Guidance for U.S. Centers for Disease Control and Prevention Staff for the Establishment and Management of Public Health Rapid Response Teams for Disease Outbreaks: COVID-19 Disease Supplement

Centers for Disease Control and Prevention

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CENTERS FOR DISEASE™
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Abbreviations

CDC	United States Centers for Disease Control and Prevention
COVID-19	Coronavirus disease
HCW	Healthcare worker
IPC	Infection prevention and control
JIT	Just-in-time
RRT	Rapid response team
SOP	Standard operating procedure
TOR	Terms of reference
WHO	World Health Organization

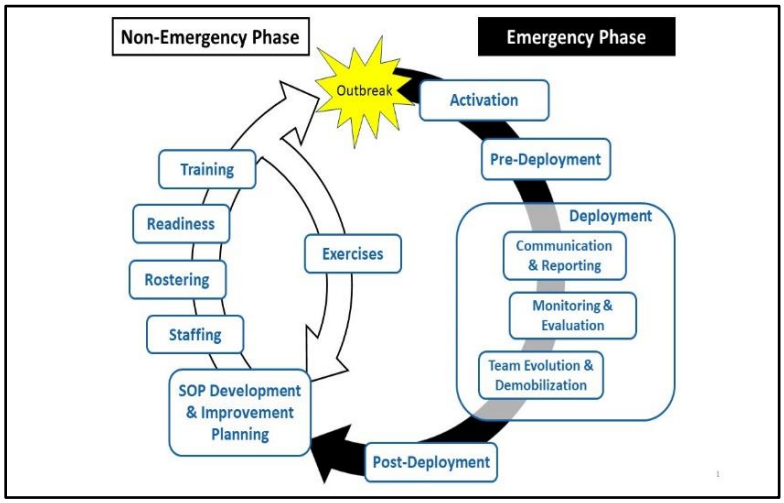
1. INTRODUCTION

Since the first report of a cluster of cases of acute respiratory illness in China, the current coronavirus outbreak (COVID-19) has spread globally exacting a huge toll on individuals, families, communities, and societies across the world, resulting in a World Health Organization (WHO) declaration of a pandemic (1, 2). The COVID-19 response has highlighted the need for a multidisciplinary public health approach—with surveillance, laboratory and health care systems/networks, among others, intersecting and coordinating as part of a larger public health emergency response system. Public health rapid response teams (RRTs) are one mechanism of a larger emergency response strategy that can be utilized in a COVID-19 outbreak to ensure a fast and effective response (3, 4, 5). Reducing the time from disease detection to response limits transmission and potential population mortality and morbidity (2, 4). Thus, as countries seek to maximize their response capacity to COVID-19, this document provides guidance to streamline the RRT operations during a COVID-19 response outside the United States (6). This document aims to guide United States Centers for Disease Control and Prevention (CDC) staff providing technical assistance for COVID-19 RRT capacity development at the national and sub-national levels during an active COVID-19 response (7).

1.1 USE OF THE DOCUMENT

This is a disease specific addendum to the general guidance document for RRT establishment and management: "Guidance for U.S. Centers for Disease Control and Prevention Staff for the Establishment and Management of Public Health Rapid Response Teams for Disease Outbreaks", hereafter referred to as the "RRT General Guidance" (3). The RRT General Guidance outlines in detail the underlying RRT systems and processes, including the standard operating procedures (SOPs), requisite for an effective and efficient RRT.

Figure 1. RRT Non-Emergency and Emergency Phase operations



CDC staff should adapt this disease specific supplement according to a country's emergency response context and existing resources. The relevant RRT emergency processes outlined here assume coordination with and incorporation into a larger response coordination unit (i.e., a public health emergency management program using an Incident Management System (IMS) or country-equivalent system); whenever possible, this guidance should be used to strengthen the existing response system rather than introduce new components.

Due to the current status of the outbreak globally, this supplement is focused solely on COVID-19 considerations during the RRT Emergency Phase and its associated processes (*Figure 1*); Although this supplement incorporates key considerations of the RRT Non-Emergency Phase, it assumes aspects of this phase were established prior to the COVID-19 outbreak.

For those countries without a functional RRT established prior to the COVID-19 outbreak, please look for this icon (to the left) throughout the supplement for guidance on prioritizing RRT capacity efforts during an active emergency.

2 RRT ACTIVATION: COVID-19 CONSIDERATIONS

RRT activation criteria and processes are outlined in the RRT General Guidance, *Section 4.1* (3). For COVID-19, RRT activation may occur prior to detection of a COVID-19 case in a particular administrative area. Examples include when there is transmission in a neighboring administrative area or when the emergency response system has already been activated (e.g. Emergency Operations Center (EOC) activation or country-equivalent). Given the high risk of COVID-19 person-to-person transmission, countries can consider prepositioning multidisciplinary RRTs prior to large-scale transmission. For more information about this and how RRT activation may fit within the larger emergency response system see the "COVID-19 72-Hour Response Plan Checklist" (8).

3 RRT COMPOSITION: COVID-19 CONSIDERATIONS

The ability to rapidly deploy is dependent on having trained, ready-to-deploy staff who are capable of filling critically needed roles for the COVID-19 response. In addition to the considerations outlined in the RRT General Guidance, *Section 4.2*, RRT staffing for COVID-19 can consider the following (3):

- Ensuring health and safety of team members by limiting deployment of those who have serious underlying medical conditions and might be at higher risk for severe illness from COVID-19 (e.g. individuals 65+ years of age, individuals with underlying health conditions) (9)
- RRT deployment and mobility restrictions due to transmission concerns and/or travel restrictions may require staffing at the subnational levels or in pre-positioned locations
- Wide geographic distribution of COVID-19 cases and response needs may require deploying RRT members to multiple strategic locations throughout the country (e.g. urban centers, transportation hubs, etc.) (10)

If an RRT surge roster was not established prior to COVID-19 transmission, consider RRT member emergency recruitment from other ministries, training programs (e.g. Field Epidemiology and Laboratory Training Programs), academia, United Nations agencies, or non-governmental organizations. Focus the roster on only a few key variables such as: contact information, roles, skills, previous response experience, responder training and readiness tracking. These variables can be expanded once outside the RRT Emergency Phase.

3.1 RRT ROLES AND SKILLS

An understanding of general RRT roles and skills are outlined in the RRT General Guidance, *Section 2.4*, and ideally occur in the non-emergency phase; herein we describe some recommended roles and associated skills for a COVID-19 specific RRT (3). Although the roles on the deploying RRT can vary and should be dictated by the response needs and the specific context the RRT will be responding to as described in the RRT General Guidance, *Section 3.2*, the following are commonly represented roles for COVID-19 RRTs: Case Management, Epidemiology, IPC, Laboratory, Risk Communication, and Social Mobilization specialists (*Figure 2*). Example qualifications and responsibilities for the roles can be found in the RRT General Guidance (*Appendix 4*) (3).

Figure 2. COVID-19 RRT Roles (may vary by context) with black arrows indicating roles with potential overlap

It is important to acknowledge the distinction between skills and roles. For example, an Infection Prevention and Control (IPC) specialist responding to COVID-19 may be requested to do a variety of activities such as assess use of PPE in healthcare facilities, implement COVID-19 patient triage processes, establish SOPs for personal protective equipment (PPE) use, and/or train healthcare workers (HCWs) on IPC and PPE. Not all IPC specialists will have the skills or relevant experience to conduct all these activities. Therefore, it is important to identify the skills within each role needed for a COVID-19 response so that the most appropriate RRT members can be selected for deployment. *Table 1* highlights examples of specific skills relevant to a COVID-19 RRT and role(s) that may fulfill the skills.

Table 1. Some examples of COVID-19 RRT skills and associated roles

Skills	Associated Roles (specialists)
Interview suspect, probable, and/or laboratory-confirmed COVID-19 cases	Epidemiology, Case Management
Conduct contact tracing	Epidemiology
Develop screening questionnaires with up-to-date COVID-19 case definitions	Epidemiology, Case Management
Analyze and manage COVID-19 data	Epidemiology, Case Management, IPC, Laboratory, Risk Communication, Social Mobilization
Train HCWs on COVID-19 specimen collection, storage, packaging, and transport	Laboratory, Case Management
Assess and train HCWs on the use of PPE for COVID-19	Case Management, IPC
Identify HCWs and in-patients with suspect COVID-19	Case Management, IPC, Epidemiology
Develop and disseminate messaging about COVID-19 symptoms	Risk Communication, Social Mobilization

3.2 RRT Structure

An understanding of general RRT structure and its flexibility during a response can be viewed in the RRT General Guidance, *Section 4.2* (3). Considering the COVID-19 roles above, the number of RRT members representing each sector and its structure will vary depending on the outbreak characteristics and response needs. For example, although we use the term "team", COVID-19 RRTs may start with just one epidemiologist or clinician investigating an alert. In an ongoing outbreak, in areas with high case fatality rates (CFRs) there may be an increased need for IPC or Case Management Specialists on the team, but in areas where the CFR is low and the major issue is inadequate contact tracing, it may be more important to increase epidemiology representation on the RRT. *Figure 3* provides example RRT structures for possible COVID-19 response scenarios.

