NEW HAMPSHIRE
CORONAVIRUS DISEASE 2019
CASE INVESTIGATION AND CONTACT TRACING PLAN

June 24, 2020

New Hampshire Department of Health and Human Services
Division of Public Health Services

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ABBREVIATIONS USED IN THIS DOCUMENT

CDC	Centers for Disease Control and Prevention
CMS	Centers for Medicare and Medicaid Services
HCP	Healthcare Personnel
ICAR	Infection Control Assessment and Response
LTCF	Long-term Care Facility
MMRS	Metropolitan Medical Response System
NH DHHS	New Hampshire Department of Health and Human Services
NH DPHS	New Hampshire Division of Public Health Services
NHEDSS	New Hampshire Electronic Disease Surveillance System
NH PHL	New Hampshire Public Health Laboratories
PPE	Personal protective equipment
PUI	Person Under Investigation
US	United States

ABOUT THIS PLAN

This plan was developed by the New Hampshire (NH) Department of Health and Human Services (DHHS), Division of Public Health Services (DPHS), Bureau of Infectious Disease Control. Content included in this plan was adapted, in part, from the Centers for Disease Control and Prevention's *Health Departments: Interim Guidance on Developing a COVID-19 Case Investigation & Contact Tracing Plan* available at: https://www.cdc.gov/coronavirus/2019-ncov/downloads/case-investigation-contact-tracing.pdf

The COVID-19 response has been dynamic, necessitating flexible workflows and rapid changes to contact tracing protocols. As such, this plan is intended to represent current policies and protocols as of the date of the document; however, DPHS will adapt its approach as needed in real-time based on new science or national best practices and guidelines.

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I. INTRODUCTION

Case investigation* and contact tracing are fundamental activities that involve working with a patient who has been diagnosed with an infectious disease to identify and provide support to people (contacts) who may have been infected through exposure to the patient. This process prevents further transmission of disease by separating people who have (or may have) an infectious disease from people who do not. It is a core disease control measure that has been employed by public health agency personnel in NH for decades. Case investigation and contact tracing are most effective when part of a multifaceted response to an outbreak.

> **Key Considerations for COVID-19**
>
> - Because COVID-19 can be spread before symptoms occur or when no symptoms are present, case investigation and contact tracing activities must be swift and thorough.
>
> - The complete clinical picture of COVID-19 is not fully known. As scientists learn more, updates may be made to recommendations for testing priorities and the window period (when the patient was infectious and not under isolation) in which contacts should be elicited.
>
> - Remote communications for purposes of case investigation and contact tracing should be prioritized; in-person communication may be considered only after remote options have been exhausted.
>
> - Given the potentially large number of cases and contacts, DPHS may need to prioritize case investigation and contact tracing activities. Prioritization will be based on an individual's vulnerability to negative disease outcomes and likelihood of transmissibility of disease, such as in congregate settings and healthcare facilities, including long-term care facilities and confined spaces (prisons).
>
> - Depending on testing capacity throughout the state, case investigations may be considered for patients with a probable diagnosis of COVID-19, not just confirmed COVID-19 cases.
>
> - Broad community engagement is needed to foster an understanding and acceptance of local case investigation and contact tracing efforts within each community.
>
> - Significant social support may be necessary to allow cases with probable and confirmed COVID-19 diagnoses to safely self-isolate and close contacts to safely self-quarantine.
>
> - Due to the magnitude of the pandemic, DPHS has had to build up our workforce, recruit from new applicant pools, and train individuals from varied backgrounds.
>
> - The use of digital contact tracing tools may help with certain case investigation and contact tracing activities but will not replace the need for a large public health workforce.

Case investigation is the identification and investigation of patients with confirmed and probable diagnoses of COVID-19, and contact tracing is the subsequent identification, monitoring, and support of their contacts who have been exposed to, and possibly infected with, the virus. Prompt identification, voluntary quarantine (hereinafter referred to as self-quarantine in this document unless otherwise noted), and monitoring of these COVID-19 contacts can effectively break the chain of disease transmission and prevent further spread of the virus in a community. While case investigation and contact tracing for COVID-19 may be new, health departments and frontline public health professionals who perform these activities have experience conducting these activities for tuberculosis, sexually transmitted infections, HIV, and other infectious diseases. Case investigation and contact tracing are well-honed skills that adapt easily to new public health demands and are effective tools to slow the spread of COVID-19 in a community.

*Investigation in this context refers to a public health/infectious disease investigation and should in no way be interpreted as a criminal investigation.

II. CASE INVESTIGATION AND CONTACT TRACING STAFFING

Successful case investigation and contact tracing for COVID-19 is dependent on a robust and well-trained public health workforce. Case investigation and contact tracing is a core strategy used routinely in outbreak investigations ([CDC Field Epidemiology Manual](#)). It has also been implemented for decades by public health nurses, infectious disease care coordinators, and disease intervention specialists in health departments throughout the United States to prevent and control tuberculosis, sexually transmitted infections, HIV, and other infectious diseases, as well as to respond to outbreaks. To be most effective, case investigation and contact tracing requires staff with adequate training, language skills, cultural sensitivity, supervision, and access to social and medical support for cases and their contacts.

Definitions for these three primary roles are as follows:

- Job Task 1. Case Investigation— Interviewing cases with COVID-19, eliciting their close contacts, connecting cases to resources to support self-isolation;

- Job Task 2. Contact Tracing— Notifying close contacts of their potential exposure, referring them to testing, monitoring them for COVID-19 symptoms, connecting contacts to resources to support self-quarantine; and

- Job Task 3. Health Monitoring – Monitoring cases with COVID-19 through their isolation period, connecting them to resources to support self-isolation.

In NH, one staff member (case investigator) interviews and elicits contacts from a patient diagnosed with COVID-19, an additional staff member (contact tracer) notifies and follows-up with the patient's contacts, and a final staff member (health monitor) monitors individuals with COVID-19 until the end of their isolation period. This approach requires excellent communication between staff to ensure clarity and prompt transfer of information, limited redundancy, and cohesive messaging to cases with COVID-19 and their contacts. This infrastructure has been found to be most efficient when managing a high number of cases and contacts.

Public health personnel with infection control, worker safety, and health expertise support case investigation and contact tracing within healthcare facilities (e.g., hospitals, long-term care facilities, etc.), critical infrastructure settings, and other congregate living or workplace settings (e.g.,

residential homes, correctional facilities, workplaces, etc.). These complex investigations require the application of infection control principles to make appropriate recommendations and protect additional residents and workers from infection and are conducted by the Cluster Investigation Unit.

A. Case Investigation & Contact Tracing Staff Roles

A robust public health response includes a large multidisciplinary workforce under the daily oversight and management of a leadership team with subject matter expertise. The table below outlines the various roles of key public health staff within DPHS' case investigation and contact tracing operation.

Table. Case Investigation & Contact Tracing Staff Roles

Role	Description	Existing Public Health Classifications Performing these Activities	Surge Capacity Workforce* with Required Training
Case Coordination Unit	• Processes incoming laboratory and provider reports in surveillance system. Follows-up to obtain relevant medical and demographic information. • Acts as a resource for interjurisdictional communication & transfer of patient and contact information. • Performs quality assurance on incoming laboratory and provider reports. • Ensures paper documentation is filed and secured.	Infectious Disease Medical Specialist, CDC PHEP Assignee	Administrative Support Staff, Data Entry Technicians, NH National Guard Members, Contractors
Case Investigator	• Conducts interviews of patients with confirmed or probable COVID-19, with a focus on motivational interviewing and cultural competency. • Conducts interviews of patients guided by standard protocols and include: providing disease-specific information; assessing signs and symptoms, and underlying health conditions; discussing symptom onset to determine window period for contact elicitation and exposure risk for close contacts; discussing work, social, recreational, and community activities to identify who may have been exposed; eliciting information on close contacts, including	Public Health Nurses, Infectious Disease Care Coordinators	Retired or newly Registered Nurses, Health Educators, Social Workers, Contracted Medical personnel , NH National Guard Members

	names, exposure dates and locating information; and assessing support needs to maintain health and compliance during self-isolation. • Facilitates testing and referral to healthcare services and resource care coordination, as indicated.		
Containment Strike Team	• Gathers relevant locating information (i.e., "people-searches") for cases and contacts through the use of government tools (Accurint) and online footprint (Google, social media platforms). • Conducts home/field visits to cases and contacts who are unable to be reached by all virtual modalities. • Serves public health orders for isolation (cases with COVID-19) or quarantine (contacts) as necessary for people who are noncompliant with public health recommendations to self-isolate or self-quarantine— either in-person or electronically.	Infectious Disease Care Coordinators and those cross-trained by CDC as a Disease Intervention Specialist	Contracted Disease Intervention Specialists, those cross-trained by CDC as a Disease Intervention Specialist
Health Monitor	• Conducts interactive daily monitoring of cases with COVID-19 during self-isolation and contacts during self-quarantine who are at higher risk for severe disease. • Assesses changes (initiation or increase in severity) in signs and symptoms. Facilitates prompt medical attention, as necessary. Tracks when cases or contacts are eligible to discontinue self-isolation or self-quarantine. • For isolated individuals: Conducts daily monitoring during self-isolation— temperature, signs/symptoms, use of fever-reducing medications—via electronic tool (e.g., Granite Trace) or telephone until patient is no longer infectious. • Assesses social support that cases and contacts need to maintain healthy living in isolation/quarantine. Identifies housing needs and facilitates transition to appropriate housing supports.	Public Health Nurses, Infectious Disease Care Coordinators, Epidemiologists and other Public Health Professionals	Contracted Medical personnel, NH National Guard Members, Community Health Outreach Workers/ Promotores, Medical Assistants, Customer Service- Oriented Professionals such as Call Center Employees.

