From emergency response to long-term COVID-19 disease management

Ending the COVID-19 emergency and transitioning from emergency phase to longer-term disease management: Guidance on calibrating the response

World Health Organization

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Overview

The key actions, activities, and approaches in this document are organized within each of the 5Cs (see Table 1) and those of the Strategic preparedness and response plan (SPRP) pillars as follows:

1 National action plan key activities, prioritized for the current context and the current understanding of the threat of SARS-CoV-2
   A. Transition from emergency response to longer term COVID-19 disease management.
   B. Integrate activities into routine systems.
   C. Strengthen global health security.
2 Special considerations for fragile, conflict-affected and vulnerable (including humanitarian) settings
3 WHO global and regional support to Member States to implement their national action plans
4 Key guidance documents for reference

This is a living document that will be updated to incorporate new technical guidance in response to the evolving epidemiological situation. National plans should be implemented in accordance with the principles of inclusiveness, respect for human rights, and equity.

WHO encourages Member States to begin or continue using the WHO Partners Platform, a centralized way to share preparedness, readiness, and response actions that are being planned and implemented; identify and update resource and technical assistance needs; and track relevant contributions committed in the context of this pandemic.

Table 1. Alignment of the 2020–2022 SPRP pillars of the COVID-19 response with the 5 core components of the global health architecture

Core components of WHO's Strengthening global architecture for health emergency preparedness, response, and resilience	Pillars of the COVID-19 SPRP operational planning guidelines
Coordination	☐ Pillar 1: Coordination, planning, financing, and monitoring
Collaborative surveillance	☐ Pillar 3: Surveillance, epidemiological investigation, contact tracing, and adjustment of public health and social measures
	☐ Pillar 5: Laboratories and diagnostics
Community protection	☐ Pillar 2: Risk communication, community engagement (RCCE), and infodemic management
	☐ Pillar 4: Points of entry, international travel and transport, mass gatherings and population movement
	☐ Pillar 10: Vaccines research, policy, and strategy
Safe and scalable care	☐ Pillar 6: Infection prevention and control, and protection of the health workforce
	☐ Pillar 7: Case management, clinical operations, and therapeutics
	☐ Pillar 9: Strengthening essential health services and systems
Countermeasures and research	☐ Pillar 8: Operational support and logistics, and supply chains
	☐ Pillar 10: Vaccines research, policy, and strategy

Coordination (Pillar 1)

Pillar 1: Coordination, planning, financing, and monitoring

In the first half of the fourth year of the COVID-19 pandemic, many countries are faced with or are at risk of concurrent health emergencies from multiple causes, and the need to address competing public health needs. Determining a transition strategy from a response-driven operation to existing or newly created public health programmes requires strong coordination, financing, and monitoring.

Three key priorities lie ahead: strengthening integrated surveillance and achieving vaccination targets for at risk-groups, continuing to develop strategies to increase access to affordable therapeutics, and strengthening pandemic preparedness planning while continuing to protect vulnerable groups.

To support emerging needs, especially in fragile, conflict-affected, and vulnerable (FCV) contexts, countries need to align coordination, planning, financing, and monitoring for the COVID-19 response with broader emergency coordination mechanisms. Capacities to be operationally ready for, and respond to, concurrent emergencies should be evaluated at national and subnational levels – informed by the country emergency risk profile – and national COVID-19 preparedness and response plans adapted accordingly. In humanitarian contexts, links with existing emergency response mechanisms, including United Nations (UN) coordination mechanisms, should be strengthened.

Countries, UN agencies, funds and programmes, and partners may utilize the WHO Partners Platform to facilitate planning and coordination. The COVID-19 SPRP 2022 monitoring and evaluation framework supports monitoring and evaluation of COVID-19 preparedness and response. All countries are encouraged to use quantitative and qualitative monitoring and evaluation to inform the response.

Inclusive multi-sectoral, multi-disciplinary, and multi-partner mechanisms for coordination mechanisms, planning, financing, and monitoring and evaluation at national and subnational level are essential. Together they will maximize the impact of efforts within and between components of the response and of longer-term planning, minimize gaps in preparedness and response efforts, maximize the availability and efficient allocation of resources including new COVID-19 tools such as vaccines and support the strengthening of health systems.

National action plan key activities

A. Transition from emergency response to longer-term disease management	☐ Review pandemic preparedness, readiness and response actions and identify key recommendations to transition from the acute emergency response including reviewing and updating: ○ Conceptualize operations at the strategic, operational, and tactical levels as needed and engage key sectors, decision makers, partners, and stakeholders. Define response needs for projected and planned responses, such as to resurgence. ○ Multi-sectoral coordination mechanisms at all levels to support COVID-19 emergency preparedness and response actions. ○ Country-specific operational plan with estimated resource requirements for COVID-19 preparedness and response inclusive of vaccine readiness and research and innovation priorities (see Pillar 10, Vaccination), as well as early recovery investments. ☐ Develop and implement a country-level costed COVID-19 transition plan with M&E framework. ☐ Strengthen governance for COVID-19 preparedness, readiness, response and recovery. Enhance partnerships with animal and environmental sectors and industry to strengthen surveillance in wild and domestic animals and at the animal-human interface. ☐ Define what technical areas are critical to remain in a formal response structure (see WHO COVID-19 policy briefs) in an effort to integrate workforce and activities into existing public health programmes/sectors and determine what funding, staffing, and resource requirements need to be identified when transitioning aspects of the response to other public health programmes. ☐ Reassess the current COVID-19 situation, including population-level immunity from vaccination and/or infection, vaccination coverage among the highest-risk groups, and capacities to respond to resurgence due to SARS-CoV-2 variants. Assess management capacity given current capabilities and resources. ☐ Reassess and characterize how information (surveillance, testing, sequencing, burden metrics and vaccination coverage) will continue to be shared among response stakeholders as COVID-19-specific areas of work transition into longer term, and sustained public health programmes. ☐ Update country monitoring and evaluation indicators and systems to prioritize metrics for burden and impact of COVID-19. ☐ Evaluate direct and indirect health and economic impacts of COVID-19 and adapt strategies to different contexts based on lessons learned. Share lessons learned, success stories in dealing with COVID-19, and dissemination of best practices.
B. Integrate COVID-19 activities into routine systems	☐ Incorporate cross-cutting COVID-19 mitigation measures into existing public health programmes and activities. ☐ Integrate and continue to promote a 'whole-of-society' approach to coordination, specifically to position the health sector response within the broader socioeconomic response and recovery. Establish criteria to shift from response-driven operations to longer term sustained public health programmes and identify sustainable funding, staffing and resources. ☐ Draw on expertise developed during the COVID-19 response in the effective and timely management of other public health emergencies at national and subnational levels.

C. Strengthen global health security	☐ Document experience to guide emergency risk management within the health system to promote resilience. Use this as input for the revision of national action plans for health security and their integration in national policies and plans.
	☐ Establish and test health emergency response coordination mechanisms for different levels of public health and health service delivery and include relevant sectors, organizations, stakeholders, and partners at all levels.
	☐ Conduct a national strategic joint risk assessment and develop a risk profile describing the highest prioritized risks (inclusive of exposure, hazard, and vulnerability) as well as the seasonality of the identified risks.
	☐ Conduct a national readiness assessment and checklists (all-hazard and hazard-specific) and prioritize readiness actions as inputs to inform any relevant national or subnational plans.
	☐ Develop a national multi/all hazards emergency response operations plan integrating disaster risk reduction approaches.
	☐ Assess and strengthen hospital and other critical health care services, including long-term care readiness.
	☐ Test hazard-specific and scenario-based health emergency response plan/contingency plans based on the risk profile, using functional tests or assessments and update them with identified gaps, using a multisectoral approach.
	☐ Identify legal instruments to access resources for emergency readiness and response including for pre-emptive activation of incident management system (IMS) and emergency operations centre (EOC) or other equivalent multisectoral structure.
	☐ Identify medical ethics structures and/or tools to prevent distribution of false or faulty treatments and medicines.
	☐ Establish accountability mechanisms (laws, policy, regulations) for the prevention of sexual abuse (PSEA) in emergency situations.
	☐ Secure continuous advocacy and education opportunities for health care personnel and public information to ensure compliance with identified actions.
	☐ Develop community governance systems or ensure they are in place to coordinate, mobilize, and integrate community-based stakeholders.
	☐ Conduct an after-action review and a vaccine comprehensive post implementation evaluation (cPIE) as a voluntary component under the IHR (2005) Monitoring and Evaluation Framework (IHRMEF), following the WHO Director-General's declaration to terminate the PHEIC status for COVID-19, guided by the advice from the IHR Emergency Committee– focusing on improving national coordination mechanisms for future public health emergencies.

D. Special considerations for fragile, conflict-affected and vulnerable settings, including humanitarian settings

- [ ] Align the health sector response with humanitarian and development planning and strategic priorities.
- [ ] **Strengthening the health workforce** is imperative, and community-led health and surveillance in humanitarian settings will be key to identifying and addressing future pandemics.
- [ ] Delivery of vaccines in humanitarian contexts must be **prioritized from the beginning,** include **community engagement**, and use neutral planning and transparent funding mechanisms.
- [ ] Analyse political/conflict/non-state actors/trust dynamics as a core element of response.
- [ ] Reinforce coordination across humanitarian, development, and government actors (including civil society and communities), to identify common solutions for shared operational challenges, such as common supply chains for needed commodities.
- [ ] Continue to engage and empower communities, community-based organizations, and local civil society organizations (see section of this document on community protection).
- [ ] Ensure strategies address legal and access issues. Legal status (registered or unregistered, documented and undocumented, unaccompanied, etc.) may affect movement and accessing social and health care services.
- [ ] Ensure that vulnerable groups – including migrants and people living in poverty or who are undocumented in national systems – are not left behind as systems and programmes adapt to the outbreak.

E. How WHO will support Member States to implement their national action plans

- [ ] Map the linkages between capacity building activities implemented in readiness and response to COVID-19 and in longer-term preparedness for future infectious threats, including in urban settings, and advocate for continued commitment and sustainable financing mechanisms to support them.
- [ ] Map and/or establish linkages to disaster risk reduction initiatives under the Sendai framework for disaster risk reduction to ensure/strengthen a whole-of-society approach and robust governance.
- [ ] Support countries in the conduct of simulation exercises and intra-action reviews.
- [ ] Update guidance on core health emergency readiness capabilities and actions to rapidly mobilize in anticipation of response to specific, imminent, high-impact risks and provide tools to prioritize operational readiness actions.
- [ ] Help identify gaps and provide evidence for allocation of all COVID-19 tools in an equitable manner; and support coordinated local and contextualized research.
- [ ] Support research and scoping on governance issues and barriers and enablers to help shape assistance to countries.
- [ ] Support implementation research on COVID-19 actions in low-capacity and humanitarian settings and facilitate adaptation of these practices in other settings and countries.
- [ ] Strengthen the One Health approach for pandemic prevention, preparedness and response activities and further develop operational tools to improve multi-sectoral coordination, surveillance, and information sharing mechanisms.
- [ ] Implement mechanisms to facilitate the uptake of research and evidence.

Guidance documents

- Critical preparedness, readiness and response actions for COVID-19 interim guidance
- WHO COVID-19 policy briefs, September 2022
- Public health and social measures for COVID-19 preparedness and response operations in low capacity and humanitarian settings
- Framework for a public health emergency operations centre, 2015
- A UN framework for the immediate socio-economic response to COVID-19
- WHO health emergency and disaster risk management framework
- WHO guidance for business continuity planning
- UHC2030 policy brief on COVID-19 and fragile settings
- Considerations on indigenous peoples, afro-descendants and members of other ethnic groups during the COVID-19 pandemic
- Guidance for conducting a country COVID-19 Intra-Action Review (IAR) and accompanying tools
- COVID-19 simulation exercises packages
- SPRP 2022 global monitoring and evaluation framework, September 2022
- WHO Partners Platform
- Introduction to COVID-19: Methods for detection, prevention, response, and control
- Intra-Action Review Strategic Partnership for Health Security and Emergency Preparedness Portal
- Strategic toolkit for assessing risks

Collaborative surveillance (Pillars 3 and 5)

Pillar 3: Surveillance, epidemiological investigation, contact tracing, and adjustment of public health and social measures

As long as there is widespread SARS-CoV-2 transmission, which continues to occur worldwide, there is a high risk of additional variants, which have the potential to be more severe and thus require the reintroduction of significant public health and social measures (PHSM). To reduce SARS-CoV-2 transmission and the impact of COVID-19 disease, we must achieve core surveillance objectives (see WHO policy brief: COVID-19 surveillance).

We must also continue to evaluate the impact and effectiveness of vaccination and PHSM on the burden of disease in all regions and their impact on public health services and society. WHO continues to recommend Member States with appropriate capacity to carry out enhanced surveillance activities and conduct special studies to describe and monitor SARS-CoV-2 infection in groups at the highest risk of exposure or severe disease; characterize new variants, including aspects of their severity, transmissibility, immune escape, and the impact of countermeasures; and better understand post COVID-19 condition (long COVID).

WHO is working with Member States to maintain and adjust COVID-19 surveillance and continue the integration of SARS-CoV-2-specific surveillance with other surveillance systems. With the return of seasonal influenza epidemics, Member States should further integrate disease surveillance for SARS-CoV-2 and influenza by leveraging and enhancing the Global Influenza Surveillance and Response Systems (GISRS), complemented by other surveillance models or studies to monitor known SARS-CoV-2 variants and identify new ones; understand the relative co-circulation of respiratory viruses, such as influenza virus, respiratory syncytial virus (RSV), Middle East respiratory syndrome coronavirus (MERS-CoV) and other viruses; and ultimately inform response measures. Furthermore, countries should strengthen or implement, where needed, surveillance to monitor the presence and evolution of SARS-CoV-2 in susceptible animal populations and the risk of new mutations and spillback into humans; and strengthen epidemiological investigations of SARS-CoV-2 transmission at the human-animal-environment interface. Targeted surveillance of potential animal hosts and reservoirs is critical for our understanding of the long-term risks associated with SARS-CoV-2.