Figure 3. COVID-19 RRT composition/structures using example scenarios

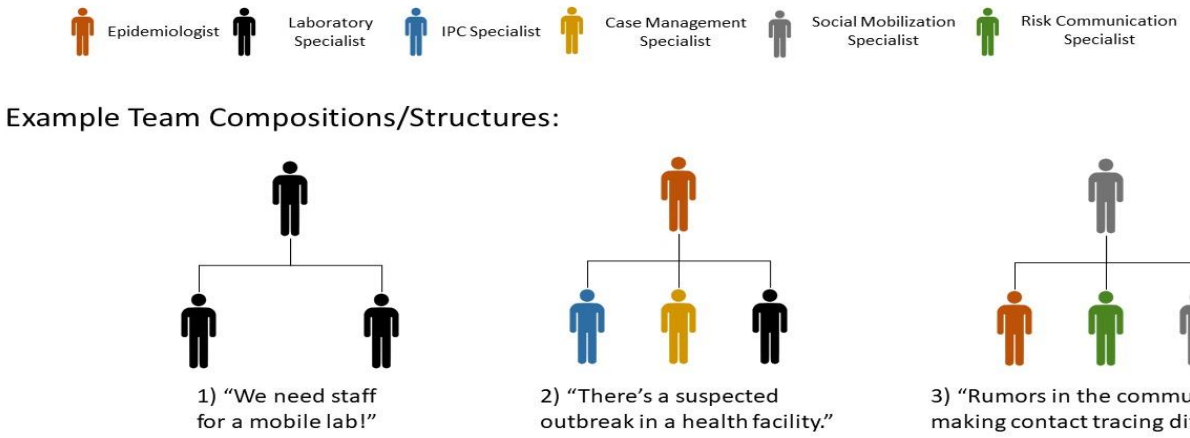


Figure 3 also highlights how the COVID-19 RRTs may have different reporting structures. In the first scenario, the two Laboratory specialists are reporting to a Laboratory specialist Team Lead. In the second scenario, IPC, Case Management, and Laboratory specialists are reporting to an Epidemiologist Team Lead. In the final scenario, there is an Epidemiologist, Risk Communication specialist, and a Social Mobilization specialist reporting to another Social Mobilization specialist Team Lead. These are just illustrative examples of the diversity of expertise that can fill a Team Lead role. Of note, when the deployed RRT is small, the Team Lead can take on dual roles limiting the number of RRT members needed to deploy.

Depending on the need, RRT members can fulfill more than one role on the team. Consider functions with overlapping activities/objectives (e.g., Risk Communication specialist and Social Mobilization specialist, or IPC specialist and Case Management specialist) (see Table 3 below). When the deployed RRT is small, the Team Lead can take on dual roles limiting the number of RRT members as well.

4 Pre-Deployment Processes: COVID-19 Considerations

Pre-deployment processes, including the pre-deployment briefing, Just-in-time (JIT) training and equipping the team, are discussed in more detail in the RRT General Guidance, *Section 4.3* (3). Given the concerns for COVID-19 transmission, additional pre-deployment processes may include addressing concerns associated with COVID-19 responders through counseling and the provision of sensitization materials for family members and the community (11, 12). Additionally, a medical pre-deployment screening may be instituted to ensure RRT members do not have underlying medical conditions that might put them at higher risk for severe illness from COVID-19 (9). Additionally, if not instituted as part of an RRT readiness process in the Non-Emergency Phase, if the RRT member will require a respirator, they should have an initial fit test for the appropriate model/style/size respirator as dictated by local, national and/or international guidance (13).

4.1 Pre-Deployment Briefing

The purpose of the pre-deployment briefing is to provide situational awareness including the latest information on the COVID-19 outbreak and response to deploying RRT members so that they can be effective and safe in the field. Considering COVID-19 transmission, this can be done remotely but often occurs in person due to the need to equip the RRT around the same time as well as confirming the RRT members can properly don and doff personal protective equipment (PPE) (14). The following information can be considered for inclusion in a COVID-19 pre-deployment briefing:

- General information about the status of the outbreak:
  - WHO Novel Coronavirus (COVID-19) Overview
  - CDC COVID-19 Overview
- Latest COVID-19 surveillance data and/or situation reports. This may include local/country specific reports as well as:
  - WHO Situation Reports
  - Johns Hopkins University COVID-19 Case Mapping
- Previous response efforts prior to the RRT deployment including any RRT debriefings from previous teams returning from the field or reports from local public health authorities
- Standardized tools and equipment to use in the field (*4.3 Equipping the team*), such as:
  - COVID-19 case investigation forms (WHO, CDC)
  - Analytic software (e.g. Microsoft Excel©, Epi Info, Go.Data, etc.)
  - COVID-19 laboratory sample collection methods (*Table 2*)
  - COVID-19 media materials for the community and healthcare facilities (e.g. pamphlets, posters, etc.) (*Table 2* for COVID-19 specific examples)
  - Local, national, and international guidelines
    - WHO COVID-19 Technical Guidance
    - CDC COVID-19 Guidance Documents
- Reporting mechanisms identifying the leadership structure and communication responsibilities at all levels. For example, daily RRT reporting by the team leader to the emergency coordination unit (i.e., a public health emergency management program using an Incident Management System or country-equivalent system)
- Objectives that are clear and well-defined and lead to concrete activities in the field (*Table 3*)
- Indicators or metrics for measuring response effectiveness (*Table 3*)
- Update on current safety and security situation, including emergency evacuation plans as well as the following for COVID-19:
  - Practicing proper hand hygiene and wearing of PPE as directed can be included as an activity for all RRT members (14,15)
  - RRT member self-monitoring protocol including how to monitor for signs and symptoms, frequency of checking (e.g. daily fever checks), how this should be documented and guidance on who to report to if they become ill (e.g. medical clinic, RRT leadership, etc.) (16)
- It is Important to highlight resilience information including appropriate protective strategies (e.g. peer support systems and healthy sleeping habits) and available resources to support the mental and behavioral health of the RRT team members while in the field (17,18,19)
  - CDC's Emergency Responders: Tips for taking care of yourself
  - Center for the Study of Traumatic Stress - Coronavirus and Emerging Infectious Disease Outbreaks Response
  - SAMHSA's Tips for Disaster Responders: Preventing and Managing Stress

4.2 JUST-IN-TIME TRAINING

JIT training provides technical information, such as biological and epidemiologic characteristics of the COVID-19 transmission as well as role-specific pertinent information for COVID-19. Considering COVID-19 transmission, JIT training can be provided as e-learning modules, quick webinars, or as reference materials to be reviewed remotely or en route to the field if time does not allow for a more formal training. If the pre-deployment is occurring in-person, JIT training can be provided simultaneously.

CDC is assisting the WHO's Health Emergencies Programme on the creation of online, open-access COVID-19 RRT specific training materials that can be adapted to a country's COVID-19 response context. Once finalized, these trainings will include COVID-19 technical modules on IPC, active case finding and contact tracing, RRT composition and roles, occupational safety and health, data management, environmental cleaning, laboratory sample management, and risk communications and community engagement (20, 21).

There are several other global initiatives for compiling and developing COVID-19 training materials for RRTs. Although the external trainings are not officially endorsed by CDC, they are included here to illustrate the breadth of resources available to be adapted for a COVID-19 RRT JIT training. Some examples include (in alphabetical order):

- Assist International COVID-19 Resources
- CDC Training for Healthcare Professionals
- European Centre for Disease Prevention and Control (ECDC) COVID-19 Basics (Video Trainings)
- Global Outbreak Alert and Response Network (GOARN) COVID-19 Knowledge Hub
- OpenWHO
- Project Hope COVID-19 Training for Health Care Workers: Preparedness and Response
- Train Learning Network
- WHO Simulation Exercise

Maintaining an up-to-date resource database for JIT trainings can save time and effort in deploying a COVID-19 RRT. *Table 2* highlights some open-access JIT trainings relevant to a COVID-19 RRT sorted by role. The external trainings are not officially endorsed by CDC but are provided to illustrate examples of materials that may be useful prior to deployment or while in transit. As trainings may become obsolete over time, updated guidance may supersede the trainings presented below.

Table 2. Example of open-access COVID-19 RRT trainings by role

Role	Resource/Training
Epidemiology	• CDC Interim Guidance for Risk Assessment and Public Health Management of Persons with Potential COVID-19 Exposures • GOARN Go.Data COVID-19 Knowledge Hub • WHO Considerations for investigations of cases and clusters of COVID-19 • WHO Global surveillance for human infection with COVID-19
Laboratory	• CDC Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons for COVID-19 • CDC Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with COVID-19 • University of Nebraska Medical Center (UNMC) Choosing appropriate PPE • UNMC Donning and Doffing • UNMC Nasopharyngeal Specimen Collection • WHO Interim Guidance Laboratory testing for COVID-19 in suspect human cases • WHO Laboratory biosafety guidance related to COVID-19 • WHO Assessment tool for laboratories implementing COVID-19 testing
Infection Prevention Control	• CDC Trainings for Healthcare Workers: IPC Recommendations • CDC Trainings for Healthcare Workers: Optimizing Strategies for healthcare PPE • OpenWHO – Standard precautions: Hand Hygiene • OpenWHO – How to put on and remove PPE • OpenWHO – Severe Acute Respiratory Infection Treatment Facility Design • Train Learning Network – PPE • WHO Basic Hygiene and Transmission • WHO Healthcare Facility-based IPC
Case Management	• American College of Physician's: COVID-19 Clinical Response and Resources • CDC Evaluating and Testing persons for COVID-19 • CDC Operational Considerations for Containing COVID-19 in non-US Healthcare Settings • Infection Prevention and Control for the safe management of a dead body in the context of COVID-19 • WHO Community-based healthcare, including outreach and campaigns, in the context of the COVID-19 pandemic • WHO Severe Acute Respiratory Management
Social Mobilization/Risk Communication	• CDC Crisis and Emergency Risk Communication (CERC) Overview for COVID-19 • CDC COVID-19 Resources for Communicators • ECDC Infographics/leaflets about COVID-19 • GOARN Risk Communication & Community Engagement COVID-19 Knowledge Hub • Social Science in Humanitarian Action Platform: Key Considerations for online information, mis- and disinformation in context of COVID-19 • WHO Mythbusters: COVID-19 Advice for the public • WHO Risk Communication & Community Engagement Readiness and Response Guidelines

JIT training is one component of a larger RRT training paradigm as mapped out in the RRT General Guidance, *Section 3* (3). If RRT training did not exist prior to COVID-19 transmission, JIT training should be used as the RRT onboarding training for new RRT members in the RRT Emergency Phase.

