirus.

Bangladesh, India, Indonesia, Myanmar and Nepal reported their last case of wild poliovirus.

All countries in the Region were conducting surveillance for clinically confirmed paralytic poliomyelitis.
Setting the stage for polio surveillance in the Region

The Original Vision that Set the Stage for Polio Surveillance in the South East Asian Region of WHO
- Dr Jon Kim Andrus, MD, Regional Advisor for Polio Eradication, WHO Regional Office for South-East Asia (1993–2000)

In 1988 the World Health Organization (WHO) adopted the global goal to eradicate polio by 2000. By 1993, almost half the time committed to reach the 2000 target had passed with little to no progress. A sense of urgency in the countries of WHO’s South East Asia (SEA) Region was essentially absent. India annually reported half the world’s polio cases, but the four basic strategies led by essential immunization services lagged far behind.

Understanding the weakest link at that time in SEAR, in this case India, highlights the enormity of action required. India claimed to have achieved the 1990 Universal Immunization Programme target of 80% coverage. But by 1993, OPV3 coverage was 60% or less in many parts of India. Surveillance of acute flaccid paralysis (AFP) had not yet started. A well-coordinated polio laboratory network was still a dream, far from reality. Political commitment and a sense of partnership working toward a common goal was also non-existent. Important high-level leaders in the Ministry of Health and Family Welfare were publicly critical of the polio eradication initiative, stating it was impossible to attain. Very few seemed to grasp the amazing opportunity to strengthen public health services, including surveillance against infectious diseases.

The situation in India was not too dissimilar from that in Nepal, Bangladesh, Myanmar, and Indonesia, and to a lesser extent, Thailand and Sri Lanka. Events were soon to change that daunting situation. In particular, in early 1994, Thailand and Bangladesh launched their first national immunization days to eradicate polio. The WHO SEA Region, Rotary and other key partners saw this as an opportunity to encourage political leaders in India to take action and avoid embarrassment. But change was slow. The critical event came in the form of a scourge, that for centuries has conjured great suffering and death.
Disasters happen locally. People suffer and die locally. But when disasters occur, they have the amazing potential to influence policy development more broadly, at the highest levels. In September of 1994, a cluster of unexplained deaths occurred in Surat, India. Someone noticed a rat die-off in the alleyways and streets of the same area, suggesting a potential plague outbreak. For years the cause was not determined with certainty, but during the heat of the moment the ‘plague’ crisis hit the national press, creating enormous public panic, ultimately leading to the closure of the Indira Gandhi Airport. Embassies sent their staff home. The country shut down. As a consequence, the country lost billions of rupees in tourist and trade revenues.

Simultaneously, Dr Harsh Vardhan, the Minister of Health of New Delhi, had been planning the launch of a house-to-house mass polio vaccination campaign in New Delhi. He mobilized a partnership of local leaders, WHO, UNICEF, and Rotary International to conduct the campaign on Mahatma Gandhi’s birthday, 2 October 1994, despite the striking enormity of the plague scare. Vaccinators wore masks. The tension in the air was palpable. Dr Harsh Vardhan bravely carried on despite the strong advice proposed by many to postpone the campaign.

By the end of 1994 supplementary immunization activities were gaining traction in the region, but support for essential immunization services, and especially surveillance, was lagging behind. To that end, political commitment was enhanced with an amazing partnership between WHO and several government development agencies (including those of the United Kingdom, United States and Japan). The Government of Denmark, in particular, took the lead in developing a surveillance system that, initially began with acute flaccid paralysis, but subsequently embraced the surveillance of priority infectious diseases. The Surat outbreak put the spotlight on the need to be prepared. Indeed, the outbreak had a silver lining.

The Danish International Development Agency supported this vision of ultimately developing a universal infectious disease surveillance system in India, a model that was adopted in the other priority countries of Bangladesh, Nepal, Myanmar, Thailand, and Indonesia. The Danish Government provided an initial grant of 12.3 million US dollars to be managed by the Regional Office to launch AFP surveillance in India. The critical task at hand recognized by all was to prevent a repeat of the fiasco that was the ‘plague’ scare.

Attaining the vision of comprehensive infectious disease surveillance would result in polio eradication as a by-product. This vision could only be attained with the right people in the right place. Accordingly, the grant became an investment in people. The intent was to train Indian doctors and health personnel to conduct state-of-the-art AFP surveillance in a country so vast and challenging. It was one thing to train and deploy the first team, but it was another to instill an esprit de corps of teamwork, enthusiasm, and commitment to get the job done.

Such a system, with a focus on having the best of the best at the helm conducting surveillance, would set the stage for success in tackling the elimination of measles and rubella, and introducing other life-saving vaccines. This approach with the support of key partners was replicated to a large degree in other countries of the Region. Experts realized that the next emerging infection may not be so kind as the ‘plague’ scare. We needed to be prepared. Polio eradication was an incredible by-product of efforts led by strengthening surveillance, in which everyone who worked on this initiative in the Region should feel a great sense of pride and gratitude. Certainly, the investment in people produced a generation of public health leaders spearheading infectious disease surveillance to tackle other public health challenges, COVID-19 being a case in point.
CHAPTER 1 - THE INSIDE STORY

The first agreements for India were done on the back of a paper napkin. I forget the amount of money they were putting up, but it was on the back of a paper napkin. Right from the start, Bangladesh wanted to ensure that responsibilities of the surveillance medical officers focussed not just on their primary objective of identifying AFP cases and getting stool samples to the laboratory, but also for strengthening the routine programme. This gained emphasis and received importance because of the community spread in Bangladesh and the population dynamics or density of the country. On the other hand, Nepal’s focus was on the large common border areas with India. During presentations, the WHO Country Office for Nepal used dramatic slides of the flow of people across the border to highlight the concerns around an open border and the cases moving back and forth across borders. It was a lot of coordination, a lot of partnership-building too. The DFID, CDC and the Dutch were really instrumental. The programme had to continue to mobilize resources through annual or multi-year grants. Money had to be channelled expeditiously for setting up these networks and helping with the logistics of the immunization processes. The programme had to be accountable for these resources. Expertise was inducted to help with these critical aspects of organization management, accounting and logistics.

- John Fitzsimmons, Technical Officer, EPI, WHO Regional Office for South-East Asia (1997–2001)

Rise of the Network

It became imperative to set up a focused and dedicated team, equipped with the requisite resources, to fill the serious lacunae in the surveillance system to enable it to generate high-quality data. To address this need and pursue the goal of polio eradication, a surveillance and immunization infrastructure, the Network, managed by WHO was eventually established in Bangladesh, India, Indonesia, Myanmar and Nepal.

The Network had a strong foundation, with its robust structure and flawless design. It was equipped with substantial GPEI-funded assets in the form of a trained workforce, surveillance and laboratory infrastructure, equipment, and systems and processes. The surveillance strategy centred around a nucleus of medical officers with field offices spread across the length and breadth of the country. The medical officers and other personnel were tasked with the responsibility of collaborating with their counterparts in the government to manage, train and coordinate with those involved in AFP surveillance, both at the national and subnational levels, within their geographical areas of responsibility, to reach every child.

The Network evolved over the years and grew organically to reach its current form. The availability of resources (financial, human and infrastructural) allowed the programme to operate smoothly. In view of the varying epidemiological and geographical profiles and health systems of the countries, both at the national and subnational levels, each country adopted a unique approach to the establishment and modus operandi of its network. Institutionalized systems and processes were established to facilitate systematic and rigorous reviews. Feedback and monitoring mechanisms played a significant role in making the Network fully functional and resilient. These were not only useful in the campaign against polio, but also contributed to laboratory-supported surveillance of other VPDs. In addition, they contributed to the achievement of broader public health goals, including unforeseen emergencies.

‘One of the advantages we have with WHO engagement in surveillance is the ability to highlight, bad news’

- Ellyn Ogden, MPH, USAID Worldwide Polio Eradication Coordinator

The first agreements for India were done on the back of a paper napkin. I forget the amount of money they were putting up, but it was on the back of a paper napkin.

Right from the start, Bangladesh wanted to ensure that responsibilities of the surveillance medical officers focused not just on their primary objective of identifying AFP cases and getting stool samples to the laboratory, but also for strengthening the routine programme. This gained emphasis and received importance because of the community spread in Bangladesh and the population dynamics or density of the country.

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- John Fitzsimmons, Technical Officer, EPI, WHO Regional Office for South-East Asia (1997–2001)
There would seem to be a secret ingredient in the recipe for the remarkable success of the National Polio Surveillance Project (NPSP) in India. How was this massive programme run so efficiently and smoothly?

The eradication of polio was indeed a Herculean task in a huge country like India, with a population of over one billion spread across diverse geographical areas, different cultural and religious beliefs, and so many languages. To eradicate polio, it was also necessary to cut across the socioeconomic differences that characterize the country. It was due to a synchronistic working relationship with the Government of India’s Ministry of Health (MoH), the donors/partners and other key stakeholders that these hurdles could be overcome. WHO experts recall how closely the parties concerned worked together, with the experts even sharing the desks of government officials in the initial stages of the NPSP and being located in their premises when the programme was launched.

A programme which started out with immense conviction and trust as its foundation (with the agreements signed on a humble paper napkin) ended up achieving the feat of bringing down the number of polio cases in the country to zero. In 2014, in a laudable medical victory over a wild virus, India was declared polio-free.

The Network started out with a mere 57 offices and then expanded to 250. Each office had a surveillance medical officer (SMO), an administrative assistant and a driver, who travelled across the entire country. They kept a constant watch in their area to track down and reach any child who was paralyzed, travelling to remote and inaccessible villages and urban slums for the purpose.

*It was in September 1997 that the NPSP came into being and with the solid efforts of the people in the field and in the laboratories, by June 1998 – less than a year after the programme began – the surveillance criteria matched the global standards. That was a big achievement of the programme at that time. That in essence vindicated the need for setting up a surveillance programme. This model, which was conceptualized on the model used for the smallpox programme, proved to be a big success and was later adopted in many other countries.*

- Dr Kaushik Banerjee, Medical Officer, WHO Country Office for India (1997–2001)
Dr Harsh Vardhan alluded to some critical aspects of surveillance in his book, *A Tale of Two Drops*:

Surveillance is an important part of the programme. Without effective surveillance, it is not possible to pinpoint areas of circulation of poliovirus. Even to ensure eradication, effective surveillance is essential. It requires expert teams of virologists, epidemiologists, clinicians and immunization staff, backed up by a network of laboratories. Field workers in primary health centres are the main source of information, while health officers visiting hospitals and rehabilitation centres search for cases which might have been misdiagnosed or overlooked. WHO wants all cases of AFP reported but, in reality, quite a few cases go unreported. A keen observation is important because there could be causes other than polio for paralysis and it could be in all age groups. Therefore, all AFP cases have to be reported for detailed investigation, after which polio cases would be identified. It was found that the quality of surveillance in several countries was poor and needed to be improved. WHO established a network of 80 laboratories worldwide to help the process. Even when polio is eradicated, these laboratories will be useful in maintaining the eradication status.
Bangladesh: establishing a network for surveillance and immunization

David H Sniadack, who was the EPI team leader in the WHO Country Office for Bangladesh in 1996-2003, gives the following account of the country’s efforts to eradicate polio, with a special emphasis on SMOs. He stresses the importance of establishing a network of dedicated staff for strengthening surveillance and increasing the coverage of vaccination.

When I arrived in Bangladesh in 1996, I was given a small office on the third floor down the hall from the EPI Manager, Shamsul Haque, at the EPI Bhaban with Dr RN Basu. I inherited five divisional surveillance officers (DSOs) of WHO; there were five divisions in Bangladesh at that time. I immediately got to work to strengthen AFP and EPI surveillance, and after developing an AFP and EPI surveillance manual in close collaboration with the government and partners, we conducted training at the national, divisional, district and upazila levels. UNICEF was kind enough to assign an excellent office manager who had worked with them to help me – Mr Hamid. He gave me exceptional support throughout my tenure at WHO Bangladesh and helped my successors as well. Over the next few years, Bangladesh was not able to achieve the target performance indicators for AFP surveillance, and the coverage of non-infectious diseases was consistently slipping with each successive campaign.

Recognizing the critical need to provide more extensive support to the government at the district level and below to strengthen surveillance and improve the coverage of vaccination campaign, in 1999 WHO recruited 16 SMOs jointly with the government to work under the five DSOs. One SMO was assigned four districts. In 2000, with additional financial support, we increased the number of SMOs to 32, with one SMO assigned two districts. Most SMOs were government staff with field experience in immunization and were assigned to WHO on loan from government service. They were provided with vehicles and drivers, cell phones and an office assistant, and their offices were typically provided by the Civil Surgeon and located within the compound of his district health office. The city corporations (there were six at that time – one per division) were covered mostly by urban operations officers contracted by USAID-funded BASICS. The latter were subsequently replaced by another USAID project, Immunization and Other Child Health.

The sensitivity of surveillance steadily increased following the recruitment of SMOs and exceeded the global standards. A survey conducted during the campaigns indicated a consistent improvement in OPV coverage. SMOs also facilitated the preparation and implementation of three integrated vaccination campaigns, which included the OPV and measles vaccines for children and tetanus toxoid vaccine for women of childbearing age in high-risk areas, in September 1999, August 2000 and August 2001.

By 2001, the number of WHO-supported staff working with the government to sustain polio eradication, strengthen routine immunization and achieve other immunization-related goals had increased to over 100. These personnel included the WHO-funded staff working with me in Dhaka, field-based SMOs and DSOs, drivers and administrative assistants. Since then, SMOs have played a critical role in strengthening routine immunization coverage, introducing new and underutilized vaccines, achieving the elimination of maternal and neonatal tetanus, and moving Bangladesh even closer to measles and rubella elimination through high-quality measles and measles-rubella supplementary immunization campaigns and case-based surveillance of measles-rubella and congenital rubella syndrome.

Bangladesh’s policies and strategic initiatives were successful in achieving zero cases of polio on schedule, that is by the target year of 2000 (though the country remained polio-free for more than five years after this, it was re-infected by an imported virus, and the last case was reported in 2006), as well as in achieving many other notable public health successes thereafter, because they vigorously applied three overarching principles that are universally applicable to programmes for the eradication, elimination or control of any disease: attention to quality; reliance on local knowledge; and collaboration with partners. The recruitment of SMOs embodied all three of these principles.
Nepal: SMOs’ role pivotal to success


Setting up the SMO Network in the geographically diverse country of Nepal was no easy task, as described in the following account.

‘One of the first things was that we underestimated how many surveillance medical officers would be needed. The geography of Nepal made the going extremely difficult. The distance from Nepal’s southern border with India north to the border with Tibet, China is only about 100 miles “as the crow flies.” The terrain rises from an elevation around 800 feet above sea level up to Mount Everest, which is ~29,000 feet above sea level. In that intervening terrain are deep valleys and then high mountains, then deep valleys, and again high mountains. It was naive initially to think that we would need only five surveillance medical officers, from west to east; we thought one SMO in each of Nepal’s five regions would be adequate. Soon we realized that given this challenging terrain we would need to recruit more SMOs to accomplish the field work. Consequently, we decided to increase the number of surveillance medical officers in Nepal 17, which allowed for 3-4 SMOs in each of the five regions’

- Dr Jean Smith, Medical Officer, EPI, Polio Eradication Nepal, WHO (1998–2003)

The improvement in the standard of surveillance was made possible by the substantial investment, in terms of time, effort and resources, of the government, key stakeholders and various implementing partners. Given the Network’s capacity and potential, surveillance for other VPDs, such as neonatal tetanus, measles and acute encephalitis syndrome (AES), was added to the programme around 2003. Later, in 2005, PEN was renamed the Immunization Preventable Diseases (IPD) programme. Since then, the IPD has been forging ahead with its plans to contribute to broader immunization goals, including the introduction of new vaccines. It has also been extending support during emergencies and disasters.

Even after the last case of wild poliovirus was reported in 2010, the SMO network in Nepal remains a key component of the high-quality surveillance for AFP in the country. In the opinion of Dr Will Schluter, medical officer of WHO’s PEN programme, the SMOs performed several vital functions and their proximity to the people played a major role in the success of the programme.

‘It was really the investment from WHO in the surveillance officers’ network that kept things moving. It was more than just an extra set of hands, the SMOs were well trained and focused, and could work effectively in the communities and with the clinical staff. Their presence was a constant reminder to encourage reporting of suspected cases. In addition to surveillance, the surveillance officer network was responsible for supporting the multiple polio vaccination campaigns, vaccine introduction activities, and working towards fully vaccinated villages’

- Dr Will Schluter, Medical Officer, WHO’s Immunization Preventable Diseases programme, Nepal (2009–2012)

WHO SEARO/Nepal
Myanmar introduced surveillance for AFP in April 1996, following a national workshop in which state-level health directors and disease control team leaders were trained in active surveillance for AFP and case investigation. In 1999, the country established a network of regional surveillance officers (RSOs), supported by WHO, which focused primarily on the eradication of polio.

Interestingly, the plan for polio surveillance was approved in a matter of minutes. On being shown slides attesting to the drastic decline in AFP cases in Nepal on account of the SMOs’ interventions, the Minister of Health and Sports was spurred into action and gave Myanmar’s plan a go-ahead instantaneously.

Owing to its unique health infrastructure and system, Myanmar’s approach to the establishment of a laboratory-supported surveillance infrastructure for polio differed from those of other countries. The country did not fully replicate the surveillance model designed for the programmes in India and Nepal, relying on its RSOs instead. The RSOs, who are government officers, were sent on deputation to WHO for one to two years. They were subsequently replaced by equally qualified personnel from the government system.

The unique arrangement with the RSOs was not only beneficial to WHO's programme, but also had the unusual advantage of strengthening the government's health machinery and reinforcing its infrastructure. After their deployment with the polio surveillance programme, the RSOs went back to their government duties fully equipped. They were trained to perform the tasks assigned to them and were also prepared to build the capacity of hundreds of other public health workers outside the WHO system in immunization-related matters. Since its establishment in 1999–2000, this system has continued to function very efficiently. Since Myanmar reported its last case of wild polio virus in 2007, the Network has become a vital resource at the state level for the surveillance of polio and other VPDs, the response to any outbreak, routine immunization (RI) and the introduction of new vaccines.
The surveillance model in Indonesia relied on a network of 38 surveillance officers. These officers maintained their government affiliation but were subsidized by WHO to focus on AFP surveillance, which they conducted countrywide. They were directly supervised by the district health authorities. However, WHO provided technical supervision to enable them to maintain a polio-free status in the unaffected provinces and ensure high-quality AFP surveillance throughout the country. The surveillance officers focused on consolidating the operations, intensifying surveillance, strengthening supervision, as well as scaling up monitoring and evaluation. This model of support by the surveillance officers has been modified over time in accordance with the programme’s specific needs.

Since the start of the efforts to eradicate polio in 1995, the government took full ownership of the programme. It prioritized the eradication of polio and provided most of the funding for the programme activities. Among other things, the government invested in hiring staff for polio-related immunization, surveillance and laboratory personnel; developing and maintaining an infrastructure for vaccine production; procurement and logistics; and data reporting and management; full financing of polio vaccines; purchasing physical assets (e.g. laboratory equipment, computers); and covering the operational costs for mass immunization activities.