Several important developments have occurred in relation to WHO's recommendations on adjustment of PHSM. Due to the decoupling between infection and severe disease surveillance metrics trends, more emphasis should be placed on measuring and reporting the burden of COVID-19, and its impact on health systems, as the key dimensions upon which to adjust PHSM. SARS-CoV-2 is not yet a predictable virus with seasonal patterns that can be managed through routine systems without ongoing, appropriately calibrated, PHSM.

With significant circulation of SARS-CoV-2 there is the continued risk of an increasing burden of post-COVID-19 condition (long COVID). Finally, there remain populations in every country with lower prior immunity because of low vaccination coverage (or in a few cases, low exposure to the virus) and populations around the world with underlying conditions putting them at increased risk of severe disease.

Decisions to adjust (tighten, loosen, or re-introduce) PHSM to reduce infections, morbidity, and pressure on health systems will need to continue to be weighed against the positive and negative health, economic and social impacts these measures have on societies and individuals. Updated WHO interim guidance on adjusting PHSM was issued in March 2023.

WHO continues to recommend that countries analyse epidemiologic data and undertake relevant epidemiological investigations to regularly assess their current situation and better understand transmission dynamics and severity of SARS-CoV-2 infection, particularly for emerging variants, so that they can adjust measures based on the current situation and capacities. These epidemiologic investigations include aligning with sero-epidemiological standardized investigation protocols (Unity Studies), which aim to increase quality evidence-based knowledge for action.

WHO continues to strongly encourage countries to develop stronger data collection and reporting systems to report more meaningful impact data.

National action plan key activities

A. Transition from emergency response to longer-term disease management	☐ Re-evaluate the use of current surveillance data and criteria used to determine the adjustment of public health interventions.
	☐ Update COVID-19 national strategies/guidelines on surveillance, the use of public health and social measures, and contact tracing, informed by enhanced laboratory capacities, new knowledge of SARS-CoV-2 and lessons learned throughout the pandemic.
	☐ Maintain and, where needed, strengthen community-based surveillance in addition to facility-based surveillance efforts and integrate into broader respiratory pathogen surveillance.
	☐ Characterize how contact tracing will continue to function in the mitigation and tracking of COVID-19 outbreaks in specific settings and utilize simulation exercises to test and validate activities contained in national action plans.
	☐ Review surveillance objectives to ensure they include:
	○ Early warning for changes in epidemiological patterns
	○ Monitoring trends in morbidity and mortality
	○ Monitoring the epidemic's impact on the health system to predict the trajectory of the epidemic curve and inform resource allocation and mobilization of surge capacity and external emergency support
	○ Incorporating strategic and geographically representative genomic surveillance to monitor circulation of known variants and allow for early detection and assessment of new variants of interest, variants under monitoring and variants of concern; circulation of sars-cov-2 in animal hosts and reservoirs and associated mutations; and changes in virological patterns.
	☐ Conduct capacity assessment and risk analysis for specific settings, including mapping of vulnerable populations and events such as mass gatherings.
	☐ Review the use and utility of contact tracing, active case finding, isolation, and cluster investigation, including for priority groups and situations, to align them with the current risk of SARS-CoV-2 at national and subnational levels.
	☐ Assess or re-assess the capacity and need to include genetic and serological surveillance or sero-epidemiological studies.
	☐ Wherever possible, seek to link data systems capturing clinical data, vaccination status, previous infection status and genomic characterization, to inform the understanding of the severity of new variants and optimize patient care.
	☐ Use environmental surveillance in wastewater as a complementary tool to identify clusters, potential outbreaks, and overall trends in COVID-19 in communities.
	☐ Promote collaboration and information sharing between human, animal, and environmental surveillance systems using a One Health approach.
	☐ Align and adjust PHSM with existing public health programmes (see WHO guidance, above).

B. Integrate COVID-19 activities into routine system	☐ Ensure integration of COVID-19 surveillance in existing platforms such as Early Warning Alert and Response (EWAR) systems, event-based surveillance, influenza (the Global Influenza Surveillance and Response System, GISRS), or Integrated Disease Surveillance and Response (IDSR); and use digital platforms where possible for real-time information sharing. ☐ Test the integration of COVID-19 surveillance into existing platforms to ensure it is functioning and link to decision-making. ☐ Maintain the capability for the comprehensive analysis and triangulation of data from the routine health information systems (HIS) and/or other relevant sources to evaluate and monitor concurrent responses and the ability to communicate these analyses with stakeholders. ☐ Monitor excess all-cause mortality over time to understand indirect effects of COVID-19 on health systems. ☐ Member States with the capacity to do so should carry out enhanced surveillance activities and conduct special studies, as outlined above. ○ Describe and monitor SARS-CoV-2 infection in high-risk groups who continue to be at the highest risk of exposure or severe disease. ○ Characterize new variants, including aspects of their severity, transmissibility, immune escape, and the impact of countermeasures. ○ Better characterize post-COVID-19 condition (long COVID), including the role of immunity and risk factors. ☐ Conduct an after-action review as a voluntary component under the IHR (2005) Monitoring and Evaluation Framework (IHRMEF), following the WHO Director-General's declaration to terminate the PHEIC status for COVID-19, guided by the advice from the IHR Emergency Committee – focusing on documenting lessons learned and building on capacities strengthened during the response to improve epidemic surveillance and emergency- related health information systems.
C. Strengthen global health security	☐ Ensure capacity to incorporate strategic and geographically representative genomic surveillance to monitor circulation of known variants of concern (VOCs) and allow for early detection of new variants of concern, circulation and evolution of SARS-CoV-2 in animal hosts and reservoirs and changes in virological patterns. ☐ Member States with the capacity to do so should carry out enhanced surveillance activities and conduct special studies, as outlined above. ☐ Continue reporting cases, detailed surveillance variables, VOC/VOI, and vaccination coverage. ☐ Where capacities allow, monitor viral changes to inform drug and vaccine development and to identify markers of severe infection. ☐ Produce and disseminate regular epidemiological reports to all levels and international partners, with robust and timely epidemiological data to continuously inform risk assessment and support operational decision-making for the ongoing response. ☐ Share with the global community all data necessary to conduct global and regional risk assessments, including anonymized surveillance data, clinical data, seroprevalence results, case fatality ratio, and specific information about high-risk groups (pregnant women, immunocompromised individuals, health workers, and children) and genomic sequencing data. ☐ Maintain close collaboration with animal health and environment authorities to manage the risk of viral circulation, evolution, and spillover of SARS-CoV-2 in animals susceptible to SARS-CoV-2, including livestock, pets, zoo or other captive animals and/or wild animals.

D. Special considerations for fragile, conflict-affected and vulnerable settings, including humanitarian settings

- [ ] Surveillance strategy should focus on overall causes of mortality, Early Warning, Alert and Response (EWAR) systems, and sentinel respiratory disease (acute respiratory infection (ARI), ILI, SARI) monitoring. Use proxy indicators that can be collected within existing capacities and systems, such as hospital and ICU occupancy rates for respiratory infections and syndromic surveillance at community and primary care levels.
- [ ] Public health and social measures adjustment should be adapted to the constraints present in FCV settings, such as challenges in hygiene and maintaining adequate physical distancing, but also capitalizing upon opportunities in these settings, such as strong networks of community health workers.
- [ ] Enhance event-based surveillance, case-detection and reporting capacities in health facilities and the community.
- [ ] Test suspected cases according to testing strategy and capacities. In settings where testing all suspected cases is not possible, prioritize testing as per WHO guidance (e.g., among persons at risk for severe disease). Use standardized data definitions to collect and report data disaggregated by gender and age, at minimum.
- [ ] Use syndromic surveillance and diagnosis of exclusion for isolation and clinical care decision making. Ensure other morbidities can be detected and treated.

E. How WHO will support Member States to implement their national action plans

- [ ] Provide global COVID-19 surveillance data, other epidemiological information, and risk assessments, to support countries and the global community in their response efforts.
- [ ] Provide epidemiological analysis to allow evidence-based global strategic decision-making, such as for global vaccination deployment, delivery, and R&D prioritization.
- [ ] Support integration of COVID-19 surveillance in national surveillance plans, with a focus on age and gender perspectives and surveillance for health workers; and reinforce sentinel surveillance by continuing to build on and increasingly integrate COVID-19 into influenza and other existing disease detection, preparedness, and readiness systems.
- [ ] Coordinate direct and remote technical support for surveillance, contact tracing, and adjustment of PHSM, including through support provided to strengthen FETP programmes.
- [ ] Support countries to adopt and implement standardized epidemiologic investigation protocols, such as the Unity sero-epidemiological studies, to answer questions about what proportion of the population remains at the highest risk, transmission patterns, the presence and duration of immunity in the population, clinical severity, and risk factors for infection.
- [ ] Identify indicators to meaningfully capture transmission dynamics in the context of scale-down or absence of comprehensive surveillance data.
- [ ] Develop methods to better quantify the burden of the post-COVID-19 condition.
- [ ] Continue to work with One Health partners including WOAH, FAO and UNEP to develop, update and disseminate guidance for SARS-CoV-2 surveillance in animal populations.

Guidance documents

- Statement from the Advisory Group on SARS-CoV-2 evolution in animals
- Joint statement on the prioritization of monitoring SARS-CoV-2 infection in wildlife and preventing the formation of animal reservoirs
- Country and technical guidance: Coronavirus disease (COVID-19)
- Population-based age-stratified sero-epidemiological investigation protocol for coronavirus 2019 (COVID-19) infection
- Considerations for implementing and adjusting public health and social measures in the context of COVID-19
- Interim guidance on public health and social measures for COVID-19 preparedness and response operations in low capacity and humanitarian settings
- Scaling up COVID-19 outbreak readiness and response in camps and camp-based settings (jointly developed by IASC / IFRC / IOM / UNHCR / WHO)
- Coronavirus disease (COVID-19) technical guidance – Unity studies: Early investigation protocols
- Exposure of humans or animals to SARS-CoV-2 from wild, livestock, companion and aquatic animals: Qualitative exposure assessment

Critical preparedness, readiness, and response actions for COVID-19

- Considerations for implementing and adjusting public health and social measures in the context of COVID-19
- Considerations for public health and social measures in the workplace in the context of COVID-19
- Considerations for school-related public health measures in the context of COVID-19
- Considerations for mass gatherings in the context of COVID-19: annex: considerations in adjusting public health and social measures in the context of COVID-19
- Key planning recommendations for mass gatherings in the context COVID-19. Interim guidance and risk-assessment tools
- Guidance for conducting a country COVID-19 intra-action review (IAR)

Surveillance, rapid response teams, and case investigation

- Contact tracing and quarantine in the context of COVID-19: interim guidance, 6 July 2022
- Public health surveillance for COVID-19: interim guidance, 22 July 2022
- Public health surveillance for COVID-19 - COVID-19 case definition
- Global surveillance of COVID-19: WHO process for reporting aggregated data
- Operational considerations for COVID-19 surveillance using GISRS
- Medical certification, ICD mortality coding, and reporting mortality associated with COVID-19
- End-to-end integration of SARS-CoV-2 and influenza sentinel surveillance: revised interim guidance, 31 January 2022
- Environmental surveillance of for SARS-CoV-2 to complement public health surveillance-Interim Guidance
- Considerations on monitoring SARS-CoV-2 in animals
- Recommendations for the epidemiological investigation of SARS-CoV-2 in exposed animals
- Tracking SARS-CoV-2 variants

Pillar 5: Laboratories and diagnostics

Because SARS-CoV-2 testing is decreasing in many countries, wide-spread availability of standalone SARS-CoV-2 testing may no longer be sustainable or necessary. The priority now is fit-for-purpose testing including strategic positioning of diagnostics and testing services to increase access in risk groups and integration with testing for other respiratory pathogens. SARS-CoV-2 testing strategies will need to meet three main objectives: (1) enable timely and appropriate clinical management of COVID-19; (2) reduce the spread of SARS-CoV-2 through isolation of confirmed cases and adjustment of PHSM based on epidemiological trends, including testing data; and (3) inform surveillance systems, notably through strengthened genomic surveillance to track the circulation and evolution of the virus.

A strong national testing system in which SARS-CoV-2 diagnosis is available at all levels of the health system will be most effective. Ideally, SARS-CoV-2 testing services should be integrated with testing for other respiratory illnesses such as influenza and respiratory syncytial virus (RSV). National testing strategies should support coordination across sectors, and national plans should provide clarity on how laboratories and diagnostics support and function with other response measures, including collaborative surveillance and clinical care pathways. National policies should be evidence-based, agile, and reflect the latest laboratory findings and epidemiology, available resources, and the needs of priority populations. In addition, surge plans should be developed (with triggers for activation) and subsequently implemented, to manage increased volume of samples from suspected cases.

Accessibility and affordability are key features of successful COVID-19 testing programmes and strategies. Countries have worked towards decentralizing testing, including through the deployment of antigen-detection rapid diagnostic tests (Ag-RDTs) for both professional use and for self-testing by individuals. Systems should be adjusted to ensure sustainable timely testing and result availability to enable prompt clinical and public health decision making. As policies evolve and new therapeutics and care pathways become available, clear, and up-to-date messaging will be needed for health workers, individuals, and communities, so that all parties understand the meaning of test results and what actions to take.