4.3 EQUIPPING THE TEAM

Equipping the team for COVID-19 should focus on the technical/scientific supplies, as well as the operational and the safety (e.g. PPE) supplies. Below is a sample equipment list for COVID-19 RRT members deploying to the field. This list should be adapted to the local/national guidance as well as to the context of the COVID-19 response in the country. Extra check boxes have been added to encourage adaptation. The different categories generally align with specific roles on the team, but some overlap is expected. When adapting the list, consider what materials may be available for procurement in the field versus what needs to be procured from headquarters and carried by the RRT to the field. Please see sample equipment

Sample equipment checklist for deploying COVID-19 RRT members

Team Overall

- ☐ List of key contacts (local officials, external partners, national stakeholders, etc.)
- ☐ Most recent situation report (ensure it is regularly received)
- ☐ Money to finance team activities
- ☐ Map (if available) and list of healthcare facilities, by type
- ☐ Mobile phone with sufficient credit to stay in contact with team members and emergency coordination unit
- ☐
- ☐

Epidemiology

- ☐ National guidelines for COVID-19 response (WHO/CDC guidelines where national guidelines are not available)
- ☐ National data to reference/comparison with local data (if national COVID-19 RRT)
- ☐ Computer with data analysis software (MS Excel©, EpiInfo, etc.)
- ☐ Copies of COVID-19 RRT surveillance/epidemiology training materials (printed and electronic copies)
- ☐ Standardized line list templates with key variables (printed and electronic copies)
- ☐ Hospital patient registers with key variables
- ☐ Case definitions (printed and electronic copies)
- ☐ Case investigation forms (printed and electronic copies)
- ☐ Notebook and writing utensils
- ☐ Camera, to take photos of hand-written line lists or other documents for later analysis
- ☐ GPS for healthcare facility coordinates
- ☐
- ☐

Laboratory

- ☐ National guidelines for laboratory protocols and testing (if don't exist, include WHO protocols)
- ☐ Sample collection job aids
- ☐ Laboratory training materials (printed and electronic copies)
- ☐ Laboratory request form
- ☐ Gloves
- ☐ N95 masks

- ☐ Gowns
- ☐ Face shields
- ☐ Head covers/shoe covers if collecting samples
- ☐ Specimen collection supplies (swabs, sterile transport tubes, sterile saline, sputum collection cup – may vary depending on type of test administered)
- ☐ Transport media
- ☐ Cold packs/cooler (per assay requirements)
- ☐ Specimen collection bags
- ☐ Laboratory coats (disposable if appropriate)
- ☐ Permanent markers
- ☐ Laboratory tape/labels
- ☐ Packaging and shipping materials
- ☐
- ☐

<u>Infection Prevention and Control</u>

- ☐ Surgical masks and respirators (e.g. N95 mask)
- ☐ Face shields or goggles
- ☐ Gloves
- ☐ Gowns
- ☐ Other PPE per national guidelines
- ☐ Alcohol-based hand rub (if available)
- ☐ Soap
- ☐ Handwashing stations with covers and spigots
- ☐ Healthcare facility evaluation checklist
- ☐ Social mobilization/information education and communication materials
- ☐ Cleaning and disinfection supplies (e.g. bucket, cloths, 0.1% sodium hypochlorite or other disinfectant, 0.5% chlorine for large spills)
- ☐
- ☐

<u>Case Management – Patient Care</u>

- ☐ Medications for disease treatment (per local and/or national guidelines)
- ☐ Medical supplies for patient treatment (e.g. needles, intravenous tubing, oxygen tubing, oxygen tanks, etc.)
- ☐ Supplies to assess patient status (e.g. pulse oximeter, blood pressure cuff, etc.)
- ☐
- ☐

<u>Case Management – Health Facility</u>

- ☐ National guidelines for COVID-19 clinical care, healthcare facilities, etc.
- ☐ RRT case management training materials (printed and electronic copies)
- ☐ Clinical care posters/media for healthcare facility staff
- ☐ Case investigation forms (printed and electronic copies)
- ☐
- ☐

<u>Social Mobilization/Risk Communication- Household/ Community</u>

- ☐ Brochures, factsheets, posters specific to COVID-19
- ☐ Health education/health promotion materials for distribution
- ☐ Information on access to nearest healthcare facility and pharmacies

- ☐ Megaphone
- ☐ Photo and video equipment (per local guidance and attitudes toward photography and filming) including lenses, batteries, chargers, memory cards, and storage for media
- ☐ Awareness of recent/historical events impacting a community's willingness and ability to engage in preventative behaviors
- ☐ Risk communication materials developed for previous outbreaks to be used as reference
- ☐
- ☐

<u>Social Mobilization/Risk Communication - Health Facility</u>

- ☐ National guidelines for outbreak response
- ☐ Patient management posters for COVID-19
- ☐ Educational posters and/or pamphlets for patients, caregivers, and contacts (if appropriate)
- ☐ Awareness of recent/historical events impacting health facility staff and patients (e.g. shortages of PPE in the area)
- ☐
- ☐

5 DEPLOYMENT PROCESSES: COVID-19 CONSIDERATIONS

The deployment processes include RRT coordination and reporting, RRT evolution (team members changing over, handoff of information, etc.) and RRT demobilization are discussed in more detail in the RRT General Guidance, *Section 4.4* (3). Of these, RRT coordination and Reporting may require specific modifications for the COVID-19 response.

In terms of coordination, *Table 3* provides example terms of references (TORs) including objectives, activities, deliverables, and indicators specific to a COVID-19 response that should be adapted to the local and current response context. These TORs can be used to help coordinate RRT activities with other aspects of the COVID-19 response including coordination with other response stakeholder activities. Additionally, the TORs can be used as indicators to monitor the RRTs in the field and included in the RRT's reporting processes.

Coordinating remote RRT support may be another option a country considers during the COVID-19 response; that is, deploying RRT members (especially those at high risk) to the emergency coordination unit rather than to the field, due to the virus's high transmissibility (9, 22). Remote engagement can be a challenge as it requires finding alternative mechanisms to engage in the response including a functional information technology network. This can include the use of mobile platforms for data collection, hosting virtual coordination/team meetings, provision of remote trainings, and utilizing pre-existing telehealth services if applicable.

In addition to standard RRT reporting measures (e.g. situation reports, mission reports, etc.), RRT member health monitoring for COVID-19 can be established as part of the reporting process (3). For example, standard operating procedures on what to do if an RRT member feels ill and/or meets sign/symptom criteria for COVID-19. This should include how and how often they should monitor their health (i.e., temperature measurements twice per day), who they should notify (i.e., team lead and/or RRT management), and what isolation/testing and treatment measures will need to be in place. An established plan to safely transport an ill RRT member to appropriate medical care can save valuable time in case of an emergency. If feasible, identify organized and empathetic team members to provide mid-deployment outreach in the form of telephone calls or emails to briefly and simply check-in with deployers in the field to identify any potential risks or resource needs.

If no previous RRT deployment SOP exists prior to COVID-19 transmission:

- Consider utilizing deployment SOP(s)/processes that have been used for other public health emergencies
- For the first RRT deployed to an area, consider including an experienced RRT team lead with knowledge of general response operations and the RRT's role within the larger emergency response system

Table 3. Example objectives, activities, deliverables, and indicators/metrics by COVID-19 RRT role

Note: Proper hand hygiene and wearing of personal protective equipment as directed should be included as an activity for all COVID-19 RRT members

Role	Objectives	Activities	Deliverables	Indicators/Metrics
Team Leader	1. Provide regular communication between the RRT and emergency coordination unit 2. Identify and communicate on RRT needs in the field including human resources, logistics, resources, and subject matter expertise support 3. Ensure inter-team communication and coordination 4. Address and resolve inter-team conflict Monitor RRT member's mental and physical wellbeing 5. Determine field response strategy	• Attend meetings with local government staff and external partners engaged in on-the-ground response activities • Develop RRT priorities and daily rhythm • Institute daily RRT meeting sessions for updates on RRT members activities, challenges, and needs ensuring the RRT activities are non-duplicative and aligned with response priorities • Build in time for colleagues to provide social support to each other • Ensure that staff are aware of where and how they can access mental health and psychosocial support services • Send regular reports (by SMS, phone, or email) to the RRT manager or country-equivalent in the emergency coordination unit • If COVID-19 daily RRT health monitoring is instituted (i.e. daily check for COVID-19 signs/symptoms), then ensuring RRT members are compliant with their daily checks	• RRT Status Reports • Team plans/priorities	• Timely RRT reports sent (per reporting schedule) • Assess if weekly priorities were met; follow-up on unmet priorities

Role	Objectives	Activities	Deliverables	Indicators/Metrics

Epidemiology (23)	1. Rapidly detect cases of COVID-19 and evidence of transmission among contacts
	2. Reduce transmission, delay spread of disease, and rapidly contain new outbreaks
	3. Systematically identify all social, familial/household, work, healthcare, and other contacts of a suspect, probable or laboratory-confirmed case of COVID-19
	4. Identify individuals at increased risk in the community or healthcare facility as early as possible
	5. Evaluate and strengthen surveillance capacity
		• Interview and collect specimens from suspect, probable, and/or laboratory-confirmed COVID-19 cases and conduct designated contact tracing activities
		• Ensure the use of and adherence to a standardized line list (e.g. sex, age, date of symptom onset, etc.) per local, national, and/or international guidance
		• Monitor contacts through contact tracing of suspect, probable and laboratory-confirmed COVID-19 cases per local, national, and/or international guidance
		• Implement active case finding and monitor for COVID-19 alerts as thresholds dictated by local, national, and/or international guidance
		• Ensure adherence to COVID-19 standardized case definitions
		• Ensure regular reporting from healthcare facilities including "zero" cases in the absence of cases; reporting period may vary by context
		• Institute screening questionnaires with COVID-19 case definitions
		• Work with IPC specialists to maintain records of all person entering a COVID-19 patient's room, including all staff and visitors
			• Screening questionnaires
			• Case reporting forms; possible transition to aggregate daily/weekly reporting form if necessary
			• Line list of COVID-19 cases in all healthcare facilities
				• # and % of healthcare facilities from which line lists are available and/or submitted
				• # and % of healthcare facilities using standardized case definitions
				• # and % of healthcare facilities using a standardized line list
				• # and % of local staff trained on
				  ○ Case investigation
				  ○ Contact tracing
				• # and % of contacts investigated within 48 hours of identification
				• # and % of contacts notified and quarantined within 48 hours of notification
				• # and % of contacts registered in local data management system
				• # and % daily follow-ups of persons registered in line list
				• # and % of contacts followed up daily for 14 days or until laboratory-confirmed as a case
				• Proportion of alerts investigated in 24-hour period

