**Mitigation Strategies for the Central District Health Department (Hall, Hamilton and Merrick Counties) based on current situation and potential for widespread COVID-19 transmission**

The following describes CDC recommendations for evidence-based community interventions for the situation where there is widespread COVID-19 transmission. Due to limited testing, we are framing this paper on the probability that there is currently COVID-19 in our district.

## **Where we are now (March 30, 2020):**

To reduce widespread transmission in our district, we recommend extensive community mitigation activities to support slowing the spread of respiratory virus infections. These approaches are used to minimize morbidity and mortality caused by COVID-19 and minimize social and economic impacts of COVID-19. Individuals, communities, businesses, and healthcare organizations are all part of a community mitigation strategy. Given the potential for widespread community transmission in CDHD and the extensive involvement of health care facilities, especially nursing home facilities at the epicenter, substantial interventions for both community (Table 1.) and health care settings (appendix A) should be implemented at this time, based on the urgency of protecting the health care system with expected rise in cases by slowing the spread within the community.

## **Goals**

The goals for using mitigation strategies NOW are to protect:

* Individuals at risk for severe illness, including persons of any age with underlying health conditions including immune suppression and especially seniors with underlying health conditions (See Appendix B).
* The healthcare workforce and critical infrastructure workforces

These approaches are used to minimize morbidity and mortality caused by COVID-19 and minimize social and economic impacts of COVID-19. Individuals, communities, businesses, and healthcare organizations are all part of a community mitigation strategy.

**Implementation emphasizes:**

Emphasizing individual responsibility for implementation of recommended personal-level action.

* Empowering businesses, schools, and community organizations to implement recommended actions, particularly in ways that protect persons at risk of severe illness such as older adults and persons with serious underlying health conditions (e.g., people requiring dialysis, or those with congestive heart failure or emphysema).
* Focusing on settings that provide critical services to implement recommended actions to protect critical infrastructure and individuals at risk of severe disease.
* Minimizing disruptions to daily life to the extent possible.

**Guiding Principles**

* Our community is unique, and appropriate mitigation strategies will vary based on the level of community transmission, characteristics of the community and our populations, and the local capacity to implement strategies.
* We consider all aspects of our community that might be impacted, including populations most vulnerable to severe illness and those that may be more impacted socially or economically, and select appropriate actions.
* Mitigation strategies may be scaled up or down depending on the evolving local situation.
* When developing mitigation plans in our district, we will identify ways to ensure the safety and social well-being of groups that may be especially impacted by mitigation strategies, including individuals at increased risk for severe illness.
* Activation of community emergency plans is critical for the implementation of mitigation strategies. These plans may provide additional authorities and coordination needed for interventions to be implemented (Table 2).
* Activities in Table 2 may be implemented at any time regardless of the level of community transmission based on guidance from NE DHHS and CDC.
* The level of activities implemented may vary across the settings described in Table 2 (e.g., they may be at a minimal/ moderate level for one setting and at a substantial level for another setting in order to meet community response needs).
* Depending on the level of community spread, CDHD and NE DHHS may need to implement mitigation strategies for public health functions to identify cases and conduct contact tracing (Table 3). When applied, community mitigation efforts may help facilitate public health activities like contact tracing.
* Trigger points for community-wide mitigation activities are identified.

• Level of community transmission (see Table 3)

• Number and type of outbreaks (e.g., nursing homes, schools, etc.)

• Impact of the outbreaks on delivery of healthcare or other critical infrastructure or services

• Epidemiology in surrounding jurisdictions

**Community Characteristics**

• Size of community and population density

• Level of community engagement/support

• Size and characteristics of vulnerable populations

• Access to healthcare

• Transportation (e.g., public, walking)

• Planned large events

• Relationship of community to other communities (e.g., transportation hub, tourist destination, etc.)

