14 April 2020

COVID-19 STRATEGY UPDATE

World Health Organization

Printed in Geneva, Switzerland.

Cover photo: iStock.com/Hydromet

FOREWORD

Overcoming COVID-19

It has now been more than 100 days since WHO was notified of the first cases of what we now call COVID-19, and much has changed since we launched the first Strategic Preparedness and Response Plan two months ago.

As of 13 April, more than 1.7 million people have been infected, and almost 85 000 people have lost their lives. WHO grieves with all families who have lost a loved one, and salutes health workers all over the world who have put themselves in harm's way every day to save lives.

The global spread of the virus has overwhelmed health systems, and caused widespread social and economic disruption.

By putting societies and economies on hold, we have curtailed the ability of the virus to spread through our communities. These defensive measures have helped to limit some of the short-term impacts of the virus, and bought us time to translate what we have learned about the virus into solutions so that we can get back to a more normal way of living: a new normal.

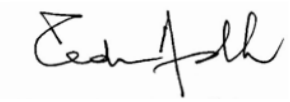
We have learned so much about this virus, and we're still learning. This strategy update is based on the evidence the world has accumulated in the past three months about how COVID-19 spreads, the severity of disease it causes, how to treat it, and how to stop it.

One of the main things we've learned is that the faster all cases are found, tested and isolated, the harder we make it for this virus to spread. This principle will save lives and mitigate the economic impact of the pandemic.

This document guides the public health response to COVID-19 at national and subnational levels, including practical guidance for strategic action, tailored to the local context.

This pandemic is much more than a health crisis. It requires a whole-of-government and whole-of-society response. The resolve and sacrifice of frontline health workers must be matched by every individual and every political leader to put in place the measures to end the pandemic.

We're all in this together, and we will only succeed together. There is no time to waste. WHO's singular focus is on working to serve all people to save lives and stop the pandemic.



Dr Tedros Adhanom Ghebreyesus
WHO Director-General

ABOUT THIS DOCUMENT

The coronavirus disease 2019 (COVID-19) pandemic is exacting a huge toll on individuals, families, communities, and societies across the world. Daily lives have been profoundly changed, economies have fallen into recession, and many of the traditional social, economic, and public health safety nets that many people rely on in times of hardship have been put under unprecedented strain.

In just a short time, a localised outbreak of COVID-19 evolved into a global pandemic with three defining characteristics:

- **Speed and scale:** the disease has spread quickly to all corners of the world, and its capacity for explosive spread has overwhelmed even the most resilient health systems (figure 1).
- **Severity:** overall 20% of cases are severe or critical, with a crude clinical case fatality rate currently of over 3%, increasing in older age groups and in those with certain underlying conditions.
- **Societal and economic disruption:** shocks to health and social care systems and measures taken to control transmission have had broad and deep socio-economic consequences.

This document is intended to help guide the public health response to COVID-19 at national and subnational levels, and to update the global strategy to respond to the COVID-19 pandemic. This document complements, and provides links to, the technical guidance published by WHO on preparing for and responding to COVID-19 since the beginning of the response. It translates knowledge accumulated since the publication of the Strategic Preparedness and Response Plan (SPRP)[1] on 3 February 2020, into additional practical guidance for whole-of-government and whole-of-society strategic action that can be adapted according to specific national and subnational situations and capacities.

This strategy update provides guidance for countries preparing for a phased transition from widespread transmission to a steady state of low-level or no transmission. This update also highlights the coordinated support that is required from the international community to meet the challenge of COVID-19: it complements plans (including the Global Humanitarian Response Plan)[2] that specifically address the issues of COVID-19 response in humanitarian and fragile settings, and plans currently under development that will address the broader social and economic impacts of COVID-19.

iStock.com/Phynart Studio

1 For the Strategic Preparedness and Response Plan see: https://www.who.int/docs/default-source/coronaviruse/srp-04022020.pdf

2 For the Global Humanitarian Response Plan see: https://www.unocha.org/sites/unocha/files/Global-Humanitarian-Response-Plan-COVID-19.pdf

CURRENT SITUATION AND KEY INSIGHTS

COVID-19 is a new disease, distinct from other diseases caused by coronaviruses, such as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). The virus spreads rapidly, and outbreaks can grow at an exponential rate. At present, there are no therapeutics or vaccines proven to treat or prevent COVID-19, although national governments, WHO and partners are working urgently to coordinate the rapid development of medical countermeasures.[3] According to data from countries affected early in the pandemic, about 40% of cases will experience mild disease, 40% will experience moderate disease including pneumonia, 15% of cases will experience severe disease, and 5% of cases will have critical disease.

The crude mortality rate varies substantially by country depending on the populations affected, the point a country is at in the trajectory of its outbreak, and the availability and application of testing (countries that only test hospitalized cases will have a higher reported crude mortality rate than countries with more widespread testing). The crude clinical case fatality is currently over 3%, increasing with age and rising to approximately 15% or higher in patients over 80 years of age. Morbidity associated with COVID-19 is also very high. Underlying health conditions that affect the cardiovascular, respiratory, and immune systems confer an increased risk of severe illness and death.

Countries are at different stages of national and subnational outbreaks. Where there has been early action and implementation of comprehensive public health measures – such as rapid case identification, rapid testing and isolation of cases, comprehensive contact tracing and quarantine of contacts – countries and subnational regions have suppressed the spread of COVID-19 below the threshold at which health systems become unable to prevent excess mortality. Countries that have been able to reduce transmission and bring outbreaks under control have maintained the ability to deliver quality clinical care, and minimize secondary mortality due to other causes through the continued safe delivery of essential health services.

In many countries where community transmission has led to outbreaks with near exponential growth, countries have introduced widespread population-level physical distancing measures and movement restrictions in order to slow spread and set in place other control measures. Physical distancing measures and movement restrictions, often referred to as “shut downs” and “lock downs,” can slow COVID-19 transmission by limiting contact between people. However, these measures can have a profound negative impact on individuals, communities, and societies by bringing social and economic life to a near stop. Such measures disproportionately affect disadvantaged groups, including people in poverty, migrants, internally displaced people and refugees, who most often live in overcrowded and under resourced settings, and depend on daily labour for subsistence.

For countries that have introduced widespread physical distancing measures and population-level movement restrictions, there is an urgent need to plan for a phased transition away from such restrictions in a manner that will enable the sustainable suppression of transmission at a low-level whilst enabling the resumption of some parts of economic and social life, prioritized by carefully balancing socio-economic benefit and epidemiological risk. Without careful planning, and in the absence of scaled up public health and clinical care capacities, the premature lifting of physical distancing measures is likely to lead to an uncontrolled resurgence in COVID-19 transmission and an amplified second wave of cases.