It also remains important to sustain molecular (e.g., PCR) testing and sequencing infrastructure through strengthened laboratory networks and systems for achievement of SARS-CoV-2-specific objectives, including identification and monitoring of new variants and to support response to other nationally relevant diseases. A subset of samples from positive diagnostic tests should be followed by genomic characterization of the virus. Both representative and targeted sequencing are important to enable monitoring of virus evolution and detection of variants that may pose a threat to public health. Representative sequencing provides a good overview of viruses circulating in the population being surveyed. The main goals of targeted sequencing include the characterization of viral evolution in certain populations (e.g., individuals with chronic infections, high-risk groups), genomic surveillance in specific susceptible animal populations and molecular investigation of unusual events (e.g., cluster of antigen RDT failures despite strong COVID-19 clinical suspicion). As new variants emerge, global efforts to assess the impact of mutations on the structure and behavior of the virus – a process known as phenotypic characterization – should be sustained and strengthened. Laboratory networks will play an important role in coordinating early data collection and sharing to identify variants of interest that trigger the global risk assessment framework, including immune escape characterization and monitoring of antiviral resistance. Countries are encouraged to use national data platforms to document critical clinical, epidemiological, and viral data that will facilitate detection and assessment of new SARS-CoV-2 variants.

National action plan key activities

A. Transition from emergency response to longer term disease management	☐ Ensure national testing strategies and national action plans include clear articulation of approaches to meet the three main testing objectives.
	☐ Review human resources needs to maintain access to COVID-19 testing services, aiming toward integration across the health system.
	☐ Review COVID-19-specific testing systems, including test consumption/demand, to ensure right-sized COVID-19 testing, and optimize service delivery and surveillance – including appropriate test/reagent buffer stocks, and to ensure readiness for a surge [e.g., health workforce, laboratory information management systems (LIMS) for data management, sample referral networks, test procurement and quality assurance systems].
	☐ Define triggers to activate surge capacity, including review of clinical and epidemiological information. Virological information should include genomic and phenotypic characterization and ensure clear a communication plan for stakeholders and communities to inform them when to test, how to test, and next steps to take depending on test result.
	☐ Continue to monitor and evaluate key aspects of testing service including performance (accuracy) of diagnostics, positivity rate and timeliness of testing
B. Integrate COVID-19 activities into routine systems	☐ Facilitate access to SARS-CoV-2 testing, including sustaining molecular testing in laboratories, integrating point-of-care testing in health facilities and Ag-RDT access in the community, especially to enable early diagnosis for people at increased risk of hospitalization or severe COVID-19, including through incorporation into routine differential diagnostic algorithms.
	☐ Ensure individuals who test positive for SARS-CoV-2 and require hospitalization are immediately linked to appropriate clinical care pathways through a strengthened referral system to a facility with requisite capacities.
	☐ Ensure testing reagents (for PCR and Ag-RDT) are available for detection of SARS-CoV-2 in line with updated national policies and to address any surge in cases and that device maintenance and quality assurance systems are in place to sustain high-quality testing services.
	☐ Ensure mechanisms for sample referral are defined, as needed and that systems to incorporate testing data (from laboratories and at point-of-care/community) are strengthened and maintained to support multisource surveillance and public health decision-making.
	☐ Enable coordinated laboratory capacity (and integration where possible) across public health, research, academic and veterinary laboratories, including for sequencing.
	☐ Integrate SARS-Cov-2 testing into existing respiratory pathogen programmes such as through multiplex testing and leveraging existing networks such as GISRS.
	☐ Ensure and implement a sustainable SARS-CoV-2 sequencing strategy in consideration of broader genomic surveillance objectives with specific goals, and identify national, regional or international capacity for sequencing, leveraging existing networks such as GISRS.

C. Strengthen global health security	☐ Continuously review how COVID-19 testing capacities interface with diagnostics for other diseases in the country, to avoid endangering critical disease control programmes.
	☐ Conduct Intra-Action and/or After-Action Review as a voluntary component under the IHR (2005) Monitoring and Evaluation Framework (IHRMEF), as appropriate – focusing on laboratories and diagnostics for future public health emergencies.
	☐ Document lessons learned and build on laboratory capacities strengthened during the response to improve longer-term preparedness and readiness to detect national priority pathogens in a timely, safe and quality-assured manner with surge protocols tested through simulation exercises and drills.
	☐ Ensure continued financing for strong laboratory systems, including health workforce considerations, to enable preparedness, readiness and response.
	☐ Ensure timely sharing of pathogen genetic sequence data through open access platforms.
	☐ Participate in WHO and regional laboratory networks, including CoViNet, that aim to harmonize early data collection and sharing to inform risk assessment of emerging SARS-CoV-2 variants and other coronaviruses.

D. Special Considerations for fragile, conflict-affected and vulnerable settings, including humanitarian settings

- ☐ Invest in logistics systems and consider reagent pre-positioning for optimal functioning of laboratories, including support, through deployment of rapid response mobile laboratories (RRMLs), as appropriate.
- ☐ Ensure sample referral and testing networks are fit-for-purpose to meet testing needs, with consideration for mechanisms to rapidly ship samples and receive results (including addressing data ownership and sharing), and internationally, if/when required.

E. How WHO will support Member States to implement their national action plans

- ☐ Continue to develop and disseminate guidance on laboratories, laboratory diagnostics and testing services.
- ☐ Continue to advocate for and support high-quality testing, including supporting access to external quality assessment programmes (EQAP) and enabling development of the health workforce on laboratory and diagnostic topics, such as through access to trainings through the Health Security Learning and OpenWHO platforms, in all UN languages, as well as the Public Health Laboratories Knowledge Sharing Webinars.
- ☐ Acknowledge and encourage genetic sequence data sharing efforts.
- ☐ Continue assessment of the impact of novel variants on the disease course, vaccines, therapeutics, and diagnostics through a risk monitoring framework and convening of external advisory groups (TAG-VE, TAG-CO-VAC) and laboratory networks (CoViNet).
- ☐ Work closely with internal and external stakeholders to sustain equitable access to testing supplies, reagents and consumables and support countries to increase access to genomic sequencing for SARS-CoV-2.
- ☐ Support the organization of intra- or after-action reviews, simulation exercises and drills to inform and improve national laboratory strategic plans and capabilities for health emergency preparedness, readiness and response plan.
- ☐ Encourage national regulatory authorities to align their product registrations around the WHO EUL listings.

Guidance documents

Diagnostic technologies and testing strategies

- WHO policy brief: COVID-19 testing
- Diagnostic testing for SARS-CoV-2: interim guidance
- Laboratory biosafety guidance related to COVID-19: interim guidance
- Recommendations for national SARS-CoV-2 testing strategies and diagnostic capacities: interim guidance
- End-to-end integration of SARS-CoV-2 and influenza sentinel surveillance: revised interim guidance
- Antigen-detection in the diagnosis of SARS-CoV-2 infection: interim guidance
- Use of SARS-CoV-2 antigen-detection rapid diagnostic tests for COVID-19 self-testing: interim guidance
- COVID-19 target product profiles for priority diagnostics to support response to the COVID-19 pandemic v1.0
- Emergency Use Listing (EUL) procedure for SARS-CoV-2 in vitro diagnostics

Genomic surveillance

- Global genomic surveillance strategy for pathogens with pandemic and epidemic potential, 2022-2032
- SARS-CoV-2 genomic sequencing for public health goals: interim guidance
- Genomic sequencing of SARS-CoV-2: a guide to implementation for maximum impact on public health
- Operational considerations to expedite genomic sequencing component of GISRS surveillance of SARS-CoV-2

Training and implementation

- SARS-CoV-2 antigen-detecting rapid diagnostic tests: an implementation guide
- OpenWHO: Key considerations for SARS-CoV-2 antigen RDT implementation
- SARS-CoV-2 antigen RDT training package
- Open WHO: SARS-CoV-2 antigen rapid diagnostic testing
- End-to-end integration of SARS-CoV-2 and influenza sentinel surveillance
- Clinical care of severe acute respiratory infections – toolkit
- Laboratory assessment tool for laboratories implementing SARS-CoV-2 testing
- Presentation: Preparing to work with SARS-CoV-2 in supplement to the WHO laboratory biosafety guidance (COVID-19)

Community protection (Pillars 2, 4, and 10)

Pillar 2: Risk communication, community engagement (RCCE), and infodemic management

As countries adapt their response to COVID-19, risk communication and community engagement strategies must also change. This includes communicating the continued risk of COVID-19 in the context of an improving situation and helping countries work with communities to manage the shift from an emergency response to an integrated disease management programme. Community engagement strategies must be complemented by infodemic management approaches and improvement of systems and structures that support agile learning, adaptation of health information and health programme delivery, and nimble priority setting. These strategies will be especially critical in situations where it becomes necessary to re-introduce or heighten PHSM.

Evidence-informed RCCE strategies, developed in partnership with affected communities, have been proven to drive more equitable, inclusive and sustained response actions. Multilateral and diverse partnerships, such as the Collective Service and other regional and national networks and alliances have been essential for working with the widest possible set of community partners.

WHO recommends continued investments in community-centred action driven by robust and well-resourced RCCE programmes. This includes investments to reinvigorate and sustain demand for COVID-19 vaccines and working with countries and communities to identify and co-design strategies that drive equity and account for co-existing health priorities.

RCCE strategies need to remain relevant and adaptive to local challenges and threats in a context where COVID-19 risk perceptions have waned and newly emerging public health threats have become more visible.

Listening to communities, both offline and online, and getting regular community feedback are essential for tailoring RCCE strategies. Investing in data-driven interventions and supporting more consistent community engagement are key to co-develop policies and activities that align with community needs, capacities, and priorities, ultimately building and sustaining trust: the key ingredient for all community action.

Credible, trusted, relevant, timely, accessible, and actionable heath information is crucial for the acceptance and adoption of lifesaving interventions.

National action plan key activities

	Facilitate community-led responses through the improvement of the quality and consistency of risk communication, community engagement and infodemic management approaches.
A. Transition from emergency response to longer term disease management	☐ Update national COVID-19 RCCE action plans using social and behavioural data analysis and specifics of the context and community and adaptability to the epidemiologic situation. These plans should reflect community input into effective public health and social measures by investing in community ownership, processes and systems to enable community-centred RCCE approaches.
	☐ Create learning experiences to support RCCE practitioners and partners in operationalizing effective RCCE strategies in context-specific environments.
	☐ Undertake socio-anthropological operational studies to identify and address barriers to uptake and adherence to PHSM and COVID-19 vaccination.
	☐ Engage with decision makers for continuous access to relevant science and evidence-informed decisions. Improve health guidance and any future changes to health guidance to facilitate its uptake and adoption by different communities of focus and vulnerable populations.
	☐ Collaborate with academia to prioritize and support translational research for development and improvement of job aids, structures and systems that address vulnerabilities to the infodemic at individual, community and health system levels.
	☐ Based on operational social research, develop, and implement context-specific and comprehensive community-centered preparedness and response actions.
	☐ Generate, analyse, and use evidence about community context, capacities, perceptions, and behaviours. Build trust with communities and use communities and community-based resources (CBOs, CSOs) for supporting all public health interventions. Communities must be made active partners in designing, planning, implementing, and monitoring local RCCE approaches and interventions.
	☐ Train staff and partners across different sectors to build skills in designing and implementing effective RCCE interventions.
	☐ Ensure that skills are developed and sustained by working alongside regions and countries to develop and conduct context specific RCCE simulation exercises.
	☐ Build and strengthen sustainable partnerships with community stakeholders, including trusted community groups and influencers (e.g., doctors, community leaders, religious leaders, health workers, community volunteers, unions) as well as local groups (e.g., women's and youth groups, associations for people living with disabilities, business groups, traditional healers) to ensure both community inclusion and consistency of RCCE approaches through outreach. Leverage the EPI-WIN Faith and Health in the World of Work networks.
	☐ Identify and map vulnerable and at-risk populations to engage with culturally appropriate messages and engagement strategies using relevant channels and community networks and/or influencers.
	☐ Co-design contextualized messages with communities based on the latest evidence and pilot and disseminate messages through a participatory process that specifically targets key stakeholders. Integrate in RCCE dialogue and community leadership the mitigation of effects on livelihoods, reducing demand-side barriers to access essential health services, and respond to other health concerns or threats to their survival and dignity.

A. Transition from emergency response to longer term disease management (continued)	☐ Establish and strengthen local governance mechanisms to ensure the meaningful participation of communities in decision-making for emergency response at all levels by nominating community representatives to participate in response planning and implementation and enhance implementation of policies by following best practice guiding principles.
	☐ Build on RCCE experiences and capacities gained during the response to strengthen the role of communities in support of longer-term preparedness, readiness, and emergency risk management functions, as well as their role in the primary health care approach.
	☐ Work closely with stakeholders addressing the socio-economic impact of the pandemic and public health measures on communities and vulnerable households and establish links with social protection programmes.
	☐ Map community-based measures for which community health workers and community-based actors can play an important role in implementation and oversight; assign responsibilities, train, and provide the necessary support to the community health workforce accordingly.
	☐ Address health information inequities through infodemic management strategies at individual, community, health system and societal level.
	☐ Leverage recently built partnerships or forge new ones to reinforce rapid infodemic monitoring and response during acute health events between factcheckers, media and health authorities.
	☐ Identify and address structural and systems' barriers that continue to perpetuate health information inequities.
	☐ Develop a key message bank that can easily be adapted and translated into local languages.
	Strengthen science and knowledge translation for evidence-informed action.
	☐ Work with researchers, media professionals, health professionals and decision makers and community leaders to strengthen understanding of, and access to, science to empower communities to make evidence-informed decisions as part of the RCCE process.
	☐ Establish a multidisciplinary science translation network, which will foster a symbiotic engagement between scientists, health professionals, animal health professionals, policy makers, community decision makers and media professionals to exchange perspectives and experiences.
	☐ Provide training modules for fact-checkers, media professionals and community leaders on how science evolves and facts can change as more data become available.
	☐ Develop local community-driven platforms for science and knowledge translation.