Contact Tracer	• Communicates with contacts to notify them of exposure, provides disease and transmission information, gathers data on demographics, living arrangements, and daily activities. • Asks about signs/symptoms and underlying medical conditions. • Provides referrals for testing. • Provides recommendations for self-quarantine and reviews daily monitoring procedures. • Assesses supports necessary to maintain compliance during self-quarantine. Identifies housing needs and facilitates transition to appropriate housing supports. • Assesses social supports needed to maintain healthy living in self-isolation or self-quarantine. • Conversations with contacts are guided by standard protocols. Conducts daily monitoring during self-quarantine— temperature, signs/symptoms, use of fever-reducing medications—via electronic tool (e.g., case management software) or telephone call, until 14 days after last potential exposure, and referral to healthcare if contact becomes symptomatic.	Public Health Nurses, Infectious Disease Care Coordinators, Epidemiologists and other Public Health Professionals, Public Health Associate Program (PHAP) Assignees	Contracted Medical personnel , NH National Guard Members , Community Health Outreach Workers/ Promotores, Medical Assistants, Teachers, Librarians, College Students, Customer Service- Oriented Professionals such as Flight Attendants, Call Center Employees, Restaurant and Other Service Industry Employees
Business Liaison Unit	• Conducts notification to workplaces and locations where a case might have had contact with a large number of close contacts. • Conducts initial assessment of potential exposure of other staff at the site and recommends infection control procedures.	Public Health Nurses, Infectious Disease Care Coordinators, Epidemiologists and other Public Health Professionals	Contract contact tracing staff, NH National Guard, other DHHS personnel
Case Investigation & Contact Tracing Unit Lead	• Directly oversees the work of the Case Investigator and/or Contact Tracer / Health Monitor and others who may work as part of a team. • Assigns and oversees quality of work. • Ensures completion of case interviews and contact follow-up according to established standards.	Supervisory Public Health Nurses, PHEP-trained supervisory staff	Supervisory Public Health Professionals and those with appropriate training

	• Reviews work for missing information, inconsistencies, or areas that need further exploration and directs staff follow-up to seek clarification and obtain additional information. • Addresses complex issues with cases or contacts that have been escalated by staff. • Coordinates other support services such as delivery of food or medications, and referral to programs that provide financial assistance.		
Case Investigation and Contact Tracing & Monitoring Branch Directors	• Uses qualitative (interview audits) and quantitative (review of statistical outputs) methods to review performance and determine areas for formal or informal professional development, training, coaching, and mentoring. • Updates policies and protocols, as needed. • Develops training materials and assists Leads in implementing. • When necessary, uses progressive discipline to address performance or conduct issues. • Recognizes staff for exceptional and outstanding performance.	Management level Public Health Professionals, PHEP trained management staff	Contracted providers with PHEP and Public Health Management experience
Cluster Investigation Unit	• Conducts investigation of congregate facilities (e.g., skilled nursing facilities, hospitals, acute care settings, long-term care facilities, group homes, homeless shelters, prisons, jails, places of employment and other congregate settings) and workplaces that have a patient (either resident/ patient or staff member) with COVID-19 to assess potential exposure of other staff and residents/ patients at the site and recommend infection control procedures.	Infection Control Practitioners (Nurses or Physicians), Hospital Acquired Infection Practitioners (Nurses or Physicians), Epidemiologists	Contracted Hospital Acquired Infection Practitioners, Nurses, Registered Nurses, Epidemiologists and those with experience managing congregate settings

B. Knowledge and Skills Needed for Case Investigation & Contact Tracing Staff

Case investigation and contact tracing are specialized skills. Knowledge and skills of NH staff include:

- Understanding of the need for patient confidentiality and the ability to conduct case interviews with care to protect confidentiality and to conduct contact tracing without disclosing the identity of the patient (case).

- Understanding of, and ability to explain in plain language, the medical terms associated with COVID-19 and principles of exposure, infection, infectious period, potentially infectious interactions, symptoms of disease, pre-symptomatic and asymptomatic infection, types of tests used to diagnose infection, and available prevention and control interventions (e.g., isolation/quarantine, social distancing, environmental surface cleaning).

- Excellent and tactful interpersonal skills, cultural sensitivity, and language and interviewing skills that allow them to build and maintain trust with cases and contacts.

- Basic crisis counseling skills and the ability to refer cases and contacts for further care.

- Resourcefulness in locating and communicating with cases and contacts who may be difficult to reach or reluctant to engage in conversation.

- Awareness of the sensitivities surrounding immigration status and how this can be a barrier to case investigation and contact tracing activities.

- Understanding when to refer individuals to medical, social, or supervisory resources.

- Ability to help cases and contacts identify any needs they may have for social support during self-isolation/self-quarantine.

- Ability to collect basic standardized surveillance data per protocols.

- Understanding of when the use of public health legal authorities may be necessary.

The following cross-cutting knowledge, skills and abilities support the successful practice of case investigation and contact tracing. Recruitment for case investigators and contact tracers should focus on identifying people with these attributes:

- Ethical and professional conduct
- Flexibility and adaptability
- Negotiating skills
- Cultural humility and competency
- Open communication and active listening
- Critical thinking
- Problem solving
- Emotional intelligence
- Fluency in non-English languages for communities where English is not the primary language (and certified as a Medical Interpreter)

Strong interpersonal skills are important, but the role of the case investigator also requires a higher level of acuity and training. The case investigator must be able to conduct a conversation-based investigation (as opposed to reading a script or data collection form) to obtain information on close contacts and to assess healthcare and support needs for people with COVID-19.

C. Case Investigation and Contact Tracing Training

Training for case investigation and contact tracing staff includes a blend of knowledge-based and skills-based training. Initial knowledge-based training covers disease-specific information, case-centered counseling and motivational interviewing techniques, assessment of risk and other social support needs, and approaches to facilitate confidential case communication. Initial skills-based training uses interview technique modeling, scripted language, case scenarios, and role-playing. These trainings are followed by on-the-job learning supported by experienced staff.

Training resources provided to staff include:

- Johns Hopkins University COVID-19 Contact Tracing: https://www.coursera.org/learn/covid-19-contact-tracing?edocomorp=covid-19-contact-tracing

- Making Contact: A Training for COVID-19 Contact Tracers:
  https://learn.astho.org/products/making-contact-a-training-for-covid-19-contact-tracers

- CDC COVID-19 Contact Tracing Training Guidance and Resources:
  https://www.cdc.gov/coronavirus/2019-ncov/php/contact-tracing/index.html

- Numerous NH protocols, scripts, manuals, and job aids that are regularly updated

D. Case Investigation and Contact Tracing Staffing Model and Surge Capacity

NH Public Health COVID-19 response staff include highly skilled DPHS and contracted public health professionals including public health nurses, infectious disease care coordinators, epidemiologists, data analysts, medical assistants, advanced practice registered nurses, physician assistants, public health program managers, public health section chiefs, and infectious disease physicians.

Contact tracing involves multiple steps, including case investigation of COVID-19 cases, notification of close contacts, and daily monitoring of cases and close contacts. This process can be labor-intensive. Factors that influence our response activities include the number of persons diagnosed with COVID-19 each day, number of contacts per patient, and the amount of time and resources needed to reach and follow each of the cases and their contacts. The number of contact tracers needed is large and will vary over the time of the response. DPHS uses daily case load and other factors to estimate how many contact tracers will be needed at any one time.

DPHS has been able to flexibly onboard new staff to support a robust COVID-19 response. Since the beginning of COVID-19, DPHS has investigated and monitored every case of COVID-19. Early in the response, DPHS relied upon our regular infectious disease investigation team to conduct COVID-19 investigations supported by other Bureau of Infectious Disease Control staff members. By mid-March, additional personnel from across DPHS and DHHS were brought onboard the response to provide "surge" capacity to handle the increasing number of cases. In April, DPHS began using the support of contracted staff for case investigation and contact tracing and, by May, the NH National Guard had provided significant staffing to support the response. As DPHS looks toward the future of COVID-19, and in recognition of the likelihood of a long-term response that will last months to possibly years, DPHS has hired stable dedicated COVID-19 staffing through a mix of new state personnel and contracted agency staff supported by COVID-19-specific federal funds awarded specifically for this purpose of maintaining robust case investigation and contact tracing capacity. Dedicated staffing assures stability and longevity of the response given the eventual demobilization of the NH National Guard and the need for DHHS and DPHS surge staff to go back to their regular positions and do the other important work of DHHS.

Table. Historic Approximate Number of COVID-19 Case Investigation and Contact Tracing Staff

February 2020 (Initial Response)	March 2020	April 2020	May 2020	June 2020
15	40	80	105	120

E. The Role of Local Health Departments

In NH, disease control authority lies with the Commissioner of DHHS. To carry out the obligations under this authority, NH disease control activities are primarily centralized with the exception of two local health departments in the state's two largest cities, Manchester and Nashua. These two city health departments conduct disease control activities under contract with DPHS and are integrated and align their work using the same protocols as state responders, including access to the same data systems to track cases and contacts. These two cities have approximately 200,000 residents combined, or about 15% of NH's resident population. As the state's major population centers, however, these communities are sometimes disproportionately impacted by infectious diseases that are spread from person to person, like COVID-19. Both health departments maintain case investigation and contact tracing staffing to support COVID-19 response in their communities. When local resources are not sufficient to support timely case and cluster investigations, contact notifications, and monitoring, DPHS will carry out these functions as needed to ensure a consistent and comprehensive statewide response.

III. INVESTIGATING A COVID-19 CASE

Comprehensive information on a patient diagnosed with COVID-19 is the foundation of case investigation and contact tracing. This information includes socio-demographic information, date of symptom onset or date of specimen collection for SARS-CoV-2 (the virus that causes COVID-19) testing, source of illness, list of close contacts and their locating information, duration of exposure, activity history during the contact elicitation window (when the patient was infectious and not under isolation), and exposure locations (including events/gatherings with unknown contacts).

DPHS is responsible for conducting COVID-19 case investigations and contact tracing and holds legal authority to investigate cases of communicable disease and a duty to notify contacts of exposure. DPHS initiates investigations as quickly as possible. Written policies and procedures for investigations, including interview guides and call scripts, improves the efficiency and uniformity of investigations. In certain circumstances, it may take more than one interview with a patient to obtain all necessary and accurate information to complete the investigation.

Establishing trust and rapport between a case investigator and a patient diagnosed with COVID-19 is necessary to obtain information and ensure cooperation throughout the investigation. Good interview skills can be taught and will improve with practice. Public health personnel assigned to investigate cases with COVID-19 are trained in interview methods and mentored by experienced COVID-19 public health responders. Case investigation and contact tracing training guidance and resources are utilized, including the online training provided by Johns Hopkins University COVID-19 Contact Tracing: https://www.coursera.org/learn/covid-19-contact-tracing?edocomorp=covid-19-contact-tracing

A patient will ideally be interviewed by a case investigator who is fluent in their primary language. For this reason, the DPHS uses an over-the-phone interpreter for any interview not conducted in English. Case interviews and contact elicitation are conducted via phone call to ensure the safety of the case investigator and efficient use of program resources. When a case is unable to be reached by remote means, the Containment Strike Team is deployed to conduct an in-person visit donned in appropriate Personal Protective Equipment (PPE).

Step 1: Case Identification & Prioritization

COVID-19 case investigations are initiated when DPHS receives a report from a laboratory of a test result indicative of possible SARS-CoV-2 infection or a report from a healthcare provider of a patient with a confirmed or probable diagnosis of COVID-19.

DPHS is able to facilitate laboratory confirmation of all COVID-19 cases within the community and the public health capacity to investigate all symptomatic and asymptomatic patients with a confirmed diagnosis of COVID-19.

Considerations when Laboratory Testing Capacity is Limited

When there is limited laboratory testing capacity, prioritization of testing resources will take into consideration the following factors:

(1) Ensuring optimal care for hospitalized patients and reducing the risk of healthcare-associated infections;

(2) Ensuring those at higher risk for severe disease are rapidly identified and triaged; and

(3) Identifying individuals in communities experiencing high numbers of COVID-19 hospitalizations to decrease community spread and ensure the health of critical infrastructure workers.

CDC provides recommended priorities for COVID-19 testing that can be adapted by DPHS to respond to rapidly changing local circumstances. *CDC's testing recommendations reinforce the role of case investigation and contact tracing as an effective strategy to decrease community transmission.*

Once a COVID-19 laboratory or provider report is received, this information is entered into the New Hampshire Electronic Disease Surveillance System (NHEDSS). DPHS has established electronic laboratory reporting systems with the major laboratories performing the majority of COVID-19 testing in NH. Electronic laboratory reporting allows for automated reporting of test results to enhance the timeliness of data to inform public health action.

DPHS communicates with healthcare providers by phone when a positive laboratory test is reported to obtain information necessary for triaging. DPHS requests that providers proactively phone-in or fax the NH COVID-19 Confidential Case Report Form with complete case information on the same day that a provider receives a positive SARS-CoV-2 test result to facilitate timely case investigations. While investigators make an attempt to reach the healthcare provider prior to

making contact with the patient, the investigator will proceed with the case investigation even if they have been unable to reach the healthcare provider.