For countries that currently have few reported cases, there is no time to lose in learning and applying the lessons of others to specific national contexts and capacities.


iStock.com/Orbon Alija

3 For the Global Research and Development Roadmap see: https://www.who.int/blueprint/priority-diseases/key-action/Roadmap-version-FINAL-for-WEB.pdf?ua=1

A renewed focus on public health

Perhaps the most important insight from the global COVID-19 response to date has been that to successfully slow transmission and protect health systems, it is essential to accurately diagnose and effectively isolate and care for all cases of COVID-19 including cases with mild or moderate disease (in health setting or home setting, depending on the context and degree of illness).

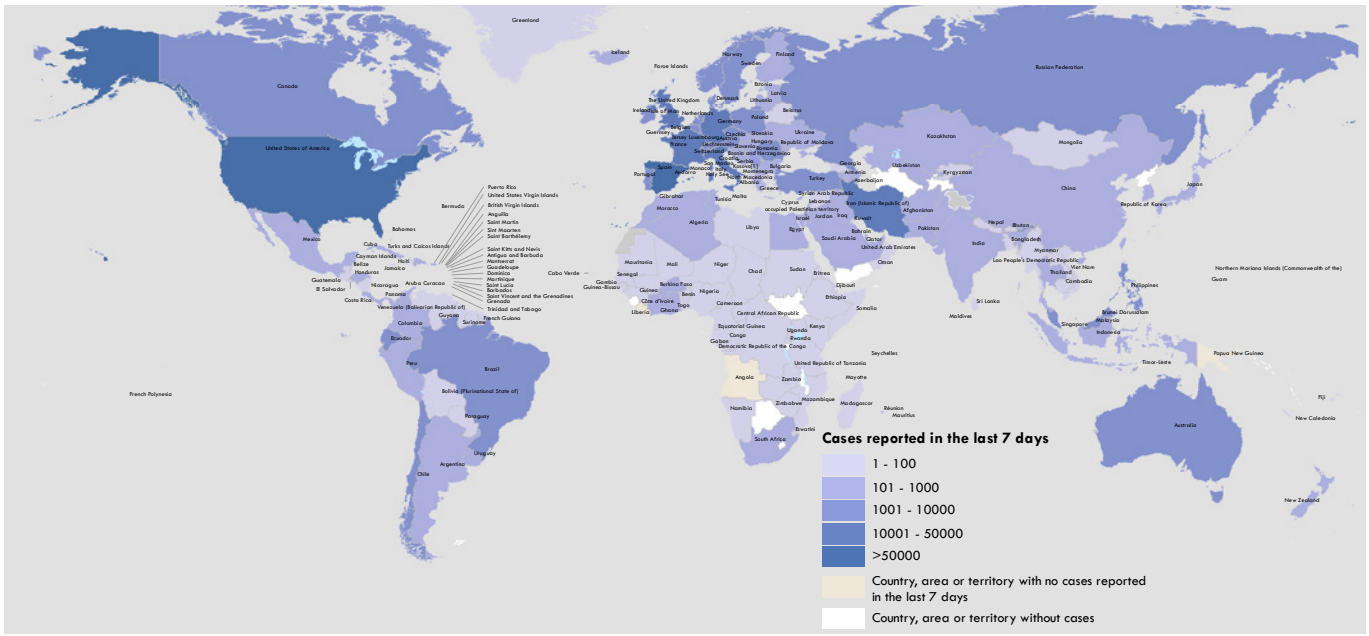
As COVID-19 transmission has advanced globally, the primary focus of most countries has been the rapid identification, testing and treatment of patients with serious and severe COVID-19, and the sheltering of individuals at the highest risk of poor outcomes. Fewer have put in place measures for those with mild disease, or contacts of cases.

Countries must do everything they can to stop cases from becoming clusters and clusters from becoming explosive outbreaks. They must put in place the capacities for testing and diagnosis, isolation, contact tracing and quarantine; they must engage everyone in the response.

A renewed focus on large-scale public health capacities must be implemented with urgency. The world stands at a pivotal juncture in the course of this pandemic. Collaborative research and knowledge sharing have helped to answer crucial questions about the benefits and costs of different response strategies in different contexts, the transmissibility of the virus, the clinical spectrum of the disease, and its capacity to rapidly overwhelm even the most resilient health systems. We know now what we are up against, and we are learning how to beat it. COVID-19 threatens human life, threatens livelihoods, and threatens the way of life of every individual in every society.

Speed, scale, and equity must be our guiding principles. Speed, because the explosive nature of the virus means every day lost in implementing effective response capacities and behaviors costs lives; scale, because everyone in society has a part to play in building the capacities required to control this pandemic; and equity, because everyone is at risk until the virus is controlled everywhere in the world: collective resources must be directed to where there is greatest risk. COVID-19 is a truly global crisis: the only way to overcome it is together, in global solidarity.

Figure 1 Countries, areas or territories with COVID-19 cases reported in the last 7 days, as of 31 March 2020, 10:00 (CET)



[1] All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

Number of cases of Serbia and Kosovo (UNSCR 1244,1999) have been aggregated for visualization purposes.

The boundaries and names shown ans the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: WHO and ministries of health

GLOBAL STRATEGY TO RESPOND TO COVID-19

The overarching goal is for all countries **to control the pandemic by slowing down the transmission and reducing mortality associated with COVID-19.**

The global strategic objectives are as follows:

- **Mobilize** all sectors and communities to ensure that every sector of government and society takes ownership of and participates in the response and in preventing cases through hand hygiene, respiratory etiquette and individual-level physical distancing.
- **Control** sporadic cases and clusters and prevent community transmission by rapidly finding and isolating all cases, providing them with appropriate care, and tracing, quarantining, and supporting all contacts.
- **Suppress** community transmission through context-appropriate infection prevention and control measures, population level physical distancing measures, and appropriate and proportionate restrictions on non-essential domestic and international travel.
- **Reduce** mortality by providing appropriate clinical care for those affected by COVID-19, ensuring the continuity of essential health and social services, and protecting frontline workers and vulnerable populations.
- **Develop** safe and effective vaccines and therapeutics that can be delivered at scale and that are accessible based on need.