Role	Objectives	Activities	Deliverables	Indicators/Metrics
Laboratory (24)	1. Provide guidance for epidemiologists/ surveillance staff on rapid collection, storage, and shipment of specimens to laboratories 2. Support the building of lab capacity and technical assistance for laboratory networks	• Ensure access to prompt laboratory testing for identification of the etiologic agent • Conduct specimen collection as directed by local, national and/or international guidance • Provide training on the collection and transportation of specimens (e.g. safe handling practices, spill decontamination procedures, biosafety, and quality assurance) • Ensure adequate SOP(s) are in use and staff are trained for appropriate specimen collection (e.g. if swabs are degraded/unusable), storage, packaging, and transport • Provide accurate and timely reporting of laboratory results to inform epidemiology on case investigation/contact tracing activities • Provide sample collection and testing guidance to local health facilities and laboratories, per local, national/and or international guidance	• Report of: ○ Total samples ○ Positive samples ○ Types of tests • Laboratory sample tracking form • Laboratory specimen data report to submitter (e.g. healthcare facility, HCWs, case-patients, etc.) • Testing capacity report	• # and % of samples tested in a 24-hour period • # and % positive COVID-19 tests in a 24-hour period • # and % of lab results linked to a line list • Time from sample collection to testing and results reported to submitter (e.g. healthcare facility, HCWs, case-patients, etc.)

Role	Objectives	Activities	Deliverables	Indicators/Metrics

Infection Prevention Control (25,26)	1. Ensure rapid identification and isolation of suspect, probable, and/or laboratory-confirmed COVID-19 cases
	2. Oversee implementation of precautions for COVID-19, including engineering and administrative controls
	3. Ensure adherence of standard IPC precautions
		• Ensure triage procedures at registration are functional and equipped with trained staff
		  ○ Ensure suspect COVID-19 patients are appropriately triaged, isolated, and managed
		  ○ Ensure designated waiting areas for symptomatic patients
		• Ensure appropriate signage (e.g. cough etiquette, direction respiratory waiting area) is placed at strategic locations around healthcare facilities
		• Ensure HCWs wear appropriate PPE based on activity (e.g. triage, patient care, or cleaning activities)
		• Ensure adequate supplies of PPE and provide guidance for optimizing available supply of PPE (and alternate strategies if there is not enough PPE)
		• Develop SOPs for environmental cleaning procedures, particularly for the triage and isolation areas where suspect or confirmed COVID-19 patients will be placed
		• Develop staffing plans to adequately staff isolation areas(consider if cohorting staff is feasible)
		• Develop contingency plans for PPE shortages and other IPC consumable (e.g. alcohol-based hand rub) shortages in collaboration with national and sub-national public health authorities
		• Educate healthcare workers (HCWs), patients, and visitors on signs, symptoms, and required IPC protocols
		• Ensure adherence to national and facility IPC policies and standard operating procedures (SOPs)
		• Build appropriate triage processes, equipped with trained staff, to rapidly identify suspect cases
		• Implement appropriate isolation space and guidance for patients waiting to be seen
		• Design a system to rapidly identify HCWs and inpatients suspect cases
		• Establish visitation policies/procedures and guidelines that reduce the risk of transmission to both visitors and patients
			• Developed and implemented IPC policies and SOP contents
			• IPC assessments conducted and work plan developed
			• Structural controls established (e.g. triage set-up, registration area, respiratory waiting area)
			• IPC focal person and team in place
			• Trained HCWs
			• Signage placed in strategic areas
				• # and % of suspect COVID-19 cases identified among inpatients
				• # and % of laboratory-confirmed COVID-19 cases identified among inpatients (where testing capacity exists)
				• # and % of infections among HCWs
				• # and % of nosocomial infections
				• Proportion of healthcare facility entrances that have signs referring patients with COVID-19 symptoms directly to a registration area
				• Proportion of patients presenting with self-reported COVID-19 symptoms

Role	Objectives	Activities	Deliverables	Indicators/Metrics
Case Management (27)	1. Ensure optimized care for all patients, especially the seriously ill 2. Minimize the impact of the epidemic on health systems, social services, and economic activity 3. Ensure healthcare facilities have the resources, staff, and processes to effectively manage and treat COVID-19 patients 4. Implement HCW safety practices and SOPs	• Ensure patient care is appropriate for the severity of disease presentation based on local, national, and/or international guidance (i.e. self-isolation versus hospitalization versus ICU admission) • Train HCWs on educating patient caregivers in outpatient settings • Train HCWs on appropriate triaging for case management and treatment • Ensure adequate patient/staff ratio • Establish a surveillance process for HCW acute respiratory infections caused by COVID-19 • Monitor HCW compliance with standard precautions including PPE and providing mechanisms for improvement as needed • Ensure standard operating procedures are distributed to all relevant stakeholders including: ○ Case management ○ Infection prevention and control guidelines ○ Standardized case investigation forms • Set up or identify existing hospitals, clinics, or alternate care sites (e.g. stadiums, gyms, convention centers) to prepare for increased community transmission • Evaluate healthcare facilities on the following criteria: ○ Use of IPC and PPE ○ Triage and admission criteria ○ Patient flow ○ Use of standard COVID-19 treatment protocols ○ Isolation and separation • Monitor data from heavily affected areas (e.g. hospitalizations, health-facility case fatality rates, service delivery, etc.) to assess healthcare facility needs for training as well as resource allocation (beds, ventilators, PPE, etc.)	• Report on adherence to standardized treatment and case management • List of healthcare facilities in need of supplies/equipment	• # and % utilization of medical equipment, such as ventilators, Continuous positive airway pressure (CPAP) machines, other respiratory equipment • # and % daily and/or weekly bed occupancy at health facilities • # and % utilization of consumables (e.g. medications, PPE, etc.) for case management • CFR at healthcare facilities • Rate of HCW infections

Role	Objectives	Activities	Deliverables	Indicators/Metrics
Social Mobilization (28)	1. Coordinate with Risk Communication specialist and Epidemiologist to guide community intervention 2. Identify common misconceptions and rumors regarding COVID-19 3. Identify resistance and/or reluctance from the community to follow recommended guidance 4. Tailor COVID-19 communication materials to be applicable and increase the reach of the response	• Monitor public discourse for misconceptions and rumors (e.g. through country cables, social media channels) • Establish methods for understanding concerns attitudes and beliefs of key audiences • Identify target audiences and gather information about their knowledge and behaviors • Collect and answer all questions from the community • Identify community leaders, religious leaders, health workers, traditional healers, and alternative medicine providers. Establish regular communication (e.g. weekly technical calls) to gain insight and input from these stakeholders, while also inquiring about gaps, needs, and questions that may not be captured by other surveillance methods. • Identify networks like women's groups, community health volunteers, youth associations, religious groups, unions, and social mobilizers for other diseases that can assist with community engagement • Anticipate special information and engagement needs for people who are disabled, illiterate, or may otherwise have difficulty accessing information about the outbreak • Train leaders and networks to share plain language messaging tailored to the needs and concerns of their communities	• Map of areas targeted with social mobilization campaigns • Lists of community leaders and networks • Messaging tailored for different audiences and information needs • Knowledge, attitudes, and perceptions (KAP) surveys or other community feedback mechanisms • Communication surveillance reports from formal and/or informal channels	• # and % of households per affected area that received health education/materials • # and % of community HCWs trained per affected area • # and % of healthcare facilities receiving posters and educational materials for staff/patient/families • # of rumors and/or misperceptions reported and addressed

Role	Objectives	Activities	Deliverables	Indicators/Metrics

Risk Communication (28)	1. Communicate about public health precautions
	2. Plan regular and proactive communication and engagements
	3. Prepare to communicate about COVID-19 index cases in new areas
	4. Engage with internal and external response partner coordination
		• Prevent "infodemics"(an excessive amount of information about an issue that makes it difficult to identify a solution) —this builds trust, increases probability that health advice will be followed, and manages rumors/misunderstandings
		  ○ Regularly monitor for the publishing of new or updated technical guidance from international and local health authorities. Prepare plain language key messaging based on these documents.
		• Encourage adoption of COVID-19 protective behaviors, with consideration for the populations that you'll be serving in-country (e.g. not solely advising physical distancing and hand washing with water in a refugee camp setting) as dictated by local, national and/or international guidance
		• Provide clear and concise messaging about COVID-19 symptoms and distinction between mild versus severe symptoms along with follow-up action
		• Maintain a 24/7 local hotline for people to call for guidance
		  ○ Write a script with plain language risk communication messaging that hotline staff can refer to during calls
		  ○ Encourage people to call hotline (if available) or their healthcare provider if they have concerns, questions, or develop symptoms
		• Provide appropriate messaging on use of masks per local, national and/or international guidance
		• Collaborate with in-country stakeholders to determine the most effective forms of communication (e.g. social media, radio, television, printed materials) for community reach
		• Minimize social disruption with effective risk communication strategies
		• Train leaders, responders, and spokespersons on Risk Communication guidance
			• Communication plan
			• Risk Communication checklist for both scenarios:
			  ○ No COVID-19 cases identified
			  ○ COVID-19 cases already identified
			• Daily/weekly/monthly talking points
			• Risk communication skills training
			• 24/7 local hotline plan including script for staff
				• # and % of people following protective measures guidance appropriately
				• # of rumors and/or misperceptions reported and addressed
				• # and % leaders, responders, and spokespersons trained on risk communication guidance
				• Social media and/or website analytics, if applicable

6 POST-DEPLOYMENT PROCESSES: COVID-19 CONSIDERATIONS

The post-deployment processes include the RRT mission report, resources for returning team members, debriefing, and after-action reviews are outlined in the RRT General Guidance, *Section 4.5* (3). COVID-19 specific considerations are highlighted in the Resources for Returning Team Members and in Debrief processes below.