In addition to identifying potential outbreaks, information to assist in case prioritization includes a patient's COVID-19 symptoms, underlying health conditions, locating information (residence type/location/contact information), workplace role and location, confirmation that patient was notified of test result, and initiation of self-isolation. Case investigations are triaged to appropriate staff based on information known about a patient diagnosed with COVID-19, prior to case interview, to delegate the investigation to either the Case Investigation Unit or the Cluster Investigation Unit, if the patient is a resident of a congregate setting, such as a long-term care facility. These strategies are only feasible with adequate staff to provide triage support and sufficient patient information available to allow for prioritization.

Since the beginning of the COVID-19 epidemic, DPHS has conducted complete case investigations and identification of close contacts. If availability of public health resources to investigate all cases was a limiting factor in the NH public health response, the following case investigation hierarchy may be used to help guide prioritization when information is known about the case. The hierarchy is based on the assumption that cases with a confirmed or probable diagnosis of COVID-19 in Priority 1 are likely to have exposed a larger number of people and/or are likely to have close contacts who could potentially expose many people, those at higher risk for severe disease, or critical infrastructure workers. Priority 2 includes cases who may be at higher risk for severe disease and will need prompt risk assessment and linkage to any needed medical and support services. Cases will be prioritized based on the highest priority category they fall into. When prioritizing cases with a positive SARS-CoV-2 test result or a probable diagnosis of COVID-19 to investigate, DPHS will be guided by the local characteristics of disease transmission, demographics, and public health and healthcare system capacity. Decisions will be supported by local circumstances.

Table. COVID-19 Case Investigation Prioritization Hierarchy

All confirmed and probable COVID-19 cases will be investigated. When resources are limited, priorities for who should be investigated are listed below. Priority 1 cases are likely to have exposed a larger number of people and/or are likely to have close contacts who could potentially expose: many people, those at higher risk for severe disease, or critical infrastructure workers. Priority 2 cases may be at higher risk for severe disease and will need prompt risk assessment and linkage to any needed medical and support services.

INVESTIGATE CASES WITH A CONFIRMED OR PROBABLE DIAGNOSIS WHO ARE:

PRIORITY 1
- Hospitalized patients
- Healthcare personnel (HCP)
- First responders (e.g., Emergency Medical Services (EMS) personnel, law enforcement, firefighters)
- Individuals living, working or visiting acute care, mental health, and long-term care facilities
- Individuals living, working or visiting community congregate settings (e.g., correctional facilities, homeless shelters, educational institutions, mass gatherings, and crowded workplaces including production plants)
- Members of a large household living in close quarters especially with a resident with co-morbidities
- Individuals known to live in households with a higher risk individual or to provide care in a household with a higher risk individual

PRIORITY 2
- Critical infrastructure workers*
- Individuals 65 years of age and older
- Individuals at higher risk for severe disease
- Pregnant women

PRIORITY 3
- Individuals with symptoms who do not meet any of the above categories
- Deceased cases

PRIORITY 4
- Individuals without symptoms who do not meet any of the above categories

*Consider moving to Priority 1 critical infrastructure workers who works closely with other critical infrastructure workers or is in close contact with large numbers of people (e.g., transportation, food service).

Step 2: Rapid Notification of Results or Diagnosis

- Some cases will have been notified of their positive SARS-CoV-2 test result or probable case diagnosis by their healthcare provider and already received instructions for self-isolation.

- When communication with the case about their positive SARS-CoV-2 test result or probable diagnosis is unclear or has not be taken place, the case will be notified as soon as possible (within 24 hours of reporting to DPHS).

- Any probable COVID-19 infections will be referred for testing (if available and appropriate).

- If there is a need for a Containment Strike Team member to visit the case in person, the responder needs to have had appropriate training on infection prevention and control practices. They must also obtain any necessary personal protective equipment (PPE) prior to conducting in-person activities.

- The first communication with the case can be made through different channels such as phone, text, email, or in-person (if appropriate) in the primary language of the individual. Protocols clearly outline the primary and secondary means of reaching a case and address confidentiality at the start of communication.

- Special considerations should be given to ensure culturally and linguistically appropriate communication.

- Protocols are in place to provide services to people who are deaf or who have hearing loss.

- Depending on the source of the case report, information for locating a case may be insufficient. When the locating information provided for a patient is insufficient, attempts will be made to identify additional locating information through review of a variety of sources including Accurint for Government search, searching other DHHS databases, internet and social media searches, and calling a known employer, if necessary.

Step 3: Case Interview

- Every effort should be made to interview the case by telephone instead of in-person. For in-person interviews, guidance for infection prevention and control practices at a home or non-home residential setting will be utilized ([CDC's Evaluating PUIs Residential page](#)).

- Cases from special populations and/or congregate settings may require additional considerations and will be triaged and assigned to the Cluster Investigation Unit.
- The Case Investigator will elicit detailed information about a case's close contacts and activity history, including any household contacts during self-isolation.

Step 3a: Monitoring and Isolation Instructions

- Confirmed and probable COVID-19 cases are advised to self-isolate immediately, if they are not doing so already. If a case refuses to comply with voluntary isolation instructions, a legal order of isolation will be issued.
- The case will be informed of COVID-19 symptoms to monitor for and will be instructed to get medical attention immediately if they have any emergency warning signs (including trouble breathing).
- The case is also provided with instructions for how to prevent infection among those living in their household.
- The case will be provided a written letter with isolation instructions.

Step 3b: Assessing Self-Isolation Support Needs

- For most cases diagnosed with COVID-19 (i.e., those in an outpatient setting who are medically stable or discharged home following diagnosis at hospital), self-isolation can take place at home. Cases should be asked to voluntarily stay home, monitor themselves, and maintain social distance from others.
- Self-isolation requires that cases remain separate from others in the home, staying in a specific room away from other people and pets, and ideally with access to a separate bathroom.
- Case investigators will assess a patient's ability to self-isolate in a safe environment that provides access to a private room and bathroom, as well as access to adequate food and water, among other considerations.
- 2-1-1 will be provided as a resource to any case who needs assistance with accessing food, support services, etc. Additional options are available within the state's response infrastructure to support effective isolation.

Step 3c: Eliciting Contacts

- Contact elicitation is a critical part of the case interview.

- The case investigator will use information from any reports received by DPHS, along with the patient's symptom history gathered earlier in the case interview, to determine the contact elicitation window (the timeframe when the patient was infectious and not under isolation).

- A close contact is defined as someone who was within 6 feet of an infected person for at least 10 minutes starting from 2 days before illness onset (or, for asymptomatic cases, 2 days prior to positive specimen collection) until the time the patient is isolated.

- CDC advises the use of simple cloth face coverings to slow the spread of COVID-19 and help people who may have the virus and do not know it from transmitting it to others. When identifying close contacts who may have been exposed to a person diagnosed with COVID-19, this determination should be made irrespective of whether the person with COVID-19 or the contact were wearing a cloth face covering at the time of exposure.

- The case investigator will clearly explain why close contacts are being elicited and assure the patient that their identity will not be disclosed to any close contacts that they identify. The trust and rapport built earlier in the case interview, combined with open-ended and probing questions, will help facilitate the contact elicitation portion of the interview.

- The case investigator will gather information for each close contact including the contact's name and locating information, the setting of the exposure, contact's work setting and occupation, and any underlying health conditions or other risk factors the contact may have (if known).

- Case investigators may need to rely on proxy interviews when the patient cannot be interviewed (e.g., patient is deceased, intubated, unconscious, a minor, cognitively impaired). Key proxy informants are those likely to know the patient's practices, habits, and behaviors. Proxy interviews are essential because they allow DPHS to move forward with public health protection actions such as notification of close contacts. However, proxy interviews necessarily jeopardize patient confidentiality, and are therefore limited to persons such as parents of minors, guardians of those cognitively impaired, and spouses, family members, or other person identified by a healthcare facility as being engaged in the care of a critically ill COVID-19 patient.

Figure. Determining the Contact Elicitation Window

In order to elicit contacts from a case with confirmed or probable COVID-19, a case investigator will first need to determine the appropriate contact elicitation window. An assessment of the case's COVID-19 symptoms will help identify their infectious period. Building on that information, the contact elicitation window is the timeframe when the case was infectious and not under isolation. If there are additional contacts during isolation (such as household contacts), those contacts should also be elicited.

Case with Confirmed or Probable COVID-19—Symptomatic

When interviewing a symptomatic case, a case investigator should elicit all close contacts from 2 days prior to onset of any symptoms through the beginning of isolation.

Start date: 2 days before symptom* onset

End date: Beginning of isolation period OR until discontinuation of home isolation (to elicit household contacts of cases recovering at home)

*All possible symptoms should be considered, with particular attention to those that may be mild and/or nonspecific (e.g., fatigue, muscle pain) and those less common.

Case with Confirmed or Probable COVID-19—Asymptomatic

Determining the contact elicitation window for an asymptomatic case is challenging and should be considered an estimate instead of a precise timeframe. Rather than focusing on the suggested start date, a case investigator may want to prioritize eliciting any recent close contacts in higher priority groups.

Start date: 2 days before the date of specimen collection for confirmed laboratory test

End date: Beginning of isolation period OR discontinuation of home isolation (to elicit household contacts of cases recovering at home)

Step 4: Case Follow-Up & Medical Monitoring

- The initial case interview covers a great deal of material, which can be overwhelming for a case.

- In some instances, the case investigator may need to follow-up with the case to clarify details from the conversation including:

  o Onset of symptoms, particularly the nonspecific symptoms (e.g., fatigue, muscle pain);

  o Further exploration of occupation and interactions in the workplace or last day at work;

  o Transportation to and from work, social and recreational activities;

  o Additional locating information for close contacts or additional contacts from their self-isolation period; and

  o Home, family, and other factors that could impact compliance with self-isolation.

- All cases diagnosed with COVID-19 will be monitored through daily telephone check-ins to share daily reports on their temperature and COVID-19 symptoms throughout the length of their self-isolation.

- Prioritizing which cases to monitor closely and which may be able to adequately self-monitor should be determined in the context of existing resources. In some instances, cases with underlying health conditions and other special circumstances (such as pregnancy) may present complex medical challenges. While these may not require hospitalization, these cases may need in-home medical monitoring by a healthcare provider until their COVID-19 symptoms resolve.

- If at any time DPHS resources do not allow for active daily monitoring, cases will be asked to self-monitor and communicate remotely (e.g., text monitoring) to notify DPHS of their health status and promptly communicate any new symptoms or symptoms of increasing severity.

- Cases under self-monitoring must provide reports by the agreed upon time each day, and DPHS will follow protocols for follow-up actions for cases who do not report out.

Step 5: Additional Case Follow-Up

- Additional follow-up is needed for cases with COVID-19 who are transitioning from one facility to another—for example, from a hospital to a long-term care facility or to home isolation. Care coordination plans should be put in place to maintain proper infection control and isolation procedures.

- Additional coordination will also be necessary to support cases with COVID-19 who are discharged from a correctional facility (e.g., prisons, jails, youth detention centers). These cases will be transitioning to self-isolation in their home communities and will require assessment for social supports to ensure adequate housing, food, and medical care throughout the remainder of their self-isolation.