iStock.com/stockstudioX

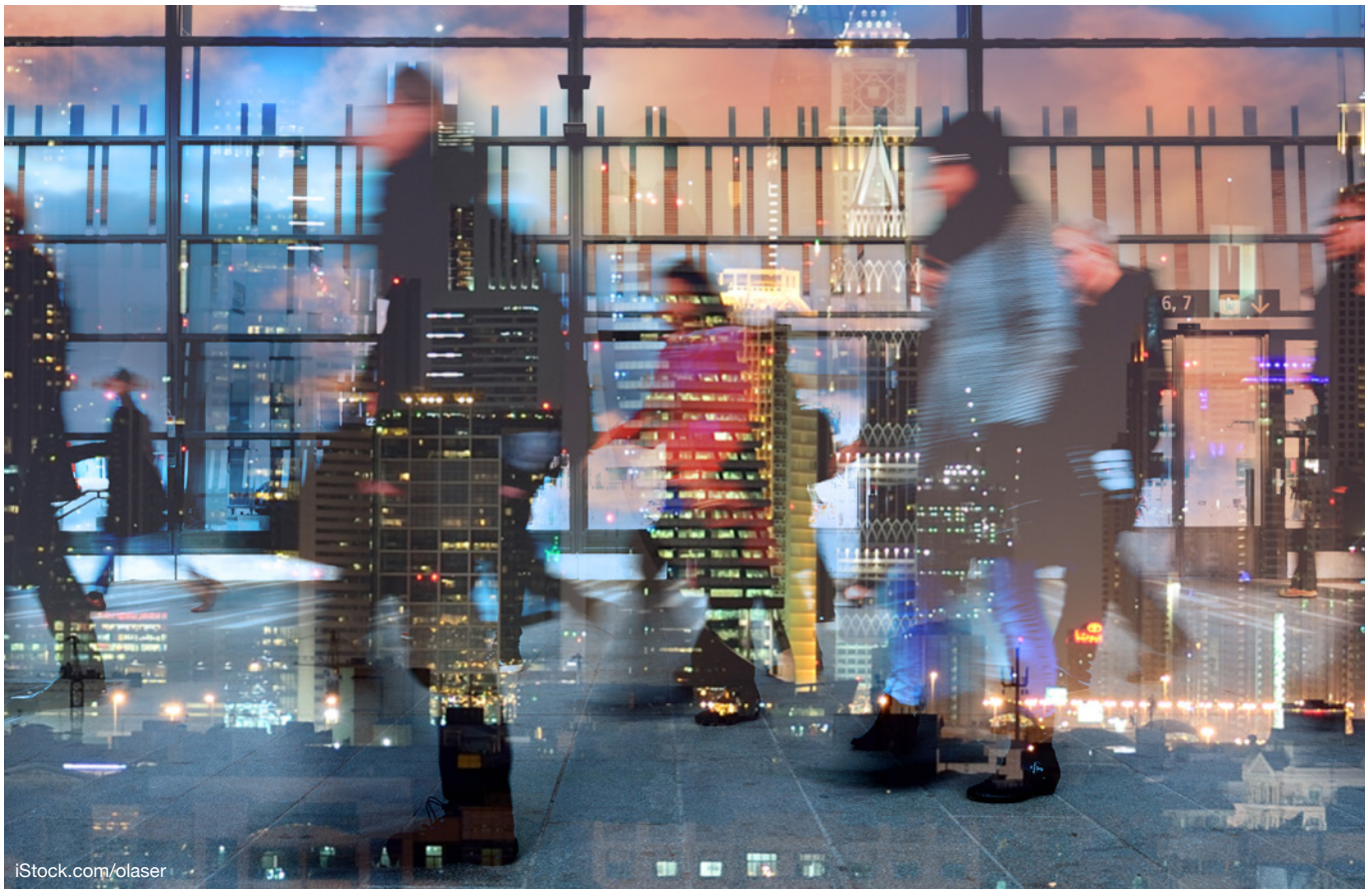
Every country should be implementing a comprehensive set of measures, calibrated to their capacity and context, to slow down transmission and reduce mortality associated with COVID-19, ultimately with the aim of reaching and/or maintaining a steady state of low-level or no transmission. Appropriate strategies at the national level and subnational level must balance measures that address the direct mortality attributable to COVID-19, the indirect mortality caused by the overwhelming of health systems and the interruption of other essential health and social services, and the acute and long-term detrimental effects on health and wellbeing of the socioeconomic consequences of certain response measures.

Maintaining a steady state of low-level or no transmission is important because, as the pandemic has spread, its public health and socioeconomic impacts have been profound, and have disproportionately affected the vulnerable. Many populations have already experienced a lack of access to routine, essential health services. Migrants, refugees, displaced populations, and residents of high-density and informal settlements, are at a particularly high risk from the interruption of already limited health and social services. The closure of schools increases the risk of some students being neglected, abused or exploited, and risks the interruption of basic services such as school meals. Every action taken now to slow the transmission of COVID-19 is an action that brings forward the day that these services can return.

The risk of re-introduction and resurgence of the disease will continue and will need to be sustainably controlled through the rigorous application of public health interventions as the virus circulates between and within countries. Ultimately, the development and delivery of a safe and effective vaccine or vaccines and therapeutics may enable a transition away from some of the measures necessary to maintain this state of low-level or no transmission.

To prevail against COVID-19, we need an approach that unites in common cause every individual and community, every business and non-profit, every department of every government, every non-governmental organization, every international organization, and every regional and global governance body, to harness their collective capacity into collective action. Everyone has a crucial role to play in stopping COVID-19:

- **Individuals** must protect themselves and others by adopting behaviours such as washing hands, avoiding touching their face, practicing good respiratory etiquette, individual level distancing, isolating in a community facility or at home if they are sick, identifying themselves as a contact of a confirmed case when appropriate, and cooperating with physical distancing measures and movement restrictions when called on to do so.
- **Communities** must be empowered to ensure that services and aid are planned and adapted based on their feedback and local contexts. Critical functions, such as community education, protecting vulnerable groups, supporting health workers, case finding, contact tracing, and cooperation with physical distancing measures can only happen with the support of every part of affected communities.
- **Governments** must lead and coordinate the response across party lines to enable and empower all individuals and communities to own the response through communication, education, engagement, capacity building and support. Governments must also re-purpose and engage all available public, community and private sector capacity to rapidly scale up the public health system to find and test, isolate, and care for confirmed cases (whether at home or in a medical facility), and identify, trace, quarantine and support contacts. At the same time, governments must give the health system the support it needs to treat patients with COVID-19 effectively and maintain other essential health and social services for all. Governments may have to implement blanket physical distancing measures and movement restrictions proportionate to the health risks faced by the community, if they need more time to put in place the above measures.
- **Private companies** must ensure the continuity of essential services such as the food chain, public utilities, and the manufacture of medical supplies. Private companies can provide expertise and innovation to scale and sustain the response, most notably through the production and equitable distribution of laboratory diagnostics, personal protective equipment, ventilators, medical oxygen and other essential medical equipment at fair prices, and the research and development of diagnostic tests, treatments and vaccines.



iStock.com/olaser

NATIONAL STRATEGIES TO RESPOND TO COVID-19

Each country must continue to implement National Action Plans based on a whole-of-society approach and a realistic appraisal of what is feasible to achieve first in terms of slowing down transmission and reducing mortality, and subsequently in terms of sustaining low level transmission while society and economic activity resumes. Plans must be flexible enough to react to rapidly changing epidemiological situations in different parts of the country, and take into account the local contexts and capacities to respond.[4] The core pillars of an effective national response were set out in detail in the SPRP.