6.1 RESOURCES FOR RETURNING TEAM MEMBERS

In addition to the standard resources recommended for all RRT members outlined in the RRT General Guidance (3), the following can be considered for COVID-19 RRT members specifically:

- Providing resources to ensure RRT members maintain the practice of proper hand washing, social distancing, and use of PPE upon return as dictated by local, national and/or international guidance
- Instituting a self-isolation and/or monitoring period per local, national, and/or international guidance (29)
- Delineating processes to report and receive care if an RRT member or their family member becomes ill
- Addressing stigmatization through sensitization campaigns and providing resources to families concerned about an RRT responder returning home (11, 12)
- Considering the provision of lodging or other resources during the self-isolation and/or monitoring period for RRT members not able to return to their homes as a protective measure for family members who might be at higher risk for severe illness from COVID-19 (9)

With the disruptive effects of COVID-19, including social distancing and modifying daily livelihoods, it is important for responders to check in on each other, and be mindful of and sensitive to unique mental health needs. It may be difficult for responders to adjust to self-isolation and/or monitoring after responding to an outbreak for many weeks or even months. Resources should be provided to responders to address any anxiety or fear this may cause. Mental health and wellbeing resources for responders should be identified prior to their deploying and access to these resources provided upon a responder's return. Local resources are encouraged. Example of international COVID-19 open-access resources include:

- WHO Mental Health and Psychosocial Considerations during the COVID-19 Outbreak
- Johns Hopkins University Mental Health and Psychosocial Support for COVID-19

6.2 DEBRIEF

Debriefs, meetings to collect feedback from responders, are a key mechanism to identify timely solutions to challenges during the response – RRT General Guidance, Section 4.5.3 (3). As debriefs are recommended to occur shortly after RRT members return from the field and may coincide with a COVID-19 self-isolation period, debriefs may need to occur remotely. This process should be delineated prior to deploying an RRT, so the RRT member is prepared to provide feedback on return. The process should consider the when, how (individual vs. group, standardized questions vs. ad hoc), and by what modality (e.g. telephone, video chat, etc.) the debrief will be conducted. If behavioral health resources are available, it might be helpful to have clinical professionals participate in debrief sessions to identify any potential stressors and provide pro-active emotional support and/or resources upon return.

7 CONCLUSION

The COVID-19 response has highlighted the need for a multidisciplinary public health approach—with surveillance, laboratory and health care systems/networks, and others, intersecting and coordinating as part of a larger emergency response system. This disease-specific guidance builds on the all-hazard approach for RRTs outlined in the RRT General Guidance (3) and assumes an RRT has been established using the RRT Non-Emergency Phase processes. The considerations presented, though written specifically for COVID-19, can be useful for and applied to other disease contexts. CDC staff should adapt this supplement according to a country's emergency response context and existing resources.

Example Job Aid for COVID-19 RRT Responders
Case Management

Example content below is illustrative and is not meant to be comprehensive of all activities an RRT member may perform in this role. This is intended to be adapted to the local context, response priorities, and congruent with local, national and/or international guidance.

Example Objectives

- [Include adapted objectives here]
- Ensure optimized care for all patients, especially the seriously ill
- Minimize the impact of the epidemic on health systems, social services, and economic activity
- Ensure healthcare facilities have the resources, staff, and processes to effectively manage and treat COVID-19 patients

Example Activities

- [Include adapted activities here]
- Ensure patient care is appropriate for the severity of disease presentation based on local, national, and/or international guidance (i.e., self-isolation vs. hospitalization vs. ICU admission)
- Train HCWs on how to educate patient caregivers in outpatient settings
- Train HCWs on appropriate triaging for case management and treatment
- Ensure adequate patient/staff ratio
- Establish a surveillance process for HCW acute respiratory infections caused by COVID-19

Example Deliverables

- [Include adapted deliverables here]
- Documented # of health facilities and their location
- Communicate with IPC about policy/guideline adherence
- Report adherence to standardized treatment and case management
- List of healthcare facilities in need of supplies and equipment
- Calculated healthcare facility mortality rates to see trends, successes, and areas for improvement

Example Indicators

- [Include adapted indicators here]
- % utilization of medical equipment, such as ventilators, CPAP machines, and other respiratory equipment
- % bed occupancy at healthcare facilities

Equipment Checklist

<u>Patient Care</u>

- ☐ Medications for disease treatment (per national guidelines)
- ☐ Medical supplies for patient treatment (e.g., needles, intravenous tubing, oxygen, tubing, etc.)
- ☐ Supplies to assess patient status (e.g., pulse oximeter, blood pressure cuff, etc.)
- ☐

<u>Health Facility</u>

- ☐ National guidelines for COVID-19 clinical care, healthcare facilities, etc.
- ☐ RRT case management training materials (hard and soft copies)
- ☐ Clinical care posters/media for health facility staff
- ☐ Case investigation forms (hard and soft copies)
- ☐

Transmission Scenarios (1)

Countries or subnational areas will have to respond rapidly to one or more transmission scenarios

1. Countries with no cases (no cases)
2. Countries with one or more cases, imported or locally acquired (sporadic cases)
3. Countries experiencing cases clusters in time, geographic location, or common exposure (clusters of cases)
4. Countries experiencing larger outbreaks of local transmission (community transmission)

Prioritized Testing Strategies (2)

No cases:

- Test all suspect cases in an effort to rapidly detect first cases in a new area

Community transmission or testing capacity needs unmet:

- Early identification and protection of vulnerable patients and healthcare workers
- Focused testing in healthcare facilities ensures that IPC measures can be correctly implemented to protect vulnerable patients without COVID-19 from nosocomial infection
- Testing among vulnerable populations and risk groups will be important for minimizing progression to severe disease
- Results of testing for specific populations (e.g., patients requiring hospitalization for respiratory disease) can estimate size of outbreak and be used to monitor trends

Community transmission with limited resources:

- People who are at risk of developing severe disease and vulnerable populations, who will require advanced care
- Healthcare workers (including emergency services and non-clinical staff) regardless of whether they are a contact of a confirmed case (to protect healthcare workers and reduce the risk of nosocomial transmission)
- The first symptomatic individuals in a closed setting (e.g. schools, long-term living facilities, prisons, hospitals) to quickly identify outbreaks and ensure containment measures.
- All others individuals with symptoms related to closed settings may be considered probable cases and isolated without additional testing, if testing capacity is limited

Management of Mild COVID-19: Symptomatic Treatment and Monitoring (1)

- Patients with mild disease do not require hospital interventions, but isolation is necessary to contain virus transmission and will depend on local, national, and/or international guidance
- Provide patients with mild COVID-19 with symptomatic treatment such as antipyretics for fever
- Counsel patients with mild COVID-19 about signs/symptoms of complicated disease. If they develop any of these symptoms, they should seek urgent care through national referral symptoms

Management of Severe COVID-19: Oxygen Therapy and Monitoring (1)

- Give supplemental oxygen therapy immediately to patients with severe acute respiratory illness (SARI) and respiratory distress, hypoxemias or shock and target
- Closely monitor patients with COVID-19 for signs of clinical deterioration, such as rapidly progressive respiratory failure and sepsis and respond immediately with supportive care interventions
- Understand the patient's co-morbid condition(s) to tailor the management of critical illness

Resources

- American College of Physician's: COVID-19 Clinical Response and Resources
- CDC Evaluating and Testing persons for COVID-19
- CDC Operational Considerations for Containing COVID-19 in non-US Healthcare Settings
- Infection Prevention and Control for the safe management of a dead body in the context of COVID-19
- WHO Severe Acute Respiratory Management

References

1. World Health Organization. (2020). Operational considerations for case management of COVID-19 in health facility and community . Geneva: WHO.
2. World Health Organization. (2020). Laboratory testing strategy recommendations for COVID-19. Geneva: WHO.

Example Job Aid for COVID-19 RRT Responders
Epidemiology

Example content below is illustrative and is not meant to be comprehensive of all activities an RRT member may perform in this role. This is intended to be adapted to the local context, response priorities, and congruent with local, national and/or international guidance.