- Transitional case management plans are incredibly important to ensure continuity of care for case's with COVID-19 and protect the community from further transmission.

Step 6: Discontinuation of Self-Isolation

- The decision to discontinue self-isolation is made on a case-by-case basis, taking into consideration a case's COVID-19 test results, symptom history and other factors, including occupation.

- CDC guidance provides a framework for decision-making regarding discontinuation of home isolation. Decisions should be determined following consultation with public health response leadership and should be communicated clearly to a case. For most individuals, DPHS promotes use of CDC's symptom-based strategy for discontinuing home isolation rather than the test-based strategy.

- Decisions about return to work for healthcare providers with confirmed or suspected COVID-19 are made in the context of current circumstances. CDC guidance is available to help occupational health programs and public health officials make these decisions.

- Every case will be provided an "end of isolation" letter upon completion of their self-isolation period. The recovered case can provide this letter to their employer to return to work.

IV. CONTACT TRACING FOR COVID-19

> **Summary of COVID-19 Specific Practices**
> - Contact tracing will be conducted for close contacts (any individual within 6 feet of an infected person for at least 10 minutes) of laboratory-confirmed or probable COVID-19 patients.
> - Remote communications for the purposes of case investigation and contact tracing will be prioritized; in-person communication may be considered only after remote options have been exhausted.
> - Testing is recommended for all close contacts of confirmed or probable COVID-19 patients.
> - Those contacts who test positive (symptomatic or asymptomatic) will be managed as a confirmed COVID-19 case.
> - Asymptomatic contacts testing negative will be instructed to self-quarantine for 14 days from their last exposure (i.e., close encounter with confirmed or probable COVID-19 case)
> - If testing is not available, symptomatic close contacts will be instructed to self-isolate and be managed as a probable COVID-19 case.
> - If testing is not available, asymptomatic close contacts will be instructed to self-quarantine and be monitored for 14 days after their last exposure, with linkage to clinical care for those who develop symptoms.

DPHS uses CDC guidance for evaluating community, healthcare, and travel exposures to COVID-19. A close contact is defined as any individual who was within 6 feet of an infected person for at least 10 minutes starting from 2 days before illness onset (or, for asymptomatic patients, 2 days prior to positive specimen collection) until the time the case is isolated. The public health evaluation of close contacts to cases with laboratory-confirmed or probable COVID-19 may vary depending on the exposure setting (e.g. community, healthcare, travel). Close contacts in special populations and/or congregate settings require additional considerations and will be handled by the Business Liaison or Cluster Investigation Units.

DPHS will directly notify all persons identified as close contacts to a confirmed case of COVID-19. In certain circumstances, this function may be delegated, such as to a healthcare facility if the contact is a resident of a long-term care facility, for example. Because COVID-19 is circulating in the community, and consistent with CDC guidance, DPHS does not notify other individuals who may have been present in the same area as someone with COVID-19 but was not known to have close contact, such as in a store or other public venue. DHHS will issue public notifications when a contact investigation determines that not all individuals who may have had close contact can be identified and personally notified by public health officials, or their designees.

Close Contact Evaluation and Monitoring Priorities

Close contacts to confirmed and probable COVID-19 cases should be evaluated, tested, and monitored. If NH should experience insufficient testing support or limited public health resources, the following evaluation and monitoring hierarchy can be used to help guide prioritization. The hierarchy is based on the assumption that if close contacts listed in Priority 1 become infected, they could potentially expose many people, those at higher risk for severe disease, or critical infrastructure workers. If close contacts in Priority 2 become infected, they may be at higher risk for severe disease, so prompt notification, monitoring, and linkage to medical and support services is important. When prioritizing close contacts, DPHS will be guided by local characteristics of disease transmission, demographics, and public health and healthcare system capacity.

Table. Close Contact Evaluation and Monitoring Prioritization Hierarchy

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EVALUATE / MONITOR CLOSE CONTACTS WHO ARE:

PRIORITY 1
- Hospitalized patients
- Healthcare personnel (HCP)
- First responders (e.g., Emergency Medical Services (EMS) personnel, law enforcement, firefighters)
- Individuals living, working or visiting acute care, mental health, and long-term care facilities
- Individuals living, working or visiting community congregate settings (e.g., correctional facilities, homeless shelters, educational institutions, mass gatherings, and crowded workplaces including production plants)
- Members of a large household living in close quarters
- Individuals known to live in households with a higher risk individual or to provide care in a household with a higher risk individual (Note: Household members who likely had extensive contact with a patient with COVID-19 should constitute the highest risk close contacts.)

PRIORITY 2
- Critical infrastructure workers*
- Individuals 65 years of age and older
- Individuals at higher risk for severe disease
- Pregnant women

PRIORITY 3
- Individuals with symptoms who do not meet any of the above categories

PRIORITY 4
- Individuals without symptoms who do not meet any of the above categories

Consider moving to Priority 1 critical infrastructure workers who works closely with other critical infrastructure workers or is in close contact with large numbers of people (e.g., transportation, food service).

Contact Tracing in Congregate Settings

Institutional and congregate settings, such as schools, workplaces, healthcare settings, correctional facilities, and others, are key partners in controlling the spread of COVID-19 in NH. If a case of COVID-19 is identified within a congregate setting, NH DHHS will conduct an investigation to determine if the person with COVID-19 may have exposed others within the congregate setting. The Business Liaison Unit or the Cluster Investigation Unit will be assigned to engage with administration of the affected setting, as appropriate. Key principles and an overview of the process are described below.

Key Principles

- People who have tested positive for, or are showing symptoms of, COVID-19 should stay home and follow isolation guidelines.

- People who have recently had close contact with a person with COVID-19 should stay home and follow quarantine guidelines for 14 days after their last exposure to the person with COVID-19. They should undergo PCR testing for COVID-19, even if asymptomatic, to diagnose infection as soon as possible so that DHHS can trace their contacts to contain further spread of COVID-19. If the PCR test is negative, however, the person cannot stop quarantine earlier than 14 days.

- If a confirmed case of COVID-19 occurs in a congregate setting, NH DHHS will work with the organization to identify people who had close contact with the person (being within 6 feet of the person for > 10 minutes) and provide instructions for quarantine.

- People who are isolated due to infection, or quarantined due to exposure, will be monitored by public health officials. They should not be allowed back into public settings until released from isolation/quarantine by public health. They should be provided support for remote learning / telework, if feasible.

- Organizations should follow CDC guidelines for cleaning and disinfection following identification of a case within their setting.

- Additional measures may be necessary if multiple cases or an outbreak occur. See the Outbreak Response section of this document. Comprehensive guidance is also available on the CDC website.

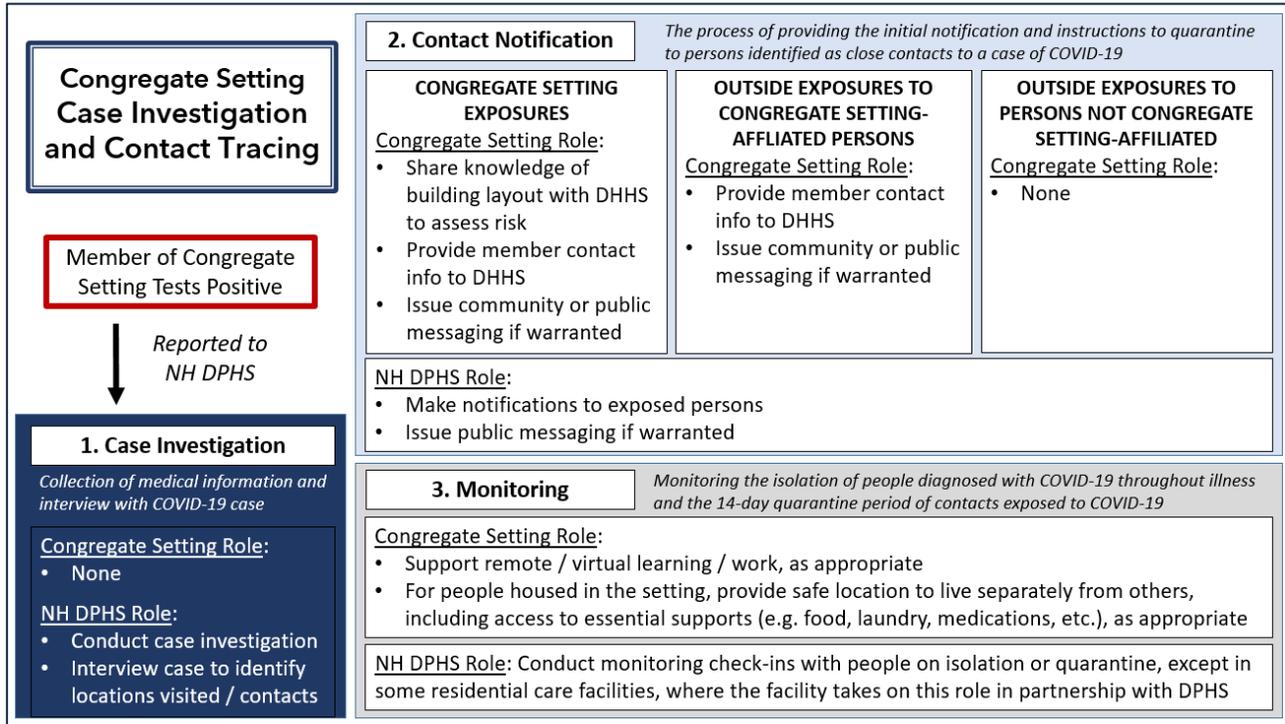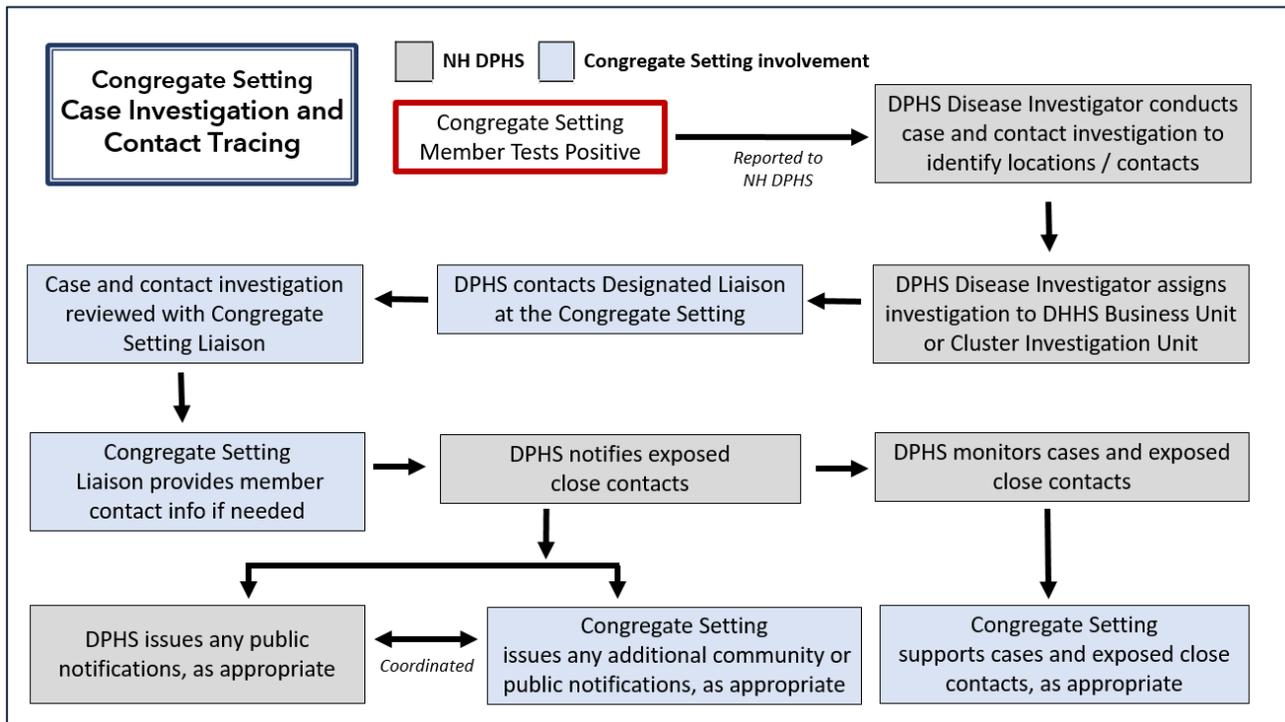**Figure. Overview of Case Investigation and Contact Tracing in Congregate Settings**

Figure. Case Investigation and Contact Tracing Process in Congregate Settings

Contact Tracing Process

Contact tracers use clear protocols to notify, interview, and advise close contacts to cases with confirmed or probable COVID-19. The following steps and considerations are a framework for the DPHS protocol for the tracing of close COVID-19 contacts.