The skills and capacities developed in support of polio eradication have been used to implement other activities prioritized by the MoH. For example, while the programme initially focused primarily on AFP surveillance, it has expanded to include surveillance for other VPDs and communicable diseases. The EPI programme has developed over time and, with funding from Gavi, introduced the measles-rubella (MR), Japanese encephalitis (JE) and human papillomavirus (HPV) vaccines.

‘Indonesia is a country with 17 000 islands. This created a problem during the 2005 polio outbreak that happened after ten years of no reported polio cases. There were huge challenges, including some related to coordination. These were effectively managed. We needed to make sure that the coverage during the national immunization days and the sub-national immunization days that followed was good. Through effective coordination with the surveillance officers, we ensured high coverage; not only on paper, but in reality.’

- Dr Bardan Jung Rana, Medical Officer, EPI, WHO Indonesia (2004–2012)
The Polio Laboratory Network (PLN) has been the backbone of surveillance to facilitate prompt and accurate testing and detection of poliovirus. Its personnel work tirelessly through the year, generating results that are fed into the database to decide the course of action. It is difficult to say whether the remarkable strides made by the Network and the successful implementation of the polio-eradication programme would have been possible without this efficient and vital infrastructure.

The year 1993 saw the establishment of the Polio Laboratory Network in the Region. The network then consisted of three regional reference laboratories and eight national laboratories. It has grown over the years and there are now 16 laboratories in seven countries. One of these is a global reference laboratory, two are regional reference laboratories, while the rest are national laboratories. The capacity of the PLN in the Region has been amplified, and continuous efforts are being made to upgrade techniques and methodologies for high-quality testing, improve the quality assurance of results and make monitoring more stringent. The laboratories are keeping pace with the programme’s requirements in the area of surveillance and have learnt to generate genetic information to trace transmission chains of the virus.

With the use of new testing methods, the turnaround time for laboratory results has come down from 28 days to 14 days. The GPLN introduced real-time polymerase chain reaction (PCR) technology in 2009 and all polio laboratories gained proficiency in handling the huge workload associated with testing of large number of specimens using molecular techniques. Over time, the capacity of some of these laboratories has been expanded to support testing for other VPDs (e.g. measles and rubella) as well.

At present, the Region has an extensive laboratory network to aid countries in the detection of polio, measles and rubella, JE/AES, diphtheria, pertussis, invasive bacterial diseases (IBDs) and rotavirus. Ellyn Ogden from USAID highlights the strong points of this network.

I think one of the strongest components to emerge from the polio programme is the process of accreditation, a component that needs to be universally adopted so that you can rely on the test results, no matter which lab you send specimens to. I think that the accreditation component is somewhat unique to the polio network and the way the lab network is run and managed and equipped, and how there’s such good collaboration between countries and the reference labs and the genetic sequencing folks is incredibly valuable.

- Ellyn Ogden, MPH, USAID Worldwide Polio Eradication Coordinator
Polio-free certification of the WHO South-East Asia Region, 27 March 2014
Multiple strengths crowned by conclusive victory

The unrelenting quest to conquer polio in the Region, culminating in its polio-free certification in 2014, illustrates the power of the collective human spirit and humankind’s potential to overcome disease and adversity. The success achieved so far speaks of the power of partnerships and the capacity of the countries to unite for a common goal. Needless to add that this victory demonstrates the sheer dedication and selfless service of the thousands of healthcare and frontline workers who made it possible.

At the end of Dr. Jafari’s tenure as a Director of the GPEI at the WHO headquarters in January 2016, he reflected on the most important requirements of the task of conquering polio, saying:

"The first factor has been resolute perseverance in the face of apparently insurmountable difficulties. This programme has had more than its fair share of extraordinary challenges, and yet we have never given up. The commitment to engaging people, from parents to community leaders, health workers to heads of state and donors, has been important. This is possible only if you first make the effort to understand their point of view and build their trust"

- Dr. Hamid Jafari, former Director of the GPEI at the WHO headquarters

"The polio experience has shown the value of close partnerships employing their comparative advantage in supporting country governments towards a common cause. The extremely valuable SMO network in countries like India has worked in tandem with social mobilization networks bringing communities and health services closer and addressing both supply and demand side barriers seamlessly. These are critical components of resilient health systems which serve to address health threats well beyond a single disease”

- Dr. Robin Nandy, Principal Advisor & Chief of Innovations, UNICEF HQ (2015-2021)

"I think if we have a healthy child, we definitely will have a healthy nation, and where we can make some positive contribution is what matters. I think this has motivated me to join this programme and will definitely keep motivating me to go on”

- Dr. Anagha K Choudhari, SMO, West Mumbai, WHO India
Flexibility and responsiveness

It is a known fact that all public health programmes come up against epidemiological and operational challenges, and have to overcome gaps in capacity as well. The polio eradication programme in the Region faced such challenges too.

The subnational campaigns in India in July 2006 provided evidence of the flexibility and responsiveness of the country’s network. A total of 117 SMOs were moved from the not-so-high-risk states to the high-risk states of Uttar Pradesh and Bihar to provide the required surge capacity for medical health personnel. With this deployment, the number of SMOs in the two states increased from 166 to 283. In 1997, there were only five SMOs in Uttar Pradesh, but during the peak of the polio operations, the number rose to 100 – a high figure for just one state.

Undaunted by geographical and demographic hurdles

In India, even the tumultuous river Kosi in full spate, and the subsequent floods in 2008 did not deter the SMOs from vaccinating every child. Likewise, in Myanmar, the RSOs spent nearly 70% of their working time on the road to reach and vaccinate those affected by polio. It was as if they were on a hunt to locate and vaccinate the last child in a floating migratory population that lived in makeshift dwellings. These officers’ job was extremely arduous since they had to constantly be on the move. Despite the hardships, however, the RSOs were determined to perform their surveillance and immunization duties.

It was equally daunting for medical officers in Indonesia to reach the target children in very diverse geographical areas, spread across 17,305 islands. The officers also faced a formidable challenge in terms of communication, as they had to deal with a population belonging to 265 different ethnic and tribal groups, which spoke a variety of dialects.

In Bangladesh, the medical officers had to find ways of dealing with the problems posed by poor sanitation in urban slums, a skeletal infrastructure and the migrant population. In Nepal, travelling to and accessing the remote and mountainous regions to reach the target children was a big obstacle for the team of medical officers.

In all these countries, the medical officers faced one type of hurdle or the other while carrying out their duties. Sometimes they travelled on foot, at other times, they had to take perilous rides on helicopters, trucks or boats, and even camels to reach the far-flung areas where children needed to be vaccinated. No small feat, by any stretch of the imagination! However, behind the scenes, the Network provided the massive infrastructural and moral support that made it possible for the team of medical officers, administrative assistants and drivers to travel in the difficult conditions and emerge as the knights of the Network.

‘The polio programme was a game changer in more ways than one, and paved the way for strengthening health systems and making them more responsive. Capacity-building through regular refresher trainings was the core of the whole response during the polio campaign and contributed to the high-quality implementation of activities that we have been able to achieve’

– Dr Asish Satapathy, Regional Team Leader, South, WHO India
Using experience to reach underprivileged population

The polio infrastructure had access to sections of society which were marginalized and difficult to reach, and which were also the most vulnerable to such diseases. The Network had plenty of experience in working with the underprivileged communities. Undoubtedly, it would have been an uphill task to root out the polio virus from these five countries had it not been for the rich experience of the Network. Putting its experience to good use, the Network developed capacity and built reservoirs of knowledge, both in the political arena and in society, to help the programme for polio eradication percolate to every section of the population.

Educating the community

The SMOs were adept at multitasking. They wore many hats and played several roles adroitly. At times, they even had to double-up as counsellors and agony aunts for the villagers. The SMOs had to be effective and impassioned communicators to convince unlettered or superstitious people about the need for the vaccination. While carrying out their duties, the medical officers were required to raise awareness among the community members. Not only did they have to do their job in an exemplary manner, they also had to create more of their kind by mobilizing health workers to become intrepid vaccinators.

Partnerships and collaboration

By virtue of its medical officers, the Network was the vital link between the health department of the governments and the other stakeholders. It cemented the bonds and alliances formed, both at the national and subnational levels.

Microplanning

This was the secret mantra behind the success of the Network’s polio eradication programme. It is to be noted that microplanning was a very potent tool even in the war against COVID-19, a subject that is discussed in the next chapter.

With the objective of eradicating polio through the systematic immunization of every child in the target population, the Network supported the countries in making and implementing polio microplans. These plans adopted the innovative strategy of conducting house-to-house vaccination. The house visits came to play a critical role in the identification of unreported cases. House-to-house vaccination enabled the countries’ health services to reach everyone, including underserved communities among which the burden of polio was greater.

Monitoring and supervision

The Network developed monitoring and supervision mechanisms to be able to establish and maintain efficient surveillance and immunization systems. It also developed tools for the assessment of the quality of the surveillance system and the polio campaign over a stipulated time, with the progress being measured against the set norms and baseline data. The Network used the information locally to address and resolve problems and this, in turn, strengthened the evolving programme.
Rising like a phoenix from the ashes

The five children featured in this section were the last polio cases in their respective countries and, like several other children, have fought the debilitating disease with extraordinary courage. They represent the indomitable human will to survive and outlive disease. Given the exemplary positivity and optimism they have displayed, all five are heroes in their own right.

Recent visit to the families of these children, except in Myanmar where it was not feasible, showed some of these children are doing well today and are leading life on their own terms. Others nurture big dreams. Their willpower is strong enough to make their dreams come true, besides the fact that they are bolstered by the goodwill of the entire Network. Their ability to turn adversity into opportunity gives the distressed and diseased a reason to hope.

Hridoy Ahmed: Bangladesh
Hridoy was just four years old when the medical team in his district diagnosed him with polio. At first, his parents were terrified and feared the worst possible outcome. But thanks to the perseverance and dedication of the SMOs in their district, they were able to get the boy vaccinated after some time. This ensured that he would not waste away due to the debilitating disease. Today, Hridoy runs with the wind and plays football at the district level. He dreams of representing his country in football. No milestone is too distant for this optimistic and energetic young man.

Ruksar Khatoon: India
Ruksar, who is in fifth grade, smiles shyly—not once, nor twice, but often. Not only does she giggle, she walks, runs, plays and dreams of becoming a doctor one day to serve the people. She has kept herself afloat against all odds, on the strength of her exceptional courage and determination. These qualities, together with her tenacity and willpower, will stand her in good stead when she prepares to embark on a new journey as an adult. We wish her every success in her future endeavours and hope she fulfils her dreams with the resilience so characteristic of her.

Sirgedar: Myanmar
Sirgedar was born in the Maungdaw township of Rakhine State in 2004. She was barely three years old when she was infected with wild poliovirus, which resulted in paralysis of both her legs. She has kept herself afloat against all odds, on the strength of her exceptional courage and determination. These qualities, together with her tenacity and willpower, will stand her in good stead when she prepares to embark on a new journey as an adult. We wish her every success in her future endeavours and hope she fulfils her dreams with the resilience so characteristic of her.

Sunandi: Indonesia
Sunandi, a young man now, who was stricken by polio as a child, has displayed a steady determination and courage that go beyond his twenty-three years. He aspires to an independent life full of promise and hope. He is bent on overcoming the obstacles that the debilitating disease has placed in his path. It is saddening to hear his recollection of the social ostracization he faced from his peer group in his teenage years. But this did not deter his will to live. Today, his fighting spirit, perseverance and desire to live life to its fullest have infused his mother with courage. She engages with young Indonesian mothers to raise awareness of polio and advises them to get their children vaccinated. She is happy that health and transport services have improved greatly in their part of the world.

Salimullah Alam: Nepal
Life has been an uphill struggle for 12-year-old Salimullah Alam, who walks with difficulty and had to drop out of school because of various problems. But now he hopes to get the right type of prosthetic support. He looks forward to getting back to school and to the prospect of a brighter future. Like the other four children, he is determined not to sink under the weight of his misfortune. These stories highlight the grit of the survivors of polio and their ability to resurrect themselves so as not to be a liability on their parents and society at large.
Going beyond polio

Once the dream of achieving a polio-free SEA Region was realized, the Network expanded its ambit to focus on other activities in the arena of public health. Among the goals it pursued were the elimination of measles and rubella in the Region, expansion of laboratory-supported surveillance for other VPDs and introduction of new vaccines. The Network also intensified its efforts to strengthen RIs to achieve the goals outlined in the SEA Regional Vaccine Action Plan 2016–2020. It is worth taking a brief look at some of the Network’s contributions to the achievement of broader immunization goals, as well as the support provided by it during emergencies.

Elimination of measles and rubella

The Network played a pivotal role in the acceleration of progress towards the elimination of measles and rubella. It leveraged capacities built over the years for the establishment of a robust system capable of timely reporting of MR surveillance data. It took measures to ensure that the system had regular feedback and follow-up mechanisms, as well as an adequate capacity for outbreak response. The Network’s experience with the polio programme stood it in good stead in the MR vaccination campaigns. This was particularly true in the areas of planning, preparedness, advocacy and social mobilization, the implementation and monitoring of mass vaccination campaigns, including school-based campaigns, and intersectoral and intrasectoral collaboration to ensure the optimal use of resources.

Japanese encephalitis

Based on the successful model of the WHO laboratory network structure for polio, measles and rubella, the JE and AES laboratory network was established in the SEA Region in 2006. As of 2019, the JE laboratory network consisted of 13 national laboratories in nine countries and one regional reference laboratory in India (Bangalore). These laboratories supported surveillance for JE and AES in select countries of the Region.

Introduction of new vaccines

Once again, the Network served as a vital resource for the collection of reliable data on disease burden, facilitating evidence-based decision-making on the introduction of new vaccines. The core areas in which the Network provided technical assistance before the introduction of a vaccine were preparatory work relating to the planning of campaigns and the resources available, training at the national and subnational levels, assessment of the readiness for the introduction of a vaccine, and vaccine deployment. Following the introduction of a vaccine, it assisted with monitoring and evaluation.

The Network’s support for the introduction of vaccines

<table>
<thead>
<tr>
<th>Country</th>
<th>Type of vaccine</th>
<th>No. of new and underutilized vaccines introduced (2016-2020)</th>
<th>National supervision on introduction</th>
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<tbody>
<tr>
<td>Bangladesh</td>
<td>Hep B, Hib, IPV</td>
<td>2015, 2016-17, 2018, 2019, 2020</td>
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</tr>
<tr>
<td>India</td>
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<td>Indonesia</td>
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<td>2016-17, 2018, 2019, 2020</td>
<td>2</td>
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<tr>
<td>Myanmar</td>
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<td>2016-17, 2018, 2019, 2020</td>
<td>4</td>
</tr>
<tr>
<td>Nepal</td>
<td>Hep B, Hib, IPV</td>
<td>2016-17, 2018, 2019, 2020</td>
<td>2</td>
</tr>
</tbody>
</table>

**Table:**

- **Hep B:** hepatitis B
- **Hib:** Haemophilus influenzae type b
- **IPV:** inactivated polio vaccine
- **JE:** Japanese encephalitis
- **HPV:** human papillomavirus
- **PCV:** pneumococcal conjugate vaccine
- **RVV:** rotavirus vaccine

**Notes:**

- Data is as of 2020.
- Some countries have not yet introduced certain vaccines.
- The Network has provided technical assistance in the planning and introduction of vaccines.

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*Image: Children sitting in an organized formation, waiting to be vaccinated; while others flaunt their immunization certificates after being vaccinated for protection against measles and rubella during a school-based vaccination campaign in India (February 2017).*

*Image: A table summarizing the Network’s support for the introduction of vaccines.*
Interventions during disasters and emergencies

The Network pulled out all the stops in extending support to the countries during several disasters and emergencies. It helped with relief and rehabilitation and worked on controlling the outbreak of infectious diseases, while intensifying immunization activities. In fact, the SMOs have come to form a critical part of the health emergency workforce of the Region.

November 2002

SARS

India and Indonesia

December 2003

H5N1 avian influenza

Indonesia

December 2004

Tsunami

India, Bangladesh and Myanmar

April 2008

Cyclone Nargis

Myanmar

April 2015

Earthquake

Nepal

2013-2016

Ebola, W. Africa

(Network SMOs deployed)

2010-2012

Cyclone

Bangladesh

August 2008

Kosi river flood

India

2017

Mass influx of Rohingya refugees

Bangladesh

August-September 2018

Post-flood response

Kerala (India)

September 2018

Pahal

Earthquake

Indonesia

2019

Cyclone

Fani

India

2020

COVID-19

Bangladesh, India,

Indonesia, Myanmar

and Nepal

When nature unleashed its fury: Cyclone Nargis (Myanmar)

The devastating Cyclone Nargis struck Myanmar in 2008, as if to make matters worse for a country struggling to eliminate polio. The disaster claimed at least 146,000 lives and caused untold damage. It resulted in floods and landslides and brought misery to the local population.

The Network team, which had been working tirelessly on surveillance and immunization to battle polio, had to reorient itself in the wake of the cyclone. The RSOs got actively involved in relief and rehabilitation work, as well as the prevention and control of infectious diseases. In addition, they set up an early warning reporting system. The officers were able to detect cases of severe diarrhea, acute jaundice and fever with rashes that would culminate in measles. They conducted emergency immunization against measles and made every effort to control outbreaks.

“When regional health departments assigned regional surveillance officers for other emergencies, such as the control of other communicable diseases (like cholera, food poisoning, hepatitis and typhoid) and other communicable diseases and emerging infectious diseases which reached epidemic proportions”

- Dr Ye Hla, Consultant, WHO Myanmar

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- Dr Ye Hla, Consultant, WHO Myanmar
Disasters and disease outbreaks: NPSP to the rescue (India)

As pointed out by experts in various interviews, it is a well-known fact that the NPSP has supported various public health initiatives at the subnational level. This includes response to disasters and emergencies in inaccessible and remote areas, in addition to areas of compromised safety.

The microplane prepared by the NPSP for polio vaccination campaigns helped India in the detailed mapping of hard-to-reach areas and populations. This, in turn, served as an important tool in the disaster relief operations during the Kosi river floods in Bihar in 2008. The river breached its embankment near the Indo-Nepal border and inundated areas that had not been flooded in decades. The NPSP field staff assisted the National Disaster Response Force in identifying and reaching the flooded hamlets. Moreover, it facilitated the rescue of stranded people who had not been able to move to higher ground in time.

It has also provided such support to other countries. In 2014, SMOs from the NPSP were deployed to Nigeria to provide technical assistance for polio eradication. The following year, they supported the response to the Ebola outbreak in Sierra Leone and Liberia. Subsequently, the SMOs helped to improve coordination in the health sector in neighbouring Bangladesh. They were then deployed in Cox’s Bazar to strengthen VPD surveillance and support the implementation of quality vaccination campaigns, besides improving the management of VPD cases.