Example Objectives

- [Include adapted objectives here]
- Rapidly detect cases of COVID-19 and evidence of transmission among contacts
- Reduce transmission, delay spread of disease, and rapidly contain new outbreaks
- Systematically identify all social, familial/household, work, healthcare, and other contacts of a suspect, probable or laboratory-confirmed case of COVID-19

Example Activities

- [Include adapted activities here]
- Interview and collect specimens from suspect, probable, and/or laboratory-confirmed COVID-19 cases and conduct designated contact tracing activities
- Ensure the use of and adherence to a standardized line list (e.g., sex, age, date of symptom onset, etc.) per local, national, and/or international guidance
- Monitor contacts through contact tracing of suspect, probable, and laboratory confirmed COVID-19 cases per local, national, and/or international guidance

Example Deliverables

- [Include adapted deliverables here]
- Screening questionnaires and/or case reporting forms
- Line list of COVID-19 cases in all healthcare facilities

Example Indicators

- [Include adapted indicators here]
- # and % of contacts investigated within 48 hours of identification
- # and % of contacts notified and quarantined within 48 hours of notification
- # and % of contacts followed-up daily for 14 days or until confirmed as a case

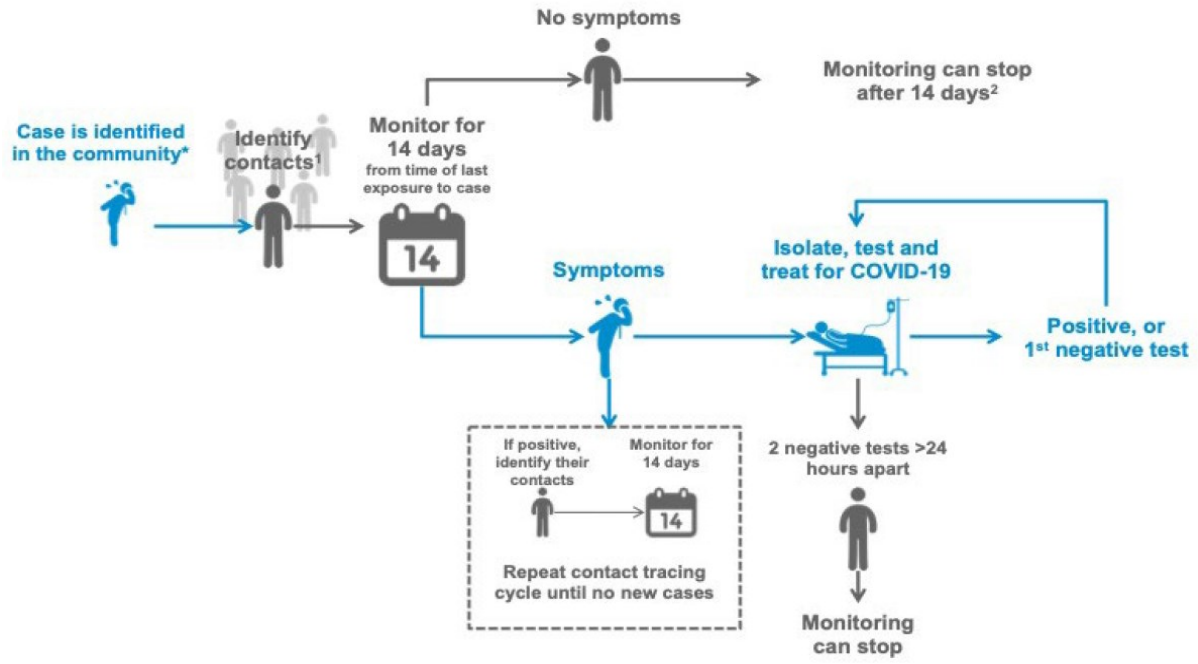
Equipment Checklist

- ☐ National guidelines for COVID-19 response (WHO/CDC guidelines where national guidelines are not available)
- ☐ National data to reference/compare with local data (if national COVID-19 RRT)
- ☐ Computer with data analysis software (MS Excel©, EpiInfo, Go.Data, etc.)
- ☐ Copies of COVID-19 RRT surveillance/ epidemiology training materials (hard and soft copies)
- ☐ Standardized line list templates with key variables (hard and soft copies)
- ☐ Hospital patient registers with key variables
- ☐ Case definitions (hard and soft copies)
- ☐ Case investigation forms (hard and soft copies)
- ☐ Notebook and writing utensils
- ☐ Camera, to take photos of hand-written line lists or other documents for later analysis
- ☐ GPS for healthcare facility coordinates
- ☐

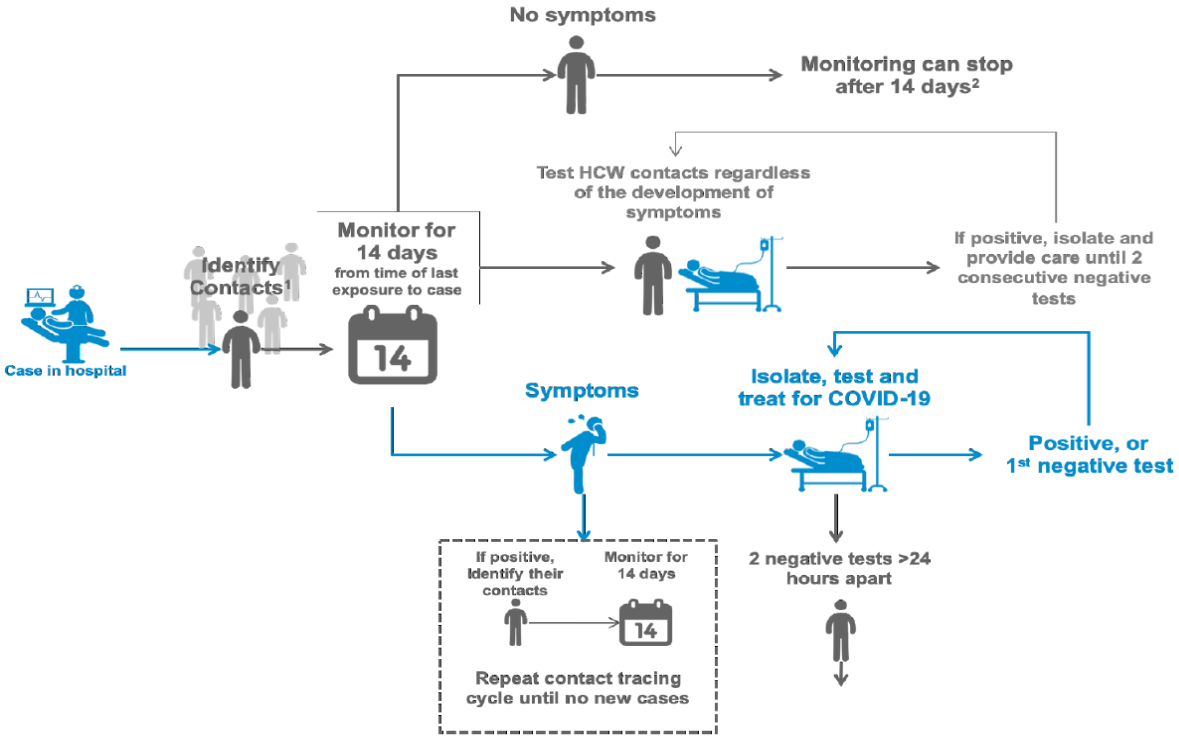
Software/Tools Recommended

- ☐ MS Excel ©
- ☐ EpiInfo
- ☐ R
- ☐ Go.Data

Contact Tracing in the Community (1)



Contact Tracing in Healthcare Settings (1)



Resources

- CDC Interim Guidance for Risk Assessment and Public Health Management of Persons with Potential COVID-19 Exposures
- GOARN Go.Data COVID-19 Knowledge Hub
- WHO Considerations for investigations of cases and clusters of COVID-19
- WHO Global surveillance for human infection with COVID-19

References

1. World Health Organization. (2020). Considerations in the investigation of cases and clusters of COVID-19. Geneva: WHO.

Example Job Aid for COVID-19 RRT Responders
Infection Prevention and Control (IPC)

Example content below is illustrative and is not meant to be comprehensive of all activities an RRT member may perform in this role. This is intended to be adapted to the local context, response priorities, and congruent with local, national and/or international guidance.

Note: Prioritized IPC activities may vary by epidemiologic scenario (1)

Example Objectives

- [Include adapted objectives here]
- Rapid identification of suspect cases
- Immediate isolation and referral for testing
- Safe clinical management
- Adherence to standard and recommended IPC precautions
- Prevent healthcare-associated transmission among healthcare workers (HCWs) and patients

Example Activities

- [Include adapted activities here]
- Ensure adherence to national and facility IPC policies and standard operating procedures (SOPs)
- Build appropriate triage processes, equipped with trained staff, to rapidly identify suspect cases
- Implement appropriate isolation space and guidance for patients waiting to be seen
- Design a system to rapidly identify HCWs and inpatients suspect cases
- Establish visitation policies/procedures and guidelines that reduce the risk of transmission to both visitors and patients

Example Deliverables

- [Include adapted deliverables here]
- IPC policies and SOPs
- IPC assessments and work plan
- Structural controls established (E.g., triage set-up, registration area, respiratory waiting area)
- IPC focal person and team in place

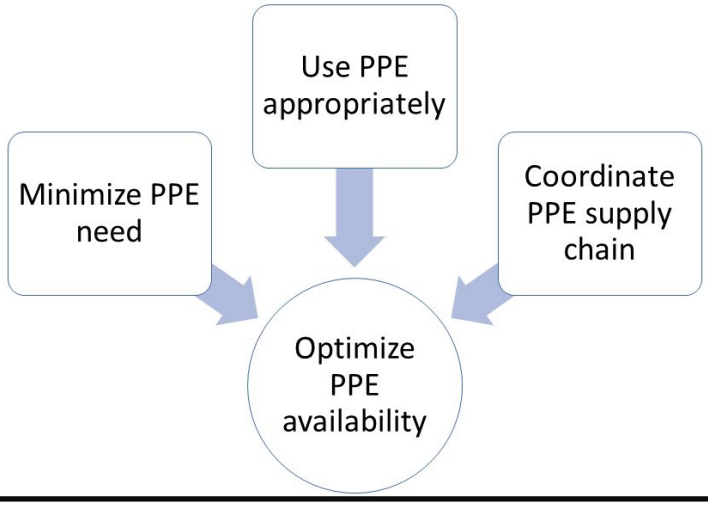
Example Indicators

- [Include adapted indicators here]
- # and % of suspect and/or laboratory-confirmed COVID-19 cases identified among in-patients
- # and % of HCW infections
- # and % of nosocomial infections

Equipment Checklist

- ☐ Surgical masks and respirators (e.g. N95 mask)
- ☐ Face shields or goggles
- ☐ Gloves
- ☐ Gowns
- ☐ Other PPE per national guidelines
- ☐ Alcohol-based hand rub (if available)
- ☐ Soap
- ☐ Handwashing stations with covers and spigots
- ☐ Healthcare facility evaluation checklist
- ☐ Social mobilization/information education and communication materials (e.g. signs)
- ☐ Cleaning and disinfection supplies (e.g. bucket, cloths, 0.1% sodium hypochlorite or other disinfectant, and 0.5% chlorine for large spills)
- ☐
- ☐

Example IPC Strategies and Guidance (2)



PPE Contingency Plans:

Develop contingency plans for PPE shortages and other IPC consumable (e.g., alcohol-based hand rub) shortages in collaboration with national and sub-national public health authorities focusing on minimizing PPE need, appropriate PPE use, and coordinated PPE supply chain.