	Strengthen coordination of risk communication, community engagement and infodemic management.
A. Transition from emergency response to longer term disease management (continued)	☐ Activate or strengthen RCCE coordination mechanisms and working groups in coordination with UN agencies, different levels of government, civil society, and partners to ensure the efficient use of each organization's strength and to increase the quality, harmonization, optimization and integration of RCCE across the different technical areas. Ensure participation of community and vulnerable groups.
	☐ Build networks and coordination mechanisms within the health system to address health information inequalities; between health system and academia to accelerate translational research and gaps in evidence to inform field work; and across factcheckers-media-health authority groups to strengthen capacities for rapid response to health misinformation.
	☐ Identify infodemic challenges that health systems have faced and introduce policy solutions that address them.
	☐ Establish or foster collaborations with unstructured and structured networks that engage within the information ecosystem on health information to promote resilience regarding health misinformation.
	☐ Identify and work with existing public health and community-based networks to increase outreach and consistency and to articulate localized community-centered responses of strategies in risk communication, community engagement, infodemic management, health guidance development or service delivery.
	☐ Work closely with relevant committees and advisory groups, such as the national immunization advisory group, to ensure RCCE and infodemic management objectives are considered within advisory group recommendations.
	☐ Launch or strengthen networks of trusted messengers and stakeholders who can advocate, educate, address questions, concerns, information voids and health misinformation and build digital, media, information, influence, science, and health literacy.

B. Integrate COVID-19 activities into routine systems	**Reinforce local capacity and solutions to control the pandemic and mitigate its impacts.**
	☐ Map RCCE capacities and systems that need to be strengthened at the national and subnational level. Wherever possible, capitalize on the resources and political will currently available to create sustainable change that will benefit the response to future emergencies.
	☐ Carefully map where RCCE expertise is needed, and recruit and sustain needed resources as appropriate, providing training whenever necessary.
	☐ Establish and sustain RCCE leadership at all levels with the necessary authority to coordinate partners.
	☐ Introduce and/or enforce standard operating procedures (SOPs) for RCCE if not already established as a central coordination and quality assurance tool.
	☐ Strengthen and maintain information and communication technology (ICT) infrastructure, networks and staff, and prepare for surges in demand across sectors and levels.
	☐ Ensure information is accessible through culturally appropriate, high-quality communication campaigns.
	☐ Include messages on coping with stressors and access to self-help tools, and community-based mental health and psychosocial support resources as a component of risk communication and community engagement.
	☐ Use two-way communication to discuss community actions and solutions. These can be established through social media, complaints mechanisms, and direct dialogues and consultations to ensure community feedback informs response measures, and the response is accountable to affected populations.
	☐ Build community capacities for resilience (health literacy, health mediators, contact tracing volunteers).
	Manage the COVID-19 infodemic and its crossover to other health topics.
	☐ Apply human-centered design approaches in developing solutions and interventions that address infodemic vulnerabilities at individual, community, health system and societal levels.
	☐ Tailor health, information and digital literacy initiatives to the needs and values of specific populations, and seek to correct misinformation before it is widely disseminated through digital media and other channels.
	☐ Strive to develop high-quality, accessible and acceptable health information in different formats designed for reuse, remixing and sharing and for rapid digital spread through social networks.
	☐ Establish an infodemic focal point or team for rapid infodemic-insights generation and response, if necessary, by training staff to fulfil these functions; and ensure this function works within the existing preparedness and response structure.
	☐ Establish an infodemic task force that informs the emergency response structures, surveillance and RCCE working groups that encompass existing roles and activities (hotline operators, social media analysts, community engagement officers, risk communicators, health promotion, health information analysts, health informatics) to manage and respond to questions, concerns, information voids, circulating narratives, misinformation, and disinformation.

B. Integrate COVID-19 activities into routine systems (continued)	☐ Design and implement a harm- and information spread-based decision tool to decide if, when and how to address narratives that are prominent, rising or have high potential to harm vulnerable populations.
	☐ Establish a focal point and a regularly updated web page rebutting the most common misinformation narratives, and for fact checking organizations that can be referred to in debunks.
	☐ Establish a process through which the emergency response includes requesting a rapid assessment and infodemic-insights generation to investigate questions, concerns, information voids and narratives.
	☐ Introduce or strengthen job aids, tools and support to health workers so that they can improve the quality of conversations with their clients, and so that they can respond to their clients' questions and concerns in their practice and online.
	☐ Equip health workers and health department staff to address misinformation, like deploying the truth sandwich technique and motivational interviewing.
	☐ Build the capacity of, and provide resources for, community workers –including community health workers, leaders and faith-based workers – who play the role of trusted messengers and role models in their local geographic communities to better identify and address health misinformation and disinformation.
	☐ Establish and improve collaboration between fact checkers, media organizations and health authorities to improve the detection and response to infodemic signals. For example, work with fact checking networks to have a visible online page where claims can be verified and referenced; and introduce a rapid content production and testing pipeline for debunks or prebunks.
	☐ Support unstructured networks of health workers who are addressing health misinformation online.
	☐ Introduce a basic editorial style for published health information products (for example, perma-links, dating each piece of content or health guidance, using terms that have been pretested and are well-understood by the target population). Address new questions and concerns with fresh content, amplified through different channels and partner networks on a regular basis. Develop a content moderation strategy for all official social media channels to determine when to rebut, prebunk or debunk misinformation.
	☐ Equip health experts with media and social media skills to address misinformation and vocal vaccine denial (where appropriate).

C. Strengthen global health security	**Generate, analyse, and use evidence about the information ecosystem, community context, capacities, perceptions, and behaviours.**
	☐ Monitor the effectiveness of the RCCE plan and document lessons learned to inform future preparedness and response activities, including for concurrent and future health threats and emergencies.
	☐ Monitor the communication and community engagement actions that aim to facilitate trust and population adherence to public health measures.
	☐ Monitor the coordination of communication between different sectors of society.
	☐ Activate or strengthen social listening systems and formative research to understand why people may or may not adopt and or maintain protective measures, barriers to access essential services and the individual, and social and structural drivers of behavior change. Bring together multiple formal and informal sources of information. Where feasible use qualitative and/or quantitative methodologies (surveys, audience analysis) to:
	○ Understand community knowledge/perceptions, behavioural drivers/barriers including health seeking behaviours, concerns/frequently asked questions, health information.
	○ Identify power populations/influencers, populations affected/ most at risk, religions/languages.
	○ Map key communication patterns/channels.
	☐ Integrate infodemic management into existing practices to maintain an overview of how people search for, find, feel about, use and act on health information.
	☐ Introduce and routinize infodemic-insights generation by integrating social listening information with other data sources and produce recommendations to manage health-related infodemic challenges. Establish collaborations across government and society for data access and exchange, as well as information sharing.
	☐ Introduce tools and work aids that routinize introduction of ethics, human rights and equity considerations into social listening and infodemic management activities.
	☐ Ensure consistent communication mechanisms are in place to access, exchange, analyse and share data needed for course correction, and informing strategic communications and a broader response decision-making process.
	☐ Conduct an Intra-Action Review specific to risk communication, community engagement and infodemic management during the COVID-19 response and management for course correction and improvement.
	☐ Conduct an After-Action Review as a voluntary component under the IHR (2005) Monitoring and Evaluation Framework (IHRMEF), guided by the advice from the IHR Emergency Committee – focusing on improving risk communication, community engagement and infodemic management for future public health emergencies.
	☐ Integrate learnings from assessments and reviews into a coherent strategy for community protection that integrates efforts around risk communication, community engagement, infodemic management, science and knowledge translation, public health and social measures and multilateral cooperation into a coherent architecture.

D. Special considerations for fragile, conflict-affected and vulnerable settings, including humanitarian settings

- ☐ Integrate COVID-19 response activities where possible into existing health and humanitarian actions.
- ☐ Develop RCCE strategies that start with the barriers preventing uptake of protective behaviours or life-saving services.
- ☐ Address the different needs of specific groups including refugees, internally displaced people (IDPs) and migrants. Such groups contain different subpopulations consisting of children, women and girls, older persons, persons with disabilities, people living with HIV, people with pre-existing medical conditions, sexual and ethnic minorities, gender-based violence survivors, and others.
- ☐ Work with local influencers, national and international partners including the IFRC, UNICEF and WHO to develop social mobilization and community engagement plans based on existing response mechanisms and contextualized to the setting and its community.
- ☐ Ensure accountability by building feedback loops and monitoring systems to help communities call out when there is a lack of progress or failure to keep to commitments. Include communities in the planning and monitoring of these measures and resources.
- ☐ Identify and document good practices of public health and social measures for COVID-19 in these settings that may involve local adaptations and innovations.

E. How WHO will support Member States to implement their national action plans

- ☐ Continue quantification of the reach and influence of disseminated information shared through the web, mass and social media, chat apps, and traditional information channels.
- ☐ Continue to develop and disseminate global and regional-level RCCE guidance and templates that will improve norms and standards for in-country partner coordination.
- ☐ Strengthen RCCE coordination and consistency through engagement with the Collective Service Platform and other existing partner platforms.
- ☐ Continue to work with partners including UNICEF and IFRC to establish a scalable, collaborative, research platform that will continue to build the evidence required to inform better decision making and more impactful RCCE interventions.
- ☐ Continue to develop and implement innovative tools for social listening (e.g., WHO HealthBuddy+ and the WHO tool for behavioural insights on COVID-19.
- ☐ Implement research priorities for RCCE and infodemiology.
- ☐ Continue to work with One Health partners including WOAH, FAO and UNEP to develop, update and disseminate messaging to mitigate risk of SARS-CoV-2 transmission between animals and humans.
- ☐ Provide standardized competencies and capacity building and accreditation for RCCE.
- ☐ Continue to develop and implement infodemic insights and infodemic management tools and job aids (infodemic-insights manual, infodemic signal risk assessment tools, infodemic management intervention toolbox).
- ☐ Support the WHO global infodemic management community of research and practice.
- ☐ Support the WHO global network for mainstreaming infodemic management into learning and teaching programmes.

Guidance documents

- WHO policy brief: Building trust through risk communication and community engagement, 14 September 2022
- COVID-19 research and innovation powering the world's pandemic response – now and in the future, February 2022
- Country and technical guidance - Coronavirus disease (COVID-19)
- EPI-WIN: WHO information network for epidemics
- Collective Service Platform
- COVID-19 global risk communication and community engagement strategy
- 10 steps to community readiness
- Community-based health care, including outreach and campaigns, in the context of the COVID-19 pandemic
- WHO policy brief: COVID-19 infodemic management, 14 September 2022
- Infodemic management 101
- Infodemic management: Developing an infodemic-insights report
- Infodemic management: Addressing health misinformation
- COVID-19: Science in 5
- COVID-19 infodemic management: Risk communication and community engagement challenges
- How systemic listening and community feedback can help us better respond to COVID-19
- Advancing infodemic management in risk communication and community engagement in the WHO European Region: Implementation guidance
- Guidance on working with farmed animals of species susceptible to infection with SARS-CoV-2
- Working with free-ranging wild mammals in the era of the COVID-19 pandemic
- Essential Programme on Immunization
- COVID-19 and animals: Information on risk mitigation measures for livestock and agricultural professionals

Pillar 4: Points of entry, international travel and transport, and gatherings

Efforts and resources in the context of international travel and transport should focus on developing core capacities as per the requirements of the IHR (2005) at points of entry, and establishing a cross-sectoral decision-making mechanism for the implementation, calibration and lifting of international travel-related measures using a risk-based approach, while respecting the dignity, human rights and freedoms of travellers. This would enhance response activities at any stage of the COVID-19 pandemic and contribute to readiness and response efforts for any other future health emergency.

At this stage, countries should continue to lift any remaining international travel-related measures, based on risk assessments and not require proof of vaccination against COVID-19 as a prerequisite for international travel. If health measures are put in place that significantly restrict international traffic, travel for essential purposes – including emergencies and humanitarian actions, essential personnel, repatriations, and cargo transport for essential supplies – should always be prioritized. Countries should take steps to reduce the occupational risk of SARS-CoV-2 infection for cross-border workers. Measures should be informed through regular risk assessment exercises, taking into consideration the local epidemiology and the public health and health services capacity to detect and care for cases and their contacts in the destination country. There should be special consideration for vulnerable travellers, such as refugees and migrants and temporary or seasonal workers, whose livelihoods largely depend on cross-border activities. All measures should be evidence-based, time-limited and scientifically evaluated.

As countries ease COVID-19 restrictions, caution should still be exercised concerning gatherings. Risk assessment, risk mitigation and risk communication should be conducted to identify and implement precautionary measures. By applying this approach, organizers can make an informed decision about whether the event under consideration should proceed, and on the best arrangements and health interventions to decrease any associated risk of spread of SARS-CoV-2. This risk-based approach is adaptable to gatherings of any size and type (see WHO Policy Brief: Gatherings in the context of COVID-19).

It is vital for gatherings to be well managed, regardless of their characteristics. However, it is important to note that zero risk cannot be guaranteed, even when precautionary measures are properly applied.