One of the noteworthy instances of the role played by the NPSP during national emergencies was the provision of technical assistance for strengthening surveillance for Zika cases in India through the generation of data on the Guillian–Barre syndrome from the AFP surveillance database. Equally laudable were its efforts to shape the response to the floods in Kerala in August-September 2018. This included encouraging private health facilities to report diseases, which enabled the state government to release revised treatment guidelines to bolster and expedite its response. In May 2019, the NPSP made significant contributions to the response to Cyclone Fani in Odisha.

When the earth shuddered: earthquake 2015 (Nepal)

On the fateful day of 25 April 2015, Nepal was shaken by a devastating earthquake. It was one of the biggest earthquakes the country had witnessed and was followed by hundreds of aftershocks. A whopping 31 of the country’s 75 districts were gravely affected. Of these, 14 districts that were severely affected were prioritized for rescue, relief and recovery operations.

On the third day after the disaster, 14 SMOs from the WHO Country Office for Nepal were deployed in the 14 worst hit districts to assist the local health authorities with the coordination of the health sector’s emergency response.

Later, in January 2016, WHO recruited and trained 12 Nepalese medical doctors, whose primary role would be to provide technical assistance to the health authorities in the districts that had suffered the greatest damage.

These emergency support officers performed diverse functions. They monitored the health services and were tasked with ensuring the recovery of these services. They were involved in the reconstruction of health facilities and monitoring the stocks of essential medicines. In addition, they facilitated reporting of disease surveillance data to the health ministry and assisted in the investigation of outbreaks.

The reporting of disease surveillance data by the 14 worst hit districts improved to such an extent that 13 of them became capable of reporting data to the health ministry. This resulted in improving the timeliness gradually.

Nepal recorded 44 disease outbreaks from January to December 2016. During this period, the SMOs offered technical and logistical support, besides training district rapid response teams to investigate and contain 33 of the outbreaks.
The influx of Rohingya refugees (Bangladesh)

In August 2017, the Cox’s Bazar district in Bangladesh witnessed the influx of 860,000 Rohingya migrants from the Rakhine province of Myanmar. Sanitary conditions were poor in the overcrowded refugee camps, which thus became a breeding ground for several diseases. Widespread malnutrition further increased the refugees’ vulnerability, as did the constant threat of floods and landslides in their country of adoption.

The Network leveraged its capacities to protect this population from VPDs, using sensitive laboratory-supported surveillance, including environmental surveillance for polio. It also intensified immunization activities.

At the first meeting of the WHO SEA Regional Steering Committee on Polio Transition held in December 2019, Dr Ofrin, former Regional Emergencies Director, WHE, WHO Regional Office for South-East Asia (2016–2020) highlighted the contribution of the Network during past emergencies, particularly in the early phase of the Rohingya crisis in Bangladesh (2017–2018).

During the mass vaccination campaigns,
- 4 million doses of 9 antigens were administered;
- more than 95% of the population of 1.3 million was covered;
- a potentially massive epidemic of cholera was averted; and
- outbreaks of diphtheria, cholera and measles were managed and contained promptly.

"The SMO infrastructure served as an invaluable resource for addressing the critical need to prevent VPD outbreaks. Within a little over a year, the IVD team of WHO Bangladesh conducted one of the largest mass vaccination campaigns starting October 2017. This was made possible by the regular deployment of SMOs from Bangladesh, Nepal and India; the provision of financial resources from donors such as Gavi; cooperation between the WHO country offices, and interdepartmental collaboration at the regional level of WHO.

This was not the only emergency during which the Network’s workforce made invaluable contribution. Similar collaboration was witnessed in the Nepal earthquake response of 2015 and the response to several monsoon floods in India. Globally, the SMO team contributed to the efforts to control the 2014 Ebola outbreak in West Africa. Forty-four SMOs were trained and deployed in 12 districts in two countries for six months to support the response."

- Dr Roderico Ofrin, former Regional Emergencies Director, WHE, WHO Regional Office for South-East Asia (2016–2020)
Given the country’s history of frequent natural disasters, the Network deployed its surveillance and immunization officers to operate during emergency situations as well. They focused on the prevention of disease outbreaks by organizing immunization campaigns, conducting surveillance activities and building laboratory capacity.

The Network extended whole-hearted support to the district authorities both before and after Cyclone Amphan, which hit Bangladesh and eastern India in May 2020, in the midst of the COVID-19 pandemic. Before the cyclone made landfall, it helped with making the people aware of the danger, preparing shelters, enhancing disease surveillance and ensuring the safe storage of vaccines. The cyclone forced 4 million people to seek refuge in temporary shelters. The Network helped with getting information on the cyclone-affected areas and extended medical assistance, while continuing with immunization activities. Again, in July 2020, during the flash floods and landslides that affected 2.4 million people in 18 districts, the Network supported the district authorities in providing medical aid and other assistance to the over 530,000 families that had to be moved to temporary shelters.

Indonesia was struck by a massive earthquake in 2018. This was followed by a tsunami, and subsequent liquefaction and landslides.

Earthquake, tsunami and landslides (Indonesia)

The polio network coordinated with the EPI of the MOH to conduct an assessment of cold chains, including that for the polio vaccines, IPV and OPV, in the four earthquake-affected districts. It also ensured the continuation of the RI and MR campaign in these districts.
CHAPTER 2 - RESPONSE TO COVID-19 A JOINT RESPONSIBILITY

Response to COVID-19 a joint responsibility

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2020

The WORLD came to a STANDSTILL
Bracing for the unseen enemy

The COVID-19 pandemic altered the contours of the world as we knew it. Suddenly, life screeched to a halt. Everything changed in the wink of an eye. There was an eerie silence as the streets emptied out and the human race was sequestered indoors, within the confines of their homes. It was the only way to stop the march of the novel coronavirus (SARS-CoV-2), which was galloping across borders.

The sudden onset of the pandemic shook us up and overwhelmed the global health-care system. The world learned to adjust to new norms of working and living. "Social distancing", "handwashing" and "masks" became new catchwords as we sought to protect ourselves from the vicious virus. There was a disconcerting slowdown in the pace of life that left us with plenty of time to introspect and mull over the purpose of our existence.

Countries across the world were not prepared to handle the unprecedented situation created by the COVID-19 pandemic. Their existing resources came under tremendous pressure from coping with the demands of the surging number of cases. The lockdowns and travel restrictions adversely impacted the health programmes, routine operations and the overall economy.

It is true that this is not the first time that humankind has been besieged by a pandemic of such an immense scale. A hundred years ago, a world that was recuperating from World War I was struck by the lethal Spanish flu, which was far deadlier than anything humankind had ever seen before. This infectious disease, caused by the H1N1 influenza virus, infected more than 500 million people. Some of the other infectious diseases that wreaked havoc globally and left health-care systems reeling were the "Black Death", smallpox and cholera. The ravages of such pandemics show us how extremely vulnerable we are. The emergency preparedness of society and the health systems has been, is, and will always remain vital for the implementation of a swift, efficient and united response. Further, the response launched to counter one emergency or a pandemic can make an immense contribution to the handling of other emergencies and disasters in the future.
Unprecedented situations require exceptional leadership and a collective, whole-hearted response from every community. The magnitude of the spread and scale of the pandemic, as well as the suddenness of the onset impelled WHO to respond immediately in its South-East Asia Region. The Network, which has a strong presence in the five polio priority countries (Bangladesh, India, Indonesia, Myanmar and Nepal) of the Region, stepped up to support the health departments of these countries to battle against the virus stoically. This chapter provides a glimpse of the Network’s range of activities to assist the five Member States and reflects the enormity of the task of combating COVID-19.

The robust polio infrastructure, built over the last two decades, was amongst the first resources to be accessed in the response to the pandemic. With its effective surveillance and immunization system, the Network proved to be an invaluable resource. The activities it undertook to check the rampant spread of SARS-CoV-2 were early detection of cases, isolation of infected persons and tracing of contacts. The Network had evolved a well-managed system that included investigating cases, collecting samples, transporting samples to laboratories, and reporting so that the necessary remedial measures could be taken, something which had proved vital in the battle against polio and other vaccine-preventable diseases (VPDs). In its handling of the pandemic, it was the Network’s rich experience and strong infrastructure that proved to be its forte.

Investigation of cases and tracing of contacts are key strategies for preventing the spread of COVID-19 as they can slow down transmission or break the chain of transmission. In shaping its COVID-19 response, the Network drew upon its prior experience in active case-search in communities under the polio eradication programme, and decided to support various methods of contact tracing. It provided technical support to states and districts for microplanning to help trace contacts and define containment zones, as well as for the overall management of data.

To assist the governments in introducing laboratory testing for COVID-19, the Network effectively leveraged its extensive network of laboratories, hitherto used to detect polio, measles, rubella and other VPDs. It also drew upon its tested capacities, resources and knowledge acquired in the field.

The governments of the five countries discussed here imposed stringent restrictions on travel during the period of "lockdown". In the midst of this, the Network’s vehicles and task force on the ground continued to be on the move to transport COVID-19 samples from patients to the specified laboratories. It was imperative to provide uninterrupted support for the transportation of essential supplies, such as personal protective equipment, and the Network treated this as one of its topmost priorities. With a set-up consisting of nearly 400 field offices and equipped with almost the same number of drivers and project vehicles, the Network was in a
unique position to provide the logistical support required for the transportation of essential supplies. The field offices, which were equipped to arrange for all the resources necessary for handling unforeseen needs, such as the hiring of vehicles, were at the centre of the immediate response to the pandemic.

Health workers, field personnel and frontline workers in every corner of the five countries were given short-term training on technical issues and the adoption of protective measures.

The Network used its expertise to offer high-quality cascaded training sessions. The experience and knowledge of the tools and methodologies for building immunization-based capacities, both in technical and operational terms, helped surveillance and immunization officers in Bangladesh, India, Indonesia, Myanmar and Nepal to play a vital role in organizing training sessions at the national and subnational levels to ensure effective COVID-19 preparedness and response by the Member States.
Marshalling forces for the new game

As the countries of the Region geared up to meet the enormous challenge of containing the havoc wreaked by the virus, the Network redefined its role to lend much-needed support to the governments of the five polio priority countries. It stretched itself to address the specific needs of each country – providing guidance, building capacity, and offering human, technical and other resources.

Every story has a hero, a protagonist, and in the success story of surveillance, the heroes were the SIMOs. The SIMOs have played a vital role in surveillance and they continue to do so. One of the reasons for their success is their familiarity with the local areas and community. It is not surprising then that the surveillance network has been acknowledged as a highly valuable resource for the COVID-19 response.

WHO Bangladesh
A timely response in India

Unprecedented emergencies like the COVID-19 pandemic sometimes bring out instances of exemplary leadership and amazing initiative. This was true of India’s response to the pandemic, which had already started spreading by March 2020.

In April 2020, the Government of India’s Ministry of Health (MoH) and WHO made a call for a joint collaboration to tackle the challenge of the COVID-19 pandemic. In this laudable initiative, Dr Harsh Vardhan, Minister of Health and Family Welfare, Government of India, along with Dr Poonam Khetrapal Singh, WHO Regional Director for South-East Asia, addressed WHO and other field staff, simultaneously connected, from over 1000 sites all over the country – from capital cities to the remotest corners.

‘Time and again, the Government of India and WHO together have shown our ability, competence and prowess to the whole world. With our combined meticulous work, done with full sincerity and dedication, we were able to get rid of polio. Today I would like to remind you of your potential and ability, and the big things we can do together. All of you in the field – IDSP, state rapid response teams and WHO – are our ‘surveillance corona warriors’. With your joint efforts we can defeat the coronavirus and save lives…WHO is an important partner in our fight against COVID-19. I really value the guidance and contributions made by the WHO in containing the spread of COVID-19 across the country’

Dr Poonam Khetrapal Singh, WHO Regional Director for South-East Asia

Subsequently, WHO’s field personnel, most of whom are a composite part of the Network, were engaged in the COVID-19 response. In the long and checkered history of polio surveillance, this was not the first time that the Network had been mobilized to respond to unforeseen emergencies or disasters, such as floods, earthquakes, tsunamis and even outbreaks of other communicable diseases.

The press release issued by the minister bears testimony to the potential of the Network to launch a swift emergency response. Lauding the efforts of the “surveillance corona warriors”, Dr Harsh Vardhan said:

‘It is now time to use all your experience, knowledge and skills, with the same rigour and discipline that you showed while monitoring polio activities, to support districts with surveillance, contact tracing and containment activities’

Dr Poonam Khetrapal Singh, WHO Regional Director for South-East Asia

Dr Khetrapal Singh, on her part, spoke of the role of surveillance in checking the transmission of polio. She highlighted the critical role played by the National Polio Surveillance Project (WHO NPSP) in strengthening surveillance and generating useful, timely and accurate data to guide policies, strategies and interventions until the transmission of the poliovirus was interrupted in the country.

She said that in the fight against COVID-19, a stage had been reached where surveillance would play a vital role in formulating future strategies for containment, and that the strengths of the NPSP team – surveillance, data management, monitoring and supervision, and responding to local situations and challenges – would be utilized to supplement the efforts of the NCDC, IDSP and ICMR to strengthen surveillance.

Dr Khetrapal Singh urged the field staff to support the state and district governments, adding that the NPSP team would support the sharing of information and best practices and help states and districts calibrate their response based on transmission scenarios and local capacities.

‘It is now time to use all your experience, knowledge and skills, with the same rigour and discipline that you showed while monitoring polio activities, to support districts with surveillance, contact tracing and containment activities’

Dr Poonam Khetrapal Singh, WHO Regional Director for South-East Asia
To eliminate polio, WHO had established a district-level network of surveillance medical officers in Bangladesh. This well-trained, fully equipped and reliable field network with a national presence later came to be known as the surveillance and immunization medical officers (SIMO) network.

The SIMO network subsequently got involved in various other activities, such as microplanning to handle disasters or emergencies, supporting the Ebola response in Africa, managing the situation arising from the largest influx of the Rohingya and their settlement in Cox’s Bazar, and extending support for VDP surveillance and immunization. Further, it was involved in planning, coordination and data analysis during the diphtheria outbreak, as well as the campaigns for the oral cholera vaccine and massive-rabies vaccine. Therefore, the SIMO network was totally prepared for medical emergencies in the country and proved to be WHO’s most invaluable field resource in the response to this public health emergency.

The network got to work within a week of the detection of the first COVID-19 case in Bangladesh. This response entailed countrywide coordination and large-scale operations that involved several players at various levels. These included the divisional and district health authorities, health workers and health-care professionals, development agencies, civil society organizations and members of the community. The SIMOs pooled their resources and expertise to achieve their common goal, that is to launch a swift joint response to the deadly pandemic. Utilizing the network’s structure, the WHO country office worked towards improving coordination between the stakeholders.

The field network comprised about 150 persons, who facilitated the organization of frequent meetings, both virtual and in person. These included meetings that involved programme managers at the middle and senior levels, with the aim being to enlist their support for contact tracing, planning, coordination, training and laboratory assistance. The network’s personnel spent long and arduous hours planning, coordinating and communicating with various stakeholders in the community. They had to don many hats and function variously as mentors, facilitators for training health workers, technical advisors, coordinators of the collaborative efforts of various agencies, and advisors to the community in order to align the response to the pandemic.

“Since the beginning of the pandemic, WHO has offered valuable technical support to the Directorate General of Health Services. WHO’s field officers’ network has been instrumental in strengthening COVID-19 response coordination at the district level, identifying and filling gaps, and ensuring synergy between the public health actions of the various health partners. By facilitating training, coordinating the delivery of supplies, supporting surveillance or being valuable technical advisors, WHO’s surveillance and immunization medical officers from all the districts have been essential for the government’s preparedness and response to this unprecedented health crisis.”

- Dr Abul Bashar Mohammad Khurshid Alam, Director General of Health Services, Bangladesh
Reorienting the network of PHOs in Indonesia

At the very onset of the COVID-19 pandemic, WHO offered logistical and technical support to the provincial health officers (PHOs), who are employed at the district level of the health system of Indonesia. The WHO surveillance network was closely associated with the monitoring and implementation of the COVID-19 response plan. It extended support for the rolling out of the vaccination programme at the district level, as also for surveillance, contact tracing and data management. In addition, it coordinated the training of vaccinators, disseminated the latest technical guidance and assisted in implementing the vaccination information system.

The WHO field team engaged various stakeholders and arranged for frequent interactions between them, both physical and virtual, to coordinate the response to the pandemic.

‘With the Network as advisor and the Government as executor, we stand together to prevent the spread of COVID-19. We are committed to building a long-lasting relationship between the Network and the government’

- Dr. Vinod Bura, Medical Officer, EPI, WHO Indonesia (2015–2019)

Training to strengthen routine immunization and surveillance during the COVID-19 response in Manokwari Selatan district

Leading the charge against COVID-19 in Myanmar

In Myanmar, leadership played a vital role in the response to COVID-19. Both the government health department and the Network played a proactive role in intensifying surveillance and enhancing the routine surveillance system from January 2020 onwards. All state and district health authorities were alerted about the pandemic and its rapid spread across the world. Smooth and efficient coordination mechanisms were established to enable the township public health officials to conduct effective surveillance and contact tracing.

More than 50% of the staff of the Expanded Programme on Immunization (EPI) at various levels were repurposed for activities related to COVID-19 and became key members of the Incident Management Team (IMT) for the COVID-19 response. Their activities included extending laboratory support, ensuring effective communication, handling issues related to migration, and infection prevention and control.

Following approval from Gavi, the Vaccine Alliance of the activities planned in response to COVID-19, the Coalition for Epidemic Preparedness Innovations (CEPI) and partners (WHO and UNICEF) worked intensively to implement these activities. Substantial support was offered to the Ministry of Health and Sports, Myanmar to bolster its efforts to control, treat and contain COVID-19, specifically in four strategic areas:

- Enhancing disease surveillance and preventive measures
- Strengthening laboratory readiness
- Strengthening infection prevention and control and improving case management
- Strengthening community engagement and risk communication

Mask campaign at Ming Le, Special Region 4, Shan East

WHO Indonesia

WHO Myanmar
Shaping the response in Nepal

In Nepal, the outbreak of COVID-19 and its extensive spread across the world prompted the Network to immediately step in to provide an appropriate response, both at the national and field levels.

Drawing upon its expertise, experience and medical knowledge, a 60-strong team of WHO’s Immunization Preventable Disease team (WHO IPD) in Nepal shaped the surveillance response to COVID-19 across seven provinces and 77 districts. When the country was under a lockdown, the teams of the WHO IPD and WHO Health Emergencies Programme (WHE) in Nepal worked intensively in tandem with government agencies to meet the unique challenges posed by the pandemic. One of the many tasks entrusted to this network of personnel was to frame guidelines and draw up standard operating procedures (SOPs) for health workers and members of the community. The network also provided data management and logistical support, which included data management tools and estimation of logistics. While launching interventions at the sub national level, the network collaborated with the emergency team of WHO at select locations for a coordinated response.

To make for greater efficiency and allow people to settle into their new roles as comfortably as possible, an effort was made to place them in jobs with which they were familiar.

