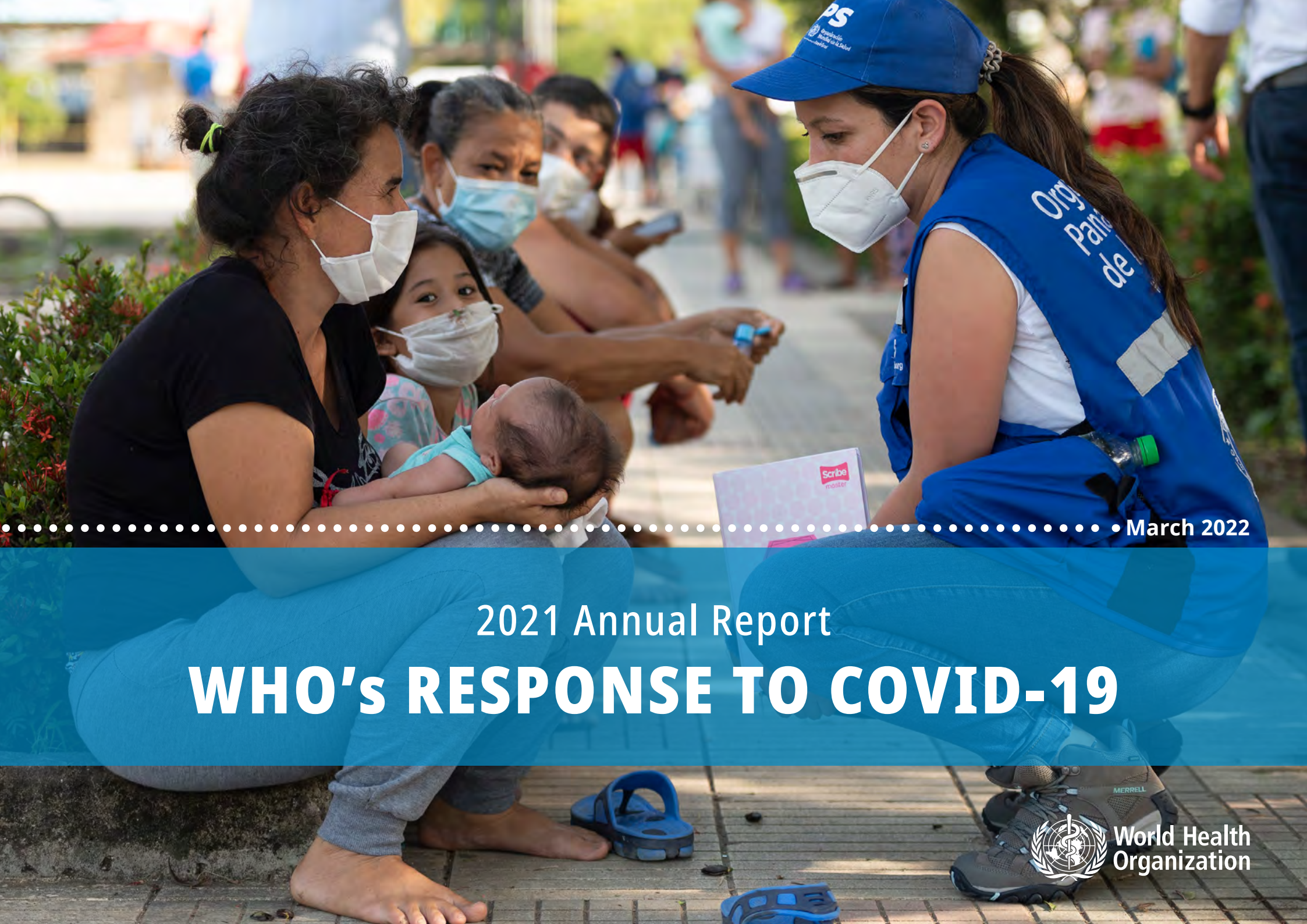
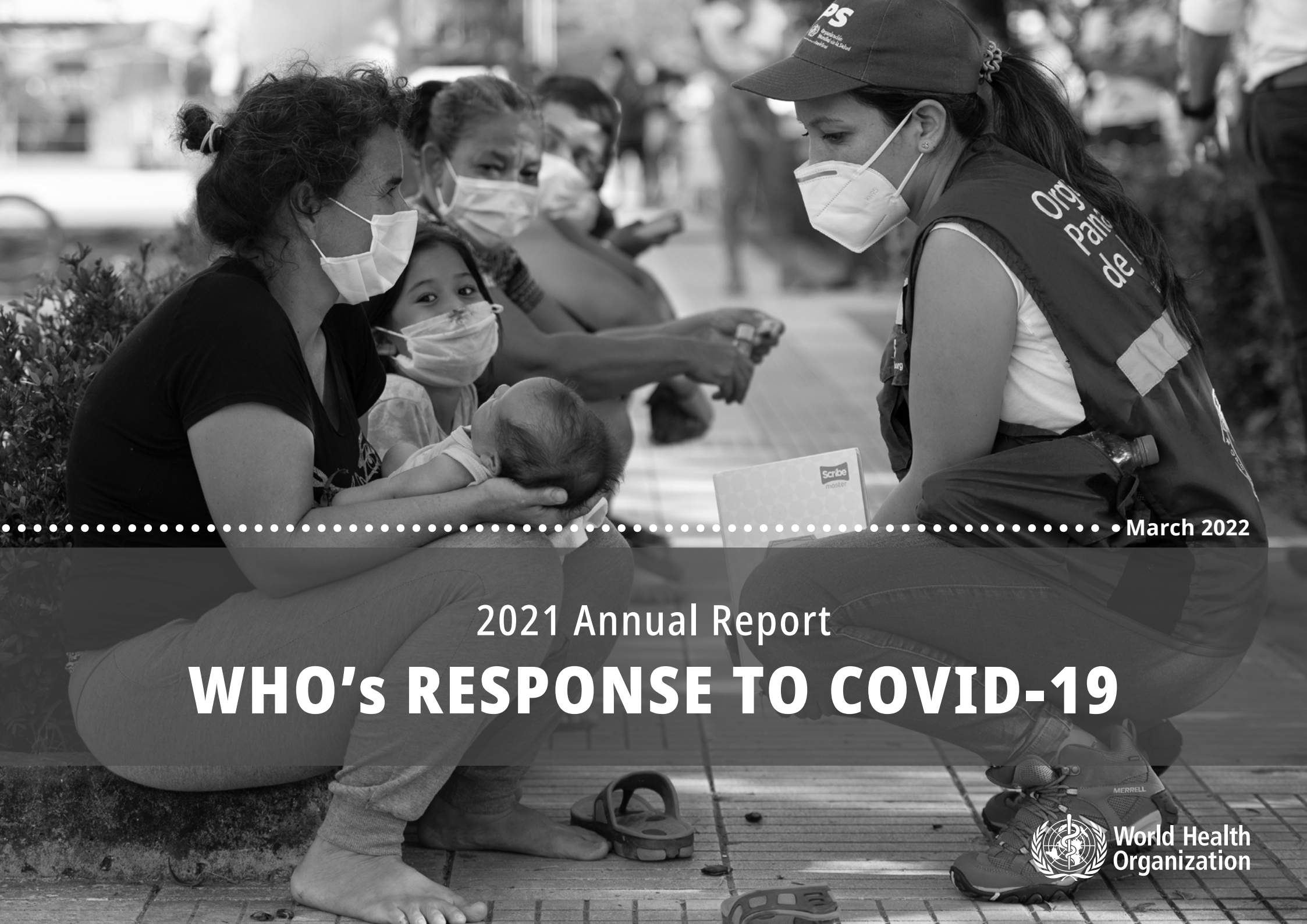


March 2022

2021 Annual Report

WHO's RESPONSE TO COVID-19

World Health Organization



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Cover photo: Thousands of Venezuelans took refuge in the Colombian municipality of Arauquita, where local authorities and cooperation set up shelters and humanitarian aid to address the emergency. The already difficult situation was further complicated by the increase in COVID-19, not only in Colombia but throughout the Americas. © PAHO / WHO / Karen González

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Foreword

It has been more than two years since the first SARS-CoV-2 infections were reported. In that time, some countries have been able to make real progress in halting the disease. Many countries, however, are continuing to deal with significant outbreaks. The emergence of Omicron towards the end of 2021 triggered a wave of global transmission whose impacts are still being felt. To date, more than six million lives have been lost to COVID-19, and thousands more people are living with 'long COVID' – a debilitating post-COVID-19 condition that we are only just beginning to understand. The pandemic has also highlighted and deepened existing inequalities, with differences in case numbers, long-term symptoms, and mortality rates between, for instance, men and women, different age groups, and ethnic minorities and the general population.

The 2021 Strategic Preparedness and Response Plan (SPRP) aimed to end the acute phase of the pandemic and build resilience and readiness for the future. It set out key actions needed at national, regional, and global levels to contain the virus, protect those most at risk, and reduce illness and death within the context of rapid development and deployment of critical tests, treatments, and vaccines. Guided by the SPRP, WHO's response to the pandemic over the past year has focused on four strategic priorities. The first was to detect transmission through robust disease surveillance systems, collaborative intelligence, and early warning. Secondly, WHO worked to reduce exposure to the disease by empowering and enabling communities and engaging with them as partners in responding to the pandemic. WHO worked to counter misinformation and disinformation and build resilience through managing the infodemic, tailoring health guidance, communicating risk, and explaining science in ways that were culturally sensitive, meaningful, and available in local languages.

A third area of focus was on protecting the vulnerable by supporting equitable access to tests, treatments, vaccines, and essential supplies. At the country level, this translated into providing life-saving medical supplies for individuals with COVID-19 and personal protective equipment for health workers, as well as extending support to strengthen national procurement and supply chains.

Vaccination efforts throughout 2021 were some of the most complex immunization programmes in history, involving the simultaneous use of different vaccines in a wide variety of contexts. As of March 2022, COVAX has delivered over 1.37 billion doses of WHO-approved COVID-19 vaccines to 144 countries – a truly remarkable achievement. Along with financial, technical, and logistical support for procurement, allocation, and distribution, WHO and partners helped countries to plan, coordinate, and implement their vaccination programmes by providing normative guidance on policies, regulations, safety, and research and development. WHO effectively utilised existing structures and systems used during mass vaccination campaigns for measles, polio, and yellow fever. Further, through WHO regional and country offices, with their years of accumulated country knowledge, the Organization was able to act as a 'knowledge broker', translating global advice into practical guidance and support.

The fourth and final objective was perhaps one of the hardest to achieve – building resilient health systems that can prepare for, manage, and adapt to shocks. WHO worked with countries in achieving their own priorities regarding national coordination and planning, strengthening primary care, ensuring surge capacity, and protecting and training the health workforce. While activities have been specific to the COVID-19 response, many gains can be transformed into longer-term improvements in health system effectiveness and resilience, especially in vulnerable settings.

Supporting communities and populations in fragile, conflict-affected, or vulnerable contexts remained a key priority for WHO and global partners in 2021, where the balancing of COVID-19 mitigation strategies with the provision of non-COVID-19 health services is arguably most complex. Through the cluster approach, WHO supported implementation of the SPRP in 31 humanitarian settings with active Health Clusters. This required a holistic approach at the country level – one that balances public health and social measures for COVID-19 against other risks affecting vulnerable communities, such as lack of income, lack of access to basic services and social safety nets, and food insecurity. It also required an equitable approach in the allocation, distribution, and implementation of COVID-19 vaccines to populations that might not be included in national allocation and access mechanisms – prompting development of the Humanitarian Buffer to ensure no one is left behind in accessing vaccines.

As we look back on the past year's achievements and challenges, we look forward to making use of this wealth of experience to continue to better protect the world from the impact of COVID-19. However, while we focus on a future in which the acute phase of the pandemic has ended, it is important to acknowledge that many challenges remain. We will still need strong disease control programmes to reduce infections, suffering, and deaths. Sustained control of the virus will be needed in 2022 and beyond – with an approach that focusses on protecting the vulnerable, preventing transmission, and supporting strong health systems to cope with infections that cannot be prevented.

Dr Michael J. Ryan
Executive Director
WHO Health Emergencies Programme

About this report

The first COVID-19 Strategic Preparedness and Response Plan (SPRP) was developed by WHO in February 2020 to help guide the public health response to COVID-19 at national and subnational levels and outline global strategic priorities in support of the effort. With an overall goal of ending the acute phase of the pandemic and building resilience and readiness for the future, it defined key strategic public health objectives, interventions, and required capacities to break the transmission cycle.

The SPRP was updated in early 2021 to better align with increasing knowledge of the virus and in response to the development of effective tools – particularly focussing on vaccination as a core aspect of the global response.

This report, the fourth of its kind, provides a consolidated update on WHO's response to the COVID-19 pandemic in 2021, against the objectives laid out in the updated SPRP. It highlights key actions taken by WHO to detect and reduce transmission, protect the vulnerable, and save lives – particularly among fragile and conflict-affected population groups. Considering the pillars of the COVID-19 response as outlined in the SPRP, activities in the report are reviewed according to four broad strategic priorities:

1. Detecting transmission through strengthened **outbreak surveillance systems**, robust early warning systems, and shared global knowledge.
2. Reducing exposure and transmission by supporting **empowered, engaged, and enabled communities** as partners in implementing public health and social measures.
3. Protecting the vulnerable by ensuring equitable access to **tests, treatments, and essential supplies**, and critically – **vaccines**.
4. Reducing morbidity and mortality from all causes through building **resilient health systems** that can prepare for, manage, and adapt to shocks.