Step 1: Rapid Notification of Exposure

- A close contact to a patient with confirmed or probable COVID-19 will be notified of their exposure as soon as possible (within 24 hours of contact elicitation). The patient may elect to notify some or all of their close contacts before the contact tracer.

- The identity of the patient or other identifying information will not be revealed, alluded to, or confirmed by the contact tracer, even if explicitly asked by a contact.

- The primary means of notifying a contact is by phone, followed by text, email and in-person only when no other means have been successful.

- Special consideration will be given to ensure culturally and linguistically appropriate communications. An over-the-phone interpreter will be used for any person who does not identify English as their primary language. Protocols are in place to provide services to people who are deaf or who have hearing loss.

- Depending on information elicited during the case investigation, locating information for the contact may be insufficient. These contacts will be referred to the Containment Strike Team for further investigation.

Operational Strategies

- Contact Tracers will conduct contact notification in NH.
- The Case Coordination Unit will ensure collaboration and transfer of contact information from one jurisdiction to another to ensure notification of exposure for contacts outside of NH.
- The NH public health response will use an electronic contact tracing system to manage contact notification, text monitoring of close contacts, and daily phone calls for monitoring cases.
- In-person contact notification will only be conducted when all other means of contact have been exhausted and in consultation with response leadership.
- Any minor who is named as a close contact to a confirmed or probable case will have their parent/guardian notified of their exposure.
- If an entire household is exposed, a parent can be a single point of contact for themselves and any minor children. All other adults and adult children must be contacted separately.
- The Business Liaison Unit will work with employers when many contacts are within a work setting.

Step 2: Contact Interview

- Every effort will be made to interview the close contact by telephone or text instead of in-person. The interview will be conducted in the individual's primary language (through the use of an over-the-phone interpreter, if necessary).

- The Contact Tracer will interview contacts to assess symptoms, better characterize their underlying risk for infection, and assess home and social factors that could impact compliance with self-quarantine.

Operational Strategies

- Contact Tracers will use caution when the calendar date of an exposure easily reveals who may have exposed a contact to COVID-19. The contact tracer will never confirm or imply confirmation of the identity of the case.

- Contacts who are unwilling or unable to be interviewed or cannot be located will be referred to the Containment Strike Team who will utilize additional investigation methods to locate the contact. If the contact is un-locatable/unreachable, the Containment Strike Team will consult with response leadership prior to making a home/field visit.

Step 2a: Testing and Quarantine/Isolation Instructions

- Close contacts with symptoms will be advised to immediately self-isolate and be referred for testing and medical care. Contacts with no primary healthcare provider will be linked to testing options or their closest medical facility if medical care is indicated.

- Close contacts with no symptoms will be instructed to self-quarantine for 14 days from their last potential exposure. The last potential exposure is pre-determined by the case investigator.

- All close contacts will be advised to get tested.

  o If positive, the contact will be referred to a case investigator.

  o If negative, asymptomatic close contacts will be instructed to continue self-quarantine for a full 14 days after last exposure and follow all recommendations of public health authorities.

  o If negative, symptomatic close contacts will be instructed to continue self-quarantine and follow all recommendations of public health authorities. A second test and additional

medical consultation may be needed if symptoms do not improve. NH response subject matter experts should be appraised and provide advisement.

- If testing is not available, symptomatic close contacts will be instructed to self-isolate and be managed as a probable case. Self-isolation is recommended for people with probable or confirmed COVID-19 who have mild illness and are able to recover at home.

- Contacts are educated about COVID-19 symptoms to monitor for and instructed to promptly report any new symptoms to public health monitors and seek medical care when necessary.

- CDC guidance may be followed for certain critical infrastructure workers, such as healthcare and first responders, who may have had exposure to a person with suspected or confirmed COVID-19. To ensure continuity of operations of essential functions, critical infrastructure workers may be permitted to continue working following potential exposure to COVID-19, provided they remain asymptomatic and additional precautions are implemented to protect them and the community. Any decisions will be made in consultation with Response Leadership.

- CDC guidance will also be followed for asymptomatic healthcare providers with a recognized COVID-19 exposure. They might be permitted to work under a crisis capacity strategy to address staffing shortages if they wear a facemask for source control for 14 days after the exposure. Any decisions will be made in consultation with Response Leadership.

Instructions for Close Contacts

- Self-quarantine, preferably at home, until 14 days after last potential exposure and maintain social distance (at least 6 feet) from others at all times.

- Follow DPHS guidance on self-quarantine.

- Self-monitor daily for symptoms [NOTE: Include instructions on how close contacts can report symptoms to the health department and agreed upon reporting times.]

- Avoid contact with people at higher risk for severe illness (unless they live in the same home and had same exposure as you).

- Contacts are instructed to follow DPHS guidance if they develop symptoms.

Operational Strategies

- Close contacts are asked to voluntarily self-quarantine. If the contact refuses, a legal order of quarantine may be issued to mandate compliance.
- All close contacts will be referred for COVID-19 testing.
- Cross-matching of close contacts will be made via Granite Trace to ensure they are not already in self-isolation / self-quarantine.
- Text-monitoring via Granite Trace will be used to monitor for COVID-19 symptoms.
- DPHS provides all close contacts with an initial letter notifying them of their need to quarantine and a letter that reports they have successfully completed their quarantine period.

Step 2b: Assessing Self-Quarantine Support Needs

- Most close contacts can self-quarantine at home. For a portion of the NH population, self-quarantine will be a challenge, especially for some of the most vulnerable populations.

- Self-quarantine requires that cases remain separate from others in the home, staying in a specific room away from other people and pets, and ideally with access to a separate bathroom.

- Contact tracers will assess a close contact's ability to self-quarantine in a safe environment with access to adequate food and water, among other considerations. Considerations must also be made for close contacts who express fear of abuse or violence if they must self-quarantine at home. Additionally, some contacts (e.g., single parents, nursing mothers, parents with children and toddlers, and other primary caregivers) may face other challenges, such as childcare or dependent adult care, that may affect their ability to self-quarantine.

- 2-1-1 will be provided as a resource to any case who needs assistance with accessing food, support services, etc. Additional options are available within the state's response infrastructure to support effective isolation. Response staff are provided with training and referral options for various supports to provide to close contacts.

Operational Strategies
- 2-1-1 will be provided as a resource to any close contact requiring support or assistance.
- Response staff will identify and provide linkage and referral to other support services as needs are identified.
- Contact Tracers will refer contacts to the NH COVID-19 and websites for additional information and provide them the DPHS phone number to reach a Public Health Nurse on call 24/7, 365 days a year.

Step 3: Medical Monitoring

- Contacts who agree to self-quarantine will receive daily self-monitoring through a text message prompt to notify DPHS of their health status and to promptly communicate any new symptoms. If a contact declines text messages, they will receive a daily phone call.

- For those individuals self-monitoring and sharing reports via text, reports must be received daily, and failure to respond will prompt a phone call from a contact tracer to check in with the contact and collect their daily temperature and conduct a symptoms review.

- Contacts who develop and report symptoms will be linked to clinical care and testing. For contacts who seek testing, the contact tracer will follow up to confirm results.

  - If positive, the contact will be referred to a case investigator.

  - If negative, symptomatic contacts will be instructed to continue to self-quarantine and follow all recommendations of public health authorities. A second test and additional medical consultation may be needed if symptoms do not improve.

  - If testing is not available, symptomatic close contacts should be advised to self-isolate and be managed as a probable case. Self-isolation is recommended for people with probable or confirmed COVID-19 who have mild illness and are able to recover at home.

Step 4: Contact Close Out

- Contacts who remain asymptomatic for 14 days after last exposure will be notified of their release from monitoring and provided general health education through a letter.

- Contacts who develop symptoms but test negative during their monitoring period should continue to self-quarantine and follow all recommendations of public health authorities. A second test and additional medical consultation may be needed if symptoms do not improve. The decision to release a contact from self-quarantine will be determined through consultation with Response Leadership and communicated clearly to the contact.

Operational Strategies
- A final text notification to evaluate for symptoms will be sent to the contact one day prior to the end of self-quarantine to confirm that the person remained asymptomatic throughout the 14-day period.
- An end of quarantine letter will be sent to the close contact and they may provide this to their employer, if needed.
- A 24/7/365 phone number is provided to contacts to address any post-monitoring questions or concerns.

V. LEGAL ORDERS

The purpose of isolation and quarantine is to control the spread of infectious diseases. Isolation is the separation of persons who are ill. Quarantine is the separation and restriction of persons who, while not ill, may have been exposed to an infectious agent and therefore may become infectious. Both isolation and quarantine are common practices in public health, and both aim to prevent the exposure of well persons to infected or potentially-infected persons.

Isolation and quarantine in NH are typically instituted voluntarily, however, both may be compelled by the Commissioner of the NH DHHS (or their designee) by legal order if necessary. The legal authority and processes for issuing and enforcing these orders are set forth in RSA 141-C:9,II; RSA 141-C:11; and RSA 141-C:12. Legal orders are pursued for persons with COVID-19 who refuse voluntary isolation. If a suspect COVID-19 has not yet sought care for his or her illness and refuses to do so, a public health order can be served to compel medical evaluation and testing if the results of such evaluation and testing will be used to protect the public's health. Legal orders are also issued to persons with close contact exposures to COVID-19 who refuse voluntary quarantine.

Public health orders are served in accordance with law including all due process provisions. At the time the order is served upon the person, the person serving the order informs the person both verbally and in writing of the right to petition the superior court to contest the order. DPHS monitors all persons under public health order and notifies the individual when they are released from isolation/quarantine.

VI. OUTBREAK RESPONSE

All suspected outbreaks or clusters of COVID-19 or respiratory illness occurring in any setting must be reported to DPHS immediately by calling **603-271-4496** (after-hours **603-271-5300**). Upon report of a suspected outbreak or cluster of COVID-19 or respiratory illness, a public health professional within the Cluster Investigation Unit will be assigned to respond. The Cluster Investigation Unit will manage outbreaks as they require expertise and resources beyond typical case investigation and contact tracing efforts. CDC guidance for investigating cases with COVID-19 in a number of settings will be utilized to guide our Outbreak Response.