Every national strategy has a crucial part to play in meeting the global objectives, and must, at a minimum, set out the basis for a) coordination of the national and subnational response; b) engagement and mobilization of affected and at-risk communities; c) implementation of context-appropriate public health measures to slow transmission and control sporadic cases; d) preparation of the health system to reduce COVID-19-associated mortality, maintain essential health services, and protect health workers, and e) contingency planning to ensure continuity of essential public functions and services.

Coordination and planning

Successful implementation of adaptive COVID-19 preparedness and response strategies will depend on all of society being engaged in the plan, and strong national and subnational coordination.[5] To provide coordinated management of COVID-19 preparedness and response, national public health emergency management mechanisms, including a multidisciplinary national coordination cell or incident management structure, should be activated, with the engagement of relevant ministries such as health, foreign affairs, finance, education, transport, travel and tourism, public works, water and sanitation, environment, social protection and agriculture. In certain contexts, this may be through the support of National Disaster Management or other crisis management authorities.

If they have not done so already, national authorities should, as a matter of urgency, develop operational plans to address COVID-19. Plans should include capacity assessments and risk analyses to identify high-risk and vulnerable populations. Plans should include civil society and national NGOs to extend the reach of public health and socioeconomic interventions. National plans should also be developed for the prevention and mitigation of the social impacts of the crisis, including areas of the response that disproportionately affect women and girls.

For example, many countries that have implemented restrictions on movement outside of households have reported sharp increases in gender-based violence, primarily impacting women. Additionally, women are often most likely to be in insecure work and least likely to be covered by income-protection schemes, which are primarily designed for workers in formal employment.

Engage and mobilize communities to limit exposure

Slowing the transmission of COVID-19 and protecting communities will require the participation of every member of at-risk and affected communities[6] to prevent infection and transmission. This requires everyone adopting individual protection measures such as washing hands, avoiding touching their face, practicing good respiratory etiquette, individual level distancing and cooperating with physical distancing measures and movement restrictions when called on to do so.

It is therefore essential that international, national, and local authorities engage through participatory two-way communication efforts proactively, regularly, transparently and unambiguously with all affected and at-risk populations.

Understanding knowledge, behaviours, perceptions, and identifying the right channels and community-based networks and influencers to promote scientific and public health messages will be a key determinant of the effectiveness of the response. Building the capacity of national, regional, and local stakeholders is essential to establish authority and trust. The role women play in communities needs to be harnessed in community mobilization efforts.

Participatory community engagement interventions should include accurate information on risks, what is still unknown, what is being done to find answers, what actions are being taken by health authorities, and what actions people can take to protect themselves.

4 For all current WHO guidance related to Critical preparedness, readiness and response actions for COVID-19 see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/critical-preparedness-readiness-and-response-actions-for-COVID-19

5 For all current WHO guidance related to national coordination and planning see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/country-readiness

6 For all current WHO guidance related to risk communication and community engagement see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/risk-communication-and-community-engagement

Ensuring that global recommendations and communications are tested and adapted to local contexts is an essential part of helping countries to empower communities to own the response and control the COVID-19 pandemic. Informed and empowered populations can protect themselves by taking measures at the individual and community level that will reduce the risk of transmission.

By contrast, misleading, ambiguous, and false information can have serious negative public health consequences, including by undermining adherence to physical distancing measures and movement restrictions, promoting the hoarding and inappropriate use of essential supplies and equipment, and encouraging the inappropriate use of potentially dangerous or fatal curative and prophylactic measures without any evidence of benefit.

In all the above, countries must ensure that communities, including the most hard-to-reach and vulnerable groups, have a voice and are part of the response.

Find, test, isolate and care for cases and quarantine contacts to control transmission

Stopping the spread of COVID-19 requires finding and testing all suspected cases so that confirmed cases are promptly and effectively isolated and receive appropriate care, and the close contacts of all confirmed cases are rapidly identified so that they can be quarantined and medically monitored for the 14-day incubation period[7] of the virus.

To achieve this, countries and communities must fundamentally increase their capacity to identify suspected cases of COVID-19 in the general population quickly based on the onset of signs or symptoms. This will require a shift from reliance on existing surveillance networks to system of rapid, population-level active surveillance. In addition to active case finding in communities, health facilities, and at points of entry, it will be necessary to enable the general population to practice self-surveillance, in which individuals are asked to self-report as a suspected case as soon as they have symptoms or signs and/or if they are a contact of a confirmed case. To achieve this shift, countries will need to rapidly scale up their workforce to find cases, including by looking outside the traditional public health system to train non-public-health workers, and by using innovative technology such as online applications to enable individuals to self-report.

Once suspected cases are identified they should be tested immediately to confirm or rule out infection with COVID-19. In contexts where testing is not possible, confirmation of COVID-19 may instead be based on reported symptoms or signs.

Confirmed cases – whether confirmed through testing or on the basis of symptoms or signs – should be safely, effectively, and rapidly isolated to prevent onward transmission in the community. Ideally, confirmed cases should be isolated in dedicated facilities to minimize the potential for onward transmission and maximize the provision of any support necessary. If this is not possible, and cases are instead required to self-isolate in households, there should be appropriate follow-up and support to ensure that individuals are able to self isolate effectively with no social contact.

It is also essential to identify and trace the close contacts of every confirmed or probable case, and quarantine and monitor them for 14 days. This ensures that even pre-symptomatic cases (and potentially asymptomatic cases) that arise as a result of contact with a confirmed case do not mix with the general population. Quarantine can be a stressful experience and a significant imposition and disruption to the life of the quarantined individual and their family. Every effort must be made to support individuals required to undergo quarantine, including through the provision of basic necessities, income support, psychosocial support, and health care as needed.

Provide clinical care and maintain essential health services to reduce mortality

One of the defining features of COVID-19 is the huge stress placed on health systems and health workers by the large proportion of COVID-19 patients who can require quality clinical care.[8] Many patients need help to breathe, with outbreaks placing acute burdens on staffing levels, availability of equipment, and crucial supplies such as medical oxygen, ventilators and personal protective equipment (PPE). Frontline health workers have had to put themselves in harm's way to save lives, and some have lost their own lives as a result. In many countries, women account for up to 70% of the health workforce, and have therefore been disproportionality affected. Even very robust health systems can be rapidly overwhelmed and compromised by an explosive COVID-19 outbreak. Contingency planning should include extreme scenarios, such as the need to rapidly and completely reconfigure and largely repurpose the entire health sector.