The report highlights the role of WHO at the global, regional, and local levels, and across the key elements of an effective emergency response – from implementation and operational support, to developing evidence and research, and providing strong coordination and planning. As a technical organization with global convening power, WHO has access to expert networks, collaborating centres, and research and innovation platforms. By working with partners, including UN agency offices around the world, multi-agency and multi-partner operational platforms, regional and national public health and scientific institutes, governments, communities, donors, and the private sector, WHO helped bring the world together to provide direct technical and operational support to countries implementing their national COVID-19 response plans.

While the activities described on the following pages were chosen to highlight the role of WHO – coordination, solidarity and partnership remain critical. From the outset of the pandemic, WHO has worked to bring all stakeholders together. WHO plays a key leadership role in several coordination mechanisms – including the Access to COVID-19 Tools Accelerator (ACT-A) partnership. Developed in 2020 as a global collaboration, ACT-A was designed to rapidly leverage existing global public health infrastructure and expertise, and to accelerate the development and production of critical COVID-19 tools – tests, treatments, vaccines, and essential supplies. WHO is at the centre of the ACT-A partnership, with its core mission of delivering equitable access to COVID-19 tools.

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2021 situation overview

At the end of December 2020, over 84 million confirmed cases of COVID-19 and 1.9 million deaths had been reported to WHO. By mid-March 2022, some 14 months later, these figures had increased to 458 million cases and over 6 million deaths. In that time, almost every WHO region recorded their highest number of weekly new cases since the start of the pandemic. South-East Asia recorded its peak in May, while Europe, Africa, the Americas, and the Eastern Mediterranean experienced their peaks over December 2021 and January 2022. As of March 2022, the Western Pacific is recording the highest number of new cases to date, with several small island states in the Pacific only now experiencing community transmission.

While each region experienced their 'waves' and 'peaks' at different times, as new hotspots emerged all countries faced the same challenges – overburdened health systems and exhausted health workers. The increasing number of global cases also clearly demonstrated growing inequities. While men were three-times more likely to be admitted to an intensive care unit and had higher COVID-19-related mortality rates than women, women were more likely to experience long-term symptoms from COVID-19 and report worse side-effects from the vaccine. Migrants, refugees, ethnic minorities, and people experiencing racial discrimination also experienced higher rates of COVID-19 morbidity and mortality than the general population. Such inequitable outcomes are generally attributed to the lack of equitable access to, and use of, COVID-19 tools – particularly vaccines. The emergence of new variants during 2021, in combination with inequitable access and use of COVID-19 tools, was also responsible for a significant number of new cases, deaths, and hotspots.

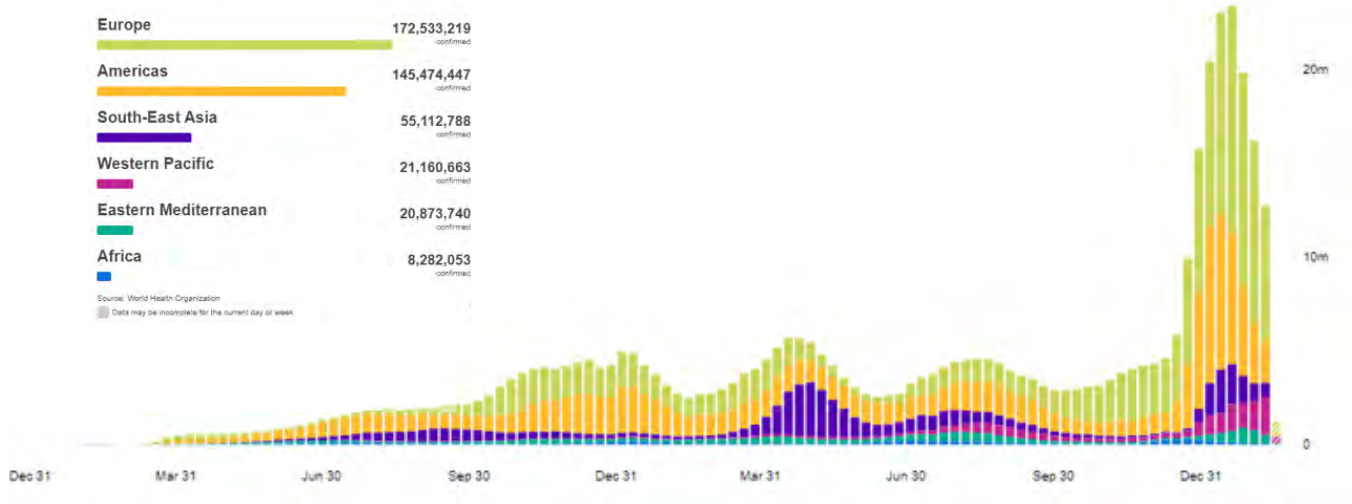
Inequitable access to COVID-19 tools

The equitable roll-out of COVID-19 vaccines is yet to be realised in large parts of the world. As of late March 2022, this inequitable access means that while 2 out of every 3 people in high-income countries have received at least one dose, for low-income countries, it is 1 in 7. Large variations in acceptability and uptake also remain within countries - between women and men, different age groups, and different underserved groups, among others. While additional vaccine doses for low-income countries were able to be secured through COVAX, the vaccine pillar of ACT-A, supply was often delayed or provided via ad hoc donations. Although these additional vaccines were welcome, it made planning for equitable roll-out exceptionally difficult. The logistical challenges of receiving, allocating, and delivering vaccines donated near their expiry dates, for instance, was a major challenge during 2021. Tests, treatments, and essential commodities also remained in short supply during the year. In August, several low-income and middle-income countries faced critical medical oxygen shortages during surges in community transmission.

The emergence of new variants

The emergence of new variants in 2021, particularly Delta and then Omicron, is prolonging the acute phase of the pandemic. To date, five variants have been designated Variants of Concern – all more transmissible than the original strain of SARS-CoV-2. An additional eight Variants of Interest have been designated, and many more are being closely monitored and evaluated. As the virus continues to circulate, more variants will continue to emerge.

Weekly cases of COVID-19 by WHO Region as at 18 March 2022



2021: Timeline of key events

5 Jan | WHO SAGE meet to review vaccine data for the Pfizer/BioNTech vaccine and formulate policy recommendations. The vaccine is the first to receive an emergency use validation from WHO for efficacy against COVID-19.

2 Feb | WHO publishes a public health research agenda for managing 'infodemics': the overabundance of information – some accurate and some not – occurring during an epidemic.

23 Feb | WHO publishes its COVID-19 vaccine introduction toolkit of guidance, tools, and training to equip all countries to prepare for and implement COVID-19 vaccination.

24 Feb | COVAX's global rollout begins, as Ghana becomes the first country outside India to receive COVID-19 vaccine doses shipped via COVAX.

16 Mar | The COVID-19 detailed surveillance data dashboard goes live. Features include stratification by age and sex, trends over time, case fatality ratios by age, testing, hospitalization, and data on health workers.

19 Mar | WHO hosts a global workshop on enhancing sequencing to monitor SARS-CoV-2 evolution, with more than 800 participants joining.

5 May | WHO and Germany launch the WHO Hub for Pandemic and Epidemic Intelligence. The Hub will lead innovations in data analytics across the largest network of global data to predict, prevent, detect and prepare for and respond to pandemic and epidemic risks worldwide.

11 Jul | Over 19 million PCR tests, 203 million medical masks, 1.8 million gloves, and 9 million face shields have been delivered globally.

24 Sep | WHO updates its therapeutics guideline for the treatment of COVID-19.

26 Nov | WHO designates the variant B.1.1.529 a variant of concern, named Omicron, on the advice of WHO's Technical Advisory Group on Virus Evolution (TAG-VE).

1 Dec | The World Health Assembly agreed to kickstart a global process to draft and negotiate an international instrument under the WHO Constitution to strengthen pandemic prevention, preparedness, and response.

15 Jan 2022 | COVAX delivers its billionth COVID-19 vaccine dose, with a shipment of 1.1 million doses to Rwanda.

31 Jan | WHO releases interim guidance on end-to-end integrated sentinel surveillance of SARS-CoV-2 and influenza.

3 Feb | The WHO UNITY Studies Collaborator Group publishes the largest-ever systematic review and meta-analysis of standardized SARS-CoV-2 seroprevalence studies, showing that true infections of COVID-19 around the world far exceeded reported cases.

11 Mar | Since the start of the pandemic, 225 GOARN partner deployments have been conducted to support national COVID-19 pandemic responses.

2021

2022

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Strong outbreak surveillance systems

Detecting transmission through effective surveillance, collaborative intelligence, and early warning

Effective disease response depends on high-quality surveillance data that can tell decision-makers what the issues are, where they are, who is being affected, and at what scale. Well-functioning laboratory testing services, operating according to international principles of quality and safety, are an essential part of a strong health system and crucial to improving public health. Testing is critical to detect cases and investigate clusters so that public health actions can be taken to isolate positive cases, quarantine contacts, and break chains of transmission.

Identifying and monitoring variants

The COVID-19 pandemic exposed many underlying weaknesses in national, regional, and global surveillance systems. Poor connections between surveillance and alert and response systems at different levels made the timely sharing of information difficult, limiting collaborative intelligence on SARS-CoV-2, the virus that causes COVID-19, as it spread and changed. Throughout the pandemic, WHO has served as the definitive source for SARS-CoV-2 surveillance data, including detailed and aggregate data on cases and deaths, through several platforms including its global COVID-19 dashboard and weekly operational updates.

A critical component of WHO's work at the global level has been the continuous tracking and classification of new variants, including the designation of Variants of Interest (VOI) and Variants of Concern (VOC). Throughout 2021, WHO played an active role in analysing the epidemiological characteristics of new variants, monitoring situations of concern to help plan for surges in case numbers, and providing guidance to Member States. Based on recommendations from the Technical Advisory Group on Virus Evolution, WHO classified Omicron as a VOC in late November 2021. By the end of December, Omicron had been identified in 120 countries in all six WHO regions. To ensure a coordinated and effective global research agenda, more than 450 scientists participated in a special meeting of the WHO R&D Blueprint Working Groups on COVID-19 Assays and Animal Models to identify knowledge gaps and research priorities on Omicron, including transmissibility, severity of infection, performance of vaccines and diagnostic tests, and the effectiveness of treatments. In early December, WHO published the first technical brief with priority actions for Member States on enhancing readiness for Omicron.

Investments in genomic sequencing

In supporting countries to strengthen testing and diagnostic capacities, WHO worked with partners to scale-up variant surveillance through genomic sequencing. Based on the successful model of global influenza surveillance conducted through WHO's Global Influenza Surveillance and Response System (GISRS), WHO and GISAID developed a joint training programme to support countries in the development of genomic surveillance systems for COVID-19. Experts from national influenza centres and COVID-19 laboratories were trained in how to access, use, and contribute to genomic sequencing databases, platforms, and tools.

Key figures as of 13 March 2022 (cumulative)

20.6 million
sample collection kits

81.7 million
antigen RDTs

44.4 million
PCR tests

70 countries
supported to improve testing capacity, exceeding WHO's own targets (June 2021)

220 million
medical masks

124 million
gloves

9.8 million
face shields

In collaboration with the South African National Bioinformatics Institute, the WHO Regional Office for Africa established a Regional Centre of Excellence for Genomic Surveillance and Bioinformatics. WHO provided both technical assistance and financial resources to support the institute's work in 14 Southern African Development Community countries. During the first four months of operation, genomic sequencing activities in Southern Africa quadrupled – helping countries to detect and understand the impact of variants of concern. Investments in laboratory systems in the African Region have demonstrated significant improvements in testing capacities overall. In early February 2020, only two laboratories in the African Region could confirm a COVID-19 case; two years on, and 73 million COVID-19 tests later, 1029 laboratories in the region can test for COVID-19.

Strengthening national surveillance systems

WHO worked closely with Global Outbreak Alert and Response Network (GOARN) partners on direct implementation and operational support through rapid response mobile laboratories (RRMLs). Used during outbreaks of Ebola virus disease, Marburg, yellow fever, plague, and now for COVID-19, they support national public health structures by providing surge capacity during peak demands. The WHO Regional Office for Europe, with support from Headquarters and GOARN partners, developed a training programme and technical guidance to strengthen response capacities and support workforce development through establishing, standardizing, and testing the technical processes required for emergency RRML deployments. Participants included RRML teams from different institutions and countries including **Belgium, France, Germany, Poland, Russian Federation, Spain, and the United Kingdom**.

WHO worked with GISRS and its partners to leverage and integrate SARS-CoV-2 surveillance into existing influenza sentinel surveillance systems. Through the International Reagent Resource, WHO provided more than 891 000 tests to 133 countries for the detection of SARS-CoV-2 and influenza. As of early 2022, 107 countries have integrated COVID-19 surveillance into components or stages of the GISRS surveillance process – providing essential information to inform policy and adjust national public health responses to the COVID-19 pandemic. After identifying significant challenges to its sentinel surveillance systems for influenza during the pandemic, **Togo** integrated SARS-CoV-2 into the existing system. This integrated approach allowed Togo to monitor influenza and COVID-19 activity during the pandemic – providing critical information to inform public health polices in the country.