Consider IPC recommendations for the following :

- Triage/isolation;
- Inpatient surveillance;
- HCW surveillance;
- Environmental cleaning and disinfection;
- Healthcare waste management;
- Visitation procedures;
- And others

Administrative Measures Related to HCWs (3)

- Provision of adequate training for HCWs
- Verify an adequate patient-to-staff ratio for all areas of healthcare facility (including triage and isolation)
- Establish a surveillance process for acute respiratory infections potentially caused by COVID-19 virus among HCWs
- Develop a plan to manage exposed HCWs and for HCWs that are suspect, probable, and/or laboratory confirmed
- Ensure that HCWs and the public understand the importance of promptly seeking medical care
- Monitor HCW compliance with standard and transmission-based precautions

Environmental/engineering controls (3)

- Ensure adequate ventilation in all areas of the healthcare facility
- Ensure separation of at least one (1) meter should be maintained between all patients
- Ensure that recommended cleaning and disinfection procedures are followed consistently and correctly
- Manage laundry, food service utensils, and medical waste in accordance with safe recommended practices

Resources

- CDC Operational Considerations for Containing COVID-19 in non-US Healthcare Settings
- OpenWHO – Standard precautions: Hand Hygiene
- OpenWHO – How to put on and remove PPE
- WHO Basic Hygiene and Transmission
- WHO Healthcare Facility-based IPC

References

1. Centers for Disease Control and Prevention. (2020). Strategic Priority Infection Prevention and Control Activities for Non-US Healthcare Settings. Atlanta: CDC.
2. World Health Organization. (2020). Rational use of PPE for COVID-19 and considerations during shortages. Geneva: WHO.
3. World Health Organization. (2020). Infection prevention and control during health care when COVID-19 is suspected. Geneva: WHO.

Example Job Aid for COVID-19 RRT Responders
Laboratory

Example content below is illustrative and is not meant to be comprehensive of all activities an RRT member may perform in this role. This is intended to be adapted to the local context, response priorities, and congruent with local, national and/or international guidance.

Example Objectives

- [Include adapted objectives here]
- Provide guidance for epidemiologists/ surveillance staff on rapid collection, storage, and shipment of specimens to laboratories
- Support the building of lab capacity and technical assistance for laboratory networks

Example Activities

- [Include adapted activities here]
- Ensure access to prompt laboratory testing for identification of the etiologic agent
- Conduct specimen collection as directed by local, national and/or international guidance
- Provide training on the collection and transportation of specimens (e.g., safe handling practices, spill decontamination procedures, biosafety, and quality assurance)
- Ensure adequate SOP(s) are in use and staff are trained for appropriate specimen collection
- Provide accurate and timely reporting of laboratory results to inform epidemiology on case investigation/contact tracing activities

Example Deliverables

- [Include adapted deliverables here]
- Report of: total samples, positive samples, types of tests
- Laboratory sample tracking form

Example Indicators

- [Include adapted indicators here]
- # and % of samples tested in 24-hour period
- # and % of positive COVID-19 tests in 24-hour period

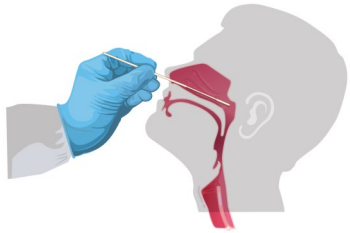
Equipment Checklist

- ☐ National guidelines for laboratory protocols and testing (if don't exist, include WHO protocols)
- ☐ Sample collection job aids
- ☐ Laboratory training materials (hard and soft copies)
- ☐ Laboratory request form
- ☐ Gloves
- ☐ N95 masks
- ☐ Gowns
- ☐ Face shields
- ☐ Head covers
- ☐ Shoe covers (if collecting samples)
- ☐ Specimen collection supplies (swabs, sterile transport tubes, sterile saline, sputum collection cup, specimen collection bags– may vary depending on type of test administered)
- ☐ Transport media
- ☐ Cold packs/cooler (per assay requirements)
- ☐ Laboratory coats (disposable if appropriate)
- ☐ Permanent markers/laboratory tape and labels
- ☐ Packaging and shipping materials
- ☐
- ☐

Respiratory Specimen Collection (1)

Nasopharyngeal (NG) swab: Insert minitip swab with a flexible shaft (wire or plastic) through the nostril parallel to the palate (not upwards) until resistance is encountered or the distance is equivalent to that from the ear to the nostril of the patient, indicating contact with the nasopharynx. Swab should reach depth equal to distance from nostrils to outer opening of the ear. Gently rub and roll the swab. Leave swab in place for several seconds to absorb secretions. Slowly remove swab while rotating it. Specimens can be collected from both sides using the same swab, but it is not necessary to collect specimens from both sides if the minitip is saturated with fluid from the first collection. If a deviated septum or blockage create difficulty in obtaining the specimen from one nostril, use the same swab to obtain the specimen from the other nostril.

Oropharyngeal/Throat (OP) swab: Insert swab into the posterior pharynx and tonsillar areas. Rub swab over both tonsillar pillars and posterior oropharynx and avoid touching the tongue, teeth, and gums.



Source: U.S. Centers for Disease Control and Prevention

Specimen Storage and Transport (1)

Specimens that can be delivered promptly (within 72 hours after collection) to the laboratory can be stored and shipped at 2-8°C. When there is likely to be a delay in specimens reaching the laboratory, the use of viral transport medium is strongly recommended. Specimens may be frozen to -20°C, or ideally -70°C, and shipped on dry ice if further delays are expected. It is important to avoid repeated freezing and thawing of specimens. Information may vary depending on type of test used.

Specimens Collected from Symptomatic Patients/Contacts and Testing (2)

Patient/Contact	Test	Type of Sample	Timing
Patient	Nucleic acid amplification tests (NAAT)	• Lower respiratory tract: Sputum, aspirate, or lavage • Upper respiratory tract: NP/OP swabs, NP wash, or NP aspirate • Consider stools, whole blood, urine (not recommended by CDC)	• Collect on presentation • Possibly repeated sampling to monitor clearance • Further research needed to determine effectiveness and reliability of repeated sampling
	Antigen (detects fragments of proteins found on or within the virus)	• NP swab	• Specimen collection to result takes about 15 minutes (rapid diagnostic test)
Contact in health care center associated outbreaks or other settings where contacts have symptoms, or where asymptomatic contacts have had high-intensity contact with a confirmed case	NAAT	• NP swabs • OP swabs	• Within incubation period of last document contact
	Antigen (detects fragments of proteins found on or within the virus)	• NP swab	• Specimen collection to result takes about 15 minutes (rapid diagnostic test)

Resources

- CDC Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons for COVID-19
- University of Nebraska Medical Center (UNMC) Choosing appropriate PPE
- UNMC Donning and Doffing
- UNMC Nasopharyngeal Specimen Collection
- WHO Interim Guidance Laboratory testing for COVID-19 in suspected human
- WHO Laboratory biosafety guidance related to COVID-19

References

1. Centers for Disease Control and Prevention (2020). Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons for COVID-19. Atlanta: CDC.
2. World Health Organization. (2020). Laboratory testing for COVID-19 in suspected human cases. Geneva: WHO.

Example Job Aid for COVID-19 RRT Responders
Risk Communication

Example content below is illustrative and is not meant to be comprehensive of all activities an RRT member may perform in this role. This is intended to be adapted to the local context, response priorities, and congruent with local, national and/or international guidance.

Example Objectives

- [Include adapted objectives here]
- Communicate about public health precautions
- Plan regular and proactive communication and engagements
- Prepare to communicate about COVID-19 index cases in new areas

Example Activities

- [Include adapted activities here]
- Prevent"infodemics"(an excessive amount of information about an issue that makes it difficult to identify a solution) —this builds trust, increases probability that health advice will be followed, and manages rumors/misunderstandings
- Provide clear and concise messaging about COVID-19 symptoms and distinction between mild vs. severe symptoms along with follow-up action
- Maintain a 24/7 local hotline for people to call for guidance
- Collaborate with in-country stakeholders to determine the most effective forms of communication (e.g., social media, radio, television, printed materials) for community reach

Example Deliverables

- [Include adapted deliverables here]
- RCCE readiness checklist for two (2) scenarios:
    1) No COVID-19 cases identified
    2) COVID-19 cases already identified
- Daily/weekly/monthly talking points
- 24/7 local hotline

Example Indicators

- [Include adapted indicators here]
- # and % of people following protective measures guidance appropriately
- # of rumors or misperceptions reported
- Social media and/or website analytics, if applicable

Equipment Checklist

<u>Household/community</u>

- ☐ Brochures and posters specific to COVID-19
- ☐ Health education/health promotion materials for distribution
- ☐ Information on access to nearest healthcare facility and pharmacies
- ☐ Megaphone
- ☐

<u>Health Facility</u>

- ☐ National guidelines for outbreak response
- ☐ Patient management posters for COVID-19
- ☐ Educational posters and/or pamphlets for patients, caregivers, and contacts (if appropriate)
- ☐

Sample Messaging (1)

Your cloth face covering should:

- Reach above the nose, below the chin, and completely cover the mouth and nostrils
- Fit snugly against the sides of the face
- Be made of multiple layers of fabric that you can still breathe through
- Be able to be laundered and machine dried without damaging the material or shape