A COVID-19 outbreak indicates potentially extensive transmission within a setting or organization. An outbreak investigation involves several overlapping epidemiologic, case, and contact investigations, with a surge in the need for public health resources. More emphasis on active case finding is recommended, which can result in more contacts than usual needing testing and monitoring.

Definitions

Definitions for COVID-19 outbreaks are determined by NH experience and national case definitions. A working definition of "outbreak" is a situation that is consistent with either of two sets of criteria:

- During (and because of) a case investigation and contact tracing, three or more contacts are identified as having active COVID-19.

OR

- Three or more patients with COVID-19 are discovered to be linked, and the linkage is established outside of a case investigation and contact tracing (e.g., two patients who received a diagnosis of COVID-19 are found to work in the same office, and only one or neither of them was listed as a contact to the other).

The Cluster Investigation unit will investigate all outbreaks. In an outbreak, contacts can be exposed to more than one patient diagnosed with COVID-19, and cases and contacts can be interrelated through multiple social connections.

Congregate Settings

For congregate settings the general concepts of patient characteristics, duration and proximity of exposure, environmental factors that affect transmission, and susceptibility of contacts to COVID-19 are considered when responding and implementing control measures. These investigations are extremely complex and require collaboration with multiple partners in order to assess risk for both facility residents, staff, and external contractors who provide services in those facilities. Symptom screening, testing, and isolation and quarantine recommended vary based on the facility (e.g., healthcare facility versus others), the environmental constructs, and the number of patients with COVID-19 and contacts under consideration.

In most instances, case investigation and contact tracing conducted within facilities will be conducted by the Cluster Investigation Unit (e.g., infection control practitioners, healthcare associated infections experts) in collaboration with facility leadership, occupational health liaisons and other relevant subject matter experts. Interruption of transmission within the facilities also requires complementary community case investigation and contact tracing efforts, to be conducted by the Case Investigation Unit so planning for these activities is a joint endeavor involving many stakeholders.

Upon identification of a suspected outbreak, residential congregate settings should follow "NH DHHS Immediate Actions to Take in Response to Residential Institutional Outbreaks of COVID-19": https://www.nh.gov/covid19/resources-guidance/documents/covid-institutional-outbreaks.pdf

Correctional Facilities

Jails, prisons, and immigrant detention centers across the country have reported COVID-19 outbreaks and CDC has issued guidance on preventing and controlling COVID-19 in correctional facilities. Multiple factors can hinder contact tracing in correctional facilities. Investigations in jails can be particularly challenging because of rapid turnover of residents and crowding. The number of contacts in close proximity to a case/resident can be large. DPHS has had long-standing relationships with corrections facilities which will aid in collaboration with correctional facilities to conduct case investigation and contact tracing. DPHS will also trace contacts who are transferred, released, or paroled from a correctional facility before being evaluated for COVID-19.

Workplaces

The Occupational Safety and Health Administration (OSHA) and CDC have provided COVID-19 guidance for workers and employers. Because duration and proximity of exposure can be greater in some settings than for other settings, details regarding employment, hours, working conditions, and workplace contacts will be obtained during the initial interview with cases identified in a workplace setting. Administration of the workplace will be contacted regarding a potential outbreak within their workplace. If the employer has occupational health professionals/program, they will be included and engaged throughout the investigative process. DPHS may share information with employers regarding employee COVID-19 or exposure status in order to carryout public health activities such as excluding an employee from work. The employer is required to protect the employee's health information under both RSA 141-C and the American with Disabilities Act (ADA).

Employee lists to aid in identifying contacts will be obtained by the Business Liaison Unit. The Business Liaison Unit will inquire about any employees who might have left the workplace and have been omitted from current employee lists. Contractual personnel who may not be on workplace rosters but could also be exposed (e.g., housekeeping, cafeteria, business associates for meetings/conference, etc.) will also be considered during the contact investigation. Investigators will be aware of the sensitivities surrounding the immigration status of workers and how this can be a barrier to case investigation and contact tracing activities.

Workplace administrators or managers are likely to express concern regarding liability, lost productivity, sick leave policies, responsibility for testing and screening, labor relations (e.g. unions) and media coverage. In addition, there should be efforts to protect patient confidentiality. The assistance of The Joint Information Center (JIC) and COVID-19 Public and Partner Communication Branch can be offered to the workplace. Businesses will be directed to their own legal counsel regarding questions of liability and requirements under law.

Multiple outbreaks of COVID-19 among meat and poultry processing facility workers have occurred in the United States. CDC and OSHA guidance for meat and poultry processing workers and employers will be considered for these facilities. Responders may also engage the NH Food Protection Section for any outbreaks occurring in food service or manufacturing establishments.

Hospitals and Other Healthcare Settings

Nearly every type of healthcare setting has been impacted by transmission of SARS-CoV-2, and guidance on preventing transmission provided by CDC and the Centers for Medicare and Medicaid Services (CMS) will be referenced as part of DPHS' response. The Cluster Investigation unit is familiar with collaborating with hospitals and other healthcare entities and will consult DPHS legal counsel or DHHS Bureau of Health Facilities should questions about legal or licensing requirements arise.

Nursing homes and other long-term care facilities (LTCF) have been especially vulnerable to COVID-19 outbreaks. Recent experience with outbreaks in nursing homes has also reinforced that residents with COVID-19 may not be willing or able to report typical symptoms such as fever or respiratory symptoms; some may not report any symptoms. DPHS uses CDC guidance on how LTCF and nursing homes can be prepared to prevent COVID-19. CMS guidance has also been used to guide nursing homes. DPHS has also developed a number of guidance documents and resources to assist LTCF with responding to COVID-19.

When an outbreak is identified in a LTCF, an investigation occurs as a collaboration between the facility and DPHS, including the facility's occupational health services and infection prevention staff. A public health professional will contact facility administrators to provide infection control recommendations regarding illness screening, cohorting of residents, staffing assignments, PPE, cleaning and disinfection, and staff infection prevention training and monitoring. Information about the facility will be collected and resources will be offered such as how to access PPE. DPHS will also discuss recommendations for additional testing at the facility and will assist with coordinating testing if needed. Depending on extent of illness in the facility, DPHS may conduct a comprehensive Infection Control Assessment and Response (ICAR), which is a CDC tool used to assist health departments in assessing infection prevention practices and guide quality improvement activities by addressing identified gaps in healthcare facilities. DPHS will remain in regular contact with the facility to monitor the outbreak and effectiveness of control measures. Because the incubation period for COVID-19 can be up to 14 days, identification of new cases within a week to 10 days of starting interventions does not necessarily represent a failure of the interventions to control transmission. Once 14 days have passed without any additional cases at the facility, DPHS will determine if the outbreak is under control and that outbreak control measures can be discontinued.

Table. Long-term Care Facility COVID-19 Response Resources

Key NH DHHS Guidance
o NH DHHS Guidance for Long Term Care Facilities
o NH DHHS Immediate Actions to Take in Response to Residential Institutional Outbreaks of COVID-19
o NH DHHS COVID-19 Response Toolkit for Long Term Care Facilities
o Resources to Help Facilities Plan and Respond to COVID-19 Positive Test Results Among Staff
o Return to Work Criteria and Crisis Staffing Guidelines
o Long Term Care Stabilization Fund
o Other resources available at: https://www.nh.gov/covid19/resources-guidance/long-term-care.htm
CDC Guidance
o CDC Infection Prevention and Control for Long Term Care Facilities
o Responding to COVID-19 in Nursing Homes
o Infection Control Assessment (ICAR)
CMS Guidance
o CMS guidance and resources available at: https://www.cms.gov/About-CMS/Agency-Information/Emergency/EPRO/Current-Emergencies/Current-Emergencies-page

Schools and Child Care Settings

This category includes childcare centers, preschools, primary through secondary schools, vocational schools that replace or immediately follow secondary school, and colleges and universities. CDC guidance for administrators of public and private child care programs and K-12 schools, as well as guidance for administrators of public and private institutions of higher education (IHE) and guidance for child care programs that remain open are used as reference by DPHS. DPHS recognizes that during an outbreak in these settings, a coordinated investigation that includes communication and collaborative decision making with education agencies and parents can increase the efficiency and success of the process.

Consent, assent, and disclosure of information are more complex for non-emancipated minors than for adults. Each interaction with a minor is also a potential interaction with the family. Additionally, the presence of COVID-19 in schools often generates publicity. DPHS transparently communicates with the school and parents/guardians. DPHS is always prepared to assist educational institutions with langue to use in letters to their community (students, family, faculty and/or staff). The JIC is utilized to support media coverage to ensure a collaborative strategy between DPHS and the institution.

The strategy for case investigation and contact tracing in child care centers, preschools, and primary schools depends on whether the person diagnosed with COVID-19 is a child or an adult (e.g., a teacher or caregiver). Certain home-based child care centers include adults who do not provide child care but still share space or interact with the children. These people should also be considered during contact investigations and implementation of control measures. DPHS will also consider whether extramural activities add other exposure sites and contacts. Clubs, sports, and certain classes require the case investigator to obtain additional information when interviewing the case, the case's parents/guardians, and school personnel. For cases with COVID-19 who ride school buses, a bus company might be contacted to collect a roster of riders with addresses.

Shelters and Other Settings Providing Services for People Experiencing Homelessness

DPHS considers CDC guidance on how to investigate potential cases of COVID-19 among people living in a homeless shelter or living in an unsheltered situation. In addition, DPHS promotes CDC guidance for homeless service providers to plan and respond to COVID-19.

Determining When the Outbreak is Over:

- Settings experiencing outbreak should maintain all recommended precautions until there are no additional clinical cases for 14 days or until cases subside in community.
- Settings experiencing outbreak should confirm with DPHS that the outbreak is under control and that outbreak control measures can be discontinued prior to discontinuing them.

VII. SPECIAL CONSIDERATIONS

This section provides general guidance and highlights key issues that may need thoughtful attention.

Special Sites Not Under Jurisdiction

Examples of sites that are not under the jurisdiction of the state, territorial, or local health departments in the United States are those under the jurisdiction of the US government (e.g., military bases and federal correctional facilities), diplomatic missions, or reservations for American Indian/Alaska Native tribes. If these sites have their own healthcare systems, DPHS can offer technical consultation and can share and request data from case investigations and contact tracing. At sites that do not have healthcare systems, agreements can be made between local infection control officials and the onsite authorities to delegate the public health response to DPHS.

Cases Unable to Participate

There may be instances when cases with COVID-19 have difficulty recalling close contacts (e.g., substance use or cognitive impairment) or they are unavailable for inquiry (e.g., died before an interview could be conducted, are intubated, unconscious, a minor, mentally incapacitated, or intellectually disabled). Social-network information, setting-based investigations, and proxy interview methods may be used to supplement the contact list. In lieu of the ability to speak to the case, details to inform case investigation and contact tracing may be gleaned from healthcare providers or proxies.

Culturally and Linguistically Diverse Minority Populations

Culturally and linguistically diverse populations are growing in the United States. These populations include racial and ethnic minorities, members of tribal nations, immigrants (i.e., those born outside the United States) and refugees. Health differences between racial and ethnic groups are often due to economic and social conditions that are more common among some racial and ethnic minorities than whites. History shows that severe illness and death rates tend to be higher for racial and ethnic minority groups during public health emergencies.