In the **occupied Palestinian territory** (oPt), WHO supported the establishment of the Gaza Central Laboratory, the only public laboratory in the Gaza Strip. COVID-19 diagnostic capacity was also increased through training of health workers and provision of testing supplies. This investment not only supported

National Public Health Laboratory, Singapore, part of the WHO COVID-19 Reference Laboratory Network providing confirmatory testing for COVID-19.

the COVID-19 response but also strengthened testing capacity to address future emergencies.

WHO worked with partners to provide national authorities with the essential commodities needed for routine testing. As of December 2021, WHO had procured over US$ 578 million of essential supplies, and shipped them to 170 countries, including to **Jamaica**, who received emergency sampling and laboratory supplies, along with satellite phones, radios and laptops for contact tracers, and a minibus for transporting rapid response and contact tracing teams. To ensure the availability of critical testing services for patient management, a consignment delivered to **Sierra Leone** included specimen collection kits, rapid antigen diagnostic kits, and polymerase chain reaction (PCR) test kits to screen for emerging variants. Testing kits were also delivered to **Uganda's** Virus Research Institute in December to assist in strengthening the country's existing capacity to identify Delta and indicate the presence of Omicron.

Given its role in fostering innovation and sharing resources as public goods, WHO utilised existing tools as part of the COVID-19 response, including Go.Data, a platform for outbreak response and contact tracing developed by WHO in collaboration with GOARN partners. Operational support was provided to the **Ukrainian** Ministry of Health to help review and support a scale-up strategy for the use of the Go.Data platform as part of the country's day-to-day management of the pandemic. In **Burundi**, with the technical and financial support of WHO, the Ministry of Public Health and the Fight Against AIDS organized a capacity building session to strengthen skills on the use of smartphones for the transmission of surveillance and laboratory data, and the management of COVID-19 cases at the health district level.

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As the COVID-19 pandemic evolved throughout 2021, national governments adjusted international travel measures accordingly. As part of its global leadership and coordination role, WHO supported these efforts through the publication and regular updating of policy and technical guidance to promote an evidence-informed and risk-based approach to international travel, and for the management of COVID-19 among passengers. WHO worked extensively with multiple partners across the transport, travel, tourism, trade, migration and economic development sectors to mainstream its guidance across relevant sectors and stakeholders, nationally and internationally.

Regional impact story

Building sustainable national laboratory systems in Europe

The pandemic emphasized that timely information sharing, strategic coordination, and efficient management of resources are critical elements in effective response to public health emergencies. Through its Regional Office for Europe, WHO was able to utilize and expand existing programmes as part of the COVID-19 response, such as the Better Labs for Better Health initiative. Launched in 2012, the initiative seeks to provide well-functioning, sustainable laboratory services for improving public health, operating according to international principles of quality and safety. As part of the initiative, training was held in **Serbia** on test costing and expenditure tools. Developed by the Regional Office, these tools are critical in supporting regional laboratory staff in providing proof of incurred costs for SARS-CoV-2 testing and to ensure that costs of testing are fully covered by existing funding sources. Similar training was held in **Kyrgyzstan** and the **Republic of Moldova**.

Similarly, many COVID-19 related activities were embedded within the Global Laboratory Leadership Programme (GLLP), established by WHO and partners to foster and mentor current and emerging laboratory leaders to build, strengthen, and sustain national laboratory systems. In **Kazakhstan**, a laboratory assessment was conducted, which then formed the development of a country-specific action plan. In **Uzbekistan**, a workshop was held to engage laboratory stakeholders on topics such as improving and ensuring quality through licensing mechanisms, the designation of national laboratories, and participation in external evaluation mechanisms.

As part of broader GLLP activities relating to the implementation of robust quality management systems (QMS), national mentors from **Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan** attended advanced QMS training. Utilizing the 2016 WHO manual for organizing a national external quality assessment programme for health laboratories and other testing sites, a team of laboratory experts worked with national counterparts in **Kyrgyzstan** to assist in auditing progress of implementation of their QMS.

WHO provided extensive country-specific implementation and operational support to help build sustainable national laboratory systems, run by leaders capable of understanding all system components and working collaboratively across sectors. Utilizing the Handbook for developing a public health emergency operations centre ('PHEOC'), developed by WHO in 2015, teams of specialists were deployed to the **Republic of Armenia** and **Kyrgyzstan**, where they provided technical advice on how to strengthen early detection and timely response through national PHEOCs.

The Regional Office coordinated a joint technical support mission in **Albania** with the WHO Health Emergencies Programme Balkans Hub. The mission focussed on reviewing current capacities, identifying gaps, and strengthening infection prevention and control and laboratory surveillance. Using the WHO laboratory assessment tool for COVID-19, which assesses both core laboratory capacities and those specific to testing for the SARS-CoV-2 virus, a series of recommendations on training needs were developed. The team met with key institutions responsible for case investigation and contact tracing and defined key actions to improve the system including institutional capacity building, improving data analysis and reporting, enhancing risk communication and community engagement activities for contact tracing, and documenting best practices and lessons learned.

In the **Republic of Moldova**, a training workshop was held for health care and laboratory workers on how to safely and accurately collect samples, conduct rapid antigen tests, interpret and record results, and understand their implications for patient management. Responding to on-the-ground needs and priorities in the **Republic of Armenia**, laboratory specialists worked with national agencies to develop a methodology for reinfection surveillance, redesign the national COVID-19 surveillance dashboard, review the national contact tracing strategy, and develop an algorithm for the selection of samples for genomic sequencing.

A medical worker works with saliva samples at Belgrade's Torlak institute. COVID-19 testing of saliva samples is done using PCR machines.

Country impact story

Improving access to testing in Afghanistan

The protracted humanitarian crisis in Afghanistan, now extending over decades, has pushed the health system close to collapse, with health workers under tremendous pressure, and the population struggling to meet their basic needs. After a substantial third wave of infections in July, Afghanistan had reported over 150 000 cases of COVID-19 and almost 7200 deaths by September 2021 – with actual numbers likely much higher.

In response, WHO boosted the country's COVID-19 testing capacity. WHO supported the Ministry of Public Health to establish 12 new COVID-19 testing laboratories and train 68 laboratory technicians. With this expansion, to date, Afghanistan has established 32 COVID-19 confirmatory public laboratories across 24 provinces. More than 300 laboratory technicians were trained on COVID-19 testing, and some trained as trainers to ensure continuous availability of services. Over 50 000 COVID-19 tests were distributed across the country, with another 150 000 scheduled for delivery, and a new testing site was established in Nimroz province.

The expansion of the laboratory network was particularly beneficial for enabling people to get tested quickly without having to travel for long distances or to other provinces, significantly improving access for marginalised and vulnerable groups. As reflected by Daad Mohammad, from Wardak province, who had been experiencing COVID-19 symptoms:

"I am happy to be able to come to the Wardak lab for testing. A year back, things were very different for us here in Wardak province ... we can get tested and have the result within a few hours and apply proper preventive measures if a person is positive." The previous year, one of Daad's relatives was suspected of having COVID-19. To confirm the diagnosis, a sample was collected and sent to Kabul for testing. In the two weeks waiting for a result, six more family members contracted COVID-19.

Daad Mohammad visiting the COVID-19 confirmatory laboratory in Wardak province to give a sample for testing.
© WHO

"I am happy to be able to come to the Wardak lab for testing. A year back, things were very different for us here in Wardak province, we can get tested and have the result within a few hours and apply proper preventive measures if a person is positive."

Empowered, engaged, and enabled communities

Reducing exposure through effective public health and social measures and countering misinformation through resilient communities

The COVID-19 pandemic has deeply affected the lives of people across the world. Its health, economic, political, educational, and societal consequences have disproportionately affected the most vulnerable and those living in settings characterised by fragility risks, conflict, or violence. In response, WHO launched a new unit focused on community centred approaches before, during, and after emergencies. The Country Readiness and Resilience Unit (CRR) reinforced WHO's commitment to strengthening community-level approaches through applied risk communication and community engagement, partnerships with community-based and civil society organizations, utilising social-behavioural insights on response mechanisms, responding to the infodemic, and effectively communicating health information and knowledge.

Risk communication and community engagement

Pandemics begin and end in communities. As such, successful responses to health emergencies depend on effective risk communication and community engagement (RCCE) to support communities and individuals in understanding the risks they face and in making informed decisions about how to protect themselves and the people around them. The RCCE Collective Service, a collaborative initiative led by WHO and partners, provided a coordination framework for RCCE capacity building, community feedback, and the application of social sciences to emergency response initiatives throughout the COVID-19 response.

An RCCE webinar series was developed to further support countries. The first webinar brought together more than 400 participants from 86 countries who gained timely insights into preparing for COVID-19 vaccine rollouts and related events. Subsequent webinars addressed vaccination considerations for the vulnerable, including displaced persons, refugees and migrants, as well as community-centred approaches to contact tracing for COVID-19.

Credible, trustworthy data and evidence on the social, behavioural, cultural, political, and economic aspects of COVID-19 provide critical perspectives to address current and future pandemic challenges. COVID-19 has prompted progress in mainstreaming social and behavioural sciences into pandemic response, particularly in the generation and use of socio-behavioural data. WHO developed the **Social and Behavioural Collection Tool for Africa**. Adaptable to the context in which it is applied, the tool can be used by WHO Country Offices, nongovernmental organizations, universities, and other groups interested in capturing quantitative and qualitative social and behavioural data to help develop effective responses to COVID-19. Similar initiatives across all WHO regions have led to wider use of data and evidence to inform response actions. A new social science working group was established to bring together social and behavioural science experts to inform and improve community-based approaches in COVID-19 communication and response practices.

Civil society engagement

The pandemic highlighted the importance of strengthening community readiness and resilience to public health emergencies, prioritizing communities in situations of vulnerability, connecting people to essential public health services, and enhancing participatory community-centred governance. WHO coordinated an initiative on engaging grassroots civil society organizations (CSOs) in COVID-19 responses at the local level. In 2021, with the support of the COVID-19 Solidarity Response Fund, 54 CSOs across 40 countries in all six WHO regions received direct financial and programme support, enabling them to systematically engage with local authorities. The selected CSOs played a significant role in connecting communities in vulnerable settings with services.

In **Ecuador**, WHO partnered with local organizations to train indigenous community health workers on health promotion, local soap production, addressing domestic violence, safe deliveries, and avoiding maternal deaths. In **Guatemala**, WHO partnered with a regional CSO to hold a policy dialogue on inclusion of persons with disabilities, and a national roundtable was established by the Ministry of Health to sustainably address inclusion beyond health emergencies. WHO worked with CSOs in **Bangladesh, Burkina Faso, India, Iraq, Malaysia, Serbia**, and **Syria** to support migrants, refugees, and internally displaced persons, providing access to information on COVID-19, treatments, vaccination, and awareness of their legal and health rights. Similarly, in the **Philippines**, WHO worked with a local CSO to provide health support to mining communities and, as a result, an innovative health reporting and community surveillance system was developed to address contact tracing data gaps amongst hard-to-reach communities.

As part of its commitment to 'building back better' after emergencies, WHO is working to strengthen the global evidence base on public health and social measures (PHSM). PHSM include individual actions and measures that governments, institutions, and communities can take at different levels to reduce the transmission of infectious diseases. Throughout the pandemic, PHSM have been implemented at an unprecedented scale and duration – often following a policy- rather than evidence-driven approach. In response, WHO has tracked PHSM policies, provided **evidence-based guidelines**, reviewed the evidence on effectiveness and unintended consequences, and worked with multisectoral partners to identify barriers and enablers to the uptake and adherence to PHSM in communities.

Responding to the infodemic

The COVID-19 pandemic has generated an infodemic – an excess of information, often false or misleading, spread through digital and physical environments – that leads to

confusion within communities, and erodes trust in health authorities and public health responses. In response to the COVID-19 infodemic, as of March 2022, WHO had convened five **infodemic management conferences**, resulting in a call for action for a whole-of-society response to the COVID-19 infodemic across the health sector, media, private sector, and UN family. In addition, two conferences brought together public health practitioners and academia to focus on the emerging science of infodemiology and build a global public health research agenda for managing infodemics. In the future, all emergencies and pandemics will be accompanied by infodemics that will be better addressed with the tools and insights developed today.

WHO's Infodemic Manager Training Programme was launched – aiming to build a roster of managers able to support countries in infodemic management and respond to health misinformation. At the third training in November, **249 trainees from 82 countries learned about emerging topics in infodemic management**. In addition, two global infodemic training sessions were held in 2021, providing **critical skills development to 772 participants from 123 countries across all six WHO regions**.

These global training sessions were translated locally, including in the **Democratic Republic of the Congo (DRC)**, which had one of the lowest vaccine demand rates in the African region. Their infodemic manager facilitated the launch of in-country infodemic management training. At the same time, the WHO DRC Country Office, with support of the Africa Infodemic Response Alliance, developed and initiated a training programme for journalists, health care workers, and vaccination experts on how to detect, analyse, and address misinformation and disinformation about COVID-19 vaccines. Similar country support was delivered in other countries within and outside the region.

Globally, thanks to early donor commitments and years of scientific collaborations, WHO coordinated unprecedented scientific advances and rapid innovations – including the use of technology to understand how an infodemic develops and leads to harms in the information ecosystem for individuals and societies. New analytical approaches for the analysis of social media for public health infodemic insights were developed. WHO's infodemic management team developed the WHO Early AI-Supported Response with Social Listening (EARS) system – an innovative platform helping to understand public concern during the pandemic. It pulls together content from online sources and analyses it in real time, providing actionable insights for health authorities.

In Ecuador, WHO partnered with local organizations to train indigenous community health workers on local soap production.