“We tried to match people’s normal jobs, or their strengths, with similar jobs related to COVID-19. If somebody was doing surveillance, we involved him or her in surveillance work for COVID-19. If somebody was already involved in logistics, we put them in logistics, and so on. Though people had to step out of their comfort zone, we tried to minimize this as far as possible. This way, there would still be a link with their normal work.”

- Dr Jos Vandelaer, WHO Representative to Nepal (2015–2020)
Masking and social distancing – the new norms
The four T’s: testing, tracking, tracing and treating

Once again the human race finds itself in a situation similar to that prevailing a few years ago when robust surveillance proved to be critical in the fight against polio. Thus, it is not surprising that the polio networks were called upon to lend a helping hand to various countries in their efforts to handle the COVID-19 outbreak. They were involved in activities ranging from monitoring and ensuring contact tracing of COVID-19 cases to making sure that the standard protocols related to containment were being followed.

Early detection and timely action have been critical components of the fight against polio and other VPDs. Likewise, for COVID-19, early detection, isolation and contact tracing are prerequisites for interrupting the chain of transmission. The need of the hour was setting up a well-managed system of testing, tracking, tracing and treating that could keep pace with the ominously advancing wave of infection.

This is where the Network played a critical role. It utilized its wide network of active surveillance sites to report influenza-like illness (ILI), severe acute respiratory infection (SARI), and COVID-19 (confirmed, probable, suspect) cases, outbreaks and deaths. WHO’s technical guidance and expertise, together with the Network’s support in the form of building capacity, providing laboratory assistance, managing data, and so on helped the countries in the Region shape their response to the pandemic.
Helping India plan its COVID-19 response

Drawing upon its polio experience, the WHO NPSP team was quick to prepare 15 planning templates to undertake activities such as control room meetings, supervision, microplanning of containment zones and community mobilization.

Control rooms were made functional to undertake and review surveillance, and monitor quarantine facilities, testing and treatment measures at the state, district and block levels. The daily proceedings were shared with all key stakeholders, allowing the team to map the progress of the response and take corrective actions, if required.

As early as April 2020, the WHO NPSP coordinated with the Integrated Diseases Surveillance Programme (IDSP) to develop guidelines on tracing contacts of symptomatic, pre-symptomatic and asymptomatic cases. These included SOPs for tracing contacts in containment zones. The WHO NPSP field team also strengthened efforts to trace contacts at the state level through the provision of feedback to the IDSP.

The Network monitored a range of activities to facilitate quality response and evidence-based decision-making at the national and subnational levels.
SIMOs at the core of Bangladesh’s response

Since the start of the pandemic, 64 SIMOs and seven divisional coordinators played a dominant role in shaping Bangladesh’s COVID-19 response in the districts. They were involved in ensuring field coordination, building capacity in infection prevention and control (IPC) and contact tracing, supporting and seeing to the timely transportation of supplies and laboratory samples, conducting surveillance, and helping to maintain routine immunization activities.

Being at the centre of the health system’s reporting mechanism, the SIMOs coordinated with the Institute of Epidemiology, Disease Control and Research (IEDCR), as well as the local and central authorities in the collection of information and the listing of positive cases for contact tracing. They also worked with different stakeholders and members of the community and discussed local response measures with civil surgeons. At the ground level, they worked to ensure the smooth delivery of supplies to facilities, educated drivers on safety measures and helped to maintain water supply in shelters. Together with this, they collaborated with government authorities to implement and support the National Preparedness and Response Plan.

Surveillance work in Rohingya camps in Bangladesh

In Cox’s Bazar, home to one million Rohingyas who had fled Myanmar in 2017 and the site of the world’s largest refugee camp, SIMOs worked continuously with 20 health monitoring officers to sustain surveillance activities in the field. They also focused their efforts on preventing outbreaks of disease and on VPDs.

The task of containing the spread of COVID-19 in the Rohingya population and the host communities was particularly challenging. The overcrowded camps and the limited sanitation facilities made the job a daunting one, while the difficulty of maintaining the requisite norms of social distancing compromised the safety of the officers.
Decentralization key to success in Nepal

In Nepal, provincial and local government ownership was the key to the success of the surveillance activities. WHO field teams catalysed the involvement of the provincial governments, with commendable results. For instance, in the province of Lumbini, the Minister of Social Development was personally involved in monitoring the investigation of early case clusters in the Rupandehi and Kapilvastu districts in the first and second weeks of May.

Investigating the initial cases in Nepal

Nepal announced a nationwide lockdown on 23 March 2020 to combat the looming COVID-19 threat. A month into the lockdown, on 21 April, a cluster of COVID-19 cases was identified in Udayapur district, near Biratnagar in Province 1.

The surveillance medical officer (SMO) of WHO IPD in Biratnagar and the field medical officer of the WHE team lent their support to the rapid response teams of the federal and local governments. They conducted a prompt and thorough investigation, in the course of which they identified more cases. Ultimately, it was found that the likely source of infection was an imported case.

SMOs supported the investigation of clusters of COVID-19 cases in Province 1, Province 5 and Province 2. The VPD field network worked closely with the WHO emergency field network to investigate cases and guide contact tracing.

I wish we had 48 hours in a day.

In public health, data show you the way. Without data, or without the mechanism to monitor what is going on – what we usually call ‘disease surveillance’ – any public health programme works in the dark, without direction. Or to put it another way: surveillance works like the eyes and ears of the programme and keeps people safe.

- Dr Anindya Sekhar Bose, IPD Programme Team Lead, WHO Nepal (2016-2021)
With the neighbouring countries recording a high number of COVID-19 cases, Myanmar faced a serious challenge in terms of the risk of imported cases. To control the spread of the pandemic, surveillance efforts were enhanced at points of entry (airports, sea ports, border crossing points), in hotels and health-care facilities, and at the level of communities. The Early Warning Alert and Response System (EWARS) was implemented in areas with vulnerable communities and where humanitarian operations were underway, that is Kachin and Rakhine States. This complemented the routine surveillance system under which notifiable diseases were reported and monitored in areas where the normative disease surveillance mechanisms had been disrupted.

The Network made a notable contribution to enhancing surveillance for COVID-19. Its activities were consistent with the focus on rapid detection of imported cases, comprehensive and rapid tracing of contacts, and case identification. Further, it supported the daily surveillance data report to be sent to the Central Epidemiology Unit (CEU), Department of Public Health. It was involved in the activation of the health emergency operations centre, coordinating surveillance and response schemes, the use of social media for information gathering, and screening and quarantine services at points of entry. The country continues to generate robust COVID-19 surveillance data to adjust public health measures appropriately.

The Regional Health Department collaborated with hospitals at the national and subnational levels, as well as with the Medical Care Department, to enhance preparedness and shape the measures to be taken in the areas of IPC activities and COVID-19 case management.

Assessment of facilities

The Network was requested by countries to assist in the setting up and strengthening of health and quarantine facilities for dealing with the rising number of COVID-19 cases. It was also requested to assess these facilities to ensure that they were well-equipped to handle such cases.

In addition, the Network designed a format/checklist for the comprehensive assessment of sites, covering details such as the availability of handwashing facilities, personal protective equipment (PPE) kits for the staff and the requisite medicines. This helped the countries to strengthen their health facilities further.
India: During interactions with the government, the assessment team noted that the government recognized the WHO NPSP’s contribution to the evaluation of approximately 600 dedicated COVID-19 hospitals and more than 1200 dedicated COVID-19 health centres. The shortcomings highlighted by the WHO NPSP helped the state governments to plug the gaps in implementation and thus, provide better treatment facilities to patients. Further, in collaboration with the National Health System Resource Centre, Government of India, the WHO NPSP assessed more than 150 dedicated COVID-19 hospitals across the country focusing on the hospitals’ preparedness for and response to the pandemic.

Bangladesh: In its attempt to counter the looming threat of the pandemic, Bangladesh planned a Joint National Health Facility Preparedness and Readiness Assessment under the leadership of the Director General of Health Services. WHO supported this initiative by developing an assessment tool. This was followed by assessment visits at the field level in 59 out of 64 districts, of which 25 high-priority districts were covered by the SIMO network. The assessment resulted in strategic interventions to ensure the provision of essential supplies, such as oxygen concentrators, patient monitors, nasal flow cannulas and venturi masks.
Survey to assess preparedness in Indonesia

In Indonesia, the country of islands, WHO lent its support to the MoH to undertake a survey on preparedness for the pandemic and to draft and disseminate guidelines on tracing contacts. The core aim of the survey was to identify gaps and challenges, on the basis of which recommendations could be made.

The survey tool was developed on the basis of WHO’s guidance on preparedness for and response to the pandemic. To ensure its suitability for achieving the objective, WHO field teams in North Sulawesi, South Sulawesi, North Maluku, Papua and West Papua conducted hands-on field testing in July–August 2020. A mixed bag of strategies, including face-to-face and virtual assessments, was employed. The strategies targeted provincial health offices, port health offices, hospitals, district health offices, task forces, health centres and communities.

The fact that the Network already had an understanding of similar situations and had a knowledge of the prevailing system, made engagement with the main actors involved in COVID-19 preparedness and response easier. The Network facilitated adaptation of the survey tool, which provided the MoH with preliminary findings on preparedness and response in 15 provinces. As a result, seven provinces were able to strengthen COVID-19 surveillance, particularly case detection and contact tracing. The support provided to boost the COVID-19 response and preparedness was integrated with the country’s efforts towards VPD surveillance.

Using polio microplans to set up containment zones in India

The WHO NPSP was actively engaged in building capacity, supporting district control rooms and district magistrates/collectors, and helping rapid response teams with the timely identification of COVID-19 clusters. These measures were taken to initiate containment measures, monitor the search for active cases, trace contacts and provide feedback to states/districts for prompt remedial action.

Setting up containment zones with demarcated boundaries was a new idea and initially proved to be very difficult to comprehend and implement, particularly in urban areas. However, the microplans used for the elimination of polio came in very handy. As these are based on a strategy of house-to-house vaccination, the area of each team’s daily work is clearly demarcated in terms of the first, intermediate and last house visited. This procedure was used to develop the COVID-19 microplan, both in urban and peri-urban areas, in order to demarcate containment zones and carry out door-to-door investigation of active cases. This proved to be particularly useful in the case of migrants who had returned from other states.

House-to-house monitoring in Raghopur, Vaishali, Bihar

‘In response to a request from the Brihanmumbai Municipal Corporation, we conducted trainings for doctors, nurses, housekeeping and other staff on IPC in all the major government hospitals in Mumbai. Whenever we received a request from a private hospital, we conducted trainings there as well. All Assistant Medical Officers (AMOs) surveillance were trained by us. And then in each ward, we conducted trainings of medical officers and public health nurses on containment. We addressed questions such as: “What are containment and buffer zones?” “How should they identify suspected cases, trace contacts and how should they quarantine the cases?” was the second part of the trainings.’

- Dr Meeta Vashi, SMO, WHO India
A field monitor in Bihar shares his experience

Hello, I am Shishupal Kumar. I work as a field monitor at the WHO NPSP’s Darbhanga unit. When the coronavirus epidemic started, we were trained by the SMO. After the training, we physically tracked international passengers and non-residents, for which we sought the help of the local polio immunization staff. We guided people on maintaining a physical distance, washing their hands frequently and wearing masks.

To identify symptomatic people through during SARI and ILI surveillance, we took the help of the polio surveillance network. In the process, the details of a lot of people were recorded in the line list and they were to be tested later. All laboratory technicians were not trained to conduct tests. So, the SMO trained them at the district level, which helped to facilitate the COVID-19 testing process. When the Bihar government issued a directive for conducting individual home surveys, it seemed like a very difficult task. Once again, we used the polio microplans to give us direction. With the help of the polio vaccinators and supervisors, we conducted all the home surveys within the stipulated time. After all the identified symptomatic persons were tested, we planned the containment zones as per the Bihar government’s directives, working along the lines of the polio microplan.

Plains made our work even more challenging, especially in the containment zones. Once again, we followed the approach adopted during the polio eradication campaigns. We called upon old sailors and villagers to help shift the people from the flooded areas, and we carried on with the COVID-19 work, as well as the immunization work, in parallel. With the help of the lessons learnt from the polio experience and the SMO’s assistance, we will definitely be able to win the battle against COVID-19.

Silent district to green zone

As in the case of polio, some districts were not conducting an adequate number of tests. This resulted in low reporting of COVID-19 cases in several districts, called silent districts. A silent district or a part of it can be termed a green zone only when a certain number of people have been tested and there are no or a low number of COVID-19 positive cases. The Network undertakes an assessment of such districts to help identify the gaps that distinguished them from green zones.

Tracing contacts in Uttar Pradesh

As on 30 July 2020, Uttar Pradesh, India’s most populous state (population of about 200 million), had reported 77,334 cases, including 1,530 deaths. The Additional Chief Secretary, Medical Health and Family Welfare requested the WHO NPSP field team to assess the status and quality of the tracing of contacts of laboratory-confirmed COVID-19 cases for a duration of two weeks (1-14 August 2020).

Standard formats, including a questionnaire, were developed to ensure uniformity in the collection of data on the clinical symptoms and testing status of contacts, and to learn of the reasons for the failure to carry out testing during the period concerned. Experienced field monitors of WHO NPSP were trained to interview contacts virtually, using the standard questionnaires. They were under the direct supervision of the SMOs.

Uttar Pradesh made commendable efforts to sustain the quality of contact tracing, with 92.4% of the identified close contacts tested for COVID-19. As for the high-risk contacts not tested, 39% were not contacted by the district authorities or were not convinced by them to get themselves tested. A similar proportion were not willing to undergo the test.

Contact tracing in Mumbai – the epicentre of the outbreak in India

Maharashtra was the epicentre of the whole COVID-19 activity in around April-May 2020, with the highest number of cases being reported from this state during the outbreak of the COVID-19 pandemic in India. Initially the cases were reported from Pune city but after nearly two weeks, Mumbai which is more densely populated as compared to Pune, started to report cases of COVID-19.
Dharavi, Asia’s largest slum located in the heart of Mumbai, India’s financial capital, has a population density of 227,136 persons per sq. km. Each house measures 10 ft x 10 ft and accommodates about eight to ten people, 80% of whom use community toilets. These living conditions make it nearly impossible for the community members to maintain a social distance and they are extremely vulnerable to the transmission of COVID-19. Acknowledging the multitude of challenges that Dharavi presents, soon after the first COVID-19 case was reported on 1 April 2020, the municipal authorities requested the WHO field team to assist with containment activities in the area during a review meeting in April 2020.

WHO provided support in three core intervention areas: technical guidance, surveillance and coordination efforts, and capacity building among the communities. On the basis of the national guidelines on COVID-19 preparedness and response in urban settlements, the WHO field unit assisted the state in preparing a comprehensive checklist of interventions and in evolving a state-specific action plan, which was widely shared with all stakeholders.

Drawing on its experience in the case of polio eradication, WHO helped to establish smooth coordination between officials and field workers. Attempts were made to create a synergy between the police, ambulance services, sanitation teams and key stakeholders, including private hospitals and health-care providers, surveillance teams and members of society as a whole.

From March to April, the WHO field staff contributed extensively to the training of “COVID warriors”, including frontline health workers, medical officers and nurses in all health facilities covering the slum area. The focal areas of the training sessions were microplanning for case search; tracing of contacts; preventing and controlling infection; communicating risk and engaging the community; water, sanitation and hygiene practices; and containment activities. Medical officers were also trained in filling case investigation forms, and in tracing contacts and categorizing them.

From May 2020 onwards, after the capacity-building exercise had been completed, the WHO field staff became engaged in monitoring the containment activities, sharing feedback with the authorities concerned and assisting them to make mid-course corrections, as had been done in the case of polio.

The WHO field staff paid particular attention to the task of strengthening COVID-19 surveillance. This was achieved through the orientation of government and private practitioners, who were leveraged as SMOs. The field staff also supported the medical officials and other authorities of the entire ward in which the Dharavi slum falls in conducting specific activities for containment: these included identifying and defining containment and buffer zones, strengthening active and passive surveillance and tracing contacts. The expertise of the field staff in preparing microplans for the immunization campaigns against polio and other diseases came in handy.

WHO field staff played a key role in the effective implementation of the four ‘Ts’ in Dharavi. Their role in providing supportive supervision during the seroprevalence study conducted by the Indian Council of Medical Research (ICMR) was widely appreciated. It resulted in a decrease in the growth rate of COVID-19 cases and a subsequent increase in the case doubling time.
Emphasis on contact tracing in Indonesia

Contact tracing was a critical part of Indonesia’s attempts to control the COVID-19 pandemic. The WHO EPI staff in the country and the field staff, both at the provincial and district levels, played an important role in ensuring that all confirmed cases were being traced. The surveillance staff was not unfamiliar with contact tracing since it had already been done in the case of VPDs such as measles, rubella and diphtheria.

With a view to strengthening activities related to contact tracing, the WHO EPI staff, both at the national and field levels, collaborated with the MoH, the National Telefone for the COVID-19 response and other organizations, such as the Food and Agriculture Organization and Linkages Across the Continuum HIV Services for Key Populations Affected by HIV, to recruit nearly 5000 volunteers to help with case investigation and contact tracing in 10 priority provinces. Using the DHIS2 platform, a data entry and real-time monitoring system was developed for contact tracing. Supporting materials, such as a handbook for contact tracing, and a mobile app and manual guides for monitoring and evaluation, were also developed. Following very good feedback from the national and subnational levels, the MoH made plans to recruit more volunteers for contact tracing and expand the system to the remaining 24 provinces.

Challenge posed by returning migrants in Nepal

In April 2020, the COVID-19 situation in Nepal was relatively under control. However, the number of cases exploded around mid-May, and by July, Nepal had the fourth highest number of confirmed COVID-19 cases in the Region, behind India, Bangladesh and Indonesia. The epidemiological picture in the country was unique in the Region, with clusters of cases emerging in areas that had witnessed the return of migrants from other countries, especially India. Province 2, which had a massive influx of migrants from India, was one of the worst affected.

At the very beginning of the pandemic, the Chief Minister of Province 2 met medical officers from WHO IPD and WHE to better understand the situation and formulate strategies to launch a swift and targeted response. In fact, the country as a whole initially achieved some success in its campaign for the early detection and containment of the COVID-19 virus among migrant workers returning home. This created an important window of opportunity, with WHO and its partners stepping in to help the country to scale up its capacity for essential surveillance, testing, contact tracing, quarantining and treatment.

Among the steps taken to break the chain of transmission was the tagging, testing and quarantining of migrant workers at points of entry. The Network prepared video capsules containing information on contact tracing in the context of the COVID-19 pandemic. The videos were in English, with Nepali subtitles. Further, the Network engaged actively with the general public and community leaders through in-depth question and answer sessions.

It turned out that less than 1% of the positive cases were symptomatic at the time of testing, and 80% of the positive cases were men of 15–54 years of age. A relatively low number of deaths related to COVID-19 (40 deaths as of 22 July) were reported due to the demographic profile of those testing positive, and the overall case fatality ratio (across all ages) has been less than 1%.