**Healthcare capacity**

• Healthcare workforce

• Number of healthcare facilities (including ancillary healthcare facilities)

• Testing capacity

• Intensive care capacity

• Availability of personal protective equipment (PPE)

**Public health capacity**

• Public health workforce and availability of resources to implement strategies

• Available support from other state/local government agencies and partner organization

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| **Table 1. Community mitigation strategies for Central District Health Department (Hall, Hamilton and Merrick Counties)** | |
| Every Individual and Family at Home | * Continue to monitor local information. * Continue to practice personal protective measures. * Continue to put household plan into place. * All individuals should limit community movement and adapt to disruptions in routine activities (e.g., school and/or work closures) according to guidance from local officials. * Monitor for symptoms of COVID-19 including a cough and fever – call your medical provider if you detect these symptoms in yourself or a member of your family |
|  | * Broader and/or longer-term school dismissals, either as a preventive measure or because of staff and/or student absenteeism. * Cancellation of school-associated congregations, particularly those with participation of high-risk individuals. * Implement distance learning if feasible. * Consider how to continue school meals service as either collection or delivery |
| Every assisted living facility, Senior living facility and adult day program | * Longer-term closure or quarantine of facility. * Restrict or limit visitor access (e.g., maximum of one/day). |

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|  | * Consider suspension of new admissions to facilities. * Short-term closures as needed (e.g., if cases in staff, residents or clients who live elsewhere) for cleaning and contact tracing. * Suspend visitor access but arrange for alternate means for family members to communicate (e.g., staff assist with phone calls or videoconferences with visitors). * Exceptions for end-of-life family visits need to be considered, with limited access of visitors to other areas or people in the facility and these patients should be in a different areas to ensure other clients are not exposed to outside guests. * Pastoral visits by video or phone * Consider how to engage with volunteers or community groups with contacting residents to help mitigate feelings of isolation |
| Every Workplace | * Encourage staff to telework- only the minimum number of essential staff should be at work * Expand sick leave policies– be flexible * Implement social distancing measures, e.g.:   + Spacing workers at the worksite   + Staggering work schedules   + Decreasing social contacts in the workplace (limit in-person meetings)   + All break areas must accommodate distancing with regular disinfection of all eating surfaces * Eliminate large work-related gatherings (e.g., staff meetings, after-work functions) or use telework devices * Postpone non-essential work travel * Regular health checks on arrival each day (e.g., temperature and respiratory symptom screening) of staff and visitors entering buildings. * Exclude or restrict visitors from all or part of your facility * Implement extended telework arrangements (when feasible) * Ensure flexible leave policies for staff who need to stay home due to school/childcare dismissals and to encourage individuals to stay home if they are sick. * Cancel work-sponsored conferences, tradeshows, etc. |
| Every Community and Faith-based Organization | * Continue social distancing. * Cancel activities (e.g., religious services, group congregation). * Offer video/audio of events. * Determine methods to continue providing support services to individuals at risk of severe disease (services, meals, checking in) while limiting group settings and exposures * Cancel all gatherings. * For organizations that serve high-risk communities, cancel gatherings of more than 10 people and stagger access to support services. * Move faith-based and community gatherings of any size to video-accessible venues or postpone/cancel. |
| Healthcare settings and healthcare provider (includes outpatient, nursing homes/longterm care facilities, inpatient, telehealth) | * Implement changes to visitor policies to further limit exposures to HCP, residents, and patients. Changes could include temperature/ symptom checks for visitors, limiting visitor movement in the facility, etc. * Restrict or limit visitors (e.g., maximum of 1 per day) to reduce facility-based transmission. * Implement triage before entering facilities (e.g., parking lot triage, front door), phone triage, and telemedicine to limit unnecessary healthcare visits. * Actively monitor absenteeism and respiratory illness among HCP and patients. * Use PPE appropriately to preserve supplies and actively monitor PPE supplies. * Establish processes to evaluate and test large numbers of patients and HCP with respiratory symptoms (e.g., designated clinic, surge tent). * Consider allowing asymptomatic exposed HCP to work while wearing a facemask. * Begin to cross train HCP for working in other units in anticipation of staffing shortages. * Identify areas of operations that may be subject to alternative standards of care and implement necessary changes (e.g., allowing mildly symptomatic HCP to work while wearing a facemask). * Cancel elective and non-urgent procedures * Establish cohort units or facilities for large numbers of patients. * Consider requiring all HCP to wear a facemask when in the facility depending on supply. |