Communicating health information and knowledge

A core part of WHO's mission during the pandemic has been to translate global knowledge and guidance into tailored, relevant, and relatable resources for use in various country settings. In 2021, several global resources were adapted for country use, including a disaster risk management guide that was adapted for use in hospitals in **Guatemala**; an operational guide for engaging communities in contact tracing adapted for use with Roma communities in **North Macedonia**; and a handbook for local contact tracing teams that was used to design a logbook for monitoring the health status of miners in rural **Philippines**. With technical support from the WHO Country Office, the Ministry of Health in **Nepal** convened a webinar for respected local audio journalists to strengthen the communication of accurate scientific information, and to counter rumours and misinformation.

As part of the COVID-19 response, the WHO Network for Epidemics (EPI-WIN) and the RCCE team developed and produced more than 560 communication products, including community-focused videos, infographics, Q&As, and MythBusters. The RCCE team translated highly technical guidance documents, on topics such as vaccines, ventilation, masks and COVID-19 prevention measures, into engaging and accessible online and in-print public-facing information in six languages.

OpenWHO is WHO's interactive, web-based, knowledge-transfer platform offering online courses to improve the response to health emergencies. OpenWHO enables the Organization and its key partners to transfer life-saving knowledge to large numbers of frontline responders. Its first course on COVID-19 introduced learners across the globe to the then novel coronavirus. That course, which has been updated 13 times to reflect the latest evidence, has now surpassed 1 million enrolments and is available in 45 languages including Haitian Creole (**Haiti**), Yorùbá (**Nigeria**), and chiShona (**Zimbabwe**). OpenWHO was also able to reach those traditionally underserved by online learning, such as women and older learners, as well as the 'hardest to reach' – with many small island states having the highest proportion of learners per capita, including **Guam, Montserrat, Niue**, and **Tokelau**. In 2021, the RCCE team released three online courses on OpenWHO, including a basic course on RCCE, and two other courses launched as part of the SocialNet series, which focuses specifically on social and behavioural data approaches to emergency response.

OpenWHO continuously seeks to advance equity in the pandemic learning response. Courses have been translated into 64 languages, and the Introduction to COVID-19 course was translated into **Indian Sign Language** – providing accessible script, audio materials, and content for the estimated 63 million people living with significant auditory loss in India. With over 55 000 enrolments, the course has reached a global audience from more than 140 countries including **Bangladesh, Pakistan, Saudi Arabia**, and **Iraq**. In **Suriname**, which struggled to ensure its healthcare workers on the frontline were kept up to date with emerging knowledge, WHO PAHO translated 10 OpenWHO courses from English into Dutch. Similarly, the WHO **Timor-Leste** Office created and launched the first COVID-19 course in Tetum, one of the country's national languages. Using Portuguese-language content as provided by OpenWHO, specialists were able to develop and establish standardised scientific terminology in Tetum, including critical concepts such as 'contact tracing' for which there was no word in Tetum.

72 679 187
posts analysed since 15 December 2020

30
countries covered

9
languages analysed

41
COVID-19 categories tracked

EARS data as of 15 March 2022

Country impact story

Strengthening partnerships with faith networks

During times of crisis and uncertainty, partnerships with faith leaders play a key role in mobilizing community-led action to protect, care for, and advocate for marginalized and vulnerable people; sharing critical, accurate, and tailored health information; and providing spiritual care, guidance, and support. In response, WHO and Religions for Peace (RfP) co-hosted a high-level roundtable with religious leaders in early 2021 in the context of ongoing collaboration and dialogue. Following this, WHO developed a strategy for engaging religious leaders and faith-based organizations and communities in health emergencies. The strategy – co-developed with faith leaders – is based on guidance and recommendations developed by WHO and acknowledges the special role of faith leaders in COVID-19 education, preparedness, and response. The strategy was translated into practical guidance to support use in-country and made available in three languages and supported through three communities of practice launched by WHO's EPI-WIN team.

Strengthening partnerships at the global level translated into significant impact at the country level. In **Israel**, WHO, the Ministry of Health and key religious leaders established a coordination forum going beyond COVID-19 response and addressing health promotion in the longer term. Building on lessons learned from the critical role played by local leaders in the achievement of a polio-free **Nigeria**, WHO and the Nigerian government engaged over 7 000 traditional and religious leaders across 11 priority states to implement a series of community-based COVID-19 interventions. A rapid survey conducted by WHO, UNICEF, and partners in **Lesotho** showed that myths and misinformation around vaccines were driving fear, confusion, and reluctance. In response, with support from WHO and the Christian Council, the Ministry of Health held a series of training workshops with religious leaders to spread life-saving facts about COVID-19. With the support of WHO and UNICEF, in **Zimbabwe**, the Ministry of Health and faith partners jointly hosted a series of trainings for faith leaders and their communities. In the **Philippines**, WHO partnered with faith partners and the national government to promote safe practices for worship, dissemination of technically accurate and tailored health messages, and uptake of vaccination.

In each of these examples the complementary strengths of partners are paramount: WHO provides technical, accurate, and evidence-based information, which faith leaders tailor and share among their communities. In turn, faith leaders provide WHO with critical local knowledge on what information is needed, what gaps exist, and how these can best be addressed.

Dr Walter Kazadi Mulombu, WHO Representative Nigeria, discussing community engagement with traditional leaders in Borno State.

Country impact story

Empowering resilient communities in Syria

The pandemic has significantly worsened existing inequalities across the globe. In the Eastern Mediterranean region, this has been hardest felt by the millions of internally displaced persons living in northwest Syria. After 10 years of conflict, Syria is experiencing a protracted political and socio-economic crisis that has resulted in a severe deterioration of living conditions. The already fragile health system is overstretched by the COVID-19 pandemic. Nearly a quarter of hospitals and one third of primary health care centres remain non-functional and unable to respond to growing health needs. There is a chronic shortage of health care staff driven by displacement, death, and injury.

The WHO Country Office in Damascus leads the health sector in Syria and assumed technical leadership and coordination for the COVID-19 response, directly handling six of the nine response pillars. WHO increased the frequency of national and sub-national level meetings and supported the coordinated response and delivery of health care to those in need. To strengthen Syria's emergency response capacity and referral services, WHO delivered 40 fully equipped ambulances to the Ministry of Health. Responding to the needs of the most vulnerable, WHO and partners worked with local community organizations to address barriers to information and services. The project supported a central call centre and trained operators on COVID-19 community mobilization. Operators provided critical information on home-based care to confirmed COVID-19 cases and assisted with referrals. As part of empowering communities, another initiative trained volunteers to work with community leaders in identifying public spaces and painting COVID-19 awareness-raising murals.

As part of continued efforts to manage the infodemic, representatives from key Syrian national media outlets took part in an information session organized by the Ministry of Health and WHO Country Office to address rumours and misinformation and increase public acceptance of COVID-19 vaccines. The information session presented innovative approaches for the media to deliver effective and consistent messages, enabling individuals to understand the risks associated with vaccine-preventable diseases, the benefits and risks associated with vaccines, and where to find accurate and trustworthy information.

Prolonged exposure to conflict and the COVID-19 pandemic has strained the mental well-being of many families in Syria. During 2021, WHO sustained many mental health-related activities, including the provision of psychosocial services and treatments, medicines, and training on the integration of mental health services at various facilities and schools. The "My Hero is You" campaign was developed to build resilience among parents and children. WHO and partners designed a colouring book that incorporated messages about coping with stress. The campaign provided psychosocial support sessions to parents, caregivers, and health educators who discussed their concerns, coping mechanisms, and support strategies for children experiencing stress in the context of the COVID-19 pandemic.

Activities in response to the pandemic were run in addition to the work of WHO as a provider of last resort and a responder to the exacerbated humanitarian emergency. Though the pandemic caused a significant reduction in the availability of medicines and medical supplies, WHO continued to deliver critical lifesaving medicines for patients with diabetes, kidney failure, and cancer, among others – along with providing support to the routine immunization programme, which remains one of the strongest public health programmes in the country.

"My Hero is You" mental health campaign enhances resilience among parents and children in Syria - June 2021.

Country impact story

Strengthening community partnerships in Kenya

In a vaccination campaign that targeted 11 of Kenya's 47 counties with the lowest vaccination coverage, WHO provided direct technical and financial support to increase vaccine coverage through strategic risk communication, community engagement, and vaccination outreach teams. WHO and partners worked with women's and youth groups, motorcycle taxi drivers, and religious leaders to help ensure no one would be missed. Outreach campaigns were set up in various locations where individuals could be more easily approached, including local markets, bus parks, other social settings, and places of worship.

WHO worked with county health teams to coordinate operations at the grassroots level and to ensure local authorities were engaged. These efforts included public health information campaigns to dispel vaccine myths and misconceptions, and to provide critical information such as the location and dates of vaccine clinics. In Kisumu County in western Kenya, one of the 11 counties targeted, WHO teams and the County Department of Health established easily accessible vaccination sites. To ensure that marginalized people were not neglected, a church in Kisumu offered its backyard during a one-day vaccination drive. The business community donated facemasks, a tent, snacks, and a vehicle for bringing people with disabilities or other vulnerabilities to the site. By the end of the day, 321 people were vaccinated at the church site. Among them were 132 people living with a disability and 189 people experiencing homelessness.

In Wajir County in northern Kenya, the vaccination uptake campaign was driven by working with political, religious, and community leaders as well as through messages relayed via community radio. Taking vaccines to these communities also meant that teams set up vaccination stations at watering points. **"It takes a lot of commitment and resources to vaccinate people living in sparsely populated regions," said Dr Adam Haji, a WHO medical officer. "It is not enough to send them messages, it must be accompanied with a lot of hard work like driving many kilometres on bad roads to get people vaccinated."**

Engaging local communities to support the COVID-19 response and accept the vaccine has been a core part of how the government, with WHO inputs, has worked to protect the country. "Beyond COVID-19 risk communication, WHO in Kenya has invested resources in community engagement to better understand the facilitators and barriers that people experience in observing public health and social measures. Through dialogues with different groups, we have been able to secure their commitment in accepting the COVID-19 vaccine" said Dr Juliet Nabyonga, acting WHO Representative in Kenya .

Ramping up COVID-19 vaccination among Kenya's hard-to-reach communities.

Equitable access to tests, treatments, and essential supplies

Protecting the vulnerable through prioritized research, equitable access to medical countermeasures, and essential supplies

The SPRP sought to achieve two main objectives during 2021: to **accelerate equitable access to new COVID-19 tools** and support their safe and rational allocation and implementation in all countries; and to **protect the vulnerable through vaccination** based on gender, equity, and human rights analyses to ensure that no one is left behind. To achieve these objectives, and acting through ACT-A, WHO led on regulatory policy, product procurement and allocation, country access and support, along with significantly contributing to the global research and development (R&D) agenda.

Tests

Testing is the critical first step in the identification and isolation of positive cases and quarantining of contacts – paving the way for successful containment of the virus. Prior to effective treatments and vaccines, testing was the most important medical technology for controlling the impact of COVID-19 and saving lives. It remains a critical component of pandemic response.

Antigen-detecting rapid diagnostic tests (Ag-RDTs – or simply, rapid tests) enabled the rapid identification and isolation of cases, and initiation of contact tracing. In its role as global regulator, WHO reviewed the quality of over 90 rapid tests, providing a global standard for their review, with many first-generation rapid tests recording poor performance. As part of ensuring an end-to-end approach, WHO actively supported countries with the procurement and allocation of testing kits, along with providing the necessary technical and operational support for their successful implementation.

At the global level, WHO developed practical implementation guides and country checklists on the use of rapid tests. These provided the foundation for the development of country-specific resources, including in **Indonesia**, which developed a Ministerial Decree. It provided guidance on how rapid tests could be used for SARS-CoV-2 diagnosis and criteria for products that could be used in Indonesia. In March, WHO helped to procure over 1.6 million rapid tests to support the government's efforts to control the pandemic. In **Somalia**, which had limited testing capacity prior to the pandemic, WHO assisted in the deployment of rapid tests across the country, as well as developing a rapid test protocol and providing training to laboratory and healthcare workers.

Treatments

As evidence on the effectiveness of various treatment options for COVID-19 grew during 2021, WHO worked with Member States to develop and implement national clinical management guidelines and plans; build capacity for health workers by planning and organizing training on the clinical management of COVID-19 patients; share updated information on new therapeutics and clinical management and provide support to interpret and tailor information to the local context; and provide technical support on building, strengthening, and sustaining health care systems that are resilient to surges of COVID-19 cases.

Through its network of Country Offices, WHO ensured that all countries were able to benefit from the rapid scientific and therapeutic advances occurring across the globe. In **Cambodia**, WHO provided technical assistance to review their clinical guidelines and standard operating procedures, as well as financial support for the rapid expansion of treatment facilities, and logistical support in procuring critical supplies such as PPE, essential medicines, and oxygen. During August, when **Georgia** experienced a sharp rise in the number of cases and deaths, the WHO Country Office and Health Emergencies Programme provided a team of experts in intensive and critical care of COVID-19 patients, and infection prevention and control.

As an essential, lifesaving medicine, medical oxygen can be used at all levels of the health system and is crucial for the treatment of COVID-19 and other life-threatening conditions. Although vast work has been done on improving the oxygen ecosystem, it remains limited in its access and availability in many countries, and the COVID-19 pandemic highlighted this inequity. In response, WHO and partners joined efforts to find context appropriate, sustainable solutions – including direct operational support, establishing a global research collaborative to better inform and plan for oxygen needs, technical guidance, and user-friendly resources, including a dedicated **oxygen access scale up** page on the website.