The efforts of officials at the highest levels of the government, notwithstanding the daunting challenges, were exemplary. This was the reason for the relative success of the campaign led by the Network.
Beyond the numbers

Information management in Nepal

In Nepal, the Epidemiology and Disease Control Division under the Department of Health Services and the Health Emergency Operations Centre under the Ministry of Health and Population (MoHP) were entrusted with the task of collating all the information available on the epidemiology and other health aspects of the COVID-19 pandemic.

From the very start, all partners/key stakeholders understood that the country was up against an unforeseen and unprecedented emergency, and that government programme divisions would need to be strengthened to provide technical assistance. The WHO Country Office for Nepal triggered a “whole office response” and activated its Incident Management System (IMS). The latter embodies WHO’s approach to managing an emergency and specifies standard pillars of response.

It is widely acknowledged that one the most sensitive surveillance systems in the country is the one for VPDs. It was thus only natural that the WHO IPD team was called upon to lead the health information management pillar of the IMS and assist the WHE team and the government in collecting, collating and analysing the rapidly evolving epidemiological data. The joint WHO team produced epidemiological outputs and analyses of all reported cases on a daily basis. In addition, it provided technical assistance to the Epidemiology and Disease Control Division of the government, and the WHO IPD team continued helping the laboratories to keep their databases in order.

Working in a cross-team matrix, both at the central and sub-national levels, the WHO teams took little time to set up a standard system for the collection of data on COVID-19 cases. They established a unique case identification system that could be linked with laboratory data and produce a set of data products on a daily basis. The data could be used to inform policy decisions related to the identification of hotspots of transmission and to steer the country’s response. As the number of cases soared from a few hundred to tens and hundreds of thousands, it was clear that new systems would have to be developed to cope with the data load.

While the WHE team helped the MoHP to revamp its website (https://covid19.mohp.gov.np/), the WHO IPD team designed a separate module on COVID-19, as an add-on to the pre-existing web-based module on VPD surveillance, for doing a deeper search for the analysis of emerging data, at the request of the government.

The WHO IPD team also assisted with designs norms, standards, tools and data systems for COVID-19 surveillance and developed SOPs on case investigation and contact tracing that the government could modify, when necessary.

Responding to specific needs in India

Data analysis was performed at the subnational level by the WHO NPSP in coordination with government officials. Following this, on 24 April 2020, the government requested the WHO NPSP to develop a reporting format for death analysis. Further, on the special request of the Ministry of Health and Family Welfare (MoHFW) and the National Centre for Disease Control (NCDC), the WHO NPSP provided technical support for the improvement of the NCDC’s ISPs website. This made it possible to display data with graphs and analysis. It also provided technical support for the collection of epidemiological data related to about 50,000 suspected and confirmed COVID-19 cases. This assistance covered:

- collection of key epidemiological data for evidence-based actions in almost all states and union territories;
- training of government medical officers in filling case investigation forms;
- entry of key epidemiological data from case investigation forms in the ISPs-Integrated Health Information Platform (IHIP) portal; and
- sharing of key data analysis at the state and district levels.

Preparing a PPT in an SMO unit office in New Delhi; SMOs support data management, analysis and visualization to provide feedback to the local authorities.

[Image: Preparing a PPT in an SMO unit office in New Delhi; SMOs support data management, analysis and visualization to provide feedback to the local authorities.]
Strengthening data management in Bangladesh

In Bangladesh, the Network scaled up liaison between laboratories and local authorities to support the management of data related to over 300,000 COVID-19 cases from all districts, to facilitate epidemiological analysis (trends of age and sex distribution of COVID-19 cases) and programmatic action.

The strengthening of data management by WHO made it possible to use the workforce more effectively by distributing the samples collected from various districts to laboratories with a lower workload. This reduced backlogs and the testing response time.

To track recording and reporting of COVID-19 cases, an online platform was developed to gather information on the collection of samples from the field. The SINO sent data, on a weekly basis, to the central data team. The online platform enabled the central team to analyse various activities conducted in the field, for example, the support extended for vaccination, logistics and transport, training activities and the laboratory network. A monthly COVID-19 bulletin was developed for those working in the field and was shared on a regular basis.

As many as 139 out of 166 health facilities (84%) that function as active surveillance sites for VPDs are a part of the EWARS. To minimize the risk of transmission, WHO collaborated with UK Aid and other partners to scale up the country's capacity in terms of isolation and treatment.

Filip to data management in Myanmar

Since the beginning of the outbreak in Myanmar, WHO provided technical assistance related to the management of COVID-19 data to the National Health Laboratory (NHL), CEU and other agencies. The areas in which it offered support included the collection, collation and analysis of data, and sending feedback to the partners. One data manager and one data assistant were engaged at the WHO Country Office, two data assistants at the NHL, two data assistants at the CEU in Naypyidaw, and 17 administrative assistants in the states and regions. The WHO Country Office for Myanmar prepared Information for Action (IFA) software and extended support to the Ministry of Health and Sports (MoHS) and CEU, among other agencies. This software was widely used by the regional and RSO offices for COVID-19 data analysis, as well as for VPD surveillance.

Support for updating and analysing data in Indonesia

The achievement of the minimum target for testing at the subnational level, as outlined in the WHO guidelines, was vital for the assessment of the COVID-19 positivity rate. In collaboration with the National Taskforce and MoH, the Network determined the minimum testing threshold for 514 districts and disseminated this information in a webinar series. This intervention helped the country make significant strides in achieving the target for testing and, in fact, the target was exceeded not only in DKI Jakarta, but many other provinces as well. This was made possible by the leveraging of subnational resources, use of expanded laboratory capacities and improved case findings.

Regular and timely updates of data were shared and data analytics was used to find trends. Assessment of the ground situation was also conducted. The Network analyzed the gap between suspected cases and the laboratory capacity at the national level. On the basis of this, the MoH and the National Taskforce were able to make progress in the utilization of the recommended antigen detection rapid diagnostic test to reach areas with limited testing capacity or areas that are difficult to access. The Network helped in the following ways to manage the data.

- Real-time data was updated and shared not only with Indonesia, but the rest of the world.
- Situational reports, with real-time data and data on logistics, were brought out at regular intervals.
- Data slides were developed by the WHO-EPI staff on a daily basis, and weekly data were also compiled. The data manager helped with the analysis and mapping of the information on COVID-19.
Go.Data in Nepal

The data on contact tracing were collated with the help of Go.Data, an outbreak investigation tool developed jointly by WHO and the Global Alert and Response Network. A virtual meeting, involving more than 70 participants, was held between provincial teams of the government and the WHO staff, with the purpose of training the teams on how to use Go.Data. Members of the WHO IPD and WHE teams facilitated subsequent hands-on training sessions.

Go.Data was also used for close surveillance in Cox’s Bazar, Bangladesh. Over 300 trained volunteers used Go.Data for efficient and effective contact tracing.

A suite of tools and strategies to shape the COVID-19 response in India

India, with more than 1.3 billion people at risk of contracting the COVID-19 infection, was one of the countries reporting a high number of infections globally. The Government of India and the state governments started providing daily updates on the number of confirmed cases, recoveries and deaths due to COVID-19 from available in-country resources almost from the very beginning. However, it was felt that subnational data needed to be reported more accurately and in a timely fashion so that they could be analyzed for the purpose of planning public health interventions, both at the local and national level. Thus, the WHO Country Office for India developed a COVID-19 dashboard, which allows national and field teams to monitor the evolving epidemiology and offer targeted strategic guidance, both to the states and districts. The COVID-19 data released by the government is collected from the states and districts for near real-time updating of the dashboard, which is hosted securely on the WHO server. Data entry and validation checks are in place in the web-based data entry portal to ensure that the data is of good quality. The entire system is password-protected to facilitate authorized access to the dashboard and the data management system.

SMOs would monitor not only the activities conducted under the campaigns, but also whether quality data was being generated by monitoring the monitors, one of the key tasks to ensure that credible evidence was being generated. The data was used to make a presentation to the district magistrate.

Based on that, the task force took action under the leadership of the district magistrate.

- Dr Rahul Shimpi, Team Lead, Central Region, WHO India

Snapshot of a dashboard developed by WHO India for COVID-19 monitoring

WHO India
Use of technology for COVID-19 control in Alwar, Rajasthan (India)

At the end of May 2020, when India was witnessing an alarming spike in the number of COVID-19 cases, the entire district of Alwar, in Rajasthan, reported only 55 cases. However, within a month, it had more than 500 cases. The cases were concentrated mostly in Alwar city and Bhiwadi – an industrial town about 90 km from Alwar city where cases doubled in a span of just 10 days.

The district officials undertook a review of the situation with support from WHO officials and identified the following gaps in the response strategy:

- suboptimal identification of contacts;
- delayed/inadequate contact tracing and testing – only 45% of the identified contacts were tested;
- no common platform for compilation of data; and
- nonavailability of spot maps of cases and contacts, leading to improper implementation of home isolation.

The district magistrate sought help from partners to bridge the gaps. On the basis of its experience of using Kobo applications to monitor activities related to the polio, routine immunization and measles-rubella campaigns, the WHO NPSP proposed to develop a tool that could be used for COVID-related activities. The tool, developed overnight by the Network, could provide compiled information on cases, contacts and their geographical location in real time. Impressed by the tool, the district magistrate requested the WHO NPSP to train members of the COVID-19 Rapid Response Team, health workers and data entry operators in using the tool. The WHO NPSP trained the staff in Bhiwadi and assisted in rolling out the plan.

The utilization of the tool made the details of all cases and their contacts readily available. The testing status and test results of the contacts and the reasons for failing to test contacts were also easily accessible. As the tool used ArcView and Google Maps, locating cases and their contacts became simple. The tool also helped in tracking the results of interventions.

The revised strategy and the tool devised by the WHO NPSP team helped in stringent contact tracing and isolation, as well as in the implementation of lockdown measures. This led to a decline in the number of cases in Alwar city and Bhiwadi towards the end of July, and the spillover effect stabilized the situation in the entire district.

A spot map of COVID-19 cases and contacts in Alwar, made with the help of a tool designed by the WHO NPSP.
Leveraging resources to ramp-up testing

Collection of samples
Transportation

The dedicated army of drivers in Myanmar

In Myanmar, there was an urgent need for the regular shipment of COVID-19 specimens from 17 states and regions to the NHL, Yangon. The NHL was open round the clock, all days of the week. Since the beginning of the outbreak of COVID-19, the Network had provided support for the transportation of specimens, both to the NHL and the reference laboratories across the country.

However, things became more difficult after the suspension of all internal flights in Myanmar. Specimens could only be transported by road. The Network rose to the challenge, dedicating all its 17 vehicles and their drivers to the transportation of specimens. The drivers, who were always on standby to dispatch specimens, both for COVID-19 and VPDs, had to return from a laboratory trip the same day.

From March to mid-September 2020, a total 49,403 specimens were transported by the Network. The driver of the RSO office, Shan East assisted in the transfer of a patient from the airport to a hospital and in transporting specimens from Kyaingtone (Shan East) to NHL (Yangon).

Pyae Son Win Maung, WHO network driver from the RSO office at Rakhine State, was travelling with a MoHS staff member to transport COVID-19 laboratory samples from the Sittwe township of Rakhine State to Yangon. He was injured when their vehicle was caught in a crossfire on 19 April 2020. He succumbed to the injuries later. This tragic incident highlights the challenges faced by the field personnel while travelling through inaccessible regions of the country.

The driver who sacrificed his life in the line of duty
Beyond the call of duty and a smooth transportation system in Bangladesh

COVID-19 instilled fear among health workers, assistants and drivers in Bangladesh. They faced a risk to their lives and were apprehensive about exposing their families to the risk of being infected by the virus. The biggest challenge was to support the workforce behind the wheels and to ensure their safety so that they could continue with the timely execution of their duties. The Network constantly motivated the drivers and took care of them to keep their morale high. They, on their part, put their lives at risk and never flinched from their duty, no matter what the cost. The drivers and laboratory assistants were provided accommodation near the WHO and laboratory offices so that the operations could proceed smoothly. However, many drivers slept in their vehicles for days to keep their families safe and to fulfill their duties without any interruption.

When the outbreak hit Bangladesh, the country had only one laboratory, the IEDCR, that could conduct COVID-19 tests. Using the 100-odd vehicles of the WHO Network, a vast operation was undertaken to transport COVID-19 samples from 64 districts across the country to the IEDCR so that timely information would be available on the COVID-19 count. Later, the Network played a vital role in transporting samples from the testing points to the designated laboratories. It hired additional vehicles to carry samples to laboratories within the district and to other districts. These vehicles were equipped with refrigerators.

The Network coordinated with laboratories, health facilities, and the local and Central authorities. It also tracked the movement of the samples, making sure that they were transported properly, and subsequently, saw to it that they were processed correctly in the laboratories. It is creditable that by the end of August 2020, the SIMOs had handled the transportation of over 350,000 samples across the country. WHO provided support for the procurement of items such as PCR primers/probes and positive controls, which are essential for COVID-19 testing. Further, its fleet of vehicles played a critical role in transporting reagents, biohazard bags, gloves, swab sticks, tubes and zip lock bags. More than 300,000 PPE kits were transported from the Centre to the districts, and also within districts, for health workers administering the COVID-19 test, as well as health-care professionals working in health-care facilities.

Managing the logistics of the COVID-19 response in Nepal

The WHO IPD staff in Nepal helped the country draw up a logistics plan for its COVID-19 response. This included planning for PPEs, pharmaceuticals and diagnostic kits. Close association with the relevant government departments and UN partners (United Nations Children’s Fund, United Nations Development Programme) helped the WHO IPD chalk out an effective plan based on the projected number of cases and potential demand for hospital beds. Thus, Nepal was able to build stocks of test kits and machines to scale up polymerase chain reaction (PCR) testing rapidly and plan for its future needs in advance.

Further, the WHO IPD team, with its field operational experience of transporting samples for polio and measles surveillance, supported the shipment of samples for the COVID-19 national serological survey. In the initial stages of the pandemic, when the provincial laboratories had not yet been set up, the WHO IPD network enabled the rapid shipment of COVID-19 samples. Following a complete restriction on domestic flights, the network’s vehicles supported sample shipment on request from the Government of Nepal.
The Regional Polio Laboratory Network, established in 1993, has been the spine of the surveillance efforts aimed at supporting speedy and accurate testing and detection of polio in the Region. Over the years, the network has grown tremendously, as has its capacity to use modern techniques and methodologies for high-quality testing, not only for polio, but for other VPDs as well. At present, it supports countries in the detection of polio, measles and rubella, Japanese encephalitis/acute encephalitis syndrome, diphtheria and pertussis, invasive bacterial disease (IBD) and rotavirus. The capacity and experience of the laboratory network, together with the resources in the field, were utilized effectively to help governments with laboratory testing for COVID-19.

To accelerate and decentralize COVID-19 testing, the Network helped the MoH to establish district and field laboratories equipped with real-time PCR machines. To scale up the testing capacity of the country in accordance with surveillance needs, the WHO EPI supported these laboratories with human resources, technical guidance, reagents, and so on. The timely assistance provided by the Network helped to prevent backlogs in testing.

The SIMO network gathered data on the number of samples collected every day from the upazilas, municipalities and city corporations across the country. This data was shared with the national data team of the immunization and vaccine development unit of WHO Bangladesh (WHO IVD) daily, and was maintained in a database and analysed regularly. Finally, the result was shared with the relevant ministry. On the basis of the sample collection rate at the upazila/municipality/city corporation level, WHO broadcast messages and advocated with the government officials concerned to take requisite measures for low-performing units.

Testing is the key to scaling up diagnostic confirmation of COVID-19 cases in order to initiate a timely response to COVID-19

- Dr Bardan Jung Rana, WHO Representative to Bangladesh

As a lab assistant, I had been supporting the national polio and measles lab as part of the WHO IVD staff since 2006. Then one fine day in early March 2020, I was directed to support the COVID-19 lab-related response at the national level. To be honest, I was more scared than excited about being in the middle of a lab that was already receiving hundreds of COVID-19 samples for testing. Each day, I felt like I was going to some war zone and since I was in such a highly vulnerable zone all day long, I was worried for my family, especially my parents. So I decided to stay away from my family and moved to a guest house close to the lab. I continued to operate from there for the next three months, without going home even once. The only thing that connected me with my family was video calls. Many times a day, I used to feel that maybe I would never be able to see them in person again. Those were really very tough times.

- Mohammad Younus Mia, laboratory assistant, WHO Bangladesh

The WHO IVD team also maintained a database on the samples tested by each COVID-19 testing laboratory. The analysis made by the team took into account the laboratories’ overall status of sample testing. This helped the policy-makers to prioritize the laboratories that needed to be equipped. The analysis facilitated decision-making on the distribution of laboratory logistics, organization of training for laboratory personnel and allocation of government funds to the laboratory network.

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India: Bridging gaps in capacity

Given the size and population of a country as large and diverse as India, the availability of adequate capacity for COVID-19 testing was one of the major challenges facing the Network. The vital factors to be considered while strengthening the testing capacity were the shortage of skilled human resources, gaps in data monitoring and constraints in the supply chain. To overcome these challenges, in the initial phase of the pandemic, the Network took the lead and roped in an apex research institute in the country, the National Institute of Virology (NIV), Pune on a global platform for technology transfer. Following this, the Network helped the NIV to standardize the COVID-19 test protocol, supplementing the efforts of the ICMR to scale up testing across the entire country.

The number of laboratories for COVID-19 testing rose from 14 in February 2020 to almost 1600 in August 2020. Considering the commendable work done by the Network’s laboratories, many of them were chosen to serve as mentor institutes and quality control laboratories in the initial phase, with a view to scaling up COVID-19 testing across the country.

WHO also played a pivotal role in external quality assurance (EQA) of India’s apex laboratories, the NIV and the NICED, by arranging for a global proficiency testing panel for them. Both laboratories scored well, scoring 100%. Further, WHO collaborated with the ICMR to encourage subnational COVID-19 testing laboratories to participate in the global EQA scheme. Under this collaboration, WHO arranged for 1100 sets of global proficiency testing panels in mm/2020 to promote quality assurance in public sector laboratories. It also provided laboratory kits and reagents and extended support to the ICMR for the procurement of PCR kits, RNA extraction kits and viral transport media.

WHO India

Arming Myanmar for its battle

The country received effective and whole-hearted support for its COVID-19 response. As of October 2020, WHO had provided over 1.5 million US dollars for the procurement of equipment and reagents to the NHL, the central laboratory for COVID-19 testing in Myanmar. It also helped to expand the capacity for COVID-19 testing at the public health laboratory in the Mandalay Region and in the Department of Medical Research in Yangon in April 2020. Subsequently, it assisted with the development of a testing strategy and the expansion of the testing capacity of different states and regions. The professionalism and extensive experience of the workforce trained by WHO has been an asset in the country’s fight against the pandemic.
Lending a helping hand in Indonesia

Two of the three polio network laboratories, the National Institute of Health Research and Development in Jakarta and the BBLK in Surabaya, are completely involved in the task of ramping up testing capacity in Nepal.