It is a priority in NH that case investigations and contact tracing be conducted in a culturally appropriate manner. The Governor's COVID-19 Equity Response Team is an effort to meaningfully engage community representatives from affected communities, ensure collaboration with

community-serving organizations, respect the cultural practices in the community, and take into consideration the social and economic contexts in which these communities live and work within the broader public health response to COVID-19. Additionally, an Equity subject matter expert is appointed to the DPHS COVID-19 Incident Management Team to provide advice and best practices, including advising on the collection, analysis, and dissemination of race and ethnicity data and other demographic variables.

Interjurisdictional Case Investigation and Contact Tracing

Cases diagnosed with COVID-19 may live in one jurisdiction and work in another, therefore collaboration between jurisdictions is essential to ensure synchronized community messaging. Timely and confidential transfer of case and close contact information to facilitate testing (if available), isolation/quarantine, and clearance to return to work are essential to keeping communities healthy.

Processes are in place within the US to confidentially share information across jurisdictional boundaries for public health purposes. In NH, the Case Coordination Unit is responsible for sending and receiving reports from other jurisdictions of any individual diagnosed with COVID-19 and close contacts who reside in their jurisdiction. The jurisdiction where the case resides is responsible for leading the investigation and notifying other health departments of any close contacts and/or congregate settings needing investigation in their area. Bi-directional confidential communication between health departments includes COVID-19 test results related to the investigation and confirmation of cases and contacts being released from self-isolation/self-quarantine. DPHS has pre-existing active partnerships with the boarding jurisdictions of Maine, Massachusetts, and Vermont. DPHS also exchanges information as needed with the province of Quebec in Canada. DPHS uses guidelines adopted by the Council of State and Territorial Epidemiologists for determining residency for disease reporting purposes. Regardless of which jurisdiction "counts" a case for statistical purposes, all cases and contacts are monitored during their time in NH. Likewise, NH notifies other jurisdictions when a NH resident under public health monitoring moves to their location, although generally, such movement is discouraged and must only be done if in a safe manner and with approval from public health authorities.

Cases with COVID-19 Traveling Within the United States or Internationally

Our nation's population is mobile, with people traveling between states and internationally for work and leisure on a daily basis. Interjurisdictional communication is essential to the success of case investigations and contact tracing spanning multiple jurisdictions. Officials from the health department that initially encounter the case with a positive SARS-CoV-2 laboratory result or probable diagnosis should interview the case to gather as much identifying and locating information as possible for the case, any close contacts visited, and events attended during the case's travels, as well as information about the mode of travel. These data will then be shared with the jurisdictions in which the close contacts are located. If the case is initially interviewed in a jurisdiction other than his or her residence, information will be transferred between jurisdictions for continuity of case management. If a person becomes symptomatic after they have returned home from their trip, an assessment is made to determine if the flight (or other mode of transportation) was within the contact elicitation window. If so, flight information will be obtained and appropriate authorities informed, and close contacts participating in the journey notified. The jurisdiction where the case resides is assigned responsibility for managing the overall investigation. In the United States, guidelines are used to consistently determine residency for the purposes of infectious disease investigation and control activities across jurisdictions.

Case investigations and contact tracing for flights arriving in the US or between US states, or cruise ships arriving at a US port, are coordinated by CDC. To initiate case investigation and contact tracing of an aircraft or ship, the health department managing the overall investigation will notify the CDC quarantine station with jurisdiction for their area. CDC will obtain identifying and locating information for potentially exposed passengers and provide that information to health departments with jurisdiction for where the contacts reside. These health departments then follow-up with contacts within their jurisdiction and report outcomes to the relevant CDC quarantine station. For international flights departing the US, CDC will notify public health authorities at destinations who will be responsible for conducting the aircraft case investigation and contact tracing.

VIII. PUBLIC COMMUNICATIONS STRATEGY

The success of a case investigation and contact tracing program hinges on a community's level of participation. For many community members, this may be the first time they have engaged with public health personnel. DPHS, in partnership with the NH Joint Information Center (JIC) and the DHHS Public Information Office, communicates with the public to generate an understanding and acceptance of case investigation and contact tracing as an important way to protect friends, family, and community members from future potential infections. This is done through press conferences, media interviews, newspaper articles, social media posts, and the https://www.nh.gov/covid19 website. DPHS shares messaging from CDC to promote public acceptance of contact tracing approaches when possible.

NH has a communication strategy that engages community leaders and key public officials. Local community leaders, public officials, and influencers amplify clear, empowering messages that support case investigation and contact tracing activities and encourage community members to take responsibility for their health and the health of their community by following guidance from DPHS and local health departments. In addition to case investigation and contact tracing awareness messages, NH has developed and shares messages that dispel misinformation in their community and direct the public to reliable sources. Consideration is given to cultural sensitivity and language diversity when developing messages and outreach materials. Messages are tailored to reach specific audiences, including vulnerable populations within the community.

IX. DATA MANAGEMENT AND INFORMATION TECHNOLOGY

The development and implementation of a robust data management infrastructure is critical for assigning and managing investigations, linking cases with confirmed and probable COVID-19 to their contacts, and evaluating success and opportunities for improvement in a case investigation and contact tracing program. DPHS has data systems in place to collect, analyze, and disseminate COVID-19 case investigation and contact tracing data. These systems capture laboratory test data, provider reports of illness, hospitalizations, and deaths, and contact tracing and monitoring information. Management of COVID-19 investigations become more complicated as the number of case reports increases; NH's data systems are relational in nature and able to link multiple individuals to many other individuals in order to accommodate this complexity and interconnectedness of investigations. These core systems are accessible to state response personnel as well as personnel in NH's two local health departments. Data systems that contain protected health information are in compliance with the Health Insurance Portability and Accountability Act (HIPAA) and meet information security requirements of the Department of Information Technology.

A. Case Management

The NH Electronic Disease Surveillance System (NHEDSS) is NH's infectious disease case management system. This system is used to manage infectious disease case investigations for more than 60 different reportable infectious diseases. This system has robust functionality to track cases and contacts as well as to send and receive standardized messages from laboratories and to CDC. Case management tools for case investigation and contact tracing capture data on cases and contacts and can help improve the efficiency of manual contact tracing and medical monitoring methodologies. Some NHEDSS capabilities include:

- Upon receipt of a new positive test result, the system assigns an auto-generated, unique patient identifier to the patient report, which is then viewable to staff to take action.

- Ability to collect patient locating and sociodemographic information (e.g., date of birth, race/ethnicity, residential address) and COVID-19-specific information (e.g., symptoms, date of symptom onset, date of SARS-CoV-2 testing, test results, hospitalizations, co-morbid conditions);

- Ability to collect patient risk assessment information (e.g., specific people the patient had close contact with during the contact elicitation window, community locations where the patient visited and may have exposed others (e.g., supermarket, workplace, public transportation);

- Ability to facilitate identification/elicitation and documentation of known contacts of cases with COVID-19;

- Ability to develop custom forms and data collection instruments as response needs change. These instruments are designed to be flexible enough to allow for text field entry but structured enough that frequency distributions of locations and people can be obtained;

- Ability to ensure data security and confidentiality of significant volumes of case information including all required data elements for local and national COVID-19 reporting; and

- Interoperability capabilities to receive input from public health professionals, information systems and/or laboratory systems, either via import or real-time synchronization.

B. Contact Tracing and Monitoring

In addition to a case management system, NH has implemented a specialized contact tracing system called Granite Trace, which is a vendor-developed solution built using the Salesforce platform. This system has specialized capabilities specifically designed to efficiently manage the notification and monitoring of cases and their contacts. Some Granite Trace capabilities include:

- Ability to capture named contacts including all information provided by the patient, as well as additional risk assessment information for the contact (e.g., location and close contacts they may have had during their contact elicitation window). This system allows for the entry of specific people (Jane Doe), people with partial contact information (Doug from the neighborhood BBQ) and locations (bus or train routes, neighborhood grocery store);

- Ability to collect from contacts any symptoms of COVID-19, symptom onset dates, and dates and results of SARS-CoV-2 tests;

- Ability to send notifications to users (cases and contacts) via automated means that provide clear instructions on how to regularly monitor their symptoms and health status and report that information every day;

- Ability to communicate in multiple formats, such as voice messages, emails, and SMS;

- Capability for contact-generated and system-generated alerts or workflows (e.g., contact failed to follow-up, presence of symptoms, contact request for information);
- Ability to produce individual-level and aggregate data supporting worker and process metrics;
- Ability to queue and assign work to response staff (e.g. investigation, notification, and monitoring phone calls); and
- Ability to integrate with proximity tracking tools.

C. Proximity Tracking

NH is not currently using proximity tracking technology to support contact tracing. Proximity tracking uses smartphones as "sensors" to detect proximity and exposure to individuals who may have COVID-19. Proximity-tracking tools may relieve several challenges associated with traditional case investigation and contact tracing and have been implemented in several countries. Several ongoing efforts in the US and internationally seek to develop privacy-preserving, accurate, and energy- efficient applications for use on mobile devices. There are currently very limited data on the performance of these applications in US communities; particularly the sensitivity and specificity of these methods as it pertains to identifying true close contacts. Many tools are not yet widely available, and there remain critical gaps that could pose challenges to their implementation. There are two major technologies that are under discussion in the US—Bluetooth and GPS. There are currently little published empirical data showing the capabilities of either technology. Some preliminary advantages, disadvantages, and implementation challenges are listed below. It is assumed that appropriate consent is obtained from the individuals involved.

Potential Advantages of Bluetooth and GPS-enabled tools

1. Potentially creates a higher likelihood of buy-in from users by prioritizing individual trust.
2. Augments capacity of case investigator and contact tracer workforce (e.g., may decrease burden of manual contact elicitation, help to identify contacts in a timelier manner, facilitate communication with contacts, and help ensure rapid isolation/quarantine to interrupt the chain of transmission).
3. Augments contact identification by identifying potentially unknown contacts.

4. Provides more comprehensive mobility history, which allows the contact to better detail their movements and provides public health authorities with more accurate information.

5. Provides granularity of proximity and associated temporal data that may be useful in stratifying contacts into different exposure risk categories for use in tracing, notification and monitoring.

Potential Disadvantages:

1. Has inherent socioeconomic and technology literacy biases—requires that cases and contacts have access to a smartphone, knowledge of how to install apps, and literacy to navigate apps.

2. May not be effective until a "critical mass" of users in a community are using the apps.

3. Requires individuals to keep their smartphones on them at all times with appropriate functions enabled and depends on users to elect to share their information with health departments.

4. Disparate data formats from multiple apps may not be interoperable and could add burden to integrate data seamlessly into case management and contact tracing systems and workflows.

5. Expansion of tool capabilities will require more consultation on the ethical and legal issues related to electronic tracking.