The Pan-American Health Organization (PAHO) helped countries to scale up oxygen production and donated vital supplies during a surge in cases that triggered an unprecedented oxygen supply shortage. PAHO helped to deploy 26 Emergency Medical Teams (EMTs) in 23 countries, and establish alternative medical care sites, extending capacity with 14 000 hospital beds and 1500 intensive care beds. In the Eastern Mediterranean Region, a lack of baseline oxygen data per country hampered procurement and the provision of technical support for oxygen and biomedical supplies. In response, the Regional Office created a Regional Live Oxygen Platform – a data platform showing oxygen production capacity and requirements in real time to identify gaps and ways to procure medical oxygen in a timely manner.

WHO provided technical and financial support for the construction of 14 new oxygen production stations in **Yemen**; while a national oxygen preparedness plan was developed with WHO support in **Cambodia**. WHO

supported surge capacity and procurement in **India**, particularly in remote areas with limited health service availability. Along with supplying oxygen concentrators and high-performance tents for COVID-19 treatment centres, WHO published two key documents to accompany the supplies. A home care bundle for mild COVID-19, to support healthcare workers safely care for patients at home; and a series of posters on the safe handling and distribution of oxygen.

Essential supplies

With the pandemic prompting unprecedented global demand for rapidly-consumable items such as gloves and masks – in 2020, WHO and partners established the COVID-19 Supply Portal. WHO has continued to manage the Portal to process procurement for countries requesting essential supplies, while facilitating the transition to long term agreements to enable countries to resume procurement directly from suppliers. During 2021, the system procured and delivered supplies worldwide, including **US$ 1.7 billion of PPE, diagnostic tests, medicines, and biomedical equipment to support the COVID-19 response in 197 countries**.

A WHO Logistics Hub was established in Dubai to enable the rapid and efficient delivery of lifesaving supplies to countries. In **Sudan**, a single delivery included over 283 tonnes of critical medicines and health supplies for over 1.5 million people and 300 000 frontline health workers. The Hub delivered 85 tonnes of life-saving medical supplies to **Ethiopia** in September – the single largest shipment of humanitarian cargo airlifted by the Hub at the time. Supplies included essential medicines, trauma and surgical medicines, and cholera kits to address the urgent needs of more than 150 000 people. Similarly, the Regional Office for the Western Pacific in Manila utilised its regional stockpile to provide critical equipment and supplies to countries in need – including **Fiji and Vanuatu**, who received a shipment of gloves, gowns, face shields, masks, pulse oximeters, and oxygen concentrators in December.

WHO worked to ensure equitable product procurement and allocation, and country access and support. During a surge of cases in the **Kurdistan region of Iraq**, WHO distributed 13 tonnes of medical supplies and equipment to scale-up intensive care capacity, including PPE, diagnostic kits, oxygen concentrators, oximeters, intensive care beds and devices, hospital bedding and related medical furniture, and patient monitors. During a surge of cases in **India**, WHO provided operational and logistical help to procure essential items, including laboratory supplies to meet the massive demand for testing; mobile field hospitals to meet the demand for hospital beds; and oxygen concentrators to meet the increased demand for medical oxygen.

WHO's Dr Simon Ssentamu verifies the oxygen cylinder supply at a health facility in Kutupalang refugee camp. WHO is supporting COVID-19 preparedness and response for vulnerable Rohingya refugees and host communities in Cox's Bazar, Bangladesh.

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Responding to unprecedented global demand: A snapshot of procurement in 2021

Belarus
September – 20 000 surgical masks donated to the Republican Rehabilitation Centre for Disabled Children

Afghanistan
September – 23 metric tonnes of life-saving medicines and supplies to address the urgent health needs of 1.45 million people, including insulin, medical consumables, trauma and surgery kits, and COVID-19 testing kits

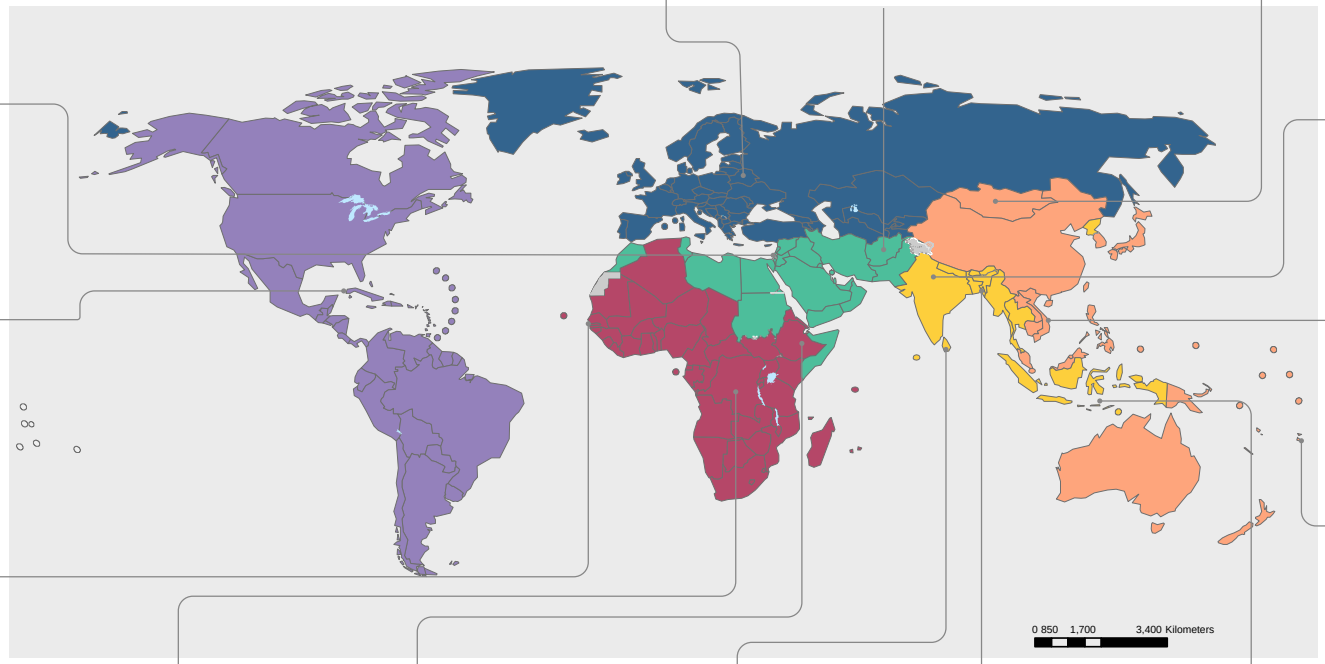
Mongolia
May – Essential equipment and tools, rapid tests and medical devices, and IT equipment are provided to help ensure access to services for herders and communities living in remote areas

occupied Palestinian Territory
May – PPE and critical medical and testing supplies provided during the escalation in Gaza

India
May – Laboratory supplies, mobile field hospitals, and oxygen concentrators are shipped during a surge in cases

Cuba
July – 12 tonnes of supplies arrive during a surge in cases, including gowns, gloves, masks, face shields, rapid tests, medical instruments for emergency situations, and personal hygiene products for patients in isolation

Viet Nam
September – Over US$ 400 000 of medical supplies, equipment, and consumables are delivered as part of ongoing support to the government



Fiji
May – The Fijian Centre for Disease Control receives four GeneXpert machines and reagent kits that are essential in conducting real-time PCR tests

Gambia
May – PCR test kits and reagents for reference samples are received

Democratic Republic of Congo
July – Vital supplies of medical materials and equipment are provided to boost care for the increasing number of people hospitalized with COVID-19

Ethiopia
September – Largest shipment of humanitarian cargo arrives with critical medical equipment and supplies to support over 150 000 people

Sri Lanka
September – Two million syringes urgently needed for ongoing vaccinations are delivered

Bangladesh
May – PPE are provided after a spike in transmissions

Indonesia
March – Over 1.6 million rapid tests procured and allocated to accelerate testing

KEY
African Region | Region of the Americas | Eastern Mediterranean Region | European Region | South-East Asia Region | Western Pacific Region

Spotlight on vaccines

The establishment of the **COVAX** Facility of the **Access to COVID-19 Tools Accelerator (ACT-A)** was a landmark achievement in 2020. Co-led by Gavi, the Vaccine Alliance, WHO, and the Coalition for Epidemic Preparedness Innovations, COVAX is the only global initiative working with governments and manufacturers to ensure COVID-19 vaccines are available to every country. WHO has multiple roles within COVAX, including direct technical and operational support for procurement and allocation. In terms of procurement alone, **by 15 March 2022, more than 1.37 billion doses of WHO-approved vaccines have been shipped through COVAX**. As procurement alone is not enough to ensure effective implementation, WHO has provided normative guidance on vaccine policy, regulation, safety, and research and development; along with significant investments in local health systems and staff to support and ensure country readiness and delivery.

Normative guidance, evidence, and research

With its unique global reach and mandate, WHO acted as a global regulator, setting norms and standards, and assessing the safety and efficacy of new vaccines. Its Strategic Advisory Group of Experts (SAGE) on Immunization developed evidence-based immunization policy recommendations, including a COVID-19 vaccine safety surveillance manual, a policy brief on safe injection in the context of COVID-19, and various protocol templates for use as part of sentinel surveillance of adverse events.

The WHO Emergency Use Listing (EUL) and vaccines prequalification programmes apply international standards to comprehensively evaluate and determine whether vaccines are safe and effective, ensuring harmonized review and authorization across Member States. Along with initial assessments of safety and efficacy for COVID-19 vaccines, the prequalification programme continued to review the potential impact of SARS-CoV-2 variants on vaccine effectiveness.

Based on the standardised investigation protocols developed through the Unity Studies, the WHO Regional Office for Africa, in collaboration with the MoVE (Monitoring of Vaccine Effectiveness) network, conducted several studies to assess how well COVID-19 vaccines protect against disease and infection in real world settings. The research both strengthened the contribution of African countries to the global knowledge base on the effectiveness of COVID-19 vaccines, while building capacity and expertise in Africa to address future epidemics. Similar studies on the effectiveness of vaccines among healthcare workers were also carried out in **Albania, Armenia, Georgia, Azerbaijan**, and **Kyrgyzstan**.

Country readiness and delivery

WHO, together with UNICEF, led the Country Readiness and Delivery (CRD) workstream throughout 2021, providing tools, guidance, monitoring, and on the ground technical assistance as countries prepared to receive and administer vaccines. WHO's Health Security Preparedness Department and the CRD Workstream co-developed tools for conducting a COVID-19 vaccination intra-action review. Known as the Mini-cPIE, it provides a flexible way for countries to review initial vaccine roll-out. In April, WHO held a webinar on how to conduct a Mini-cPIE, which was attended by more than 300 participants from ministries of health, WHO headquarters, regional and country offices, UNICEF, other UN agencies, and partners from across all six WHO regions. **Botswana**, the first country to conduct a Mini-cPIE in April, shared their experience in the spirit of collective and peer learning. By the end of the year, 34 countries had conducted a Mini-cPIE

WHO developed an online COVID-19 vaccine introduction toolkit, providing a 'one-stop-shop' for resources on country readiness and delivery, and courses on how to plan and manage the vaccine roll-out, which have been attended by more than 75 000 national and sub-national immunization staff. Using resources available as part of the toolkit, in **Djibouti**, WHO worked with national authorities to put a vaccination strategy in place that includes training vaccinators, ensuring vaccine safety, and a surveillance system for adverse effects.

In **Tonga**, with the support of WHO and UNICEF, a National Technical Working Group was established to manage all aspects of the vaccine roll-out, including capacity building for frontline workers, coordinating resources for safe storage and vaccination capacity, and providing timely information and knowledge to the public about the COVID-19 vaccine. In **occupied Palestinian territory**, development of the national vaccine deployment plan was supported together with training for health workers, strengthening of the vaccine cold chain system, and provision of essential supplies and equipment needed to facilitate data collection and reporting. The WHO Country Office supported **Bhutan** in the preparation and implementation of their COVID-19 vaccine plan through technical support, funding, and organizing a consultative workshop. WHO also supported the development of a comprehensive health manual and a training-of-trainers workshop for medical officers, who then provided subsequent training for health personnel, vaccinators, support staff, and volunteers in the field.

Spotlight on vaccines

Innovation

WHO established an Innovation Hub within the CRD workstream to help address six key problem areas in need of innovation – including the development of vaccine certificates. WHO developed technical specifications for the digital documentation of COVID-19 vaccine certificates, made the code available under an open-source license, and publicly posted it online. It developed synthetic datasets for use in compliance testing, providing countries with access to representative datasets on vaccination. A COVID-19 Vaccination Application that supports the technical specifications for certificates was also developed – providing countries that do not have an electronic immunization registry or electronic medical records system with access to an open-source and standards-based software to implement COVID-19 vaccine roll-out.

WHO and its COVAX partners worked with governments, universities, networks, and other technical agencies to establish technology transfer hubs. Intended to act as training facilities where technologies are established at an industrial scale and clinical development is performed, WHO and partners have provided technical and operational support to facilitate the broad and rapid transfer of technology to multiple recipients. In June, work began with a consortium of partners and agencies in **South Africa** to establish its first COVID-19 mRNA vaccine technology transfer hub. In September, **Argentina** and **Brazil** were selected by PAHO to serve as regional hubs for the development and production of mRNA vaccines in Latin America. PAHO also launched a regional platform to support collaboration across countries and agencies to apply existing regional biomanufacturing capacity to the production of COVID-19 vaccines and other medical technologies.