Effective planning of mass gatherings involves not only the implementation of precautionary measures but also the development of a robust risk communication and community engagement (RCCE) strategy. An infodemic preparedness and response plan can also help to prevent any potential spread of misinformation and contribute to compliance with PHSMs.

Holding mass gathering events should not increase transmission level or overburden the health system's capacity. Individual-level responsibility should be promoted by organizers and exercised by each attendee.

National action plan key activities

A. Transition from emergency response to longer term disease management	**Travel and transport**
	☐ Ensure a cross-sectoral decision-making mechanism is in place, including all relevant sectors, to jointly decide on the implementation, calibration and lifting of any travel-related measures using an evidence-informed and risk-based approach as well as the communication of such measures to relevant stakeholders and the public.
	☐ Lift any remaining international travel-related measures, based on risk assessments.
	☐ Proof of COVID-19 vaccination should not be a prerequisite for international travel.
	☐ Integrate points of entry (PoE) into the national surveillance system and ensure mechanisms and criteria are in place for surveillance at points of entry and on conveyances to support monitoring of circulation of known variants of concern (VOC) and allow for early detection of new variants of concern, based on the national surveillance strategy.
	Gatherings
	☐ Ensure a cross-sectoral decision-making group, including all relevant sectors, performs a risk-based assessment when planning a mass gathering event and jointly decides on the precautionary measures that are needed.
	☐ Proactively and regularly disseminate information to relevant stakeholders on the precautionary measures to be adopted for mass gathering events, their rationale and purpose, and how the relevant decisions were taken, with the aim of ensuring high compliance with rules and regulations among attendees.
	☐ Work with RCCE staff to ensure the public is well informed about the potential risks of smaller gatherings.
B. Integrate COVID-19 activities into routine systems	**Travel and transport**
	☐ Work with RCCE staff to communicate to the public the nature and rationale for any new travel-related health restrictions, should there be a need, and create community feedback mechanisms.
	☐ Establish routine communication with relevant officials and stakeholders in the transport sector about changes in COVID-19 epidemiology and alert them early to any surges. Conduct a strategic risk assessment to identify the country's most relevant points of entry for designation under the IHR (2005) and develop and maintain all required capacities at points of entry for controlling diseases at the source to prevent international spread. Explore formalized agreements or joint designation of ground crossings with neighboring countries to jointly plan and develop the IHR capacities for prevention, detection and response to public health events (see International Health Regulations (2005): assessment tool for core capacity requirements at designated airports, ports and ground crossings).

	Gatherings
B. Integrate COVID-19 activities into routine systems (continued)	☐ Conduct regular simulation exercises and intra- and after-action reviews to ensure the functionality of the capacities developed or strengthened during the COVID-19 pandemic when planning for a mass gathering event.
	☐ Conduct a comprehensive all-hazards risk assessment including for SARS-COV-2 to inform event planning and identify necessary mitigations to minimize risks associated with gatherings of any size and type (e.g., religious, sports, business and entertainment, political events, health campaigns, humanitarian distributions, and other events), encompassing three essential steps: risk evaluation, risk mitigation, and risk communication.
	☐ Develop effective RCCE strategies to manage misinformation, ensure access to reliable health advice, and support the implementation of PHSMs.
	☐ Strengthen human resource development for planning and safe management of mass gathering events, primarily through training of all relevant community, national and international players, as appropriate; and include organizers, civil servants, volunteers, and dedicated frontline health care staff.
C. Strengthen global health security	☐ Regularly monitor and evaluate the effectiveness and impact of travel and mass-gathering-related risk mitigation measures and document lessons learnt and apply them in future public health responses.
	☐ Ensure that there is a communication link between competent authorities at points of entry and health authorities at local, national and regional levels, as well as an international communication link with competent authorities at other points of entry.
	☐ Coordinate cross-border information and public health activities with neighboring countries, including distribution of risk communication materials and the collection of relevant data to inform public health decision-making and interventions, including for mass gathering preparedness and response.
	☐ Continue to apply WHO's recommended risk-based approach and technical guidance for mass gatherings (see WHO policy brief: Gatherings in the context of COVID-19).
	☐ Support establishment of multisectoral coordination mechanisms involving non-state actors, community leaders and influencers, key event stakeholders, and WHO, to ensure strong coordination. Document and share event challenges, lessons learned and best practices.

D. Special considerations for fragile, conflict-affected and vulnerable, including humanitarian settings

- ☐ Testing should be conducted strategically and focus on high risk/vulnerable individuals and health care workers.
- ☐ Conduct risk assessments to guide preparedness for response to COVID-19 in refugee and migrant settings specifically around ground crossings and reinforce risk communication and community engagement approaches for early identification of signs and symptoms and access to care in camps and other collective settlements.

E. How WHO will support Member States to implement their national action plans

- ☐ Continue to work closely with national authorities and partner organizations representing aviation, maritime, land travel, trade, and tourism sectors to promote the prioritization of essential international travel. Should measures restricting international traffic due to COVID-19 or another pandemic or health emergency be justified, WHO will support a risk-based approach for decision making.
- ☐ Develop or update guidance, training, and statements of support to prevent and manage COVID-19 in the context of international travel and transport, including at ports, airports and ground crossings.
- ☐ Support national authorities in developing, maintaining, and strengthening their capacities for prevention, preparedness, and response to public health events at points of entry or when planning for mass gathering events.
- ☐ Support host countries and mass gathering organizers to evaluate, mitigate and communicate risk of SARS-CoV-2 transmission associated with gatherings of any size and type with the aim of facilitating the adoption of evidence-based decision-making.
- ☐ Support countries in the planning and execution of simulation exercises.
- ☐ Monitor scientific literature on the effectiveness, safety, and potential harms of travel and mass gatherings-related public health measures to mitigate SARS-CoV-2 transmission and commission additional reviews to fill any gaps.
- ☐ Continue supporting national authorities in building the necessary infrastructure for the use of digital certificates during public health emergencies, including through the establishment of a voluntary federated trust network to enable Member States to bilaterally ensure the veracity of these digital certificates based on the experience from the COVID-19 pandemic.
- ☐ Strengthen the global mass gathering M&E mechanism to monitor, assess and evaluate potential risks and impact on host countries and global health, as well as to share information on the measures taken during the events.

Guidance documents

- Interim position paper: considerations regarding proof of COVID-19 vaccination for international travellers
- COVID-19 travel, points of entry, and border health guidance documents
- COVID-19 travel advice
- Minimizing health risks at airports, ports, and ground crossings
- Technical considerations for implementing a risk-based approach to international travel in the context of COVID-19
- Policy considerations for implementing a risk-based approach to international travel in the context of COVID-19
- COVID-19 diagnostic testing in the context of international travel
- Interim position paper: considerations regarding proof of COVID-19 vaccination for international travellers
- An implementation guide for the management of COVID-19 on board cargo ships and fishing vessels, 23 December 2021
- ICAO Council Aviation Recovery Task Force (CART) Take-off: Guidance for air travel through the COVID-19 public health crisis; Fourth edition, 2021
- ICAO manual on COVID-19 cross-border risk management, Third edition, 2021
- WHO SAGE roadmap for prioritizing uses of COVID-19 vaccines in the context of limited supply. Geneva: World Health Organization; 2020 [updated 21 January 2022]
- Statement on the fourteenth meeting of the International Health Regulations (2005). Emergency Committee regarding the coronavirus disease (COVID-19) pandemic
- Digital documentation of COVID-19 certificates: vaccination status: technical specifications and implementation guidance, 27 August 2021
- Digital documentation of COVID-19 certificates test results: Technical specifications and implementation guidance, 31 March 2022
- WHO COVID-19 mass gatherings risk assessment training
- WHO mass gathering COVID-19 risk assessment tool: generic events, version 3, 16 June 2022
- Holding gatherings during the COVID-19 pandemic: WHO policy brief, 2 August 2021
- Key planning recommendations for mass gatherings in the context of COVID-19, 4 November 2021
- Public health considerations for elections and related activities in the context of the COVID-19 pandemic, 10 December 2020
- WHO mass gathering COVID-19 risk assessment tool: generic events, version 3 Web Application
- WHO generic all-hazards risk assessment and planning tool for mass gathering events
- WHO mass gathering COVID-19 risk assessment tool – sports events
- WHO mass gathering COVID-19 risk assessment tool – religious events
- WHO policy brief: Gatherings in the context of COVID-19, 19 January 2023
- Considerations for mass gatherings in the context of COVID-19, Annex 4: Considerations in adjusting public health and social measures in the context of COVID-19, 14 May 2020
- Considerations for sports federations/sports event organizers when planning mass gatherings in the context of COVID-19, 14 April 2020
- Practical considerations and recommendations for religious leaders and faithbased communities in the context of COVID-19, 7 April 2020
- Safe Eid al Adha practices in the context of COVID-19, 13 July 2021
- Safe Ramadan practices in the context of COVID-19, interim guidance, 7 April 2021
- Syndromic screening for COVID-19 of travellers crossing land borders: Scientific brief, 21 December 2022

Pillar 10: Vaccination

Activities within Pillar 10 have been captured within the section on Access to Countermeasures, which includes activities relating to community-level vaccination delivery.

Safe and scalable essential care (Pillars 6, 7, and 9)

Pillar 6: Infection prevention and control, and protection of the health workforce

Health care facilities remain a high-risk setting for SARS-CoV-2 transmission. Maintaining and improving infection prevention and control (IPC) capacity remains critical for a safe environment for patients, health and care workers, and the community.

Strong, effective IPC programmes can influence the quality of care, improve patient safety, and protect all those providing care in the health system. This includes sustaining gains made during the COVID-19 pandemic to prevent and control transmission of SARS-CoV2.

IPC core components are required to build functioning programmes leading to the effective reduction of health care-associated infections and antimicrobial resistance. Implementation of these components should be in place at the national and facility level. This includes monitoring at national, subnational and facility level to prevent health care-associated infections during the provision of care in non-COVID-19 health settings. Furthermore, given the huge gaps in water, sanitation, hygiene, and waste services (WASH) in health care facilities globally, improved monitoring, resourcing and maintenance of such services is critical to enable basic IPC practices.

Current IPC strategies for the prevention and control of COVID-19 in health care facilities include:

- Strengthening IPC programmes, with trained IPC focal point and dedicated budget for IPC implementation
- Screening and triage for early recognition of community- and health care-associated cases, and implementation of source control measures
- Universal masking or targeted continuous mask use in health care setting according to situational level
- Implementing standard and transmission-based precautions according to risk assessment.
- Appropriate placement of suspected and confirmed cases (isolation) through single room or cohorting of confirmed cases
- Environmental and engineering controls, with emphasis on adequate ventilation
- Administrative controls, including maintaining a training programme on IPC for all health and care workers
- Reviewing and updating of technical IPC guidelines and SOPs on a regular basis, to reflect the context of COVID-19, evolution of the SARS-CoV2 virus and situational risk to health care and community settings
- Monitoring of and compliance with IPC practices for health care workers, patients and caregivers and visitors
- Regular assessments of water, sanitation, hygiene and waste services with development and implementation of improvement plans and dedicated resourcing to support basic services and upgrades
- Reducing overuse and inappropriate use of PPE and investment in managing additional waste created through COVID-19
- Promoting vaccination and policies and programmes for health workers, including for COVID-19, considering WHO recommendations
- Strategies to prevent, rapidly identify and manage COVID-19 infections among health workers.

As Member States update COVID-19 policies, it is essential to emphasize IPC achievements and prioritize critical gaps for IPC programmes and water, sanitation, hygiene, and waste services in health care settings. Health facilities should maintain operational readiness for surges of COVID-19 cases and other emerging and re-emerging pathogens, including multidrug-resistant organisms; scale up IPC capacity with strong investments in the implementation of IPC minimum requirements; and ultimately, ensure resilience and sustainability of all IPC core components. The WHO policy brief *Maintaining infection prevention and control measures for COVID-19 in health care facilities* provides more details on these critical aspects. Countries without a national IPC programme are recommended to comply with the global IPC strategy, which is currently under development in the form of a draft global action plan.

In the event of a surge or resurgence of cases of COVID-19, the ability of a health care facility to respond to an outbreak is critical. *Infection prevention and control (IPC) in health-care facilities in the event of a surge or resurgence in cases of COVID-19* provides a framework for action steps to be followed within 2-4 weeks of identification of a surge or resurgence of cases.

Protection of the health workforce

Meeting COVID-19 surge needs requires going beyond expanding health care innovations and ensuring that the health and care workers can incorporate new technologies into care and have required support and an enabling work environment. Strategies to support the health workforce include recruitment, repurposing within the limits of training and skills and redistributing roles among health and care workers; while keeping health workers safe, guaranteeing decent working conditions during a response, and providing mental health and psychosocial support. Adequate financing, timely payment of salaries, consideration of gender issues, streamlining regulation, hiring and deployment procedures, and supporting national and subnational health authorities to undertake health workforce planning are critical. IPC managers should work with occupational health services to develop occupational infection prevention sustainably, using COVID-19 as a model.

Countries around the world are making difficult decisions about balancing the demands of responding to COVID-19 with the need to maintain the safe delivery of other essential health services and public health functions. Agile health systems are required to ensure continuity of services during COVID-19 surges, with planning supported by estimation tools for essential supplies, equipment, and workforce.