Ramping up testing capacity in Nepal

At the start of the pandemic, the National Public Health Laboratory (NPHL) in Kathmandu, which is also a WHO-accredited laboratory for measles, rubella and influenza, was the only government laboratory with the capacity to carry out PCR testing for COVID-19. WHO brought in international and national experts to develop training modules and train laboratory personnel in testing. At the same time, it guided the NPHL on quality assurance procedures and conducted training that would allow the laboratory to ensure the quality assurance of other laboratories throughout the country, both in the public and private sectors. As of 25 December 2020, a total of 80 designated COVID-19 testing laboratories were functional in the country. Together, they had conducted nearly 2 million reverse transcription polymerase chain reaction (RT-PCR) tests, which amounts to nearly 65,000 tests per million population. With WHO’s support, the NPHL also tested a statistically robust national sample for a serological survey on COVID-19, aimed at assessing the exposure of the general population to the virus.
Empty streets and parked buses during the lockdown

K M Asad/Getty Images
Building the capacity of those who make a difference

While shaping an appropriate response to the COVID-19 pandemic, the Network conducted face-to-face and online training of surveillance and immunization personnel, both from the government and WHO, to create a pool of trainers who could serve as partners in the effort to build in-country capacities to fight the battle against COVID-19. Adopting a tailored approach to suit the local context, the Network first trained its medical officers in new procedures and guidelines for COVID-19. These officers then spearheaded the capacity-building efforts by disseminating their learning to health workers, frontline workers, community workers and even housekeeping staff.

Bangladesh

While working with the Government of Bangladesh to boost the country’s preparedness for and response to COVID-19, WHO trained SIMOs in surveillance, capacity building, laboratory methods, logistics, collection and transportation of samples, coordination of data management, contact tracing, IPC, and case management. Within a short time, the SIMOs were in a position to disseminate their knowledge to health-care providers. They trained over 17,000 health-care professionals, laboratory personnel, sample collectors and transporters from public health facilities, the organizations of health partners and the local administration. A strategy of using both face-to-face communication and online dissemination of information ensured that the staff drawn from all districts and divisions were adequately trained and given the necessary orientation.

In particular, the SIMOs helped to train health-care professionals in the implementation of the triage process, early detection and the management of IPC in health facilities. In fact, IPC trainings were conducted throughout Bangladesh on the basis of their observations and reports regarding the lack of IPC measures in the context of immunization activities. The SIMOs also strove to minimize the risk of transmission in the extremely challenging and compromised environment of Cox’s Bazar by training over 13,000 health-care workers in IPC.
Creating a pool of master trainers

In response to a government request, technical teams of the WHO Country Office and the IEDCR trained the SIMOs to provide training in contact tracing to the health staff of four high-priority divisions. Taking all the requisite IPC measures, the SIMOs conducted training sessions in person. The training was aimed at creating a pool of master trainers at the district and subdistrict levels. The district-level participants included the medical officer/civil surgeon, senior/junior health education officer, public health nurse, district sanitary inspector and district health superintendents. Those trained at the subdistrict/upazila level consisted of the medical officer (disease control), two sub-assistant community medical officers and one sanitary inspector.

To better prepare those involved in contact tracing, to build capacity and to facilitate supervision in hard-to-reach and high-risk areas, WHO conducted training activities and its IVD network provided need-based support in more than 20 high-priority districts.

A training in infection prevention and control

WHO Bangladesh

India

The WHO NPSP facilitated cascade training of the health workforce on IPC, risk communication, community engagement and community surveillance for COVID-19. This training was extended to COVID-19 warriors from volunteer organizations, including the National Service Scheme, Nehru Yuva Kendra and Indian Red Cross. The WHO NPSP also collaborated with the Federation of Indian Chambers of Commerce and Industry to train health-care professionals in private sector facilities in case management and hospital preparedness.

With the support of the WHO NPSP, the MoHFW conducted online orientation sessions for government officials from all states and union territories on preparedness for, response to and containment of COVID-19. By April 2020, the training had been rapidly extended to cover more than 98% of the 755 districts of the country.

Key state-level officials were trained as master trainers on critical aspects of disease surveillance, IPC, risk communication and community engagement during early March 2020. The participants included state surveillance officers (IDSP); heads of departments of microbiology/secretaries of hospital infection control committees; senior clinicians or chairpersons of hospital infection control committees; senior information, education and communication (IEC) officials; nodal managers of accredited social health activists (ASHA) at the state level; focal points for auxiliary nurse midwives; and state programme managers (urban) from each state/union territory. The field consultants of the WHO NPSP and UNICEF were trained in a separate batch to enable them to hand-hold the state- and district-level officials to cascade these trainings down to the grassroots level.
The WHO NPSP supported the training of frontline workers at the state, district and block levels to orient them on nonpharmaceutical interventions for infection prevention, risk communication, community engagement, contact tracing and measures to protect themselves from contracting COVID-19. This training was conducted across the entire country and nearly 1.6 million frontline health workers, including 892,446 ASHAs and 42,988 ASHA facilitators, were trained.

The WHO NPSP continually enhanced the capacity of its field staff through online training sessions in IPC, Integrated Health Information Platform modules and the management of epidemiological data for COVID-19. It also conducted training in the modalities for strengthening immunization activities in the context of the pandemic. Further, the medical officers of the WHO NPSP were trained in the effective use of virtual training platforms.

The diverse roles of a field monitor

I have been employed in the Bulandshahr unit of the WHO NPSP as a field monitor since 2008. As field monitors, we work under the guidance of the SMO. We started with the polio eradication programme and continue to provide active assistance for microplanning of routine immunization, training and monitoring, and surveillance of vaccine-preventable diseases. We also assist with health-related activities in the district, as directed by the higher authorities. Since we have a detailed knowledge of the field area, our inputs are readily accepted at the block and district levels.

Once COVID-19 started spreading in our district, the SMO trained us on how to prevent and control the disease. We then shared our knowledge with the frontline health workers.

The training we provided covered contact tracing and listing of COVID-19 cases, deciding on the containment area in a block, microplanning and monitoring of containment areas, and providing daily updates on the feedback from monitoring to the community health centre at the block level and the WHO NPSP office at the district level. In addition, we provided on-the-job training to the frontline health workers during containment activities in the field.

Our motorcycles play a big role in our work. They help us to reach inaccessible places. The DDD app on our smartphones helps us send the monitoring feedback from far-flung areas without losing time, and the Zoom app helps us receive and provide training easily, as per the changing scenario.

- Kuldeep Giri, Field Monitor, Bulandshahr, NPSP, WHO India
Partnering with states to train the health workforce

Training of trainers was conducted for about 400 key state-level health staff, including representatives of key partner agencies. An additional 1300 online participants joined the training.

The WHO NPSP provided technical support to the Tamil Nadu Apex Skill Development Centre for Healthcare, a not-for-profit joint venture set up by the government of Tamil Nadu. The centre was established to provide demand-driven courses on skill development, with the aim of developing a highly skilled health workforce in the state. The WHO NPSP team at the state and national levels worked together to draft the initial training module, which consisted of 10 certificate courses on preparedness and response in the context of COVID-19 with joint certification by WHO India and the Tamil Nadu Apex Skill Development Corporation.

A dedicated COVID-19 capacity-building group supported by the state government, WHO and other UN agencies developed courses for various groups with the aim of training them in the management of intensive care units, among other things. The participants also received psychosocial training. More than 180,000 doctors, nurses, paramedics, practitioners of AYUSH, sanitary workers, police personnel and volunteers were trained during the lockdown period.

In addition to training workshops for medical officers, face-to-face training was held for key staff in the districts and in PHCs. The staff was trained in filling case investigation forms; conducting house-to-house surveys to trace contacts, including surveys of returning migrants; data analysis; IPC; and the use of PPE kits.

Indonesia

WHO provided technical support to Indonesia’s MoH to conduct online training sessions and orientation sessions for EPI and surveillance officers, including medical officers and frontline health-care workers, in high-risk provinces and districts. The training covered critical aspects of disease surveillance, contact tracing, immunization and IPC. In March 2020, the training was expanded to cover more than 15,000 volunteers recruited by the Ministry of Education, with a view to strengthening surveillance and contact tracing activities.

In addition, the Network collaborated with the University of Airlangga to provide technical assistance for training 29 epidemiologists of the Field Epidemiology Training Programme in order to strengthen contact tracing further. In collaboration with TAGANA, a social volunteer group involved in disaster response in Indonesia, and other partners, such as The International Federation of Red Cross and Red Crescent Societies, International Organization for Migration, UNICEF and UNDP, the Network trained more than 1000 volunteers to improve COVID-19 surveillance at the community level.

In March 2020, the Manokwari district administration (West Papua) conducted case investigation and contact tracing for the travellers who arrived there, by boats, from Gowa district (South Sulawesi). These travellers were quarantined for 14 days. Sixty people could not go back to their districts due to restrictions on transport owing to the COVID-19 pandemic. The local government decided to use a mosque to accommodate them and have them monitored strictly by health centres. The mosque remained closed for the community. WHO played a crucial role in briefing and providing on-the-job training to the Manokwari district health staff on contact tracing, case investigation, and specimen collection and packaging. As a partner, UNICEF played a role in communication with the community, on the transmission of COVID-19, and the need to use masks, wash one’s hands and maintain a physical distance.
The Network conducted training for 161 members of the Indonesian Epidemiology Association on strengthening the COVID-19 surveillance system at the provincial level. It also conducted national level webinars on immunization and VPDs surveillance for all provinces, and dedicated ones for the four key provinces. It conducted training (including online) for field teams in tracing contacts, collecting samples and taking outbreak control measures. It trained 57 doctors, nurses and hospital management staff in surveillance procedures. At the community level, it trained 234 health officers, village governors, and hospital and community health centre staff in community-based surveillance and quarantine and isolation facilities.

The Network adopted a robust approach, backed by well-thought-out strategies and effective guidelines, to handle the COVID-19 outbreak. National technical guidelines, aligned with the WHO global and regional guidelines, were developed on the prevention and control of COVID-19, as well as on immunization. The Network also supported the development of guidelines and SOPs, such as on contact tracing, and the establishment of the reporting network for COVID-19. It launched biweekly newsletters with COVID-19 updates at the country level.

Myanmar

A training workshop was held to build the capacity of the central-level rapid response team at Nay Pyi Taw on 12 April 2020. Its main objective was to equip central level supervisors with the requisite technical skills in COVID-19 surveillance and response activities. A total of 34 participants (directors, deputy directors, assistant directors from the disease control department, and medical superintendents and medical officers from the Directorate of Medical Services) attended the workshop. Seven facilitators provided technical inputs, including PowerPoint presentations and video demonstrations. The main topics covered were the role and responsibilities of the rapid response team, updating the existing surveillance system, implementation of response activities at all points of entry, quarantine services, contact tracing activities, laboratory services (including collection and shipment of specimens), the use of PPEs, clinical case management, preparation of isolation rooms and infection control practices in health facilities, and risk communication.

A series of webinars on strengthening surveillance and immunization were held in different provinces. Other provinces followed to conduct the similar events.

Nepal

On 21 and 22 May 2020, teams from the WHO IPD and WHE collaborated to conduct simultaneous virtual training in contact tracing on Go.Data for 87 attendees from 12 locations across the country. The participants included WHO personnel as well as government staff from each of the country’s seven provinces. The training was facilitated by WHO staff and officials from the Government of Nepal.

The WHO teams developed several training packages, which were then delivered through WHO and Government of Nepal counterparts.

‘In terms of the COVID-19 response, we have conducted orientation and training for frontline staff. We have also been providing support in the areas of adoption of guidelines, quarantine, isolation, testing, contact tracing and case investigation’

- Dr Shree Ram Shah, SMO Lahan (Province 2) WHO Nepal

Virtual training in Go.Data was conducted in all seven provinces by the epidemiology and disease control division with WHO support.

Orientation of health coordinators in case investigation and contact tracing

Virtual training in Go.Data in Province 2

WHO Nepal

WHO Nepal

WHO Nepal
Countering the hidden enemy: risk communication and community engagement

Just as the world had got used to terms such as Coronavirus and social distancing, another word came into vogue: “infodemic”. This implies an abundance of information and the rapid spread of misleading or fabricated news, images and videos. Like the COVID-19 pandemic, the infodemic was extremely contagious and its proportions grew exponentially.

“We’re not just battling the virus. We’re also battling the trolls and conspiracy theorists that push misinformation and undermine the outbreak response.”
- Dr. Tedros Adhanom Ghebreyesus, WHO Director-General

One of the consequences of the infodemic was that it hindered the efforts to respond to the pandemic.

Countries were assisted in countering the infodemic through regular webinars on risk communication and community engagement. The areas covered by these webinars were uncertainty management, behavioural insights, monitoring and evaluation of community engagement. The other strategy used for this purpose was to seek the active engagement of faith leaders, teachers, women’s networks, alternative health-care providers, pharmacies and village community organizations.

Efforts were made to sensitize the media through online instruction on the principles of risk communication and their role in outbreaks such as the COVID-19 outbreak.
COVID-19 patients turned ambassadors in Indonesia

An innovative strategy was implemented in a centralized quarantine facility in the province of South Sulawesi to build a pool of COVID-19 patients and appoint them as ambassadors for risk communication. Recreational activities were utilized to enhance the patients’ understanding of the disease, to motivate them to recover, and to combat stigma and discrimination against COVID-19 patients. The patients were encouraged to serve as COVID-19 ambassadors and join the local task force in its efforts related to risk communication.

Community engagement in Indonesia

The social mobilization activities conducted in Indonesia focused on engaging the community in the COVID-19 response, as well as making use of local radio and television talk shows. The activities were conducted with the support of UNICEF and Dompet Dhuafa, a non-profit-making organization in Papua. WHO prepared a technical brief to provide updated information to the PHO and DHO.

Social interactions were conducted by health workers in West Papua for community members who had limited access to the Internet. They discussed topics such as COVID-19 transmission, preventive measures and reducing stigma. This activity was conducted spontaneously by the health workers whenever they encountered crowds while monitoring suspected cases of COVID-19.

The WHO Country Office for Indonesia helped with the creation of a social media platform for the provincial health office. The platform included information on the COVID-19 response and ways of handling the pandemic. It was also used to share guidelines and updated information on COVID-19.

Indonesia: adapting to the local context

Various IEC materials on COVID-19 were regularly developed, published and distributed by the MoH, task force for COVID-19 and WHO. These materials, which were translated into the local language, focused on the following key messages:

- Practise hand hygiene frequently, using soap and water or an alcohol-based hand rub.
- Wear a mask.
- Maintain a physical distance of at least 1 metre from other persons.
- Practise coughing and sneezing etiquette.

Various IEC materials on COVID-19 were regularly developed, published and distributed by the MoH, task force for COVID-19 and WHO. These materials, which were translated into the local language, focused on the following key messages:
Through infographics, videos, animations, and questions and answers on its website and social media platforms (e.g. Twitter and Instagram), the NeXtwork disseminated information on the precautions and safety measures to be taken to counter COVID-19. Also, the MoH made announcements in public spaces to raise the community’s awareness. The people were urged to follow the guidance on community engagement at the village level and heed the measures for behaviour change, as set out in the community strategy. Further, every day the public communication team of the task force brought out information on the guidance provided by WHO, UNICEF and the MoH on the COVID-19 pandemic. From the time that the COVID-19 response was launched, WHO regularly translated IEC materials and its guidance on COVID-19 into Bahasa. It also took the local context into account when developing its guidance so that it could be understood and assimilated easily.

IEC materials in the local language

Between February and June 2020, 18 institutions joined hands to conduct 28 surveys to capture community perceptions of COVID-19. Suara Komunitas, a compilation of community voices by the RCCE working group, serves as an important decision-making tool for the adaptation of COVID-19 control programmes by key stakeholders.

FAQs developed during the weekly meetings of the working group on risk communication and community engagement (RCCE)

WHO Indonesia

Indonesia: Weekly meetings of the RCCE working group

The risk communication and community engagement (RCCE) working group, comprising national and international agencies, private sector organizations, government departments, civil society organizations (CSOs) and nongovernmental organizations (NGOs), was established for a coordinated COVID-19 response. This was an effective community feedback mechanism for risk communication practitioners in the field. The MoH, with the support of the RCCE working group and technical input from WHO, developed FAQs which were widely disseminated.

Myanmar: measures to disseminate information

A team of technical experts and experts on programme operations was formed under the leadership of the IMT to combat the pandemic in the country. The EPI team of the WHO Country Office for Myanmar was part of the IMT and supported risk communication, EPI and coordination with laboratories. It provided technical inputs for the development of IEC material for healthcare workers and community surveillance. It also supported the COVID-19 response, which included the plan for the deployment of vaccines in the country.

In late February 2020, the WHO Country Office for Myanmar established the RCCE platform for the Office of the UN in Myanmar and other partners to facilitate coordination with other platforms in areas such as laboratory surveillance, case management and IPC. The RCCE comprises national and international agencies, government departments, private sector organizations, CSOs and NGOs. It is led by the Health Literacy Promotion Unit of the MoHS and co-led by WHO and UNICEF. It serves as the lead body for the dissemination of vital information to the general public to counter misinformation and fake news, and for the empowerment of communities to prevent the spread of COVID-19.

Information on COVID-19 related matters was disseminated in several ways. A call centre was set up by the Department of Medical Research, MoHS in early May 2020 to provide information onand messages about COVID-19. The call centre has been receiving about 1000 calls a day. It has displayed IEC materials, such as vinyl posters, at public places and set up a social media app group with the central team for gathering information. Apart from this, WHO developed several documents on COVID-19 that were translated into the local languages. Finally, during interviews in the media, RSOs spoke about the risk of transmission to create awareness of the precautions that should be taken by the people.
NeXtwork

CHAPTER 2 - RESPONSE TO COVID-19: A JOINT RESPONSIBILITY

Nepal: clearing people’s doubts

Dr Saru Devkota, an SMO of the WHO IPD in Nepal, shared a telling story related to misconceptions about asymptomatic patients. In the early stage of the pandemic, 18 new cases were detected in a municipality. The infected persons did not want to go to the isolation centre. The villagers gathered at the quarantine site in large numbers to bar the health workers and police from isolating the patients. They argued that those who had tested positive were healthy as they did not have any symptoms.

‘COVID-19 patients sometimes speak to us for hours over the phone. They call us frequently from isolation to find solace and clear their doubts. Even after being discharged, they continue to call us to share their happiness. It is so satisfying. On the one hand, I am serving the nation, and on the other hand, I am serving those who need our help the most’

- Dr Shree Ram, an SMO of the WHO IPD in Nepal

According to Dr Shree Ram Nepal, the people in the community were worried. Those who were infected did not know how they got infected. The family members of patients were concerned about whether they will ultimately be cured. Above all, people were confused because most cases were asymptomatic and infected persons could not be identified easily.

‘Managing asymptomatic patients is the greatest challenge because they think they are healthy and are reluctant to go to isolation centres’

- Dr Shruti Nepal, a WHO SMO based in Butwal in Province 5, recalled that initially, everybody was scared.

Nepal: dispelling rumours

It was not only travel restrictions and lockdown measures that hindered access to essential health services or RI, but also baseless rumours, unfounded fears and gross misinformation. For example, people feared that they ran a risk of contracting COVID-19 from health workers at health facilities, and this seemed to be contributing to the low uptake of services.