A commitment to equity

Throughout the pandemic, WHO provided a clear, consistent, and strong voice to the importance of equity in vaccine procurement and distribution, with geopolitical tensions and domestically focused responses significantly constraining ACT-A's ability to ensure global vaccine equity. In June, WHO highlighted the fact that while over 2.7 billion doses of COVID-19 vaccines had been administered across 215 countries, areas, territories, and economies – 76% had been administered in 10 countries. In mid-November, updated progress indicators showed that of the 7.5 billion vaccine doses administered globally, only 0.6% had occurred in low-income countries, with persistent differences within countries – between women and men, age groups, and underserved populations, among others.

As focus shifted from the global situation to addressing growing inequities in accessing vaccines for underserved countries, regions, and populations – so too did WHO's response. The Organization issued guidance to ensure critical sex and gender, and disability considerations were included in research and in the development and delivery of COVID-19 vaccines. WHO supported countries to undertake assessments to understand barriers related to vaccine uptake. In the **Philippines**, their assessment identified persons experiencing homelessness as a group disproportionately impacted by COVID-19, with barriers including discrimination and the lack of a physical address, technology, and identification documents needed to register for services.

In partnership with Gavi, the Vaccine Alliance, and humanitarian partners, WHO launched the COVAX Humanitarian Buffer – an innovative mechanism that ensures a relatively small, but high-impact, proportion of

Surgeon and oncologist Marie Dione Sacdalan receives the COVID-19 vaccine at the Philippine General Hospital in Manila in March 2021.

COVAX vaccines are made available for people living in often hard-to-reach humanitarian settings. Through the COVID-19 Task Team, established by the Global Health Cluster in 2020, WHO has continued to play a critical role in supporting implementation of the SPRP in the 31 humanitarian settings with active clusters. During 2021, the team ensured that country health clusters and partners had access to contextually appropriate guidance and good practice based on WHO 'gold standard' advice, adapted for the operational realities of fragile, humanitarian settings.

Spotlight on vaccines

1.37 billion vaccines to 144 countries by March 2022

24 Feb 2021 | Ghana becomes the first country outside of India to receive vaccines shipped via COVAX.

1 Mar | Colombia is the first country in the Americas to receive vaccines.

The first vaccines to arrive in the Eastern Mediterranean land in Sudan.

Almost 4 million vaccines arrive in Nigeria.

2 Mar | Cambodia is the first country in the Western Pacific to receive vaccines.

4 Mar | Republic of Moldova is the first country in Europe to receive vaccines via COVAX.

7 Mar | Maldives, Nepal and Sri Lanka receive their first shipments, as COVAX is ramped up in South-East Asia.

10 Mar | COVAX has shipped more than 30 million vaccines to 35 countries.

5 Apr | With the arrival of COVID-19 vaccines to Libya, all 22 countries in the Eastern Mediterranean Region have received doses through COVAX.

22 Apr | A shipment of over 250 000 vaccines arrives in Syrian Arab Repubic for frontline health workers.

19 May | Vanuatu receives their first shipment of vaccines – becoming the seventh Pacific Island Country or Territory to receive a COVAX shipment.

4 Jun | COVAX has shipped more than 80 million vaccines to 126 countries.

14 July | Haiti receives its first shipment of vaccines.

11 Aug | Over 3.55 million vaccines arrive in Bangladesh.

6 Dec | COVAX has shipped more than 610 million vaccines to 144 countries.

15 Mar 2022 | COVAX has shipped 1.37 billion vaccines to 144 countries.

2021 — 2022

Vaccine doses shipped by March 2022: **Africa:** 364 806 550 | **Americas:** 136 580 800 | **Eastern Mediterranean:** 250 266 390
Europe: 42 213 180 | **South-East Asia:** 423 988 690 | **Western Pacific:** 56 198 690

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Country impact story

Ensuring no one is left behind – delivering vaccines in Cox's Bazar

More than half of the over one million Rohingya who have fled from Myanmar to Bangladesh since 2017 are women and girls. Refugees are highly vulnerable to gender-based violence (GBV) and sexual exploitation, which increases during every type of emergency, including pandemics. In Cox's Bazar, the world's largest refugee settlement, WHO coordinates the health emergency response and has integrated GBV into its strategic planning to ensure the coverage and quality of GBV-related health services. WHO has adapted an assessment tool to measure health facility readiness to deliver GBV-related services, and this is used to routinely monitor the quality of care among health providers.

In addressing the immediate needs of protecting the vulnerable, WHO designed a community preparedness assessment tool to measure the awareness of COVID-19 vaccines among Rohingya refugees, and help drive the risk communications strategy to encourage vaccination. An extensive communication and engagement campaign involving key community members and religious leaders was rolled-out in all camps to increase confidence and acceptance of the vaccine, and tackle rumours and misinformation.

In partnership with the Ministry of Health and Family Welfare Coordination Centre, the Refugee Relief and Repatriation Commissioner, and partners such as UNICEF and UNHCR, WHO supported vaccine roll-out and preparedness. Fifty-seven health facilities were identified as vaccination sites, and over 450 health professionals trained on operational guidelines and adverse events following immunization for COVID-19.

The vaccination campaign was launched on 10 August and aimed to protect nearly 48 000 refugees aged 55 years and above, and to ensure equity and fair allocation of vaccines across the country. WHO repurposed field staff working in other programmes and its entire Cox's Bazar Health Emergencies Team to support the rollout.

In addition to COVID-19, vaccine preventable diseases remain a risk in the camps. As part of its end-to-end response, WHO, in close coordination with the government and a group of immunization experts, developed a health-based transitional strategy to resume routine immunization services. Currently, 59 health facilities are working as immunization fixed sites and another 66 vaccination teams are conducting outreach sessions in both community and healthcare facilities to guarantee the continuation of routine immunization programmes in refugee camps.

In Cox's Bazar, Bangladesh, WHO Health Field Monitor, Dolna Dey, provided technical support to Government and humanitarian partners to ensure the safe and effective roll-out of the vaccination campaign.

Resilient health systems

Reducing illness and death through lifesaving, safe and scalable health interventions, and resilient health systems

The pandemic presented all countries and health systems with the challenge of caring for those with COVID-19, while simultaneously maintaining delivery of essential health services. Complicating this, responses to the virus often led to disruptions to supply chains, shortages of personal protective equipment (PPE), reduced staffing and lowered capacity at health care facilities, along with limited health sector budgets, and strained systems of governance. A lack of resilience in health systems, and gaps in essential public health functions across countries in different income groups has caused the impact of the pandemic to extend far beyond the health sector.

To track, monitor, and support resulting country needs, WHO has conducted three rounds of the global pulse survey, with the third round carried out between November and December 2021. Findings demonstrate that, two years into the pandemic, health systems in all regions and income levels are not recovering as hoped, with persisting disruptions reported in more than 90% of responding countries. Major reported barriers to health service recovery include limited health system resources as well as decreases in community demand for care. In addition to guiding global and regional responses, findings have been used by countries to identify critical bottlenecks and guide priority actions to mitigate potential health impacts due to people missing out on essential care.

The ACT-A Health Systems and Response Connector was conceived to provide a complementary framework to prioritize, coordinate, and accelerate progress in strengthening primary health care. Since the beginning of the pandemic, 75 countries have been supported in achieving their own priorities in national coordination and planning, strengthening primary care, ensuring surge capacity, and protecting and training the health workforce, and integrating gender, equity, and human rights considerations in national COVID-19 responses. While activities are specific to the COVID-19 response, many gains can be transformed into longer-term improvements in health system effectiveness and resilience, especially in vulnerable settings.

Supporting national coordination and planning

At the national levels, WHO supported 29 countries to rapidly bolster existing systems and capacities to track and monitor health systems preparedness and performance, including through the establishment of sentinel facility and community surveillance networks to detect disruptions and identify supply- and demand-side bottlenecks in frontline health services. When implemented on a high frequency basis, the networks can provide a surveillance system to alert urgent bottlenecks and inform action plans to mitigate challenges.

The WHO Guidance for Conducting a Country COVID-19 Intra-Action Review (IAR) was developed to guide countries to conduct periodic review(s) of their national and subnational COVID-19 response, to capture critical opportunities for learning and improvement to better respond to COVID-19, and to future outbreaks. In 2021, 64 countries were supported in completing an IAR, including **Indonesia, Kenya, North Macedonia**, and **Oman**. While the focus for all countries was on reviewing the functional capacities of public health and emergency responses to COVID-19, many of the recommendations were cross-cutting in nature. These included continuous capacity building and training for the health workforce, updating legislation on emergencies and communicable disease outbreaks, improving communication between healthcare providers, and enhancing the ongoing digitization of health information systems. In this sense, while IARs generate priority actions to improve immediate responses, they also provide long-term recommendations that can feed into broader health system strengthening beyond COVID-19.

Dr Rukhsana Bashir, Quality Assurance Officer at the clinic for survivors of gender-based violence. Family Health Hospital, Pakistan
©WHO / Blink Media - Saiyna Bashir

Globally, the pandemic highlighted the critical need to strengthen information for action, with challenges in data collection, integration, and real-time analysis leading to significant bottlenecks at the country, regional, and global level. **In Azerbaijan**, the Regional Office for Europe updated the support tool on strengthening health information systems to include a module on emergency

response information management systems. A team of WHO experts were deployed to pilot the module and test the adequacy and suitability of the tool, with findings and recommendations used to refine the module for use across the region.

In the Pelotas municipality of **Brazil**, a working group within the Ministry of Health recognized the need for and importance of data for decision-making and implemented specific actions to improve data quality and use. With the support of WHO, epidemiological surveillance teams were significantly expanded in the municipality and trained in data management and analysis. Data were provided more frequently and consistently to health care providers to inform their practice and encourage accurate recording of care data.

Strengthening primary care

Since the start of the pandemic, WHO has worked with ministries of health to protect primary care services by addressing supply-side barriers through assessing the availability of skilled human resources and essential medicines, and supporting dialogue on COVID-19 budgeting and financing. WHO has worked to remove demand-side barriers relating to physical access to facilities, fear and mistrust in using health services, gender and cultural norms, and opportunity costs, among others.

Based on 'Alopdei', a pilot project started in 2014, WHO worked with **Romania's** Ministry of Health and health professionals to make telemedicine consultations more widely available, both during and after the pandemic. As part of its end-to-end support, WHO assisted in updating national health legislation to allow telephone triage for paediatric services – creating a team of 38 paediatricians to work around-the-clock providing services for children and enabling parents to access the health system at an appropriate level – increasing efficiency and avoiding delays.

Through a specialised project on strengthening local and national primary health care systems for recovery and resilience in the context of COVID-19, WHO Regional Offices have developed and delivered training workshops, guidance on intercultural knowledge dialogues, support in gender, equity, and human rights mainstreaming into health strategies, and the development of a regional virtual resource hub containing data, evidence, innovative practices, and country stories to identify and address inequities in the time of COVID-19 and beyond. At the country level, in **Mali**, this translated into national guidance for the integration of gender-based violence prevention and management into primary health care and frontline services. While in **Sri Lanka**, a training module on mainstreaming gender, equity, and human rights in the delivery of nursing care was developed.

Infection prevention and control (IPC) measures are central to the COVID-19 response. Through its global network, the WHO IPC Hub and Health Emergencies IPC Unit were able to develop, implement, and monitor a series of critical guidance documents on IPC measures for health settings, including mask wearing, indoor ventilation, adequate PPE requirements, and cleaning standards.

Between December 2020 and January 2021, the WHO **Armenia** Country Office and partners supported the government in conducting a national assessment of IPC measures. Based on the WHO standard IPC assessment and COVID-19 facility assessment tools, technical experts reviewed national guidelines and operational procedures to develop a National Action Plan for Infection Prevention Control. In **Azerbaijan**, the WHO Country Office assessed IPC and case management capacities in two of the country's largest mental health facilities. With the aim of better understanding how COVID-19 had impacted the daily lives of patients and providing support for the implementation of effective IPC, the assessment will provide lasting benefits in supporting long-term care facilities to access other health services.

Ensuring surge capacity

Given the continuous nature of health systems strengthening, WHO has ensured both immediate surge capacity as health systems became overwhelmed, while working to embed knowledge, best practices, guidance, and tools to strengthen country capacity to respond to future shocks. Through its network of Emergency Medical Teams (EMTs), Incident Management Support Teams (IMSTs), and the Global Outbreak Alert and Response Network (GOARN), WHO was able to deploy multidisciplinary teams to provide immediate assistance to Member States. IMSTs have played a particularly critical role in managing and implementing WHO's on the ground emergency response, given their ability to draw on expertise from within and outside the Organization to address evolving country needs.

The current complex crisis in **Lebanon** has heavily impacted the health system – decreasing the availability, affordability, accessibility, and quality of health care in general, and threatening the sustainability and resilience of the health system. In response, WHO has provided immediate, lifesaving support, including through filling acute gaps in medicines and managing access to essential health care through its support to 12 public hospitals with equipment, supplies, and the recruitment and training of more than 620 nursing staff. As part of adopting innovative approaches during the pandemic, WHO worked

with the government to 'twin' major public hospitals with private academic hospitals to improve and standardize COVID-19 critical care practices.