7 For all current WHO guidance related to COVID-19 surveillance see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/surveillance-and-case-definitions

For all current WHO guidance related to national laboratories see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/laboratory-guidance

8 For all current WHO guidance related to maintenance of essential health services see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/maintaining-essential-health-services-and-systems

For all current WHO guidance for health workers see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/health-workers

For all current WHO guidance on infection prevention and control see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/infection-prevention-and-control

In addition to the direct mortality caused by COVID-19, response at the national and subnational level must also address the risks of indirect mortality posed by the possible interruption of essential health and social services. The acute burden that COVID-19 places on health systems, combined with the disruptive effects of shielding strategies, physical distancing and movement restrictions, must be mitigated in order to minimize the negative health impacts of COVID-19 on individuals who depend on essential, non-COVID-19-related services.

Maintaining population trust in the capacity of the health system to safely meet essential needs and to control infection risk in health facilities is key to ensuring appropriate care-seeking behavior and adherence to public health advice. Continuation of primary health care services is essential. Where possible, the use of technological solutions such as telemedicine to monitor patients and remote consultations should be considered, to minimize risk to patients.

Countries will need to make difficult decisions to balance the demands of responding directly to COVID-19, while simultaneously engaging in strategic planning and coordinated action to maintain essential health service delivery, mitigating the risk of system collapse. Many routine and elective services might have to be postponed or suspended. In addition, when routine practice comes under pressure due to competing demands, simplified purpose-designed governance mechanisms and protocols can mitigate outright system failure. Establishing effective patient flow (through screening, triage, and targeted referral of COVID-19 and non-COVID-19 cases) is essential at all levels.

Adapt strategies based on risk, capacity, and vulnerability

The ability of countries to engage and mobilize communities; find, test, and isolate cases; provide effective clinical care; and maintain essential health services will differ according to their capacity and context as well as the intensity and prevalence of COVID-19 transmission. The combination of public health measures that should be implemented at any one time will depend to a large extent on whether there is community transmission, clusters of cases, sporadic cases, or no cases and the capacity of the public health system.

Every country must put in place comprehensive public health measures to maintain a sustainable steady state of low-level or no transmission and have the surge capacity to rapidly control sporadic cases and clusters of cases to prevent community transmission from occurring. If community transmission occurs, exceptional measures will need to be taken to suppress transmission as quickly as possible and transition back to a steady state of low-level or no transmission. This approach needs to be applied at the lowest administrative level possible in each country to ensure a tailored and appropriate response depending on the situation and capacities to respond.

Suppressing community transmission

Even with the proactive implementation of comprehensive public health measures, transmission of COVID-19 can rapidly become established in countries and subnational regions, with explosive outbreaks that grow at an exponential rate.

In countries and/or subnational regions in which community transmission has become established, or that are at risk of entering this phase of an epidemic, authorities must immediately adopt and adapt population-level distancing measures and movement restrictions in addition to other public health and health system measures to reduce exposure and suppress transmission, including the following:

- Personal measures that reduce the risk of person-to-person transmission, such as hand washing, physical distancing, and respiratory etiquette;
- Community-level measures to reduce contact between individuals, such as the suspension of mass gatherings, the closure of non-essential places of work and educational establishments, and reduced public transport;
- Measures to reduce the risk of importation or reintroduction of the virus from high-transmission areas, such as limits on national and international travel, enhanced screening and quarantine;
- Measures to ensure the protection of health workers and vulnerable groups, such as through the provision of correct personal protective equipment.

Targeted and time-limited implementation of these measures will potentially reduce mortality by flattening the trajectory of the epidemic and relieving some pressure on clinical care services. However, these measures are blunt tools with considerable social and economic costs, and should be implemented with the understanding, consent, and participation of communities, and based on the principle of doing no harm. The risks of implementing these measures must be effectively communicated to the affected populations and communities engaged to own and participate in them.

Support systems must be in place to ensure communities are able to comply with these measures. Individuals, especially the most vulnerable, must also be supported (and be provided with refuge or safe spaces where necessary) through coordinated economic and social measures that provide incentives to participate, and which mitigate negative social and economic consequences. Food security, mental health, and gender safeguarding issues, including the need to protect women from an increased risk of domestic abuse, are high-priority areas for attention.

The precise nature and feasibility of implementing these measures will be heavily dependent on the context of affected communities. In low-income and crisis settings, physical distancing and movement restrictions are structurally more difficult to implement, and should only be implemented where justified by an analysis of the trade-offs between public health measures against COVID-19 and the necessity for people to meet their basic food and protection needs.

During periods of sustained community transmission, diagnostic capacity may be insufficient, and it may be necessary to prioritize testing of vulnerable populations who are at risk of developing severe disease; symptomatic health workers and essential staff; and the first symptomatic individuals in a closed setting (e.g. schools, long term living facilities, prisons, hospitals) to quickly identify outbreaks and implement effective isolation of all confirmed and suspected cases.

Innovative solutions to increase clinical care capacity will be required, such as substantially reconfiguring existing health facilities and repurposing existing public and private facilities to provide safe areas for emergency case management, quarantine and isolation – this should be feasible even in remote and low resource areas. Rapid expansion of clinical capacity for life-saving measures should be focused on care for the majority of patients through simple treatments such as providing oxygen. Other essential health and social services and systems must be maintained wherever possible with a focus on primary health care.

The necessary duration of physical distancing measures and movement restrictions will be difficult to calculate accurately before their implementation: it is prudent to plan for the application of such measures for two to three months based on the experiences of the countries first affected by COVID-19.

Transitioning to and maintaining a steady state of low-level or no transmission

For many countries and subnational authorities and communities, managing a controlled and deliberate transition from a scenario of community transmission to a sustainable, steady state of low-level or no transmission is, at present, the best-case outcome in the short and medium term in the absence of a safe and effective vaccine. For countries yet to report community transmission, preventing the escalation of transmission and maintaining a steady state of low-level or no transmission may be feasible.

Achieving either of these aims will hinge on the ability of national and/or subnational authorities to ensure that six key criteria are satisfied:

1 **COVID-19 transmission is controlled** to a level of sporadic cases and clusters of cases, all from known contacts or importations and the incidence of new cases should be maintained at a level that the health system can manage with substantial clinical care capacity in reserve.

2 **Sufficient health system and public health capacities are in place** to enable the major shift from detecting and treating mainly serious cases to detecting and isolating all cases, irrespective of severity and origin:
- Detection: suspect cases should be detected quickly after symptom onset through active case finding, self-reporting, entry screening, and other approaches;
- Testing: all suspected cases should have test results within 24 hours of identification and sampling, and there would be sufficient capacity to verify the virus-free status of patients who have recovered;[9]
- Isolation: all confirmed cases could be effectively isolated (in hospitals and/or designated housing for mild and moderate cases, or at home with sufficient support if designated housing is not available) immediately and until they are no longer infectious;[10]
- Quarantine: all close contacts could be traced, quarantined and monitored for 14 days, whether in specialized accommodation or self-quarantine. Monitoring and support can be done through a combination of visits by community volunteers, phone calls, or messaging.[11]

3 **Outbreak risks in high-vulnerability settings are minimized**, which requires all major drivers and/or amplifiers of COVID-19 transmission to have been identified, with appropriate measures in place to minimize the risk of new outbreaks and of nosocomial transmission (e.g. appropriate infection prevention and control, including triage, and provision of personal protective equipment in health care facilities andresidential care settings).[12]

4 **Workplace preventive measures are established** to reduce risk, including the appropriate directives and capacities to promote and enable standard COVID-19 prevention measures in terms of physical distancing, hand washing, respiratory etiquette and, potentially, temperature monitoring.[13]

5 **Risk of imported cases managed** through an analysis of the likely origin and routes of importations, and measures would be in place to rapidly detect and manage suspected cases among travelers (including the capacity to quarantine individuals arriving from areas with community transmission).