National action plan key activities

	Strengthening capacity to maintain or improve IPC at the national level.
A. Transition from emergency response to longer term disease management	☐ Through the national IPC task force, review and update national IPC guidance and IPC operational readiness at all levels of the health system, including public, private, traditional practices and non-traditional settings that may be used for isolation and care of patients and/or quarantine, such as pharmacies.
	☐ Assess and strengthen the national IPC programme to ensure IPC is embedded within the health system and guarantee an adequate dedicated budget for implementation of the IPC programme.
	☐ Review, update, implement and monitor the national strategic plan for surveillance of health care-associated infections.
	☐ Ensure that a national level quality control system is applied for all personal protective equipment used in health facilities. This includes PPE supply management (stockpile, distribution, quality assurance), identification of IPC surge capacity needs (personnel numbers and competencies), and strategies for appropriate and rational use of PPE in all health and community settings, in collaboration with partners as required.
	☐ Assess or improve support for adequate ventilation in health facilities meeting a minimum rate of 60 litres (or 6ACH) of natural, mechanical, or hybrid ventilation per second, per occupant. Ensure this rate can be continuously maintained in all occupied general patient care areas. Where aerosol-generating procedures are performed, ensure a continuous ventilation rate at minimum of 160 litres of natural, mechanical, or hybrid ventilation per second, per patient or 12 ACH.
	☐ Leverage existing national and facility training programmes to provide training to all health workers on IPC measures required to mitigate COVID-19 and other respiratory pathogens in health care and community settings.
	☐ Update and reinforce existing risk communication messaging and dissemination strategy related to IPC and PHSM considering contextual issues (e.g., pandemic fatigue).
	☐ Promote research and development with a focus on identifying or improving IPC measures such as cost effectiveness of IPC interventions, PPE innovation, and studies investigating risk factors for SARS-CoV-2 transmission in health care, understanding SARS-CoV-2 infection among health workers and improving compliance with IPC measures.

B. Integrate COVID-19 activities into routine systems	**Strengthen capacity to maintain IPC measures in health care settings.**
	☐ Ensure health care settings have an IPC programme aligned with the minimum requirements recommended by WHO, and an adequate dedicated budget to allow implementation of the IPC programme.
	☐ Ensure health facilities regularly conduct assessments of implementation of IPC programmes.
	☐ Review national and subnational IPC policies, strategies, and activities to ensure requirements of the national COVID-19 programme have been met and systems are in place to link health care facilities with national and subnational IPC programmes.
	☐ Ensure surveillance of health care-associated infections and monitoring of IPC practices.
	☐ Ensure a national training policy and curriculum for IPC in service training has been developed and all health and care workers are trained in IPC at health facility level. The IPC national curriculum should be aligned with national guidelines, and a national system and schedule for monitoring and evaluation should be in place to annually assess the effectiveness of IPC training and education.
	☐ Assess or improve WASH standards in health care facilities to ensure health facilities have the water and sanitation to implement IPC standards and the infrastructure to manage health care waste.
	☐ Regularly conduct health facility and IPC tabletop exercises that aim to examine the implementation of IPC strategies required to prevent or limit transmission of SARS-CoV-2 in health care facilities.
	Strengthen capacity for implementation of IPC and public health and social measures for reducing or preventing community transmission.
	☐ Ensure quality control for personal protective equipment that is sold to the public through establishment and enforcement of standards applied at national level. Non-medical masks sold to the public should undergo a process of quality control to ensure wearer safety and effectiveness (breathability, filtration, and fit).
	☐ Assess and improve (where needed) the indoor ventilation rate in all public spaces to a minimum ventilation rate of 10L/per second/per person. Improvements should be made proportionally to the maximum occupancy of indoor spaces.
	☐ Support access to water, sanitation, and hygiene (WASH) services in public places and community spaces most at risk, with special considerations for vulnerable collective sites (including for homeless people, migrants, and long-term care populations) and community isolation centres.
	☐ Leverage occupational health programmes to include IPC measures to support safe working conditions in non-health care settings.

C. Strengthen global health security	☐ Ensure adequate surge capacity (including financial, human, logistical and supplies) to respond to future threats/events.
	☐ Build competency through training and incentivization, including among community health workers.
	☐ Increase capacity and strategic health worker deployment.
	○ Improve health worker availability through hiring and redeployment.
	○ Activate partner networks to rationalize health workforce distribution.
	☐ Improve health workforce information systems to track health worker infections.
	☐ Conduct an Intra-Action Review (IAR) and /or an After-Action Review as a voluntary component under the IHR (2005) Monitoring and Evaluation Framework (IHRMEF), following the WHO Director-General's declaration to terminate the PHEIC status for COVID-19, guided by the advice from the IHR Emergency Committee – focusing on infection prevention and control for future public health emergencies.
	☐ Document lessons learned and build on capacities strengthened during the response to improve IPC for longer-term preparedness and response functions as well as for general safety of services delivered through primary health care.
	☐ Follow investigations of clusters and outbreaks of COVID-19 identify settings, scenarios, and human factors that facilitated transmission in local contexts; and identify priority research gaps on strategies and tools needed to improve the practicality and effectiveness of IPC measures in the context of COVID-19.

D. Special considerations for fragile, conflict-affected and vulnerable settings, including humanitarian settings

- ☐ Enable all public health and WASH infrastructure and supply requirements in communal care and living settings (including humanitarian camps and camp-like settings) as described in the Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response.
- ☐ Ensure handwashing stations, cleaning supplies, medical device reprocessing capacities, waste segregation and management capacities, and personal protective equipment are available.
- ☐ Perform continuous IPC risk assessments on all patients and implement standard and transmission-based precautions including isolation and quarantine measures as needed.
- ☐ Advocate for the inclusion of WASH services in economic response packages to support vulnerable crisis-affected households.

E. How WHO will support Member States to implement their national action plans

- ☐ Support the development and implementation of guidelines and IPC training material (including on the OpenWHO platform) with direct deployment of experts and master trainers through WHO's networks.
- ☐ Update crucial technical specifications on the quality, performance characteristics and related standards of PPE to be used in the context of COVID-19 and supporting PPE research.
- ☐ Work with stakeholders to rapidly understand and forecast IPC needs related to vaccination, activities with particular emphasis on FCV contexts and other low-capacity settings.
- ☐ Work with countries to better understand the epidemiology and burden of SARS-CoV-2 infections among health workers, and therefore strengthen measures to protect health workers by optimizing the availability, fit and use of personal protective equipment and other infection prevention and control (IPC) measures.
- ☐ Improve multidisciplinary research to better understand SARS-CoV-2 modes of transmission and settings in which transmission can be amplified.
- ☐ Identify and document good practices for IPC in low-capacity and humanitarian settings that may involve local adaptations and innovations, and facilitate the learning, contextualization, and adaptation of these practices in other settings and countries.

Guidance documents

- WHO mass gathering COVID-19 risk assessment tool: Generic events
- Considerations for implementing and adjusting PHSM in the context of COVID-19
- Infection prevention and control in the context of coronavirus disease (COVID-19): A living guideline
- WHO policy brief: Maintaining infection prevention and control measures for COVID-19 in health care facilities
- Water, sanitation, hygiene, and waste management for COVID-19.
- Water and sanitation for health facility improvement tool, V 2.0
- Framework and toolkit for infection prevention and control in outbreak preparedness, readiness and response at the national level
- Framework and toolkit for infection prevention and control in outbreak preparedness, readiness and response at the health care facility level
- Infection prevention and control of epidemic-and pandemic prone acute respiratory infections in health care
- Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level national level infection prevention and control assessment tool
- Infection prevention and control assessment framework at the facility level
- Minimum requirements for infection prevention and control programmes
- Roadmap to improve and ensure good indoor ventilation in the context of COVID-19
- Water and sanitation for health facility improvement tool (WASH FIT)
- Infection prevention and control assessment framework at the facility level
- Health workforce policy and management in the context of the COVID-19 pandemic response
- The Sphere Handbook: Humanitarian charter and minimum standards in humanitarian response
- Severe acute respiratory infections treatment centre
- Community facilities for preparedness and response to COVID-19
- Outbreak surveillance and response in humanitarian emergencies
- Technical specifications of personal protective equipment for COVID-19
- IHR Benchmark in Joint External Evaluation Tool (3rd Edition)
- Infection prevention and control (IPC) in the context of COVID-19
- Guidance on mask use in the context of COVID-19
- Prevention, identification, and management of infections in health workers in the context of COVID-19
- Long-term care facilities in the context of COVID-19
- COVID-19: How to put on and remove PPE

Pillar 7: Case management, clinical operations, and therapeutics

To reduce mortality, morbidity and long-term sequelae of COVID-19, there will be an ongoing need for adaptation, because the number of patients will fluctuate. Integration of COVID-19 testing into the primary care pathway is critical. This approach should include services for non-communicable diseases and high-risk conditions (e.g., immunosuppression) to ensure patients can be treated as early as possible, reducing the need for hospitalization.

Pressure on staff, facilities and supplies may be reduced through an efficient COVID-19 referral pathway. This maximizes the use of safe care in the community by identifying patients with mild or moderate COVID-19. It improves access to antivirals for patients at high risk and to emergency and critical care in hospital for those who need it. Key challenges include ensuring the availability of sufficient equipment and consumables, maintaining health workforce competence through training, and ensuring safe bed capacity in the event of a COVID-19 surge.

A multidisciplinary approach is required to identify patients with post COVID-19 condition and provide high-quality care to maximize functional recovery. This care needs to be integrated into the health system, coordinated within primary care, and include access to rehabilitative services.

National action plan key activities

A. Transition from emergency response to longer term disease management	☐ Review efforts, activities and financial mechanisms instituted to ensure COVID-19 case management standards can be independently achieved without continuous external support.
	☐ Maintain availability of WHO-recommended pharmacological interventions and non-pharmacological treatment (e.g., equipment for oxygen, non-invasive respiratory support, and mechanical ventilation).
	☐ Focus on oxygen scale-up and on maintaining surge capacity while addressing longer-term oxygen deficits needed to care for people with other conditions.

B. Integrate COVID-19 activities into routine systems	**Guideline uptake**
	☐ Establish a process to disseminate up-to-date guidelines for COVID-19 and post-COVID-19 condition to end-users, train staff in their use, and implement with local adaptation as appropriate
	Integrated care pathways
	☐ Sustain capacities in primary care for detection, monitoring, and management of acute COVID-19 for patients presenting with symptoms suggestive of acute respiratory infection.
	☐ Integrate mental health services into COVID-19 care pathways.
	☐ Mobilize multi-sectoral participation and community engagement in community-based care, including home care.
	☐ Ensure surge referral pathways (including emergency medical teams) for escalation of care at all levels of the health system, including private facilities, and for both acute and post-acute disease, including post COVID-19 condition.
	☐ Promote high-quality care for all hospitalized patients with severe acute respiratory infection, which are responsive to COVID-19-specific management.
	Delivering and improving treatment
	☐ Support international research efforts, such as R&D Blueprint protocols, Solidarity trials for therapeutics and Unity sero-epidemiological studies.
	☐ Integrate COVID-19 care pathways into national- and facility-based quality assurance programmes.
	☐ Establish a system for national decisions and prioritization of COVID-19 therapy to be communicated rapidly and comprehensively as specific recommendations and guidance to health care workers.
C. Strengthen global health security	☐ Formalize national systems for collecting, analysing, and reacting to clinical data–specifically key performance indicators, disease severity and outcomes– as the pandemic changes and with respect to vulnerable and high-risk patient groups (including for pregnant women, children, older patients, and immunocompromised patients).
	☐ Collaborate in international efforts for clinical monitoring and improvements in patient care, for example by contributing data to the WHO Global Clinical Platform for COVID-19.
	☐ Monitor national and subnational workforce surge capacity and ensure qualified staff can rapidly respond to concurrent emergencies.
	☐ Conduct an After-Action Review as a voluntary component under the IHR (2005) Monitoring and Evaluation Framework (IHRMEF), focusing on case management, clinical operations, and service delivery for future public health emergencies**.**

D. Special considerations for fragile, conflict-affected and vulnerable settings, including humanitarian settings

- [ ] Ensure that COVID-19 management is specifically addressed in primary care guidelines aimed at Universal Health Coverage. This includes targeting vulnerable patients in community-based programmes and providing effective oral antivirals for high-risk outpatients.
- [ ] Ensure uninterrupted distribution of effective oral antivirals to community-based programmes and primary care.
- [ ] Ensure training of community-based health workers on COVID-19 care pathways and use of rapid testing and oral antivirals.
- [ ] Continue to strengthen health infrastructure with reliable access to **water, electricity and medical oxygen production and distribution systems contextualized to the situation.**

E. How WHO will support Member States to implement their national action plans

- [ ] Continuously update clinical and therapeutic guidelines that can be adopted and adapted to national clinical and policy environments based on the most recent evidence.
- [ ] Provide health workers with education on evolving guidelines and best practice through the OpenWHO platform.
- [ ] Deploy expert trainers to deliver standardized training programmes through WHO's clinical networks.
- [ ] Expand initiatives on oxygen equity, including technical support for assessing and implementing oxygen infrastructure scale-up and normative guidance on how oxygen can be rationally and efficiently delivered at the patient level.
- [ ] Lead international evaluation and innovation of clinical care for patients with severe acute respiratory infection, including clinical trials on oxygen/respiratory interventions.
- [ ] Support national regulatory authorities in regulatory pathways, oversight and product assessment through prequalification and emergency use listing.
- [ ] Coordinate across the three major work streams of the ACT Accelerator therapeutics pillar, in addition to leading work on the equitable access framework for therapeutics.
- [ ] Provide platforms for therapeutic trials and serological studies (Solidarity Trial Vaccines and Unity Studies: Early Investigation Protocols respectively), and other international research protocols.
- [ ] Coordinate a global platform for the characterization and monitoring of clinical phenotypes of suspected or confirmed COVID-19 cases.
- [ ] Maintain clinical networks that document good practice in community-based, home-based, and hospital care (including humanitarian settings), and support local contextualization and innovation.