On the other hand, some health workers were reluctant to provide services to those visiting health facilities for fear of contracting COVID-19. To systematically counter rumours and misinformation, WHO supported a suite of measures at the level of the health facilities and utilized the media as well as social and health system channels for this purpose. More specifically, the objective was to improve IPC measures (including training and dissemination of information on PPE kits) to protect health workers and the public, and at the same time, develop and disseminate material on risk communication and community engagement. This exercise was undertaken in collaboration with the MoHP and other development partners.

Mass counselling and contact identification in Dhanakaul, Sarlahi

WHO Nepal
India: roping in community leaders

The WHO and UNICEF offices in India assisted the MoHFW with the implementation of the risk communication and community engagement strategy, which helped the government reach out to 4.88 million people in the state of Maharashtra. These included all functionaries of the departments for public health, women and child development, water supply and sewerage, and education at the divisional, district and block levels. Messages on the prevention of infection and the management of the response to the pandemic were disseminated to 179,519 people through religious sermons and by faith leaders in the local language, using various channels.

Going forward, these interventions will aid the process of building faith-based alliances and bolster the states’ response to COVID-19. The alliances will facilitate regular engagement with the communities to promote safety measures, advocate for the well-being of the populations that are particularly at risk, and sensitize the communities on the need to stop discriminating against health workers and people infected with COVID-19.

A seroprevalence study was planned by the ICMR to understand the field level situation in Ahmedabad (Gujarat) and assist in the planning of containment measures for the pandemic by government counterparts. Some minority communities of Jamalpur, Ahmedabad, were reluctant to provide their blood samples for the study because they feared that if the results turned out to be positive, they might be quarantined. This was brought to the notice of Dr. Arthur Macwan, NPSP SMO, Panchmahal, as he had been deployed to support the implementation of the study with regard to microplanning the selection of houses as per the study protocol and to supervise the procedure. Having overcome similar resistance during the polio campaign, Dr. Arthur approached the local community leader and took his support to convince the families. Thus, the Network leveraged its working relation with elected representatives of minority communities and together they served as a formidable team.

A meeting with religious leaders on COVID-19 containment chaired by the Municipal Commissioner, Bhiwandi (Maharashtra)

A health workers informing the SMO and local MLA about the reluctance of the community to provide samples for a serosurvey at Jamalpur (Maharashtra)

The local MLA giving a sample for a serosurvey after advocacy by the SMO to allay the fear of the community at the district level in Maharashtra
On 22 May 2020, the WHO Country Office for India and UNICEF jointly organized a virtual meet of faith-based organizations and state government officials from Mumbai, under the ambit of the larger risk communication and community engagement strategy. The objective of the meet was to bring faith-based organizations on a common platform to enable them to work in synergy with the government in its efforts to put up a collective fight against COVID-19.

"Faith-based organizations and religious leaders have a critical role in fighting the pandemic. The involvement of faith leaders can address the social stigma and discrimination amongst communities and create a healthy awareness of key measures for preventing the spread of COVID-19."

- Ms Payden, Deputy Head of the WHO Country Office for India.

The district medical officer, WHO SMO and field monitor with religious leaders during a vaccination drive in a flood-affected village in Champaran (Bihar); the WHO field team has been supporting the state government’s efforts to overcome vaccine hesitancy through community mobilization, counselling and engagement with religious leaders.
Boats abandoned at a desolate river bank
Returning to the beat: resumption of immunization services

It is significant that the countries across the South-East Asia Region are making concerted efforts to resume the disrupted immunization programmes with several precautionary measures in place. This approach has been necessitated by the transmission dynamics of COVID-19. Technical guidance on immunization in the context of the pandemic has been developed and disseminated nationally to enable countries to make their national action plans on the maintenance of immunization services.

The Network has been actively involved in the effort to restore the immunization indicators to the pre-COVID-19 levels. It has contributed to the development of technical guidance, conducted online events, extended support for data management and reporting tools, and prepared IEC materials in collaboration with its partners.

Rapid recovery of immunization coverage is testimony to the resilience of the immunization programme, to which the networks in the five countries under discussion have contributed significantly over the last two decades.

Dr. Sunil Bahl, Coordinator, Immunization and Vaccine Development, WHO Regional Office for South-East Asia
Impact of COVID-19 on the immunization programme in the Region

By the end of 2019, the immunization programme in the Region had witnessed significant progress. The overall coverage of immunization with three doses of the diphtheria, tetanus and pertussis vaccine (DTP3) had improved to 91%, with 9 of the 11 countries in the Region having achieved a coverage of 90% or more.

From March 2020, however, the pandemic and the requirements of mounting a response to it resulted in the disruption of RI services and slowed down surveillance activities for VPDs in several countries. Nearly 4.2 million fewer children are estimated to have been vaccinated in the Region in 2020 compared to 2019. Supplementary immunization activities to battle polio and measles were postponed in several countries of the Region. The coverage of immunization meant as a result was the risk of outbreaks of VPDs, notably polio, measles and diphtheria. Also, the decline in the sensitivity of surveillance for polio and measles is likely to result in a decreased capacity to detect outbreaks. Importantly, the strain put on the health system by COVID-19 will probably affect programmatic actions required to reduce the vulnerability caused by the decline in the coverage of immunization, and to improve surveillance capacity. One cannot ignore the possible setbacks that may be faced in polio transition planning and the longer term financial sustainability of the programmes in the Region.

All countries of the Region have made efforts to resume immunization and surveillance activities. Supplementary immunization activities for polio and measles are also being resumed. Moreover, surveillance activities that have been improving in recent months. However, several countries have not yet been able to address the gaps created in the coverage of immunization during the first half of 2020. Countries are being encouraged to develop plans for catch-up vaccination of the children who missed their vaccination doses during that period.

Bangladesh

As in all countries, the lockdown had a severe impact on vaccination services in Bangladesh, leading to a drop of almost 20% in the coverage of vaccination. After months of working continuously to build and strengthen the government’s capacity to launch a COVID-19 response, the Network became a major player in the drive to help the government resume life-saving vaccination activities and launch fresh immunization drives. Following the micromanaging approach, a new strategy focusing on health facilities was adopted to resume immunization services, while at the same time, stressing protective measures, such as wearing masks and maintaining a physical distance.

As the fight against COVID-19 is ongoing, the expected emergence of safe and effective vaccines would mean that the WHO SIMO network would be heavily relied upon again to support the planning, implementation and monitoring of the COVID-19 vaccination programme across the country.

- Dr Md. Shamsul Haque, Director and Line Director, MNC&AH, Directorate General of Health Services, Government of the People’s Republic of Bangladesh

Even at the peak of the COVID-19 pandemic, the offices of the district civil surgeon and divisional director were provided technical assistance by the Network for disease surveillance and coordination activities without hampering the RI activities. Further, to protect the population from the devastating impact of the possible outbreak of another disease, the Network supported the maintenance of health-care services for those who needed uninterrupted treatment and urgent care.
The central role of data in reviving immunization services

The pandemic made it imperative for the Network to monitor and assess routine and surveillance activities in the field. Accordingly, the WHO IVD developed a spreadsheet with programmatic indicators for data collection on a monthly basis. This was shared with the network of SIMOs. The network collected data from different levels, such as district, city corporation, municipality and upazila. At the national level, the data team of the WHO IVD developed and maintained a dashboard, under the guidance of the technical team, to track the performance of the immunization programme. The programme’s performance was tracked using a few major indicators, such as the shortage of vaccines and logistics at the district and upazila levels; the status of surveillance activity; the use of precautionary measures; the number of children missed in the wake of the pandemic; the functional status of outreach and fixed vaccination centres; and the shortage of human resources on account of the COVID-19 crisis. Every month, the dashboard was shared with government officials and other stakeholders to track the progress of the programme. The dashboard contributed to the implementation of policy decisions aimed at resolving issues at the field level. This facilitated the early resumption of immunization services.

Initiatives in Rohingya refugee camp in Cox’s Bazar

Just before Bangladesh reported its first COVID-19 case, SIMOs had assisted in the preparations for and implementation and monitoring of a measles campaign in the refugee camp in Cox’s Bazar. They had managed to reach 290,000 children of the age of 6 months to less than 10 years. The SIMOs worked with 20 health officers involved in field monitoring to maintain surveillance activities. They lent their support to activities aimed at preventing outbreaks of diseases, particularly those which can be prevented by vaccination.

After the disruption of RI in mid-April 2020, it was decided to adopt a transitional strategy based on health facilities. A microplan was developed to resume RI services from July 2020. As a result, the number of immunization sessions increased to more than 1,000 in a month, that of fixed sites rose to 59 and 76 outreach teams became available to conduct RI activities. Despite the initial fear that COVID-19 was prevalent in the camps, more vaccine doses were administered under the revised immunization strategy in July - Nov 2020 (about 48,000 per month) than in January - June 2020 (about 23,000 per month). Though the data on coverage showed an increasing trend, the fear of COVID-19 and the failure to track the beneficiaries remained a challenge.
Guidelines on RI and VPD surveillance in the context of COVID-19

The WHO NPSP assisted the immunization division of the MoHFW in reviewing the status of RI and learning from the experiences of the states in terms of the action taken to re-energize the immunization drive and expand the coverage of immunization. It also provided technical support for drafting guidelines on the continuation of VPD surveillance, RI and supplementary immunization activities for polio in the context of COVID-19. The guidelines specified the precautions to be taken by the staff when conducting surveillance and immunization activities, including case investigation, and when searching for active cases in the community. They also emphasized the need to improve the health facilities and conduct immunization sessions. These guidelines were used to conduct subnational polio campaigns effectively and resulted in an increase in the coverage of RI.

Bihar: Synergy between immunization and COVID-19 activities

The state of Bihar planned for additional RI activities to make up for immunization sessions that had been missed due to the lockdown, particularly in areas that were hard to reach or affected by floods. The field personnel of the Network were actively involved in ensuring that all sessions were held in keeping with the plan. They worked hard to see to it that all children who were not immunized or partially immunized and pregnant women got their due doses. As this special campaign focused on hard-to-reach areas, it gave the field personnel an opportunity to review the COVID-19 activities in these remote places – a win-win situation for both programmes.

A four-day activity was planned in the Alauli block of Khagaria district in Bihar to organize 31 RI session sites in flood-affected areas. Normal sessions had not been held in these areas due to the prolonged lockdown. The Network conducted advocacy at the district and block levels for the special activity, helped in microplanning, and provided support in supervision and monitoring. In the picture, an SMO and a field monitor who were part of the monitoring team are accompanying vaccinators and supervisors on a boat journey of about three and a half hours. They then worked in smaller groups and traveled by boats again to reach their individual sites. During the session, they would also review activities related to COVID-19. A combined feedback of such activities was provided to district and state officials on a daily basis as was done during polio activities.
Rapid assessment of VPD surveillance

In September 2020, the WHO NPSP conducted a rapid assessment of VPD surveillance in 12 districts of the country. During this assessment, data were collected from 144 health facilities, 241 medical officers, 148 frontline workers (FLWs) and 286 parents were interviewed. An analysis of the data from the health facilities assessed showed that the outpatient load had decreased by 61%, while reporting of acute flaccid paralysis (AFP) cases had decreased by 72% in March–July 2020, compared to the same period in 2019. The interviews with the FLWs and parents indicated that given the backdrop of the pandemic, the community members preferred to seek health care for AFP from health facilities, such as primary health centres, community health centres and private health facilities, close to their homes. Following the assessment, strategies were evolved to address the decrease in reporting.

WHO India

The proposed course of action emphasized the following measures:

- focus on searching for active cases (by telephone or in person, where feasible);
- analysis of the contacts of health facilities for expansion and reprioritization of the surveillance network, with specific focus on health-seeking behaviour during COVID-19;
- sensitization of FLWs to improve the reporting of VPDs, with special focus on block-level workshops and integration with other trainings, orientations;
- sensitization of private practitioners and faith healers to improve reporting of VPD cases;
- development of WhatsApp videos on VPD surveillance and wide distribution of the videos among medical officers and FLWs; and
- review of surveillance data for appropriate action.
CHAPTER 2 - RESPONSE TO COVID-19 A JOINT RESPONSIBILITY

Leveraging technology to overcome barriers to training

Training for immunization continued in Papua and other remote provinces of Indonesia, despite problems with Internet connectivity and the challenges posed by the use of virtual platforms, as well as the difficulty in addressing the backlog in immunization. This was achieved by engaging the partners and coordinating with the immunization and information unit. The WHO EPI team adopted innovative methods of discussion and created videos, which were translated into Indonesian languages. These included videos on tracking defaulters, safe injection practices, conducting investigations during outbreaks, implementing surveillance systems as well as reporting and documentation. The immunization workshops or training meetings in Papua were considered pioneering and employed several of the methods adopted by the MoH in conducting webinars in other provinces.

"Several districts in Papua do not have a good Internet connection. Two things needed to be addressed before conducting a training using a virtual platform. First, making sure that the participants received all the training materials and second, ensuring that the participants had a good connection so that they could access the materials."

-Ns. Mindo Nainggolan, M.Kep. (Surveillance Coordinator in Papua) WHO Indonesia

Dashboard for monitoring immunization and VPD surveillance

There was a significant decrease in the coverage of immunization and case finding for VPDs due to the pandemic. To assess the sustainability of immunization services and the prevalence of VPD cases in the field, the Country Office for Indonesia helped the MoH develop a monitoring scheme for immunization and VPD surveillance. The monitoring scheme, which was aimed at the district and provincial levels, could be implemented easily, quickly, accurately and in a transparent manner. A process was put in place for regular monitoring by the EPI/CDC manager or the VPD surveillance programme manager with the help of a dashboard. This dashboard became an important tool for following up any operational obstacles related to the immunization programme or the occurrence of VPD outbreaks.

Indonesia undertook awareness raising activities at the national level during World Immunization Week (24–30 April 2020).

Dashboard for monitoring immunization and VPD surveillance during the COVID-19 pandemic

WHO Indonesia
Myanmar

Efforts to sustain RI services amid COVID-19

Myanmar successfully introduced new vaccines and continued with RI amid the COVID-19 pandemic. There was only a short gap from 1 April to 17 May 2020 when RI activity was temporarily suspended. The MoHS, with the support of the Technical Working Group (TWG) for immunization and surveillance, was able to implement catch-up immunization activities from 18 May 2020. This included the administration of the rotavirus vaccine (RVV), which had been added to the list of vaccines under the RI programme a short while before the outbreak of the pandemic.

The TWG (CEPI/CEU/NHL, MoHS, WHO and UNICEF) facilitated a zoom meeting with the National Immunization Technical Advisory Group (NITAG) secretariat to receive technical guidance on how to sustain RI in the country on the basis of the guidelines issued by WHO. With the guidance of the NITAG, RI was resumed in the country in June 2020. This required comprehensive preparation in various areas, such as developing SOPs, implementing effective infection control measures, raising the community’s awareness of RI and IPC practices. The TWG developed the country’s response plan and SOPs for the resumption of RI, to be used by basic health staff. Further, training tools (PowerPoint and video clips) were disseminated to all levels – states, regions and the townships.

The CEPI and partners played a supervisory role in the resumption of RI, helping to take corrective action and adopt measures to address gaps so that the country could meet its target to achieve a high coverage of RVV immunization.

On 20 October 2020, Myanmar added the human papillomavirus vaccine (HPV) to the 12 antigens provided by its immunization services. This was possible because of the strong political commitment of the government and the generous financial support provided by Gavi. The target was to vaccinate girls of the age of nine years, before they could be exposed to HPV infection. Since schools were closed due to the pandemic, the MoHS considered initiating an HPV1 vaccination drive in October 2020, following a community-based approach.
To ensure the smooth implementation and uptake of HPV vaccination, cascade training for orientation was conducted at the central level, in 17 states and regions, and in all 330 townships. The capacity-building exercise, health staff at all levels received training in HPV-specific knowledge and awareness, vaccination, the proper technique of vaccination and management of adverse effects following immunization. Special attention was paid to the identification of target populations, especially in low-performing townships and hard-to-reach areas. The training also covered vaccine management, the management of vaccine stocks and monitoring of the quality of vaccines. The EPI focal points in the states and regions, health staff, key persons in the cold chain, WHO and UNICEF participated in the training sessions. The technical guidelines of the EPI and all the immunization management tools (immunization cards, registers and reporting forms) were brought up to date to incorporate information on the HPV vaccine.

The capacity-building exercise made it possible to introduce the vaccine in a timely manner despite the pandemic. The correct and safe administration of the injections to eligible girls helped to gain the acceptance of the community.

With the lockdown measures restricting movement and travel within Nepal, the utilization of essential health services declined significantly after the COVID-19 outbreak. The immunization coverage rates dipped to less than half of the usual monthly coverage, as routine outpatient and outreach services were interrupted for more than a month. However, with the prioritization of RI services, the monthly coverage rates bounced back. In fact, according to the monthly health management information system (HMIS) data, as well as field level monitoring by the SMOS of WHO IPD, the coverage rates showed a trend of exceeding the pre-lockdown levels. This augurs well for the national immunization programme, which has now incorporated new norms for basic IPC practices to be followed in all immunization sessions.

While applauding Nepal’s achievement of over 90% immunization coverage, Dr Anindya Bose, the lead of the IPD team, warned that VPD surveillance and immunization programmes were not to be neglected as the country responded to COVID-19.

No country can afford to stop their immunization and preventable disease programme and lose the gains made over the years. It has to go on simultaneously with the COVID-19 response

- Dr Anindya Bose, the lead of the IPD team

Presently, the country is polio-free. But if we fail to continue our surveillance, it will be difficult for us to maintain the gains. The same is the case with measles. If we fail to conduct timely tests of samples of suspected measles cases, we might see an outbreak soon

- Dr Pawan Upadhyaya, SMO Nepalgunj (Province 5) WHO Nepal

Nepal

Mothers maintaining physical distance during a routine immunization session in Mugu district (WHO Nepal)
In 2017, a senior MOH official had said, “It would be a disaster,” when asked about the discontinuation of the WHO IPD team with a reduction or cessation of funding support from the GPEI. The MOH had advocated with Gavi, the Vaccine Alliance for supplementary funding support to the WHO IPD for a limited time. The MOH official was prescient, as the present support for the COVID-19 response, as well as immunization and surveillance would not have been possible without the WHO IPD team, which has expanded its technical assistance way beyond the vertical approach to polio eradication and is a trusted partner on the ground along with other WHO teams.

The National Immunization Programme rolled out the RVV in July 2020, with support from the core immunization partners (Gavi, WHO, and UNICEF). Training for the introduction of RVV at the provincial level was conducted opportunistically with training sessions for the measles-rubella campaign.

Dr. Jhalak Gautam, Chief, Child Health and Immunization Service Section, MoH, had earlier highlighted that around 42% of children under the age of 5 years suffer from diarrhoea every year and many of these diarrhoeal episodes are due to rotavirus, which carries a high risk of mortality.

The WHO IPD had provided support for the launch of the RVV by way of conceptualizing, providing technical assistance for writing the proposal for Gavi and training at the national and subnational levels. The national evidence for the rotavirus disease burden was based on the sentinel site surveillance for rotavirus diarrhoea supported by the WHO IPD, which will use the same mechanism to monitor the impact of the introduction of RVV on the rotavirus diarrhoea burden.