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| Healthcare settings and healthcare provider (includes outpatient, nursing homes/long-term care facilities, inpatient, telehealth) \*\* | * Institute temperature/symptom checks for staff, visitors, limit visitor movement in the facility * Implement triage before entering facilities (e.g. parking lot triage, front door); phone triage and telemedicine; limit unnecessary healthcare visits * Actively monitor HCP absenteeism and respiratory illness among HCP and patients * Actively monitor PPE supplies * Establish processes to evaluate and test large numbers of patients and HCP with respiratory symptoms (e.g., designated clinics for people with fever, surge tent for overflow triage, offsite testing locations) * Permit asymptomatic exposed HCP to work while wearing a facemask * Cross train HCP for working in other units to support staffing shortages * Restrict all visitors from facility entry to reduce facility-based transmission; exceptions for end- of-life visitors but restrict such visitors’ movements within the facility. * Identify areas of operations that may be subject to alternative standards of care and implement necessary changes (e.g., allowing mildly symptomatic HCP to work while wearing a facemask) * Cancel elective and non-urgent procedures * Establish cohort units or facilities for large numbers of patients * Consider requiring all HCP to wear a facemask when in the facility depending on supply * Consider suspension of new admissions to facilities |

\*\* Appendix A with more detail for long term care facilities

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| **Table 3. Potential mitigation strategies for public health functions** | | |
| **Public health control activities by level of COVID-19 community transmission** | | |
| **None to Minimal** | **Minimal to Moderate** | **Substantial** |
| Evidence of isolated cases or limited community transmission, case investigations underway, no evidence of exposure in large communal setting,e.g., healthcare facility, school, mass gathering. | Widespread and/or sustained transmission with high likelihood or confirmed exposure within communal settings with potential for rapid increase in suspected cases. | Large scale community transmission, healthcare staffing significantly impacted, multiple cases within communal settings like healthcare facilities, schools, mass gatherings etc. |
| • Continue contact tracing, monitor and observe contacts as advised in guidance to maximize containment around cases. • Isolation of confirmed COVID-19 cases until no longer considered infectious according to guidance.  • For asymptomatic close contacts exposed to a confirmed COVID-19 case, consideration of movement restrictions based on risk, social distancing.  • Monitoring close contacts should be done by jurisdictions to the extent feasible based on local priorities and resources.  • Encourage HCP to develop phone triage and telemedicine practices.  • Test individuals with signs and symptoms compatible with COVID-19.  • Determine methods to streamline contact tracing through simplified data collection and surge if needed (resources including staffing through colleges and other first responders, technology etc.). | May reduce contact tracing if resources dictate, prioritizing to those in high-risk settings (e.g., healthcare professionals or high-risk settings based on vulnerable populations or critical infrastructure).  • Encourage HCP to more strictly implement phone triage and telemedicine practices.  • Continue COVID-19 testing of symptomatic persons; however, if testing capacity limited, prioritize testing of high-risk individuals. | • May reduce contact tracing if resources dictate, prioritizing to those in high-risk settings (e.g., healthcare professionals or high-risk settings based on vulnerable populations or critical infrastructure).  • Encourage HCP to more strictly implement phone triage and telemedicine practices.  • Continue COVID-19 testing of symptomatic persons; however, if testing capacity limited, prioritize testing of high-risk individuals. |

## \*\*Appendix A: CDC Recommendations for Long-term Care Facilities

**Background:**

Given their congregate nature and resident population served (e.g., older adults with multiple co- morbidities), all long-term care facilities are at the highest risk of being affected by COVID-19. If infected, residents are at highest risk for morbidity and mortality and, based on early experience, have the potential to decompensate quickly.