6 **Communities are fully engaged** and understand that the transition entails a major shift, from detecting and treating only serious cases to detecting and isolating all cases, that behavioural prevention measures must be maintained, and that all individuals have key roles in enabling and in some cases implementing new control measures.

9 For guidance on the strategic use of diagnostic testing in different COVID-19 transmission scenarios see: https://apps.who.int/iris/bitstream/handle/10665/331509/WHO-COVID-19-lab_testing-2020.1-eng.pdf

10 For advice on home care of individuals with suspected COVID-19 see: https://www.who.int/publications-detail/home-care-for-patients-with-suspected-novel-coronavirus-(ncov)-infection-presenting-with-mild-symptoms-and-management-of-contacts

11 For guidance on quarantine of individuals see: https://www.who.int/publications-detail/considerations-for-quarantine-of-individuals-in-the-context-of-containment-for-coronavirus-disease-(covid-19)

12 For IPC guidance for long-term care facilities see: https://apps.who.int/iris/bitstream/handle/10665/331508/WHO-2019-nCoV-IPC_long_term_care-2020.1-eng.pdf

13 For all guidance related to schools, workplaces and institutions see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/guidance-for-schools-workplaces-institutions

Decisions about when and where to transition must be evidence based, data driven and implemented incrementally. It is essential to have real-time, accurate data on the testing of suspected cases, the nature and isolation status of all confirmed cases, the number of contacts per case and completeness of tracing, and the dynamic capacity of health systems to deal with COVID-19 cases.

To reduce the risk of new outbreaks, measures should be lifted in a phased, step-wise manner based on an assessment of the epidemiological risks and socioeconomic benefits of lifting restrictions on different workplaces, educational institutions, and social activities (such as concerts, religious events, sporting events). Risk assessments may eventually benefit from serological testing, when reliable assays are available, to inform understanding of population susceptibility to COVID-19.

Ideally there would be a minimum of 2 weeks (corresponding to the incubation period of COVID-19) between each phase of the transition, to allow sufficient time to understand the risk of new outbreaks and to respond appropriately.

Low-capacity and humanitarian settings

Many low-capacity countries with comparatively weak health systems and limited capacity to offset the economic and social costs of population-level physical distancing, including some countries with health system fragility and extremely vulnerable populations, are now reporting sporadic cases, clusters of cases, and community transmission.[14] The window for containment at the subnational and national level may be closing in many of these countries.

iStock.com/Savas Bozkaya

The trajectory of national outbreaks in these settings will depend not only on how effectively the health system capacity can be increased and public health measures implemented, but also on the complex interplay of demographics, the prevalence of underlying conditions associated with poor COVID-19 outcomes, the prevalence of infections that could complicate the diagnosis of COVID-19 (such as malaria, bacterial pneumonias, and tuberculosis), and the relative importance of social, religious, and cultural gatherings that have been shown to be important drivers of COVID-19 transmission in other contexts.

Within the broader categories of low-capacity settings, it is also essential to consider the need for measures tailored specifically to humanitarian settings and high-risk groups. People affected by humanitarian crises, particularly those displaced and/or living in camps and camp-like settings, are often faced with specific challenges and vulnerabilities that must be taken into consideration when planning for COVID-19 readiness and response operations. Under the umbrella of the Inter-Agency Standing Committee, WHO has worked with the IFRC, IOM, and UNHCR to produce interim guidance[15] to scale up readiness and response capacities for people in humanitarian settings, which may include internally displaced persons (IDPs), host communities, asylum seekers, refugees and returnees, and migrants.

People living in collective sites are vulnerable to COVID-19 in part because of the health risks associated with movement or displacement, overcrowding, increased climatic exposure due to sub-standard shelter, and poor nutritional and health status among affected populations. Although some adaptations of site plans may not be feasible, maximizing site planning for better distancing among residents and crowd management, adherence to infection prevention and control standards, strong risk communication and community engagement and a good surveillance system to detect initial cases early can greatly reduce the propensity for COVID-19 to spread within such settings. Appropriate case management can reduce mortality among those infected with the virus. The Interim Guidance outlines the necessary steps to ensure all of these capacities are in place.

As national governments act rapidly to protect their most vulnerable populations, it is essential that the international community come together in solidarity to protect the most vulnerable global populations. To address the needs of countries where urgent humanitarian activities must be supported to continue in addition to urgent new health and non-health requirements due to COVID-19, WHO is part of the IASC COVID-19 Global Humanitarian Response Plan (GHRP; issued on 25 March 2020) coordinated by the UN Office for Coordination of Humanitarian Affairs (OCHA). The GHRP sets out the most urgent health and humanitarian actions required to prepare and respond to COVID-19 in these contexts.

14 For all current WHO guidance on preparing for and responding to COVID-19 in humanitarian operations, camps and other fragile settings see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/humanitarian-operations-camps-and-other-fragile-settings

15 For the IASC interim guidance see: https://interagencystandingcommittee.org/other/interim-guidance-scaling-covid-19-outbreak-readiness-and-response-operations-camps-and-camp

INTERNATIONAL COMMUNITY'S RESPONSE TO COVID-19

The scale of the COVID-19 crisis requires a significant shift in the international system to support countries to plan, finance and implement their response. Countries need authoritative real-time information on the evolving epidemiology and risks; timely access to essential supplies, medicines and equipment; the latest technical guidance and best practices; rapidly accessible and deployable technical expertise, access to an emergency health workforce and medical teams; and equitable access to newly developed vaccines, therapeutics, diagnostics and other innovations, as well as complementary socio-economic measures, including material and protection assistance.

Particular attention and support will be required in countries with low-capacity and humanitarian settings ill-equipped to cope with COVID-19 due to weak health systems and workforces that are heavily reliant on the support of donors, UN and NGO partners.

Coordination and monitoring of country preparedness and response

This document builds on the Strategic Preparedness and Response Plan (SPRP), which was published on 3 February 2020 and outlined the public health measures that the international community stands ready to provide to support all countries to prepare for and respond to COVID-19. Overall UN coordination is provided through the UN Crisis Management Team, which was established on 4 February 2020. This is the highest possible level of crisis alert in the UN system, and this is the first time this mechanism has been activated for a public health crisis. On 12 February 2020, the Operational Planning Guidelines to support the development National Action Plans were issued and the COVID-19 Partners Platform was launched to enable national authorities, UN Country Team and partners to plan resource needs, allocate resources and identify funding gaps, and monitor progress against the National Action Plans at the national and subnational level.