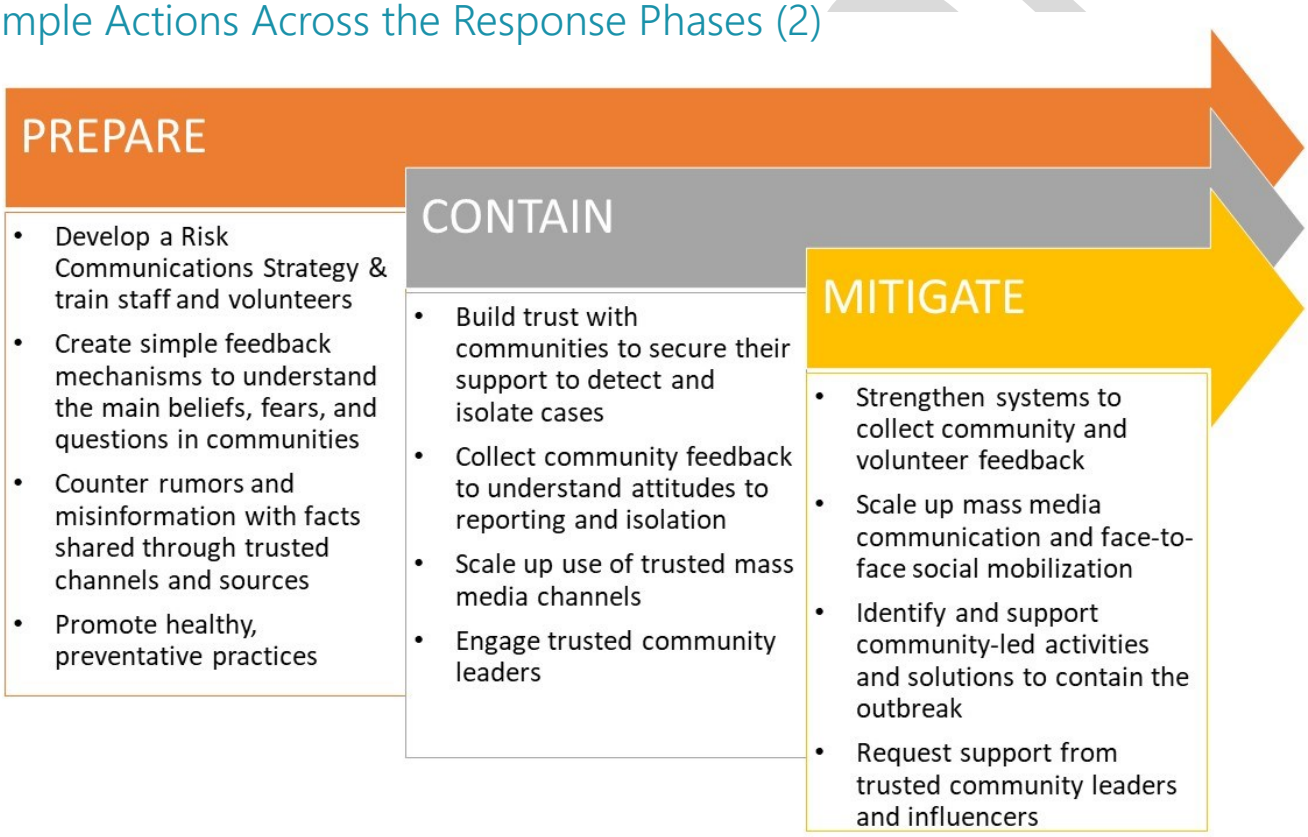
Protecting older adults:

- Older adults are at higher risk for severe illness from COVID-19. If you or those you care for are at higher risk for severe illness, you should: stay home, keep away from others who are sick, limit close contact with others, wash your hands often

Social distancing:

- Practice social distancing by putting space between yourself and others. Continue to practice healthy habits to help slow the spread of COVID-19: wash your hands for at least 20 seconds, clean and then disinfect frequently used surfaces, stay home if you're sick, avoid touching your face

Example Actions Across the Response Phases (2)



Resources

- CDC Crisis and Emergency Risk Communication (CERC) Overview for COVID-19
- CDC COVID-19 Resources for Communicators
- ECDC Infographics/leaflets about COVID-19
- GOARN RCCE COVID-19 Knowledge Hub
- WHO RCCE Readiness and Response Guidelines

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Example Job Aid for COVID-19 RRT Responders
Social Mobilization

Example content below is illustrative and is not meant to be comprehensive of all activities an RRT member may perform in this role. This is intended to be adapted to the local context, response priorities, and congruent with local, national and/or international guidance.

Example Objectives

- [Include adapted objectives here]
- Coordinate with Risk Communication specialists/Epidemiologists to guide community intervention
- Identify common misconceptions and rumors regarding COVID-19
- Identify resistance and/or reluctance from the community to follow recommended guidance
- Tailor COVID-19 communication materials to be applicable and increase the reach of the response

Example Activities

- [Include adapted activities here]
- Monitor public discourse for misconceptions and rumors
- Establish methods for understanding concerns attitudes and beliefs of key audiences
- Identify target audiences and gather information about their knowledge and behaviors
- Collect and answer all questions from the community
- Identify community leaders, religious leaders, health workers, traditional healers, and alternative medicine providers
- Identify networks like women's groups, community health volunteers, youth associations, religious groups, unions, and social mobilizers for other diseases that can assist with community engagement

Example Deliverables

- [Include adapted deliverables here]
- Map of areas targeted with social mobilization campaigns
- Lists of community leaders and networks
- Messaging tailored for different audiences and information needs

Example Indicators

- [Include adapted indicators here]
- # and % of households per affected area that received health education/materials
- # and % of community healthcare workers trained per affected area
- # and % of healthcare facilities receiving posters and educational materials for staff/patient/families

Equipment Checklist

<u>Household/community</u>

- ☐ Brochures and posters specific to COVID-19
- ☐ Health education/health promotion materials for distribution
- ☐ Information on access to nearest healthcare facility and pharmacies
- ☐ Megaphone
- ☐

<u>Health Facility</u>

- ☐ National guidelines for outbreak response
- ☐ Patient management posters for COVID-19
- ☐ Educational posters and/or pamphlets for patients, caregivers, and contacts (if appropriate)
- ☐

Develop and Tailor Messages (1)

Use plain language:

- Be brief
- Give positive action steps
- Use words your audience uses
- Use personal pronouns

Tailor messages:

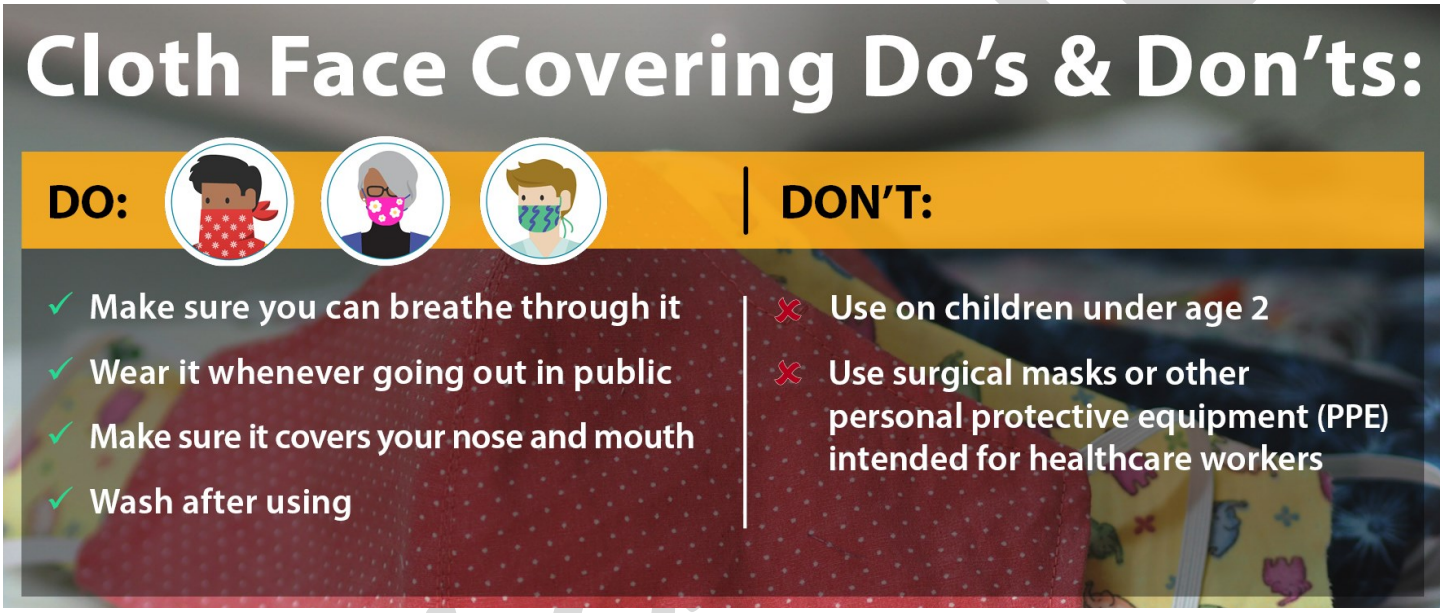
- Identify your audiences and groups within those audiences
- Continue to base messaging on key messages
- Consider the role of culture in tailoring and sharing your message

Work with others to share messages:

- When possible, establish relationships before the emergency
- Seek and accept input from partners

Promote repetition and consistent messaging:

- Share the same message across multiple platforms
- Coordinate messaging with response partners



Strategies for Ensuring Accurate Information (1)

Understand the communication ecosystem:

Gather research to understand barriers and drivers of information flows and to identify influencers and opportunities for the use and misuse of information. This can enable more effective communication campaigns and help to target efforts to combat misinformation.

Employ adaptive engagement strategies:

Technologies to affect algorithms and reduce exposure to disinformation are more likely to be useful in targeting creators of disinformation, while open, transparent and social communication is appropriate for the general population

Leverage rumor tracking, community feedback, and media monitoring:

Listening helps understand the level of people's knowledge about the situation, the misinformation that may be circulating, how people are reacting to the outbreak, the level of trust and confidence in the response, and the extent to which people are inclined to follow health advice.

Resources

- Social Science in Humanitarian Action Platform: Key Considerations for online information, mis- and disinformation in context of COVID-19
- WHO Mythbusters: COVID-19 Advice for the public

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