6. Hacking and other unauthorized access or use of data may compromise data security and confidentiality.

D. Data Dissemination

The Epidemiology and Surveillance Unit works alongside the Case Investigation, Contact Tracing, and Cluster Investigation Units to analyze, interpret, and disseminate response data. Data are analyzed in Microsoft Excel, SAS, and R statistical software packages depending on complexity of the analysis and individual epidemiologist/data analyst skill sets. Case investigation and contact tracing information related to the response are provided to the public in data reports via press releases and made available on the NH COVID-19 website. Additionally, DPHS maintains a data dashboard that provides aggregated information from state COVID-19 data systems. Data release guidelines are used to ensure data are aggregated at an appropriate level to prevent constructive identification of individuals. The dashboard, which will expand to include additional data and analyses over time, is available at: https://www.nh.gov/covid19/dashboard/summary.htm

X. EVALUATING SUCCESS

Routine review of both process and outcome metrics is crucial for case investigation and contact tracing success. By examining these data, issues can be identified and addressed, changes to internal case investigation and contact tracing processes can be made, and DPHS can pivot if new high-risk populations are identified. The uses of data related to case investigation and contact tracing fit broadly into four main domains:

1. Individual case investigation and contact tracing supervision and management

2. Programmatic process measures

3. Programmatic outcome measures

4. Epidemiologic and other public health analyses

Individual case investigation and contact tracing supervision and management

To support supervision of case investigation and contact tracing staff, data systems in place support review of the following measures:

* Number of case investigations assigned during review period

* Number of cases interviewed during review period

* Number of contacts notified during review period

Programmatic process measures

Data examined among all case investigation and contact tracing staff will help provide leadership with insights into program successes and possible opportunities for additional training, resources or focus areas. Data systems in place support review of the following measures:

* Number of case investigations assigned during review period

* Number of cases interviewed during review period

* Number and percentage of cases interviewed ≤24 hours from report during review period

* Number of case investigations completed during review period

* Percentage of cases, hospitalizations, and deaths with complete (non-unknown) race and ethnicity data

* Number of contacts elicited among case investigations during review period

* Number of contacts notified during review period

- Average number of contacts named per patient interview during review period

- Number of cases who completed isolation/total number of cases advised to isolate during review period

- Number of contacts who completed quarantine/total number of contacts advised to quarantine during review period

Programmatic outcome measures

- Number of cases interviewed/Number of case investigations

- Number of contacts tested for SARS-CoV-2/Number of contacts interviewed

- Number of contacts self-quarantined as a result of contact tracing

- Number and percentage of cases who completed full self-isolation period

- Number of contacts who completed 14-day self-quarantine/notified contacts

Epidemiologic and other public health analyses

DPHS maintains a data dashboard that provides information on outcomes related to NH's response to COVID-19. These outcome data are monitored to assess the overall impact of all response actions, including effectiveness of case investigation and contact tracing, as well as other community mitigation measures and testing initiatives. The dashboard, which will expand to include additional data and analyses over time, is available at:

https://www.nh.gov/covid19/dashboard/summary.htm

XI. CONFIDENTIALITY

All aspects of case investigation and contact tracing must be confidential and culturally appropriate. Every person working the COVID-19 response is trained in privacy, security, confidentiality and the Health Insurance Portability and Accountability Act (HIPAA). All staff involved in public health COVID-19 Response activities with access to such confidential information sign a confidentiality agreement acknowledging the legal requirements not to disclose protected health information.

Efforts to locate and communicate with cases and close contacts are carried out in a manner that preserves the confidentiality and privacy of all involved. This includes protecting the identity of the patient with COVID-19 when notifying a close contact, and not giving confidential information to third parties (e.g., roommates, neighbors, family members) unless authorized to do so by law or patient consent.

Maintaining confidentiality during COVID-19 case investigations and contact tracing can be particularly difficult in congregate settings. Prior discussions with the case can generate solutions for safeguarding confidentiality. Third parties, such as employers, administrators, or property managers, etc., who already know confidential information regarding a case or contacts should be asked to respect confidentiality, even if they are not legally bound to do so.

Legal and ethical concerns for privacy and confidentiality extend beyond COVID-19. All personal information regarding any COVID-19 cases and contacts should be afforded the same protections. This includes any and all patient records. DPHS data and security protocols include requirements for password-protected computer access, as well as locked, confidential storage cabinets and proper shredding and disposal of notes and other paper records. Protocols include instructions for the protection of confidential data and confidential conversations in remote or off-site work locations (e.g. home) such as requirements to make telephone or video-conferencing calls from a private location). Approaches to ensuring confidentiality and data security are included in training of staff.

XII. ADDITIONAL SUPPORT SERVICES

Significant social support may be necessary to allow cases diagnosed with COVID-19 to safely self-isolate and contacts to safely self-quarantine. For some of the most vulnerable populations in the NH, self-isolation or self-quarantine will be a hardship that may be impossible without additional assistance. Adherence to isolation and quarantine instructions will greatly depend on each individual's safety, comfort, and health during this period. Social support services are an integral component of NH's case investigation and contact tracing activities.

Many cases with COVID-19 and close contacts will be able to self-isolate and self-quarantine at home with a basic kit of resources, such as cloth face coverings, gloves, thermometers, hand sanitizer, disinfectants, and health education materials. Others may need additional wrap-around services, such as food and pharmacy delivery and laundry services. Also, financial considerations must be made for those whose employment will be affected by their need to self-isolate or self-quarantine. There may be additional needs that persons with disabilities may require to successfully self-isolate or self-quarantine.

Case Investigation, Contact Tracing and Health Monitoring Leads are essential in this process, acting as a bridge between the case or contact and key service providers. The leads will assist the person in identifying services available to meet their needs. It is essential that these staff be able to communicate in a culturally and linguistically appropriate manner.

Social support services include:

- Basic social support such as food, household supplies, laundry, and pharmacy;
- Referral to telemedicine providers and transportation to medical care, if essential;
- Referral to health insurance navigation, Medicare/Medicaid assistance, mental health treatment services, substance abuse and misuse services;
- Referral to childcare and/or dependent adult care services support for those who are the primary caregivers for family and other household members;
- Referral to COVID-19 economic supports such as unemployment financial assistance and protections made under Executive Orders related to housing and employment; and
- Availability of housing specifically designated for isolation and quarantine.

Success in this area requires assessment of individual needs and cultural factors within communities, in addition to multisector partnerships to bring resources together for comprehensive support for individuals, their families and their communities. DPHS utilizes the 2-1-1 resource phone line and the State Emergency Operations Center Emergency Support Function 8 Desk (Health and Medical) as the existing resources available to assist cases and contacts who are self-isolating/self-quarantining, as well as their families, and works collaboratively with others to find ways to fill any critical service gaps to mitigate personal hardship and to support isolation/quarantine compliance.

Out-of-Home Isolation and Quarantine

Throughout the nation, there are many close-knit families with multiple generations living in the same household. Cases and contacts in these living situations may need to be supported with alternative living arrangements in order to protect their families and other household members. Others who may need alternate housing support include people being released from correctional institutions and those experiencing homelessness.

To address these situations, DHHS has identified facilities that can be used for alternative housing, as well as criteria to determine eligibility and access to out-of-home isolation and quarantine accommodations. Alternative housing may be necessary for people self-isolating/ self-quarantining who are healthcare workers, living in group housing, living with individuals at high-risk for severe disease, discharged from hospitals or correctional facilities, and experiencing homelessness and others in need. Behavioral health teams were involved in the planning for these sites to facilitate continued access to support for people with substance use or mental health disorders. These facilities provide basic services and support to those temporarily housed there.

APPENDIX 1: GLOSSARY OF TERMS

Term	Definition
Case Investigation & Contact Tracing	Fundamental activities that involve working with a patient who has been diagnosed with an infectious disease to identify and provide support to people (contacts) who may have been infected through exposure to the patient. This process prevents further transmission of disease by separating people who have (or may have) an infectious disease from people who do not.
Close Contact	Someone who was within 6 feet of an infected person for at least 10 minutes starting from 2 days before illness onset (or, for asymptomatic patients, 2 days prior to specimen collection) until the time the patient is isolated. Data are limited to precisely define the "prolonged exposure" to determine "close contact", however 10 minutes of close exposure can be used as an operational definition for contact investigation. Factors to consider when defining close contact include proximity, the duration of exposure (e.g., longer exposure time likely increases exposure risk), whether the individual has symptoms (e.g., coughing likely increases exposure risk) and whether either the case patient or contact were wearing an N95 respirator (which can efficiently block respiratory secretions from contaminating others and the environment). At this time, differential determination of close contact for those using fabric face coverings is not recommended. In healthcare settings, it is reasonable to define a prolonged exposure as any exposure greater than 10 minutes because the contact is someone who is ill. Brief interactions are less likely to result in transmission; however, symptoms and the type of interaction (e.g., did the person cough directly into the face of the individual) remain important. https:// www.cdc.gov/coronavirus/2019-ncov/php/public-health-recommendations.html
Confirmed COVID-19 Case	Report of person with COVID-19 and meeting confirmatory laboratory evidence https://wwwn.cdc.gov/nndss/conditions/coronavirus-disease-2019-covid-19/case-definition/2020/
Contact Elicitation Window	The timeframe when the case was likely infectious and not under isolation. This is the time period for which possible contacts should be elicited.
Critical Infrastructure Worker	Workers in 16 different sectors including Chemical, Commercial Facilities, Communications, Critical Manufacturing, Dams, Defense Industrial Base, Emergency Services, Energy, Financial Services, Food and Agriculture, Government Facilities, Healthcare and Public Health, Information Technology, Nuclear Reactors, Materials, and Waste, Transportation Systems, and Water and Wastewater Systems. These workers include: (a) federal, state and local law enforcement; (b) 911 call center employees; (c) fusion center employees; (d) public and private hazardous material responders; (e) janitorial and custodial staff; (f) workers and contractors in the food and agriculture, critical manufacturing, informational technology, transportation, energy, and government facilities industries. https://www.cdc.gov/coronavirus/2019-ncov/downloads/critical-workers-implementing-safety-practices.pdf

Exposure	Having come into contact with a cause of, or possessing a characteristic that is a determinant of, a particular health problem https://www.cdc.gov/csels/dsepd/ss1978/ glossary.html
First-responder	Law enforcement, fire services, emergency medical services, and emergency management officials. https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-for-ems.html
Healthcare personnel	All paid and unpaid people serving in healthcare settings who have the potential for direct or indirect exposure to cases or infectious materials, including body substances; contaminated medical supplies, devices, and equipment; contaminated environmental surfaces; or contaminated air. https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-risk-assesment-hcp.html
Incubation period	Period of time between exposure to an infection and onset of symptoms
Isolation	The separation of a person or group of people known or reasonably believed to be infected with a communicable disease and potentially infectious from those who are not infected to prevent spread of the communicable disease. Isolation for public health purposes may be voluntary or compelled by federal, state, or local public health order. https://www.cdc. gov/quarantine/quarantineisolation.html
Multigenerational Household	Households that consist of more than two generations living under the same roof. Many researchers also include households with a grandparent and at least one other generation. https://www.census.gov/library/publications/2012/acs/acsbr11-03.html
Probable COVID-19 Case	Report of person meeting clinical AND epidemiologic evidence of COVID-19 but without confirmatory laboratory evidence https://cdn.ymaws.com/www.cste.org/resource/ resmgr/2020ps/interim-20-id-01_covid-19.pdf
Quarantine	The separation of a person or group of people reasonably believed to have been exposed to a communicable disease but not yet symptomatic from others who have not been so exposed to prevent the possible spread of the communicable disease. Quarantine may be voluntary or compelled by federal, state, or local public health order. https://www.cdc.gov/ quarantine/quarantineisolation.html