On 25 March 2020, OCHA issued the COVID-19 Global Humanitarian Response Plan and activated the IASC scale-up protocol to mobilize the whole humanitarian system to support its implementation. Simultaneously, the UN Development Coordination Office (UNDCO) has led the development of a UN framework for the immediate socio-economic response to COVID-19, which outlines an integrated support package offered by the UN Development System to protect the needs and rights of people living under the duress of the pandemic, with a focus on the most vulnerable countries, groups, and people who risk being left behind.

WHO coordinates actively with Member States. They have been actively engaged in the response and the WHO Director-General has provided the highest possible level of representation, advice, and support to all requests coming from various Member State groupings such as the African Union, ASEAN, the EU, the G7, the G20, the G12 donors, as well as other regional multilateral organizations to support and finance the response. WHO provides Member States the best available advice based on all available evidence and science as it becomes available.

The World Bank Group, International Monetary Fund and other multi-lateral development banks and financial institution's including GAVI, the Global Fund and UNITAID, have provided emergency support for developing countries to fast-track financial and operational facilities for COVID-19 response. Collaborative arrangements established under Global Action Plan for Healthy Lives and Well-being for All are being utilized for the COVID-19 response.

Organizations representing aviation, maritime, trade, and tourism sectors have worked with WHO to develop joint guidance, joint statements of support, to monitor the measures taken by governments and private entities that impact international travel and trade, and to assess and mitigate the health and economic impact of such measures, in line with the provisions of the International Health Regulations (2005). WHO has also developed risk-based approaches and guidance for the organization of mass gathering events,[16] and is continuing to work with key partners from many sectors, including sports and entertainment sectors, as well as faith-based organizations.

The unique scale of the COVID-19 crisis requires the international community to reach out beyond its own capacity. The private sector has been actively engaged in the response, with high-level regular participation into the weekly consultations on the pandemic organized by industry bodies such as the World Economic Forum and the International Chamber of Commerce.

16 For WHO guidance on point of entry and mass gatherings see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/points-of-entry-and-mass-gatherings

Epidemiological analysis and risk assessment

Ongoing, comprehensive and verified global surveillance data about COVID-19 is crucial for response at the global, national, and local levels. Epidemiological surveillance information is collected from all countries, territories, and areas and is made accessible through multiple channels, including a dynamic dashboard, a daily situation report, as well as downloadable data extracts.[17]

There are challenges to conducting global surveillance includes the lack of a global data architecture that facilitates the rapid and efficient sharing of data and information from countries, states, or territories. While the IHR stipulates the legal responsibilities to inform WHO about the occurrence of certain public health events, there is currently no harmonized public health reporting mechanism that enables information exchange from public health institutes and agencies directly to WHO. The lack of such a mechanism is a barrier for access to disaggregated data, which is needed to understand age- and sex-specific epidemiologic features, risk characteristics of certain sub-groups, and distributions of cases over time and geographic areas.

The global response to the COVID-19 pandemic requires the capacity to conduct ongoing risk assessment at the global, regional, national, and subnational levels. To fully leverage the investments and capacities for data collection and analysis for risk assessment, a new global public health data architecture will be required.

The foundations of such an architecture have already been laid through the creation of the Epidemic Intelligence from Open Sources (EIOS) data platform, which enables multiple communities of users to collaboratively assess and share information about outbreak events in real time. The future vision of the new data architecture has been articulated by the EPI-BRAIN initiative, which harnesses cutting-edge tools for big data, crowd sourcing and artificial intelligence to mitigate the impact of epidemics by allowing stakeholders to merge public health data with data on the myriad, complex factors that drive epidemics, including human and animal population movement, animal diseases, environmental and meteorological factors, using advances in language processing and machine learning to provide a more comprehensive analysis that helps to predict outbreaks and track their spread.

Risk communication and community engagement

Accurate information of COVID-19 has been communicated through multiple media channels to provide the right information, at the right time, to the right audience, so that it triggers the right action. Unfortunately, the global public health response to the COVID-19 pandemic has been accompanied by an infodemic, which is an over-abundance of information – some accurate and some not – that makes it hard for people to find trustworthy sources and reliable guidance when they need it. This misinformation hampers public health responses to epidemics and prevents people from taking adequate measures to effectively prevent disease transmission. Some misinformation may also lead to dangerous behaviours, such as self-medication with harmful substances.

To manage the infodemic, the communication around COVID-19 has been monitored to detect as early as possible misinformation or gaps in information. Using the WHO Information Network for Epidemics (EPI-WIN)[18] – a close partnership with various sectors and their respective members such as faith-based organizations, sporting event organizers, travel and trade sectors, international employers' organizations, trade unions organizations, health care delivery sector and others – existing trusted sources of information have been amplified and tailored for particular audiences. This has allowed for the timely corrective action such as displacing misinformation through a high output of public health messages that inform individuals and populations how to protect themselves and support outbreak control activities.

The COVID-19 pandemic continues to evolve rapidly. This heightens the need for accurate, trusted information adapted to changing scenarios. Trusted channels of communication and information through EPI-WIN play a critical role in meeting information needs.

Through the Global Outbreak and Alert Network (GOARN),[19] IFRC, UNICEF, and WHO are coordinating technical and operational updates on risk communication and humanitarian partners, with a special focus on highly vulnerable populations, and the integration of humanitarian partners to support physical distancing solutions in migrant and camp settings.

Social science and community insights, including perception surveys and feedback from communities affected by physical distancing and movement restrictions, are being rapidly synthesized to ensure that future response measures are informed by and calibrated according to the ongoing experiences of affected communities by GOARN research partners are supporting this effort through the creation of a repository of risk communication and community engagement data collection tools (surveys, questionnaires, rapid assessment methods) to aid researchers and public health organizations to roll out quick assessments in their communities of interest.

17 For all WHO COVID-19 situation reports see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/

18 For EPI-WIN see: https://www.who.int/teams/risk-communication

19 For more information about GOARN see: https://www.who.int/ihr/alert_and_response/outbreak-network/en/

Coordinated global supply chain management

Essential health commodities (including vaccines, therapeutics and diagnostics) are a global good. The COVID-19 pandemic has led to an acute shortage of essential supplies, including personal protective equipment, diagnostics, and medical products. The UN has rapidly convened a Supply Chain Task Force. This task force will, as an urgent priority, establish a new emergency global supply chain system (EGSCS) to provide countries with essential supplies related to COVID-19 response.