In the **Lao People's Democratic Republic**, provincial hospitals became rapidly overwhelmed when almost 5000 returning migrant workers tested positive to COVID-19. With support from WHO and partners, the Ministry of Health established three isolation facilities to accommodate the surge in cases and provide treatment for those who needed medical attention. The WHO Country Office helped to develop a facility checklist, strengthen IPC measures, and improve water and sanitation. WHO also procured and delivered beds, mattresses, bedding, fans, cleaning materials, autoclaves for waste management, and financial support for surge capacity to manage the facilities.

An important part of resilience is also to ensure that countries are adequality prepared for the influx of support from the international community. In **Sri Lanka**, following a shipment of urgent medical supplies including 2 million syringes for vaccines and medical equipment for primary care services at 55 hospitals, the WHO Country Office worked with the Ministry of Health to develop a comprehensive implementation plan to ensure effective allocation and distribution across the country. WHO has also supported frontline health service readiness surveillance to assess COVID-19 case management capacities in 455 hospitals across 13 countries. The approach has provided countries with real-time facility-level data on the availability of essential COVID-19 tools, staff protection and capacities, bed and surge capacities, and IPC and safe environment measures.

© WHO / Henitsoa RafaliaL

Protecting and training the health workforce

Since the start of the pandemic, over 115 000 health and care workers have died from COVID-19, while many more have tested positive to the virus. In response, WHO has worked with governments to support policy dialogue and technical cooperation on guaranteeing decent working conditions, the implementation of infection prevention and control measures, including the provision of adequate PPE, mental health, and psychosocial support. The unprecedented challenges posed by the pandemic led to dedicated technical cooperation activities in more than 100 countries and territories targeting health workforce implications and requirements of the pandemic response. In parallel, strengthening the capacity and optimal

management of health workforce teams, mobilizing additional health workers, and rationalizing deployment and distribution were required to scale up the health workforce to respond to increased demands.

The OpenWHO learning platform became a critical resource for healthcare workers during the pandemic, hosting over 6.5 million course enrolments, with health professionals making up 28% of registered users. By March 2022, OpenWHO had developed 44 courses to support the COVID-19 response, with **Introduction to COVID-19** and **COVID-19 Personal Protective Equipment** the most visited and completed courses on the platform. In 2021, OpenWHO prioritized learning support for the rollout of vaccines, providing essential information for health workers and national planning. Within the first month of its launch in December 2021, for example, the Infodemic Management 101 training course reached 17 000 enrolments, a record high for a COVID-19 related topic two years into the pandemic.

WHO provided specialized, customised training to healthcare workers on a global scale. In **Nicaragua**, the Pan American Health Organization (PAHO) collaborated with local authorities to enable remote health workers to access existing technology infrastructure for distance learning. A network of over 300 tutors translated existing courses in Spanish into the Miskito language, Mayangna, and English. The course on training health personnel for COVID-19 vaccinations was also customised for local delivery. In strengthening regional capacity, WHO provided substantial remote support to the Pacific Emergency Medical Team (EMT) through an 11-week online webinar series. The webinar series included technical briefings on specific topics, and open discussion sessions on the development and operationalisation of EMTs in the small island context.

Prior to the COVID-19 pandemic, many resource-limited and fragile, conflict-affected, and vulnerable countries in the WHO Eastern Mediterranean Region had little or no intensive care unit (ICU) capacity. In response, the Regional Office developed a training package on introductory critical/ICU care, and the use of biomedical equipment. Onsite trainings were conducted in **Yemen, Gaza/oPt, Somalia, Iraq, Afghanistan**, and **Pakistan**. Virtual trainings were also conducted in **Somalia, Pakistan, Afghanistan, Yemen, Sudan, Gaza/oPt, Jordan, Libya, Syria**, and **Iraq**. The total number of healthcare workers trained on critical/ICU care now exceeds 40 000. **Yemen** particularly benefited from this effort and is now moving forward to establish a longer-term critical/ICU care training programme that will continue to train front-line health workers in life-saving skills beyond the COVID-19 pandemic.

The prevalence of mental health disorders, including depression and anxiety, are expected to rise substantially in the years following the pandemic – particularly among healthcare workers and other frontline responders. In response, WHO prioritized protecting healthcare workers, physical and mental health. In **Nepal**, the WHO Country Office held regular mental health sub-cluster meetings to coordinate work among partners, and more than 3000 healthcare workers were reached through stress management workshops and webinars on their mental health needs. An online platform was developed, containing tips on mental health care, modules on stress management, webinars, educational materials including self-screening tools, and appointment and follow-up services.

To ensure maintenance of essential health services, in particular Mental Health services, Ministry of Health in Jordan supported by WHO continued to provide psychotropic medications to patients at home during COVID-19 pandemic, taking into consideration patient privacy and safety measures.

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Regional impact story

Ensuring a trained and protected workforce in the Americas

On International Women's Day, the Director of the Pan American Health Organization (PAHO), Carissa F. Etienne, reflected how women are "on the frontlines" of the COVID-19 response, but are underrepresented in global and national health leadership. **"Women make up the great majority of health care workers… Never has health leadership occupied the global stage with such urgency and never has the need been greater for that leadership to be inclusive and representative of all those affected in very distinct ways, including, of course, women."**

According to the Inter-American task force on Women's Leadership, while nine out of ten nurses in Latin America and the Caribbean are women, they only comprise 25% of executive positions in hospitals. Across the Americas, as of March 2021, one million health workers had tested positive to COVID-19 and four thousand had died – with two out of three of them, women.

In accepting that the pandemic was affecting women differently, and in supporting countries to develop "policies not only for women but by women", PAHO invested in building resilient health systems through an adequately trained and protected workforce. Between February and June, the PAHO sub-regional Caribbean office launched a survey among healthcare workers to better understand attitudes to vaccines, intentions to take and recommend COVID-19 vaccines, and factors influencing these intentions. With healthcare workers both a priority group for receiving vaccines, and significant influencers of health-related attitudes and behaviours towards vaccination in their communities, the survey emphasised the importance of ensuring healthcare workers had accurate communication and information regarding COVID-19 vaccines.

In addressing the significant equity gaps that impact the capacity of healthcare workers in remote communities, PAHO worked with local universities to replace face-to-face learning with distance training, utilizing existing telecommunications infrastructure in health care facilities. To ensure frontline healthcare workers were kept up to date with emerging knowledge, PAHO translated essential COVID-19 courses into several languages including Dutch, Haitian Creole, Spanish, Miskito language, and Mayanga. PAHO launched the mobile application, MedPPE, to provide guidance on the use of personal protective equipment (PPE) according to workers' function, the level of care they provide, and the multiple environments within primary health care and hospitals. Information is available in Spanish, English, Portuguese, and French, and designed for all personnel working in health facilities, including security guards, administrative and cleaning personnel, nurses, biomedical and imaging technicians, surgeons, and physicians, among others.

Nurses, along with the chief of nursing programs, Fabiana Zepeda Arias (back center), after an outdoor debriefing meeting at the Mexican Institute of Social Security.

Regional impact story

Strengthening referral pathways in the Western Pacific

In building strong healthcare systems that are resilient to surges in COVID-19 cases and prepared for future outbreaks, WHO's Regional Office for the Western Pacific worked with Member States to streamline their health systems to ensure the right patients were admitted at the right time, and in the right setting. The Office provided technical support on defining and standardizing care pathways and strengthening bed management, for example, to ensure that intensive care unit (ICU) beds were used only by patients who needed them, and that patients were discharged from the ICU when they no longer needed such care.

In the **Lao People's Democratic Republic**, the Regional Office provided extensive support and supervision as part of health systems strengthening. Working closely with the Ministry of Health, care pathways and home-based care guidelines were developed to help prepare for surges in cases and stress on the health system. Health workers were trained in the early detection of medical needs among community members with COVID-19 to establish home-based care management plans for those meeting established criteria, and access to specialised hospital care when required.

As reflected by the WHO Officer in Charge, Dr Jun Gao, **"This initiative by the Ministry of Health comes at an opportune time when we see local transmission cases increasing and with the introduction of home care, it is important that we keep transmission and mortality rates low... A feedback loop is included so we can learn of challenges faced by local authorities in their communities, and work with the ministry and district authorities to identify solutions and learn from the process."**

In **Malaysia**, which implemented a similar system of home-based care, a COVID-19 Assessment Centre was established to conduct monitoring and follow-up of patients on home care to obtain information on their current health status, along with providing mental health and psychosocial support. Patients also received home-care kits with essential tools for monitoring their condition.

Cambodia implemented a national patient pathway framework, which included home-based care. The patient pathway framework was applied across the country to isolate and monitor mild cases at non-health treatment facilities and in home-based care, while reserving hospital beds for moderate, severe, and critical cases. Non-health treatment centres were established through repurposing facilities (wedding theatres, hotels, schools, etc.), while hospitals reorganized facilities and redeployed staff for moderate, severe, and critical treatment capacity. Home-based care was implemented as part of the patient pathway to reduce the burden of asymptomatic and mild cases at hospitals. Guidance on home-based care was developed and updated to incorporate the new developments.

For all countries in the region, the systems, networks, and know-how learned and established at the health system level, and the clinical skills obtained by frontline healthcare workers will be important assets in the health system both during and beyond the COVID-19 pandemic.

Ly Kanha, 25, conducts an antenatal check-up for Kong Kea, 26, at the Cambodia-Japan Friendship Health Center of Chambok in Beng village.

Preventing and Responding to Sexual Exploitation, Abuse and Harassment (PRSEAH)

WHO is fully committed to safeguarding the vulnerable communities it serves, to prevent and respond to sexual exploitation and abuse and to protecting its own workforce and other partner agency personnel from sexual harassment wherever it may occur. In 2021, the Organization significantly strengthened its efforts to build institutional capacity to tackle the issue. The Director-General established an Organization-wide task team comprising 28 senior officials and accountability programmes including the WHO Health Emergencies Programme (WHE), and dedicated core capacity in the Secretariat to coordinate the work, led by a Director ad interim. A new WHO public website on the subject was launched in July 2021. Since August 2021, the task team developed and has been implementing a workplan that encompasses actions to address PRSEAH and is implementing the United Nations-wide policy on protection from sexual exploitation, abuse and harassment. As part of the Organization-wide response, the appointment of PRSEAH Focal Points in all Country Offices is ongoing, a WHO agency-specific PRSEAH training has been developed, and is being piloted, and the #NoExcuse campaign was launched in February 2022. PRSEAH-specific objectives have now been included in performance management and development of all WHO personnel, staff and non-staff effective from 2022.

Considering the higher risks of sexual exploitation, abuse and harassment in emergency operations, the WHO Health Emergencies Programme (WHE) took a bold step to embed PRSEAH into the Programme, and has created a responsible unit within the office of the Assistant Director-General, Response. The unit coordinates PRSEAH work internally in WHE and with humanitarian partners, works closely with the PRSEAH Global Task Team, regional and country emergency teams to ensure PRSEAH actions are embedded in all graded WHO emergency operations. WHE is currently finalizing the revision of the WHO Emergency Response Framework (ERF) to incorporate a chapter on PRSEAH.

As part of the mainstreaming, WHE is embedding PRSEAH experts in staff positions as part of the country business model in 13 priority fragile, conflict-affected and vulnerable (FCV) countries and at two sub-regional locations (one in Myanmar providing technical support to Cox's Bazar in Bangladesh; and another one in Turkey Gaziantep supporting Syria, Whole of Syria hub and Lebanon). WHE is also embedding PRSEAH experts in all Incident Management Support Teams (IMST) at all levels of the Organization for specific graded acute event response operations, including in COVID-19 response operations. The integration of PRSEAH into the COVID-19 response operations was initiated in January 2022 with a briefing of all Regional IMSTs. A briefing of personnel on the prevention and response to SEAH, core actions and performance standards at country level was also conducted for staff responsible for COVID-19 vaccine rollout at global and AFRO levels. Key activities for PRSEAH mainstreaming in emergency operations including in COVID-19 response operations include:

- Implementation of recruitment safeguarding measures (screening through clear-check database, mandatory PRSEAH trainings and signing of a PRSEAH deployment checklist)
- Embedding PRSEAH experts in IMSTs
- Inclusion of activities around PRSEAH in all Contingency Fund for Emergencies (CFE) requests, emergency response plans and funding proposals
- Collaborating with other UN agencies, and partners to implement joint risk assessment and risk mitigation plans
- Contributions to joint PRSEAH work including PRSEAH trainings, community awareness and sensitization, establishing community reporting and referral systems, and setting up victim support services. In some cases, PRSEAH capacities of implementing partners are being assessed and partners are being supported to build capacities.

Ongoing advocacy efforts with national Governments to adopt and implement a PRSEAH policy is beginning to yield some success. For example, in India, PRSEAH was integrated in the Environmental and social management framework for India's COVID-19 Emergency response and health systems preparedness project by the Ministry of Health and Family Welfare, Government of India. In a number of countries, training for PRSEAH is done in an integrated manner incorporating gender-based violence (GBV) and Mental Health and Psychosocial Support (MHPSS) as a way of strengthening service provision, as is the case in India, Nepal, and Ethiopia.

Looking ahead: 2022 and beyond

2021 taught us many things. The emergence of new variants was a stark reminder that no country is safe until all countries are safe. Inequitable access to vaccines means that while 2 out of every 3 people in high-income countries have received at least one dose, for low-income countries, it is only 1 in 7. Substantial disparities remain within and across countries regardless of income, with certain groups less likely to be vaccinated than others. Globally, health workers and vulnerable groups remain inadequately protected.