The national immunization programme incorporated basic infection prevention and control practices to be followed in all immunization sessions.
NeXtwork: with an eye to the future
For more than two decades, the WHO Regional Office for South-East Asia, together with the country offices, has been managing the integrated surveillance and immunization infrastructure in Bangladesh, India, Indonesia, Myanmar and Nepal – the five countries prioritized for polio transition.

The size of the Network has grown over the years. As of May 2020, the Network had around 400 field units spread across the five countries with almost 300 project vehicles to support movement in the field. These units, often located within government premises, are well equipped with office infrastructure. They are also empowered with financial resources and banking facilities to support the programme operations at the national and subnational levels. The Network engages a workforce of some 2600 personnel, recruited by WHO. The workforce, or ‘the boots on the ground’ comprises committed surveillance and immunization medical officers, data management teams, finance and administrative personnel, and drivers, who are stationed in the field units and work relentlessly to support the programme.

India has the largest and most complex infrastructure. The set-ups in Bangladesh and Nepal are similar but much smaller. In Myanmar, there is a unique arrangement with the government’s regional surveillance officers, while in Indonesia, there is minimal field presence as most operations are supported by the government.

The laboratory network supported by WHO is the backbone of surveillance for polio, measles–rubella, Japanese encephalitis, rotavirus and invasive bacterial diseases. In addition to the five countries mentioned already, the laboratory network also includes laboratories situated in Thailand and Sri Lanka that function as regional reference laboratories and receive specimens from select countries of the Region.

At a glance:
The Network managed by WHO in the South-East Asia Region
A network with expanding frontiers

The Network managed by WHO in the five polio priority countries of the South-East Asia Region has been applauded for a historical triumph over the paralyzing scourge of wild poliovirus. But that has not been its sole contribution. The Member States have, by now, come to value the Network as a recognized source of technical expertise for the surveillance of vaccine-preventable diseases (VPDs) and immunization programmes. Besides, the Network, with its multipronged strategy and multidimensional range, has time and again deployed and temporarily repurposed its assets to support Member States during disasters, and this has proved to be a game changer on several occasions.

Most recently, it adapted quickly to the needs of the Member States in launching an immediate response to the COVID-19 pandemic. It drew upon its experience in multipartner collaboration and coordination to marshal human and financial resources to combat the pandemic. It synergized the administrative departments at local levels and restructured strategies to suit the local context. More importantly, it inspired workers, executives and doctors at all levels to go beyond the call of duty.

The role of the Network in the response to the pandemic has expanded rapidly, from setting up surveillance to providing support for vaccination against COVID-19. All five countries launched their vaccination campaigns in January 2021, with training and support from WHO.

Launch of the COVID-19 vaccination in the five polio priority countries
13 January 2021
Indonesia
16 January 2021
India
27 January 2021
Bangladesh
Myanmar
Nepal

With the increasing cohort of the target population for vaccination and emerging issues related to new waves of the pandemic, the role played by the Network has been expanding with each passing day. Its relevance, far from diminishing, is increasing, calling for a sequel to this document on the contributions of the Network to vaccine deployment and post-vaccination priority interventions such as the assessment of vaccine effectiveness.

India has begun what is the world’s biggest COVID vaccination campaign so far, deploying hundreds of thousands of health workers, with the training and support of the UN World Health Organization.


A glimpse of the technical support provided by the Network for the COVID-19 vaccination campaigns:

1. Developing guidelines for rolling out mass vaccination campaigns:
   - developing standard operating procedures
   - preparing technical briefs
   - providing best practices
   - developing training materials for health staff

2. Supporting pre-campaign preparatory work:
   - participation in dry-run simulations
   - feedback on management of vaccines
   - registration of beneficiaries

3. Providing support after launch of campaign:
   - reporting on vaccination coverage
   - facilitating real-time reporting, data management and problem solving
   - strengthening mechanisms to report and respond to adverse events following immunization that may or may not be related to the vaccine
If the certification of the Region as being polio-free, in March 2014, was a cause for celebration among the Member States, the organizational and programmatic risks related to the ramping down and eventual cessation of funding from the Global Polio Eradication Initiative (GPEI) was a cause for concern. To protect the past investments in the Network for future gains, all five countries initiated the transition planning process in 2016. The idea was to maintain and mainstream the essential functions related to polio and transition the capacities, processes and assets that the GPEI had created. A country-centric approach was adopted to develop national transition plans, which are now being referred to as “integration plans”. The pace of development and implementation of these plans continues to be guided by the readiness of each country in terms of technical, financial and managerial capacity; the funding available; and operational modalities.

The development and implementation of the transition plans is monitored and guided by the Transition Independent Monitoring Board (TIMB) that was created in 2016 by the GPEI. The Board, in its most recent report of January 2021, recognized that the national transition plans of all the five countries were well-thought-out and showed a strong commitment to polio transition from the highest levels of WHO and the ministries of health. It also recognized that for more than a decade, the surveillance, immunization and polo functions of the Network have been integrated, highlighting the role played by it in the COVID-19 response. Further, it recommended an urgent post-COVID-19 review of all the national plans, including the plans for capacity development for sustainability in the longer term. Other global donors and partners have also echoed similar sentiments on the utility and future of the Network, while expressing concern about its funding and sustainability.

Another concern related to the Network’s future revolves around maintaining a critical balance between its roles. On the one hand, there is a risk of losing focus if its role is confined to specific activities, while on the other hand, too broad a role may diffuse its impact. Policy makers will need to weigh the pros and cons carefully while drawing up long-term integration plans.

The future of the Network and other similar infrastructures across the world is a global priority and is being closely monitored by the TIMB. While national governments, global policy makers, donors, partners, and all stakeholders discuss, debate, and decide on how to protect past investments for future gains or how to leverage the strengths of the Network to improve the health of populations and achieve greater public health goals, the Network will eagerly await the NextWork !
We share the understanding that polio eradication and transition are equally important targets as we work towards eradication we must think about the future. This is how we will ensure that health systems retain capacity and are strengthened long after polio is ended. Over the last year, we have witnessed polio workers supporting governments to fight COVID-19 in the most extraordinary of circumstances. Their contributions to diverse areas of the pandemic response unequivocally prove their value for broader public health. To sustain these assets in the long term, we must progress with transition in tandem. I encourage priority Member States to implement their transition plans in line with the Strategic Action Plan, including by allocation of domestic resources. This financing is crucial to ensure that health systems are ready to respond to future health emergencies.

Dr Tedros Adhanom Ghebreyesus
WHO Director-General, 148th Executive Board, Session

We would like also to recognize the partners in the Global Polio Eradication Initiative and our Member States for the practical support the polio programme at all levels has provided in the fight against COVID-19. The polio infrastructure and personnel have been central to establishing surveillance and response operations for COVID-19 in many low-resource and vulnerable settings. We will not forget this commitment. We in the Emergencies Programme commit ourselves to doing all possible to support the Global Polio Eradication Initiative and Member States to track down and eradicate the last reservoirs of this virus, and to work with the Deputy Director-General to ensure that the legacy of polio is written through polio transition and stronger preparedness, surveillance and vaccination programmes for other high-impact diseases.

Dr Mike Ryan
Director, World Health Emergencies, Seventy-third World Health Assembly, Fourth Meeting of Committee A

The infrastructure that we have built up has taught us a lot. We could apply the learnings to other diseases and eventually extend the network to include other social causes. I think there is a huge potential of the network which would all be lost if one were to dispense with this infrastructure.

Deepak Kapur
Chairman, the Rotary International’s India National PolioPlus Committee

‘The Polio Programme’s assets, staff, organizational structures and disease control tools and methods have been deployed to fight the pandemic menace in an exemplary fashion. Many staff have put themselves at risk in a selfless way that demands gratitude and respect from everyone. Tragically, some have died in the process’

Dr Tedros Adhanom Ghebreyesus
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‘The COVID-19 pandemic underlined the importance of preparedness for health emergencies, the value of immunization and disease surveillance, the need for building resilient health systems – all of these are objectives of polio transition. It is our chance to retain the polio expertise to build back stronger and more robust health systems. If we don’t act now, we will lose this enormous opportunity’

Dr Will Schilcher
Director, Global Polio Eradication Initiative, Centers for Disease Control and Prevention

‘Perhaps the COVID pandemic will help countries realize how important it is to maintain this Network, and also the international community to realize that some countries cannot be left alone. When polio is eradicated, and we pull out the funding that goes towards polio-specific activity, then that infrastructure and the capacity to detect and respond and communicate and coordinate needs to remain in place’

Mr Michel Zaffran
Director, Polio Eradication, WHO headquarters (2016–2020)

‘The equivalents of the NPSP network are being deployed in several countries of the WHO’s American Region to address measles outbreaks. Now, it’s a nice opportunity to use those networks to also deliver COVID-19 vaccines. This is how we’re going to collaborate with ministries of health, to deliver vaccines – monitor cases and set up emergency operation centres’

John Fiszman
Technical Officer, IVD, WHO Regional Office for South-East Asia (1997–2001)

‘When we talk about surveillance structures globally, we talk about global health security and about having the infrastructure in place for rapid detection so that we can respond to disease outbreaks. The polio network or the VPD surveillance network that was put in place for polio is really the beginning of that structure for global health security that really does play a critical role for keeping communities safe’

Dr Zsuzsanna Jakab
WHO Deputy Director-General, Polio Transition Member State Information Session, May 2021

‘We share the understanding that polio eradication and transition are equally important targets as we work towards eradication we must think about the future. This is how we will ensure that health systems retain capacity and are strengthened long after polio is ended. Over the last year, we have witnessed polio workers supporting governments to fight COVID-19 in the most extraordinary of circumstances. Their contributions to diverse areas of the pandemic response unequivocally prove their value for broader public health. To sustain these assets in the long term, we must progress with transition in tandem. I encourage priority Member States to implement their transition plans in line with the Strategic Action Plan, including by allocation of domestic resources. This financing is crucial to ensure that health systems are ready to respond to future health emergencies’

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‘The resilience, technical capacity, and dedication inherent in the GPEI’s efforts to successfully eradicate polio from the South-east Asia region have continued in the legacy of this partnership by not only sustaining this monumental goal, but by boldly confronting the current COVID-19 pandemic and providing the core capacity for addressing future public health challenges’

Dr Jos Vandelaer
Regional Emergency Director, WHE, WHO Regional Office for South-East Asia (2001–2005)

‘Do we go this extra mile or not? And that is what this Network does. This Network goes that extra mile’

Dr Jay Wenger
former Project Manager, NPSP, WHO India (2002–2007), currently Director, Polio Program Global Development, Bill & Melinda Gates Foundation

‘Quality, it’s a core of the WHO mandate. High-quality capacity building by WHO is helping countries train the workforce and do regular retraining. That’s something where we can continue to play an important role’

Mr Michel Zaffran
Director, Polio Eradication, WHO headquarters (2016–2020)

‘The capacity of this Network, built over two decades, has helped health systems to mature. The strategic investment for polio was critical. Year of hand-holding the countries and leveraging the best helped save millions of lives’

Dr Stephen Chacko
Medical Officer, EPI, WHO Myanmar

‘The Network has filled gaps in the public health system, supported the immunization agenda and gone beyond immunization during disasters and health emergencies, including the COVID-19 pandemic. No matter where this Network exists, it will add value to the public health infrastructure’

Dr Avinidha Bose
Medical Officer, IPD, WHO Nepal (2016–2021)

‘There are examples of how surveillance can help identify public health problems. I do think the main problem with donors supporting surveillance, and even governments supporting it, is that it’s not a first-line desire of the population. People could go march and protest because they don’t have medical care, but nobody marches and protests because they don’t have surveillance. It’s just something that not many people understand and appreciate’

Dr Will Schluter
Director, Global Immunization Division, Centers for Disease Control and Prevention

‘It’s hard to get a surveillance system working. It’s hard to get any system working within a year. If you need information on something today, you basically go with what you’ve got. Because the polio surveillance system was so good and it’s out there, you can easily use it for other things’

Dr Jay Wenger
former Project Manager, NPSP, WHO India (2002–2007), currently Director, Polio Program Global Development, Bill & Melinda Gates Foundation

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Dr Avinidha Bose
Medical Officer, IPD, WHO Nepal (2016–2021)

‘A trained workforce serves as a resource for the government across a whole range of areas’

Mr Michel Zaffran
Director, Polio Eradication, WHO headquarters (2016–2020)

‘People embedded in the government system, I think that is the key. You embed them in the government system, so that you don’t create a separate system, but provide extra capacity to the existing government system’

Dr Jos Vandelaer
Regional Emergency Director, WHE, WHO Regional Office for South-East Asia

‘It makes it harder to invest in a long-term integrated VPD surveillance because people don’t see the value of collecting and analysing that data. People don’t see the immediate use in responding to outbreaks, identifying programme gaps and weaknesses, or how it is strengthening programmes and systems. Most surveillance reporting is more like up and out reporting. However, I think the direction we need to go in is to use the data to solve operational gaps if you really want to have evidence-based public health measures’

Ellyn Ogden
MPH, USAID Worldwide Polio Eradication Coordinator

‘The resilience, technical capacity, and dedication inherent in the GPEI’s efforts to successfully eradicate polio from the South-east Asia region have continued in the legacy of this partnership by not only sustaining this monumental goal, but by boldly confronting the current COVID-19 pandemic and providing the core capacity for addressing future public health challenges’

Dr Brenton T Burkholder
Regional Advisor, MD, WHO SEARO (2001–2005)
Mr Michel Zaffran
Director, Polio Eradication, WHO headquarters
(2016–2020)

“The COVID-19 pandemic experience has drawn the attention of the governments to the necessity to have something that is more sustainable. WHO can serve as the repository, in a sense, the central point for a network that is able to deploy workforce when there is a need, but it’s something that needs to be more permanent.”

Ellyn Ogden
MPH, USAID Worldwide
Polio Eradication Coordinator

“It makes a lot of sense to work with ministries of finance and planning to start absorbing some of the costs of maintaining this network into government structures. And then WHO’s role, could be redefined in terms of supervision, standard setting and overarching monitoring. It should be a collaboration type of role, where WHO funding gets scaled back, governments absorb responsibility, but everyone works to maintain the quality needed to meet on-going disease surveillance priorities.”

Dr Jay Wenger
former Project Manager, NPSP, WHO India
(2002-2007), currently Director, Polio Program Global Development, Bill & Melinda Gates Foundation

“You talk about the NPSP kind of issue. I mean, what do you do with a system that’s been good and its functioning for X, but now X is getting smaller and probably doesn’t need the big system anymore. How do you take that capacity and make it expand? Well, basically expand its utility and make it a part of an ongoing system that you don’t lose. And that’s the issue. We all talk about government ownership and that is one solution, but maybe we don’t even mean to talk about government ownership. It’s not necessary for the government to be the owner. It owns it at present, but it could be some other institution or group in the country… I think there may be different answers and different solutions in different places, but certainly, to let a functioning surveillance and response system just go away is probably not a great answer, because you’re always going to need that capacity.”

Homero Hernandez
Senior Country Manager, Gavi, the Vaccine Alliance

“One of the most important fundamental decisions made by Governments and donors was to recognize that polio eradication and other vaccine-preventable diseases would not be adequately controlled, eliminated or eradicated, without robust data and surveillance to guide strategies and decision making. This has been the added-value of the networks created in countries which are still evolving today, as public health experts and governments have relied on the ever-evolving networks to tackle the COVID-19 pandemic. What will be critical is to ensure these networks continue to evolve, adapt and fully integrate into national health systems as part of strengthening efforts to have resilient networks guide future strategies whether for routine system Programmes or emerging outbreaks and future pandemics.”

From a joint interview with Dr Rajendra Bohara, Team Lead, IVD and Dr Balwinder Singh, Medical officer, IVD, WHO Bangladesh

“For a public health infrastructure, the expertise of working at the ground level, beyond the normative office work is critical. Dismantling the Network would mean losing the experience of polio and measles. Going forward, we need to think about transforming and strengthening the existing health infrastructures to transition the functions that are currently managed by WHO, for example, data management, administrative back-up, and financial support for the field offices.”
3. Expansion of integrated public health teams

A model of integrated public health teams (polio, essential immunization, surveillance, health emergencies) at the country level should be expanded further. The year should be taken to deal with essential immunization under central government or primary care units.

4. Country by country staff capacity-building plan

A comprehensive human capacity-building plan should be formulated and implemented to counteract the risks of losing capable members of staff (e.g., surveillance officers) because of varying differentials in country by country remuneration services and, if not, when.

5. Further development of a global comprehensive communicable disease surveillance system

A high-level strategic meeting should be convened to explore the creation of a global surveillance network to capture information on the incidence of disease, data on the ethical performance of different activities, and data on the impact of different activities. As part of this, the WHO should ensure that all stakeholders work effectively.

6. Establishing a wider biosecurity

The establishment of a containment programme within the polio transition planning process offers the opportunity to create an in-house biosecurity and public health unit.

7. Strengthening global oversight, coordination, and performance management for essential immunization

As part of this, the WHO should consider setting up a task force to deal with essential immunization performance, and data on the performance of each country.

8. Polio Transition Team involvement in the implementation of IMB recommendations

Given the problems between polio eradication and polio transition activities, the appropriate teams involved in polio eradication should become directly involved with the IMB in the implementation of these recommendations. For example, the GPEI should strengthen its management and leadership of polio transition planning activities.

9. Subnational mapping of capacity and capability

Each subnational administrative unit in the priority countries should be assessed for its capacity and capability to contribute to the attainment of polio transition in particular, polio immunity, the risk of outbreaks and pandemics to deal with them, essential immunization coverage, and public health activities to deal with them.

10. Publishing a risk register

A comprehensive risk register covering all aspects of polio transition planning should be drawn up and published as a comprehensive evaluative profile.

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This publication offers a glimpse of the chequered journey of the ‘Network’, a public health infrastructure set up with the aim of supporting polio eradication activities in the five polio-priority countries of the WHO South-East Asia Region. The Network crossed significant milestones during its journey, which commenced more than a quarter of a century ago. Firm resolve, tireless efforts and the trust and backing of governments and the people were the forces behind the historic eradication of polio from the WHO South-East Asia Region.

In partnership with ministries of health, implementing partners, donor agencies and key stakeholders, including the civil society, the Network has continually provided a gamut of health services to save millions from vaccine-preventable diseases and from the consequences of natural disasters and health emergencies.

In 2020, when life in the countries of the Region came to a sudden halt due to the onset of the COVID-19 pandemic, the Network was in the forefront, leveraging its resources, past experience and core strengths to help governments meet the challenge. In the early phase, while the world waited for vaccines to be developed, the Network made commendable contributions to halt the spread of the disease. It extended support for testing, contact-tracing, locating hotspots, capacity-building and raising awareness.

The Network’s role has expanded with the rollout of COVID-19 vaccines in 2021, proving its enduring relevance to public health programmes. Thus, it is imperative to consider the sustainability of the Network to protect past investments for future gains, and to prepare for the Network’s legacy, or the NeXtwork.