Guidance documents

- COVID-19 policy briefs: Clinical management of COVID-19
- WHO SARI Toolkit
- Drugs to prevent COVID-19: Living guideline
- Clinical management of COVID-19
- A clinical case definition for post COVID-19 condition in children and adolescents by expert consensus
- Foundations of medical oxygen systems
- Developing key performance indicators for the medical oxygen ecosystem through Delphi consensus
- Remdesivir for non-severe COVID-19
- Molnupiravir for non-severe COVID-19
- Administration of Nirmatrelvir-ritonavir for COVID-19
- Safety and monitoring for patients receiving Nirmatrelvir-ritonavir for COVID-19
- Safety and monitoring in patients receiving remdesivir for COVID-19
- Administration of Remdesivir for COVID-19
- Safety and monitoring for patients receiving Molnupiravir for COVID-19
- Administration of Molnupiravir for COVID-19
- Coronavirus disease (COVID-19): Post COVID-19 condition
- Coronavirus disease (COVID-19): Corticosteroids, including dexamethasone
- Global compendium of country knowledge on COVID-19 vaccination
- Coronavirus disease (COVID-19): Hydroxychloroquine
- Clinical Platform: COVID-19 dashboard
- Living systematic review of therapeutic options for post-acute or post-COVID-19 condition
- A guide for evidence-informed decision-making, including in health emergencies
- Guidelines for the prophylaxis and management of patients with non-severe COVID-19 in Latin America and the Caribbean
- Guidelines for the care of adult patients with severe or critical COVID-19 in the Americas
- Considerations on the use of antivirals, monoclonal antibodies, and other interventions for the management of COVID-19 patients in Latin America and the Caribbean
- Priority medical devices list for the COVID-19 response and associated technical specifications
- Promising practices and lessons learnt in the South-East Asia Region in accessing medical oxygen during the COVID-19 pandemic
- Medical equipment maintenance programme overview
- Technical specifications for pressure swing adsorption (PSA) Oxygen Plants
- Good practices in the rational and effective use of oxygen, 2022: Rational and effective use of oxygen
- Human resources for medical devices (2022): Health products policy and standards
- Development of medical device policies
- Rapid hospital readiness checklist for COVID-19

Pillar 9: Strengthening essential health services and systems

In the coming two years, there needs to be a seamless transition to addressing long-term population health needs by strengthening health systems worldwide. This is also the cornerstone of controlling and reducing the impact of COVID-19.

National action plan key activities

A. Transition from emergency response to longer term disease management	☐ Re-evaluate the established governance, finance, coordination, and monitoring and coordination mechanisms established during the COVID-19 pandemic.
	☐ Review functional mapping of health providers for acute, chronic, and long-term prevention and care, including those in public, private (commercial and non-profit) and military systems.
	☐ Review essential services list of resource requirements and redistribute resources to optimize workforce gaps and minimize supply chain constraints (see also Pillar 7: Case Management). The WHO COVID-19 surge calculators may be useful in recalibrating workforce needs.
	☐ Document adaptive responses (e.g., teleconsultation, integrated primary care, remapping of referral pathways) and incorporate capacity gains from the response into primary health care strategies to improve system resilience within national health strategic plans.
	☐ Document lessons learned and best practices to inform the management of any potential COVID-19 resurgence and other related public health events.
B. Integrate COVID-19 activities into routine systems	☐ Conduct a rapid health facility COVID-19 transition readiness assessment.
	☐ Ensure dedicated budgets and monitoring and evaluation for national planning and activities for maintaining essential health services.
	☐ Optimize service delivery settings and platforms in primary care and hospital settings, including the need for an integrated multidisciplinary care model for post COVID-19 condition.
	☐ Re-evaluate protocols that limit face-to-face encounters by (e.g., self-management, digital platforms, access to necessary medications and supplies, re-purposed facilitates, reoriented referral pathways).
	☐ Continue to strengthen outreach mechanisms and community-based health care, including increased availability of vaccines and medicines at pharmacies, as needed to ensure delivery of essential services, especially to vulnerable groups.
	☐ Disseminate information to the public on changes in service delivery platforms (including outreach and community-based health care) to guide safe care-seeking behavior.
	☐ Optimize health workforce capacity and protect and support health workers through occupational health and staff safety measures including psychological support, proper training and education, and timely payment for services.
	☐ Ensure safe and effective patient flow (screening, triage, and targeted referral) at all levels.

B. Integrate COVID-19 activities into routine systems (continued)	☐ Engage with information sources trusted by the public - such as primary care clinics, pharmacies, community health workers and leaders, and peer networks, and ensure these sources are kept up to date about changes in essential service delivery and about available resources, such as hotlines.
	☐ Scale-up innovative service delivery models that remain relevant as the pandemic continues to evolve.
	☐ Test service delivery models to reach all sections of the population, including vulnerable groups.
	☐ **Ensure facility-based governance is strengthened for the efficient use of available resources and to maximize impact of interventions.**
C. Strengthen global health security	☐ Assess the risk of vaccine-preventable outbreaks due to decreased vaccine coverage and suspended supplementary vaccine activities and plan catch- up vaccination activities.
	☐ Incorporate lessons learned from implementation of COVID-19 vaccines into other immunization programmes.
	☐ Conduct rapid health facility assessments to monitor the evolving capacity to provide essential health services.
	☐ Identify health facilities that are vulnerable to specific hazards and/or loss of capability, such as natural and/or human-induced hazards (including violence/conflict), supply chain interruption, critical infrastructure failure, (based on the local/country risk profile, monitoring of emerging risks, early warning systems).
	☐ Ensure health facilities have plans and protocols in place for communications on risks, early warning and evolving situations for all staff, patients, visitors, community, and other stakeholders, accompanied by communication materials, technical guidance, training, and exercises.
	☐ Create a dedicated platform for monitoring inventory and stockouts of essential medications, equipment, and supplies and for the coordination of re-distribution of supplies.
	☐ Consider the use of simulation exercises to test and validate systems, processes, and assumptions.
	☐ Identify routine and elective services that can be delayed or relocated to non-affected areas and create a roadmap for progressive phased reduction and re-introduction of services.
	☐ Document lessons learned and impact case studies and conduct an After-Action Review as a voluntary component under the IHR (2005) Monitoring and Evaluation Framework (IHRMEF), following the WHO Director-General's declaration to terminate the PHEIC status for COVID-19, guided by the advice from the IHR Emergency Committee – focusing on operational support and logistics for future public health emergencies.
	☐ If possible, integrate community-based reporting with facility-based health information systems to maintain a comprehensive approach to monitoring service delivery and utilization.

D. Special considerations for fragile, conflict-affected and vulnerable settings, including humanitarian settings

- ☐ Continuously adjust service delivery platforms to the evolution of a humanitarian emergency, taking into consideration population displacement and the forced closure of health facilities.
- ☐ Establish a system through front-loading budgets and pre-funding public and private providers, contracting and reimbursement mechanisms, equity funds, or voucher systems.
- ☐ Negotiate with agencies implementing social cash transfers to include a proportion for health.
- ☐ Make access to health care independent of migration status.

E. How WHO will support Member States to implement their national action plans

- ☐ Continue to update WHO's guidance Maintaining essential health services: Operational guidance for the COVID-19 context (first published in March 2020 and updated in June 2020).
- ☐ Coordinate efforts for rapid service readiness assessments in health facilities, supported by the WHO suite of health service capacity assessments.
- ☐ Continue monitoring and disseminating information on disruptions of essential health services through WHO pulse surveys in all regions.
- ☐ Provide support to update COVID-19 preparedness and response plans to ensure health system and public health functions (including the maintenance of essential services) are well incorporated in emergency planning and management, as well as transitioning and integration with broader planning (e.g., national action plans for health security, all-hazards emergency preparedness and response plans, national health sector strategic plans, and/or equivalents).
- ☐ Strengthen health workforce capacity by monitoring the availability and safety of health workers, ensuring training and support, assessing health worker infections, estimating health workforce requirements for surge and vaccine roll out, and providing guidance on role optimization.
- ☐ Provide dedicated support to countries in health service continuity planning at service delivery and subnational level, in alignment with the principles of the Maintaining essential health services: Operational guidance for the COVID-19 context.
- ☐ In low capacity and humanitarian settings, work with countries and partners to ensure that investments in COVID-19 response capacities are made in the context of a coherent approach to strengthening health systems and identify and document local adaptations and innovations to maintain essential health services.
- ☐ Work with partners and countries to support effective monitoring of health system performance to identify bottlenecks to the dissemination of vaccines, diagnostics, therapeutics, and PPE.
- ☐ Work with partners and countries to develop tools to assess and track service readiness, continuity of essential health services, and health worker capacities and their protection.
- ☐ Identify the most effective shifts in service delivery, including use of digital platforms, to reduce transmission risks and enhance continuity of care.
- ☐ Develop secure digital health strategies with an emphasis on support for self-care and clinical decision support for frontline health workers.
- ☐ **Support a global intensification of essential immunization services to catch up, restore, and strengthen immunization services.**

Guidance documents

- Maintaining infection prevention and control measures for COVID-19 in health care facilities: Policy brief
- Clinical management of COVID-19: Living guideline
- Building health systems resilience for universal health coverage and health security during the COVID-19 pandemic and beyond: WHO position paper
- State of the Global Education Crisis | UNICEF
- PH&E workforce and other HWF guidance documents
- WHO COVID-19 surge calculators
- Essential Programme on Immunization

Countermeasures and research (Pillars 8 and 10)

Pillar 8: Operational support and logistics, and supply chains

The COVID-19 supply chain system (CSCS) was established in 2020 to address acute shortages and provide countries with essential supplies for their COVID-19 response. In 2022, most supply shortages were resolved.

At country level, logistical arrangements to support ad hoc incident management and operations should be firmly in place. Procedures across key areas including surge staff deployments, procurement of essential supplies, staff payments, and use of the Essential supplies forecasting tool should now be familiar.

Limited centralized procurement mechanisms are in place to address remaining supply challenges to support essential services and, where relevant, to allow equitable allocation. Support to accompany Pillar 7 treatment capacity remains in place.

WHO encourages countries to invest in research to address critical unknowns about epidemic and pandemic pathogens, including SARS-CoV-2.

National action plan key activities

A. Transition from emergency response to longer term disease management	☐ Meet ongoing response operations through key operation pillars and partners at national level to ensure procurement of and supply systems in health and other sectors and integrate these needs into sustained response planning (e.g., transition to longer-term solutions and Member State autonomy using long-term agreements).
	☐ Ensure technical capacity to support operation support and logistics (OSL) planning and implementation functions at all levels. Prepare adequate supplies at the national and regional level and set up quick arrangements to deploy when an emergency occurs.

B. Integrate COVID-19 activities into routine systems	☐ Review supply chain control and management system (quality assurance, stockpiling, storage, security, transportation, and distribution arrangements) for medical and other essential supplies.
	☐ Continue to gather key monitoring and performance information, including key performance indicators (KPI) monitoring of lead times, supply gaps and optimization (efficiency, consumption rates, loss rates, access to local markets).
	☐ Integrate delivery and distribution of key COVID-19 product supplies (e.g., (vaccines, diagnostics, PPE, biomedical equipment, and therapeutics) into routine systems, where appropriate.
	☐ Facilitate access to information on current health facility set-up and design in response to the pandemic (e.g., changes to support of better patient care, IPC management including ventilation, reduced consumption of essential supplies and improved waste management, and access to oxygen-therapy options).
	☐ Reinforce logistician capacity building on supply quantification, forecasting, management and dispatching.
C. Strengthen global health security	☐ As a preparedness and response measure, improve local manufacturing and procurement of PPE supplies.
	☐ Document lessons learned and build on capacities strengthened during the response to improve operational support and logistics, including management of stocks within future preparedness and contingency planning for longer term preparedness and response functions.
	☐ Establish and test response scenarios for highest priority risks and forecasted supply needs for each of them. This includes lists of emergency supplies required to initiate a response and an estimation of supply needs for each response scenario.
	☐ Conduct an After-Action Review as a voluntary component under the IHR (2005) Monitoring and Evaluation Framework (IHRMEF), following the WHO Director-General's declaration to terminate the PHEIC status for COVID-19, guided by the advice from the IHR Emergency Committee – focusing on operational support and logistics for future public health emergencies.

D. Special considerations for fragile, conflict-affected and vulnerable settings, including humanitarian settings

- ☐ Work with key humanitarian partners and establish a playbook for who does what; ensure adequate technical capacity and financing to provide an operational support and logistics support role in the direct delivery of supplies, equipment, and services for people in hard-to-reach areas.
- ☐ Coordinate with supply management for regular health services, and with humanitarian supplies and logistics where present, to identify possible integrated solutions for any new common challenges as they arise.

E. How WHO will support Member States to implement their national action plans

- ☐ Provide planning tools including the WHO COVID-19 essential supplies forecasting tool (COVID-ESFT) v4.1 and the COVID-19 v4: operational support and logistics: disease commodity packages.
- ☐ Provide a playbook on pandemic response, allocating roles and responsibilities, use of networks such as the Pandemic Supply Chain Network and the chemical, biological, radiological, and nuclear training hub in Dubai, United Arab Emirates.
- ☐ Provide data sharing protocols and platform for enhanced visibility, including market data, availability, and price.