The task force will ensure that supply chains are driven by strategic and tactical health and medical priorities, and that the most critical gaps in supplies are identified and met in a timely fashion. This will include a dynamic view of global, regional, and national demand for infection prevention and control supplies, personal protective equipment, diagnostic tests, and clinical support equipment, supplies, therapeutics and vaccines (when available). A bottom-up assessment of needs through the COVID-19 partners portal is being combined with top-down modelling to provide a robust forecast of overall needs, and flag areas with urgent unmet needs, vulnerabilities, and gaps in independent procurement capacity.

A hub-and-spoke distribution chain will form the basis of a global logistics distribution chain. The system will include four strategic international consolidation hubs, including a sourcing hub in Shanghai and additional international consolidation hubs in Dubai, Atlanta, and Liege, as well as six regional staging areas located along primary corridors serving all countries.

Airlifts will move cargo between international and regional hubs and onward to countries – these services are a crucial contribution of the task force given current disruptions to commercial operators and competing demand. A similar hub-and-spoke model will be established for passenger air services where commercial airlines are disrupted, to ensure that frontline health and humanitarian responders are operational in priority countries.

Technical expertise and health emergency workforce

Operational, technical and research networks have all been activated in the fight against this pandemic. Experts from around the world and frontline responders are reviewing all available evidence to develop and update technical guidance for countries to prepare and respond to COVID-19. Much has been learnt about COVID-19 in the four months since this outbreak began, but there remain significant knowledge gaps that must be filled by ongoing surveillance and research activities. Research protocols to address these gaps have been rapidly and transparently developed.

The first comprehensive set of technical guidance[20] was published on 10 January 2020, and is being constantly reviewed and revised based on available evidence. Technical guidance is being adapted for different settings and contexts based on the intensity of transmission, the capacity of countries to implement public health measures, and available resources, and translate key actions required for countries through the EPI-WIN platform and other information products. 1.2 million people have enrolled in the OpenWHO training platform which has COVID-19-specific courses available in 43 languages.

Direct technical assistance to Member States is also facilitated through GOARN which has made 209 offers of technical support. Experts have been deployed from 27 partner institutions and technical networks to provide support to countries directly and by remote assistance. GOARN colleagues from UNICEF, IFRC, US CDC, and OCHA are embedded in the global COVID-19 incident management team and are supporting all pillars of response.

Access to emergency health workforce capacity is coordinated through the over 100 Emergency Medical Teams (EMTs)[21] and focal points worldwide, who are working closely with the EMT secretariat to continuously monitor, guide, and facilitate national and international COVID-19 response operations.

The EMT secretariat is involved in intensive discussions to strengthen capacity and support to countries in Africa. In addition, EMTs worldwide are identifying technical experts and coordinators who can support integrated public health and clinical teams.

In addition, the Global Health Cluster (GHC)[22] continues to support Health Clusters in 29 countries to implement the COVID-19 GHRP to respond and preserve existing humanitarian health action and commitments in line with the GHRP 2020.

20 For an overview of all technical guidance available for COVID-19 see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance
For OpenWHO see: https://openwho.org/

21 For more on the EMT initiative see: http://origin.who.int/hac/techguidance/preparedness/emergency_medical_teams/en/

22 For more on the GHC see: https://www.who.int/health-cluster/about/structure/global-cluster-unit/en/

Accelerating research, innovation, and knowledge sharing

On 11 and 12 February 2020, the Global Research Forum, hosted by WHO in Geneva, developed an initial COVID-19 Global Research Roadmap to guide a united COVID-19 agenda for research and development.[23] The forum was unanimous that there is an urgent need to research and develop medical countermeasures, including vaccines, therapeutics, and diagnostics.

Important investments are already funding many efforts and activities to address the challenge of COVID-19. A report on the landscape of global research efforts on vaccines is issued weekly and provides updates on the progress of research and innovation efforts including the stages of advancement of candidate vaccines, two of which are currently in clinical evaluation phase. There are already areas of targeted coordination and funding such as CEPI for vaccines and the WHO Solidarity Trial for therapeutics, which is a trial testing potential old and new therapies to fight COVID-19. Many other efforts are also being independently organized and financed. For maximum impact, the global community will require a truly unified and international effort. Acting now requires the public and private sectors to come together in support of a transparent and coordinated global process to pursue research and innovation priorities for collective action around this common global threat.

A global COVID-19 accelerated vaccine venture has been established to coordinate an unprecedented partnership of stakeholders with WHO that is needed to align the ecosystem around a dedicated vaccine master plan and uncover every opportunity to maximize speed of innovation and scale of delivery. Within the context of the broader Research and Innovation Action Plan, this special initiative drives the unique targeting and intense global focus to achieve mass immunization from COVID-19 at breakneck speed.

Building and expanding on the Global Research Roadmap, WHO is working with partners to develop a framework for coordinated research and innovation and an overview of the scale of investments required for financing. Enabling the greatest global good will require solidarity and collaboration, establishing sufficiently funded, collaborative, cross-agency and public-private partnerships, and facilitating open data access and information sharing. Support and investment will be necessary across public, private and philanthropic sectors along with prioritization and proper stewardship of those resources.

Coordination and the combination of efforts will be critical to collective success. Individual and isolated action, however dedicated and determined, will not be sufficient to meet the current challenge of COVID-19. In order to be successful we will need to pool, build, and pass innovation from strength to strength. This will require proactive and intentioned coordination rather than more passive monitoring and reporting of activities.

A concerted and ongoing effort will be required to ensure coordination across stakeholders. Convening, coordination and benefit sharing will be critical to ensure that all stakeholders are appropriately engaged. Data, virus and technology sharing arrangements can facilitate expedited discovery and early development efforts while also creating a foundation for longer-term research and development beyond the current outbreak. Tactically, aligning on common protocols and standards, priority setting, and the development of target product profiles will be important to ensure that innovation flows seamlessly from one stage to the next, while simultaneously ensuring key milestones for decision making are understood and downstream development and delivery vehicles are proactively prepared. To facilitate this, resource mobilization and investment prioritization as well as monitoring and oversight will be required and are underway.

Given the differences in research platforms, development processes, timelines, key players, and coordination considerations for vaccines, therapeutics and diagnostics, a set of detailed action plans for each countermeasure is under rapid development.

Strengthening pandemic preparedness for the future

With the world facing an unprecedented threat, there is an opportunity to emerge with stronger health systems, and improved global collaboration to face the next health threat. As we focus on the immediate response to the COVID-19 crisis, it is important to keep in mind the breadth and depth of consequences already being felt across the globe. We must learn the lessons of this pandemic now and, in so doing, ensure that our response, wherever possible, leaves a lasting positive legacy, and makes the world of the future a safer place.

23 For more on research and development see: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov

World Health Organization
Avenue Appia 20
1211 Geneva 27
Switzerland
WHO in Emergencies:
www.who.int/emergencies/en