Access to tests, treatments, and vaccines is not enough. The pandemic exposed chronic weaknesses in many health systems, particularly in their ability to cope with sudden surges in demand while still providing essential health services. We must ensure that those health systems and services that were stretched to their limits are supported to recover, and to build resilience to future shocks. This includes long-term investments in good management, human and financial resources, a resilient, well-trained and well-supervised workforce, and good data systems to monitor and track implementation.

The need for precision when targeting COVID-19 interventions is particularly important in low-capacity and humanitarian contexts. Here, COVID-19 public health and social measures must be carefully adapted to context-specific and evolving needs, against a backdrop of limited public health information, difficult access, and health systems that were often inadequate to meet basic health needs before the pandemic. Providing support to communities in these settings has been, and will continue to be, a key priority for WHO and global partners in 2022 and beyond.

While we now better understand the virus, and have the vaccines, diagnostic tools, treatments, and other public health and social measures to end the acute phase of the pandemic – we must remain vigilant for the evolution and spread of new variants and redouble efforts to guard against already stressed health systems and health workers being overwhelmed by new surges of COVID-19. While the vaccine rollout began in 2021, it will not end for the foreseeable future. WHO will continue to provide critical technical and leadership roles in both the scientific development of vaccine technology, and in ensuring vaccines are available to those that need them the most.

Vaccine delivery in Micronesia. © WHO / Ann Norizal Lopez

The pandemic has reinforced the need for countries and partners to be proactive, and to react fast in the face of a public health emergency. As we reflect on lessons learned in responding to COVID-19 over the past two years, and the need to 'build back better' – the importance of new approaches and innovation remain clear. WHO is investing in translating the latest data, research, and evidence into action – aiming to systematically assess and link country needs with innovative solutions. Through harnessing the data revolution and continuing to engage with epidemic disease modelling and data analytics experts, we can continue to support collaborations that deliver tools for countries to imagine, and prepare for, future scenarios based on their specific contexts and risks.

For now, ending the acute phase of the COVID-19 pandemic means significantly reducing transmission through strong disease surveillance and early warning systems that are linked through shared intelligence, and sustained individual and community actions. It means reducing exposure by enabling and engaging with communities to adopt behaviours that reduce risk, and countering and building resilience to misinformation and disinformation. It means accelerating access to COVID-19 tools, including vaccines and rapid diagnostic tests, to ensure individuals and communities are protected and that no one is left behind. Finally, it means reducing illness and death in every country, and in every context, through resilient health systems that can prepare for, manage, and adapt to shocks.

Annex 1. Overview of SPRP monitoring and evaluation

Coordination, planning, financing and monitoring

Proportion of countries that have conducted at least 1 Intra-Action Review (IAR) or equivalent country-level review of the COVID-19 response since July 2020

Proportion of flexible funding received by WHO for SPRP 2021

Proportion of countries that conducted 1 or more analyses of health inequities during the COVID-19 pandemic baseline data analysis

Risk communication, community engagement (RCCE) and infodemic management

Proportion of countries that have capabilities to track and address infodemics and health misinformation

[1] This is a major gain in one year. The approach of integrated surveillance of influenza and SARS-CoV-2 to address critical public health needs of both influenza and SARS-CoV-2 at the same time using existing systems has been welcomed by countries and supported by international agencies.

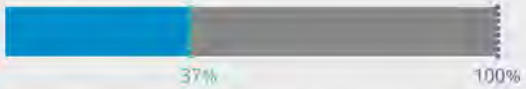
[2] 116 countries in the temperate zone of the northern hemisphere and the tropics are expected to report timely COVID-19 data.

[3] 65 of the 103 countries are Low and Middle Income Countries (LMIC), and 38 of the LMIC countries have a Humanitarian Response Plan (HRP)

[4] Source : GISAID https://www.gisaid.org/

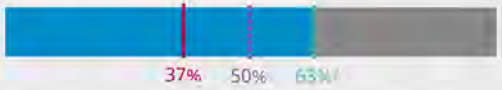
Surveillance, epidemiological investigation, contact tracing, and adjustment of public health and social measures

Proportion of Member States with COVID-19 detailed surveillance reporting to WHO

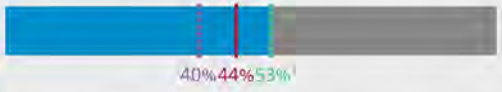


Number of countries that integrate COVID-19 surveillance into sentinel systems that monitor influenza

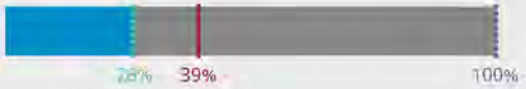
Proportion of countries testing for COVID-19 and reporting in a timely manner through established sentinel or non-sentinel influenza-like illness (ILI), severe acute respiratory illness (SARI), acute respiratory infection (ARI) surveillance systems such as Global Influenza Surveillance and Response System (GISRS) or other WHO platforms



Number of Member States implementing sero-epidemiological investigations or studies



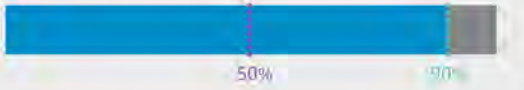
Proportion of Member States reporting COVID-19 health worker infections to WHO



Points of entry, international travel and transport, and mass gatherings

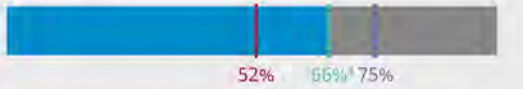
Proportion of States Parties which made timely, up-to-date information about their international travel-related measures available to WHO

Percentage of countries that reported at least one mass gathering event affected by COVID-19 (cancelled, postponed, suspended, etc) as a result of a risk assessment exercise



Laboratories and diagnostics

Proportion of countries that publicly share SARS-CoV-2 genetic sequence data



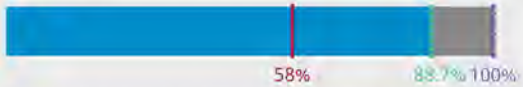
Proportion of countries participating in WHO External Quality Assessment Programme 2021

Proportion of countries with 100% performance across laboratories participating in a SARS-CoV-2 EQA scheme

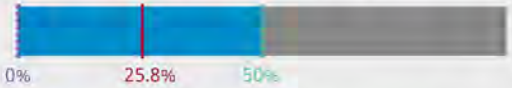
Achieved | Target value | Baseline value

Infection prevention and control, and protection of the health workforce

Proportion of countries with a national in-service IPC curriculum (2018 baseline)



Proportion of countries with a dedicated IPC budget (2018 baseline)



Number of users who completed OpenWHO IPC modules (total of 17 modules as at 31 January 2022)

Case management, clinical operations, therapeutics

WHO dashboard updates on therapeutics/oxygen utilization amongst hospitalized patients published monthly

Items of Biomedical equipment shipped by WHO (Jan-Dec)

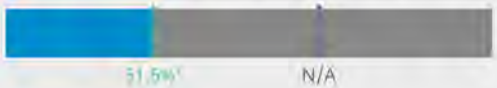
Achieved | Target value | Baseline value

Operational support and logistics, and supply chain

PPE items shipped by WHO (Jan-Dec)

Diagnostic products shipped by WHO (Jan-Dec)

Proportion of COVID-19 essential supplies procured by WHO and partners that has been shipped to countries through WHO supply mechanisms (including WPRO and PAHO regional offices)



Maintaining essential health services and systems

Number of countries reporting disruption to at least one essential health service during COVID-19 pandemic

Proportion of 66 essential services reporting disruption in 2021

Proportion of countries where at least one vaccine-preventable disease (VPD) immunization campaign disrupted by COVID-19 has since been reinstated using risk mitigation strategies

Vaccination

Number of countries that have started COVID-19 vaccination

Number of COVID-19 vaccine doses administered globally

Proportion of global population with at least one vaccine dose administered

Adapting the response to changing and special contexts

Proportion of countries in humanitarian settings with a functioning multi-sectoral mental health and psychosocial support (MHPSS) coordination group[9]

[5] January 2021¬–January 2022: 397 740 course enrolments, 224 720 unique users. 75% completion rate

[6] WHO Global COVID-19 Clinical Platform: https://app.powerbi.com/

[7] As of 31 December 2021, WHO and partners had procured nearly US$ 1.7 billion of essential supplies – diagnostics, medicines, biomedical equipment and PPE – to support the COVID-19 response in 197 countries. WHO procured US$ 578 million, or 34%, of these essential supplies, and shipped US$ 536.5 million of PPE, diagnostics, medicines and biomedical equipment to 181 countries

[8] 44 out of 65 countries that had a VPD immunization campaign disrupted by COVID-19 were able to reinstate them.

[9] Functional MHPSS multi-sectoral coordination group is defined as meeting at least three of the following criteria:

- Coordination group has more than 4 Member Agencies of Governmental departments from at least two different sectors;
- Coordination group has met at least once during the last two months;
- Coordination group has TORs and workplan or mapped deliverables;
- Coordination has dedicated funding to support its activities through at least one of the member agencies;
- Group has a monitoring and evaluation system in place

[10] 43 countries

Data as of 25 March 2022

Annex 2. Financial contributions

Table 1 SPRP 2021 period utilization* by major office

Major office	US$ million
Africa	242.12
Americas & PAHO	102.74
Eastern Mediterranean	298.38
Europe	93.55
South-East Asia	104.96
Western Pacific	56.41
HQ and global	242.01
Total	**1140.17**

Figure 1. SPRP 2021 period utilization* by level of organization

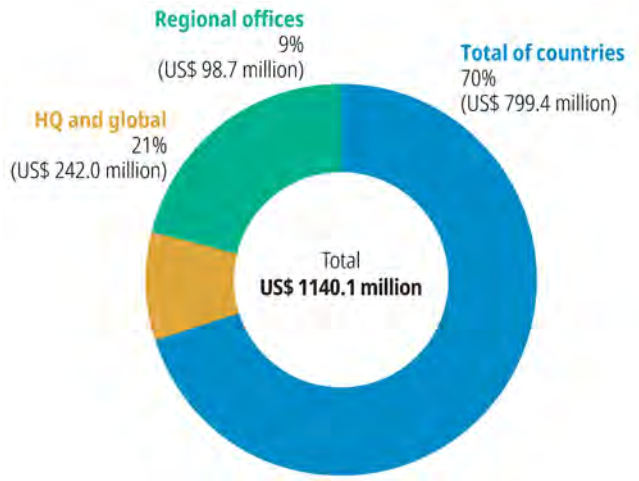


Figure 2. SPRP 2021 period utilization* by funds earmarking

*Utilization for SPRP period Apr-21 to Mar-22. May include firm commitments not yet delivered, includes estimates for Mar-22.

Table 2. List of Contributors to SPRP 2021

Contributor	US$ million
Africa Re Foundation	0.25
African Development Bank Group	9.62
Asian Development Bank	1.00
Australia	7.98
Belgium	4.69
Bill & Melinda Gates Foundation	6.63
Canada	146.12
Central American Bank for Economic Integration (CABEI)	0.65
Chad (African Development Bank Group)	1.52
Clinton Health Access Initiative	0.32
COVID-19 Solidarity Response Fund	42.64
Democratic Republic of the Congo(African Development Bank Group)	1.29
Denmark	15.80
East African Community	8.52
Egypt (World Bank)	0.36
European Commission	202.85
FIND, the global alliance for diagnostics	2.49
Finland	1.05
France	55.04
GAVI, the Vaccine Alliance	75.75
Germany	396.61
Inter-American Development Bank	9.64
Ireland	0.94
Islamic Development Bank	0.15
Isle of Man	1.12
Israel	0.04
Italy	8.67
Japan	11.08
Kingdom of Saudi Arabia	18.62
Kingdom of Thailand	0.32
Kuwait	16.00
Lesotho	0.16
Mali (World Bank)	1.11
Malta	0.07
Mauritania (World Bank)	0.93
National Philanthropic Trust (NPT)	5.18
Netherlands	14.33
New Zealand	1.74
Norway	22.46
Other Contributors	0.95
Portugal	0.11
Program for Appropriate Technology In Health (PATH)	0.81
Republic of Guinea-Bissau (Islamic Development Bank)	11.83
Republic of Korea	6.02
Republic of the Philippines (World Bank)	14.09
Rockefeller Foundation	2.48
Sao Tome and Principe (World Bank and Asian Development Bank)	2.02
Secretariat of the Pacific Community (SPC)	0.50
Sierra Leone (Islamic Development Bank)	1.19
Slovak Republic	0.18
Southern African Development Community Secretariat (SADC)	8.50
Spain	3.67
Susan Thompson Buffett Foundation	5.00
Sweden	0.59

Table 2. List of Contributors to SPRP 2021

Contributor	US$ million
Switzerland	13.38
The Big Heart Foundation (TBHF)	0.50
The Principality of Monaco	0.41
UNDP Mutli-Partner Trust Fund (MPTF)	0.66
Union of the Comoros	1.36
Unitaid	5.00
United Kingdom of Great Britain and Northern Ireland	2.05
United Nations Agencies (UN Multidimensional Integrated Stabilization Mission In Mali, UNHCR, UNFPA, IOM, UNRCO)	1.57
United Nations Central Emergency Response Fund (CERF)	2.57
United Nations Children's Fund (UNICEF)	4.47
United Nations Development Programme (UNDP)	27.99
United Nations Office for South-South Cooperation (UNOSSC)	1.94
United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA)	8.84
United States of America	133.31
Vital Strategies	2.05
Vrije Universiteit Amsterdam	0.36
World Bank	11.40
GRAND TOTAL	1370

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