Guidance documents

- COVID-19 essential supplies forecasting tool
- Overview: COVID-19 essential supplies forecasting tool (COVID-19 ESFT)
- FAQs: COVID-19 essential supplies forecasting tool (COVID-19 ESFT)
- Adapt surge planning support tool
- Health workforce estimator
- Emergency global supply chain system catalogue
- List of priority medical devices for COVID-19 case management
- Disease commodity package for COVID-19

Pillar 10: Vaccination

WHO and partners seek to achieve the recommended vaccination targets of the WHO and Strategic Advisory Group of Experts on Immunization (SAGE), particularly reaching an aspirational target of 100% vaccination coverage among those in the highest priority groups, including older populations (over 60 years of age) and those who are immunocompromised or have underlying conditions. As of May 2023, COVID-19 vaccination had been implemented in nearly every country in the world, and over 13 billion doses had been administered. Sixty-six per cent of the global population had completed the primary series and 23% in low-income countries. This has been the fastest and the most complex global vaccine campaign in history. An estimated 19.8 million deaths were averted in 2021 alone. However, coverage of high-priority groups is still too low in some countries. While 89% of health care workers in 139 reporting countries have completed primary series, this figure is only 52% in low-income countries (LICs). Similarly, while 83% of older populations in 156 reporting countries have completed primary series, this is only 34% in LICs.

There is increasing need to integrate COVID-19 vaccination into more sustainable immunization services or primary health care delivery. This requires policy decisions, political decision making and coordination with future owners of routinized COVID-19 vaccination in high-risk groups, including for booster doses.

The WHO base-case COVID-19 pandemic scenario, as described in the 2022 COVID-19 strategic preparedness, readiness, and response plan, envisions that the virus will continue to evolve over time, which will require additional recommendations (e.g., on booster dosing schedules and new vaccine formulations). In March 2023, WHO SAGE updated its policy recommendations and 'roadmap' for high-, medium- and low-risk groups. Recommendations by the national immunization technical advisory group (NITAG) on whom to vaccinate the with primary series, the first and subsequent booster and integrated platforms used for vaccination services, will need to be established or strengthened according to this new roadmap from SAGE. The 2022 Global COVID-19 vaccination strategy in a changing world updated goals, steps, targets, and operational priorities. Current and still relevant goals are 1) to sustain and enhance momentum to reduce mortality and morbidity, protect health systems, and resume socio-economic activities with existing vaccines; and 2) to accelerate the development and access to improved vaccine products.

As of May 2023, 11 vaccines had received WHO Emergency Use Listing (EUL) and SAGE policy recommendation for use to provide strong protection against severe disease, hospitalization, and death. SAGE continues to review other vaccine products in the pipeline.

National action plan key activities

A. Transition from emergency response to longer term disease management	**Focus on increasing COVID-19 vaccines.**
	☐ Update the national deployment and vaccination plan (NDVP) including strategies for booster doses and targeting vaccination among high-priority groups in line with the latest WHO guidance and SAGE recommendations and NITAG advice.
	☐ Conduct microplanning to implement COVID-19 vaccination in a strategic and prioritized manner, including COVID-19 vaccine programme costs and a plan for vaccine availability and immunization of vulnerable populations, especially those in settings outside government control.
	☐ Define a national vaccine access/procurement approach for the future of COVID-19 vaccination (e.g., bilateral purchase agreement, procurement through UN agency, self-procurement), ensuring that the procurement plan and purchasing strategy includes vaccines, ancillary supplies, and PPE and how such procurement would shift into the routine system.
	☐ Ensure any necessary policies or mechanisms (including legislation) are updated or in place to enable the indemnification of vaccine manufacturers against any losses they may incur from the deployment and use of COVID-19 vaccines.
	☐ Update COVID-19 vaccine programme costs (vaccine, operating costs, human resources and capital costs) in government budgetary and/or planning documents approved by the appropriate authority; and include appropriation or allocation (from ministry of finance or ministry of treasury) in cash planning
B. Integrate COVID-19 activities into routine systems	**Plan for the future.**
	☐ Update NITAG recommendations for the use of COVID-19 vaccines.
	☐ Advocate for adequate human resources.
	☐ Develop a national integration strategy action plan.
	Optimize service delivery with a focus on adult vaccination and co-delivery with other interventions.
	☐ Plan for the integration of COVID-19 vaccination as part of existing or new delivery approaches (platforms) across the life course.
	☐ Identify other health services that can be co-delivered with COVID-19 vaccination, including coadministration with other vaccines, such as for influenza.
	Adapt training and supervision.
	☐ Continue training on coadministration with other vaccines for adults and adolescents and timely reporting of safety events.
	☐ Ensure training plans, curricula, and other materials are updated with the latest SAGE recommendations.
	☐ Adapt supportive supervision tools and develop plans for visits at all levels and consider integrating them as part of routine supervision.

B. Integrate COVID-19 activities into routine systems (continued)	**Strengthen monitoring and evaluation systems.**
	☐ Adapt existing surveillance and monitoring frameworks with a set of recommended indicators for COVID-19, including gathering information from facilities and contractors participating in vaccine delivery and ensuring necessary human resource capacity is in place at all levels.
	☐ Develop or adapt necessary electronic and/or paper-based monitoring tools and appropriate institutional arrangements to monitor progress and coverage among different at-risk groups and facilitate vaccine procurement and delivery and timely reporting.
	☐ Provide training for use of all tools and processes to traditional and new providers.
	Explore integration of cold chain, logistics and infrastructure.
	☐ Monitor and reassess required logistical procedures, dry storage and cold chain capacity and infrastructure at all levels.
	☐ Update waste management supplies, equipment, and training for appropriate implementation of waste management protocols.
	Strengthen and sustain vaccine safety surveillance systems.
	☐ Ensure guidelines, documented procedures and tools for planning and conducting vaccine pharmacovigilance activities have been developed and disseminated to all relevant stakeholders, including surveillance facilities/sites.
	☐ Establish reporting forms and procedures among the Expanded Programme on Immunization (EPI) and national regulatory authorities (NRAs) to share safety information for risk-benefit assessment and decision making.
	☐ Ensure passive safety surveillance systems are in place to conduct routine surveillance for safety signals.
	☐ Conduct active surveillance of specific COVID-19 vaccine-related adverse events. If this is not possible, develop provisions that allow reliance on active surveillance data, decisions, and information from other countries or regional or international bodies.
	☐ Build and strengthen adverse events following immunization (AEFI) committee's capacity to review COVID-19 vaccine safety data (e.g., causality assessment of serious adverse events, clusters of adverse events or emerging safety concerns).
	☐ Identify legal provisions that require manufacturers to implement risk-management plans and collect and report COVID-19 vaccine safety data to the NRA.
	☐ Define roles and responsibilities and establish a coordination mechanism between relevant stakeholders (national regulatory authorities, EPI, marketing authorization holder, ministry of health, WHO and others) for exchange of COVID-19 vaccine safety information, including relevant data systems and information flow and secure appropriate channels.

B. Integrate COVID-19 activities into routine systems (continued)	**Sustain demand and engage the community.**
	☐ Organize vaccination decentralization at sub-national and local levels with the engagement of all necessary stakeholders.
	☐ Continue targeted vaccination designed and tailored to achieve vaccination of older adults, health workers, and others in priority groups and special populations with emphasis on the opportunity to develop delivery approaches.
	☐ Continue engaging health workers as central to vaccine rollout success.
C. Strengthen global health security	**Clarify regulatory approval of new vaccine products.**
	☐ Ensure the national regulatory authority, or other concerned authority, has clarified the regulatory requirements and documents needed for expediated regulatory pathways for approvals of new vaccines and related supplies, including risk-based pharmacovigilance and post-marketing surveillance of products. The expected timeline: maximum 15 days based on reliance on WHO Emergency Use Listing (EUL) or stringent regulatory authority (SRA) Emergency Use/Conditional Authorization (EUA).
	☐ Identify the requirements and documents needed to import vaccine products, including for taxes and tariffs.
	☐ Confirm to WHO and UNICEF the existence of an expedited import approval from appropriate authorities. Timelines and maximum number of days should be mentioned. (Expected timeline: maximum 5 working days.)
	☐ Ensure COVID-19 vaccines can be released (lot release) in less than two days by reviewing the summary lot protocol only (testing is not required). Identify the requirements and documents needed for national regulatory authority (NRA) lot release for COVID-19 vaccines. Timelines and maximum number of days for lot release process should be mentioned.
	Monitoring and evaluation.
	☐ Continue monitoring of vaccine implementation and evaluate COVID-19 vaccine deployment processes and lessons learned.
	☐ For some settings, leverage post-implementation national vaccine effectiveness and impact assessments to inform policy and programme optimization. Establish a system to assess vaccine breakthrough cases as indicators of vaccine effectiveness.

D. Special considerations for fragile, conflict-affected and vulnerable settings, including humanitarian settings

- ☐ Continue to develop context-specific vaccination strategies in fragile settings, including in areas not under government control, as well as those in areas under government control that may be excluded or not covered by the public health system, such as places occupied by detainees, migrants and refugees, and stigmatized populations.
- ☐ Ensure inclusiveness of humanitarian architecture and humanitarian actors in microplanning, funding mechanisms and implementation of vaccination activities in humanitarian settings.
- ☐ Engage with partners to reach displaced populations. Delivery, including specific attention to humanitarian contexts, must be prioritized from the beginning. Community engagement should be a part of all planning and delivery from the start.
- ☐ Develop workable and simplified model legal contracting frameworks and clauses between partners (other than manufacturers and governments) directly engaged in the procurement and supply of vaccines and humanitarian agencies engaged in vaccination programmes.
- ☐ Create an enabling environment for importation directly by humanitarian agencies or government-facilitated importation on behalf of humanitarian agencies for vaccinating humanitarian populations of concern.
- ☐ Strengthen joint agreements and ways of working between public health, development, and humanitarian sectors, agencies, and actors to promote equitable reach for points of care and to facilitate inclusion of humanitarian and development partners in pandemic response coordination at global and country levels.

E. How WHO will support Member States to implement their national action plan

- ☐ On access and availability of vaccines, WHO will:
  - ○ Continue to support the availability of vaccines through COVAX.
  - ○ Provide policy guidance on the use of the vaccines issued by SAGE.
  - ○ Provide guidance regarding COVID-19 vaccine product choices to optimize the COVID-19 vaccine country portfolio (including programmatic considerations).
  - ○ Continue to lead normative guidance on research and development.
  - ○ Support NITAG capacity building and easy access to the latest vaccine documents/information on regular basis.

E. How WHO will support Member States to implement their national action plan (continued)

- [ ] For vaccine deployment, WHO will:
  - Support countries to update their National Deployment and Vaccination Plans (NDVP) and operational microplans, including support of microplanning activities, trainings, and simulation exercises (available from OpenWHO).
  - Support countries in reaching high-risk populations, including with boosters, and strengthening adult immunization platforms.
  - Continue to provide guidance on 1) initiating/building on the integration process, 2) developing a country-level COVID-19 vaccination integration plan, 3) implementation and monitoring, and 4) post-integration follow-up actions.
  - In alignment with Immunization Agenda 2030 goals, support a life course immunization approach, with a focus on strengthening adult immunization platforms and leveraging COVID-19 vaccination lessons.
- [ ] For monitoring and evaluation, WHO will:
  - Monitor vaccine implementation through a global dashboard of key indicators of the introduction and monthly data collection submitted by countries to the COVID-19 vaccine module on the WHO/UNICEF electronic Joint Reporting Form (eJRF).
  - Monitor impact of the COVID- 19 vaccine roll-out on regular immunization and other health services and advocate and support countries to adapt and maintain essential services.
  - Lead normative guidance and coordination on post-introduction vaccine effectiveness, impact, and optimization evaluations to inform vaccine use policies and vaccine development needs; and provide support for a network of post-introduction evaluation on vaccine delivery for different age/population groups and acceptance and performance.
- [ ] For integration and research and innovation, WHO will:
  - Support countries to plan and develop their national immunization strategies (NIS).
  - Promote and facilitate rapid review of existing implementation research and compilation of best practices of COVID-19 vaccination roll-out for future improvements and pandemic preparedness.
  - Continue to convene partners to support their adaptation of digital tools and innovations for the COVID- 19 vaccine roll-out.

Guidance documents

- Considerations for integrating COVID-19 vaccination into immunization programmes and primary health care for 2022 and beyond
- Global COVID-19 vaccination strategy in a changing world: July 2022 update
- COVID-19 vaccines with WHO emergency use listing | WHO - Prequalification of Medical Products (IVDs, Medicines, Vaccines and Immunization Devices, Vector Control)
- Updated WHO SAGE roadmap for prioritizing uses of COVID-19 vaccines
- Interim statement on the use of additional booster doses of Emergency Use Listed mRNA vaccines against COVID-19
- Coadministration of seasonal inactivated influenza and COVID-19 vaccines
- Behavioural and social drivers of vaccination: tools and practical guidance for achieving high uptake
- COVID-19 vaccine delivery toolkit
- Behavioural considerations for acceptance and uptake of COVID-19 vaccines
- Guidance on developing a national deployment and vaccination plan (NDVP) for COVID-19 vaccines
- Guidance on operational microplanning for COVID-19 vaccination
- Considerations for optimizing the COVID-19 vaccine country portfolio
- Considerations for integrating COVID-19 vaccination into immunization programmes and primary health care for 2022 and beyond (technet-21.org)
- Global compendium of country knowledge on COVID-19 vaccination
- Learning how to use the COVID-19 vaccine introduction and deployment costing (CVIC) tool
- COVID-19 vaccine-specific resources
- Orientation to national deployment and vaccination planning for COVID-19 vaccines
- COVID-19 vaccination training for health workers

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