Ill healthcare personnel (HCP) or visitors are the most likely sources of introduction of COVID-19 into the facility. To protect this fragile population, aggressive efforts toward visitor restrictions and screening of HCP for fever and respiratory symptoms when they report to work are recommended, even before COVID-19 is identified in a community or facility.

## Objectives:

* Protect healthcare personnel (HCP) to maintain a functioning healthcare system
* Minimize morbidity and mortality
* Minimize transmission

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## Plan:

* **Testing:** LTC facilities and Assisted Livings will notify CDHD at the earliest possible moment that a HCP is exhibiting s/s of COVID-19. CDHD will advise of the process for referring ill HCP for COVID-19 testing
* **Training:** Perform remote regional infection prevention and control trainings for long-term care personnel. Emphasis on:
* HCP monitoring
* Selection and use of recommended PPE
  + Use of Standard, Contact, and Droplet Precautions with eye protection for any undiagnosed respiratory infection for which airborne precautions is not otherwise recommended (e.g., tuberculosis)
* Visitor restrictions
* Active checks for fever and respiratory symptom for patients, residents, and HCP
* Restrictions on resident movement and activities

## Visitor Restrictions: Restrict all visitation to long-term care facilities and other congregate healthcare settings

o Exceptions might be allowed for end-of-life situations. In this situation, the visitor should wear a facemask and eye protection and be restricted to the resident’s room.

## HCP Monitoring and Restrictions:

* Restrict non-essential personnel including volunteers and non-essential consultant personnel (e.g., barbers) from entering the building
* Screen all HCP at the beginning of their shift for fever and respiratory symptoms
  + Actively take their temperature and document absence of shortness of breath, new or change in cough, and sore throat. If they are ill, have them put on a facemask and send home to self-isolate.
  + **Ill HCP should be prioritized for testing**
  + HCP who work in multiple locations may pose higher risk and should be monitored for exposure to facilities with recognized COVID-19 cases
* Implement universal facemask use for HCP while in the facility if such is readily available.
* Consider having HCP wear all recommended PPE (gown, gloves, eye protection, facemask) for the care of all residents, regardless of presence of symptoms if such is readily available.

## Resident Monitoring and Restrictions:

* Actively monitor all residents (at least daily) for fever and respiratory symptoms (shortness of breath, new or change in cough, and sore throat).
  + If positive for fever or symptoms, implement recommended IPC practices
* Restrict residents to their room (except for medically necessary purposes)
  + If they leave their room they should wear a facemask, perform hand hygiene, limit their movement in the facility, and perform social distancing (stay at least 6 feet away from others)
* Cancel group field trips and activities, including communal dining
* Have a low threshold to transfer residents with fever or acute respiratory illness to a higher level of care.
* **Managing PPE Shortages:** When PPE supplies are limited, rapidly transition to extended use of eye and face protection (i.e., respirators or facemasks) – e.g., changing facemask every 2 hours while at work unless wet or soiled.
* **Reporting to Central District Health Department:** Notify us of anyone with symptoms of COVID- 19 or if facility identifies 2 or more residents or HCP with respiratory infection within 72

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## Appendix B: Underlying medical conditions that may increase the risk of serious COVID-19 for individuals of any age.

**Blood disorders** (e.g., sickle cell disease or on blood thinners)

**Chronic kidney disease as defined by your doctor**. Patient has been told to avoid or reduce the dose of medications because kidney disease, or is under treatment for kidney disease, including receiving dialysis

**Chronic liver disease as defined by your doctor**. (e.g., cirrhosis, chronic hepatitis) Patient has been told to avoid or reduce the dose of medications because liver disease or is under treatment for liver disease.

**Compromised immune system (immunosuppression)** (e.g., seeing a doctor for cancer and treatment such as chemotherapy or radiation, received an organ or bone marrow transplant, taking high doses of corticosteroids or other immunosuppressant medications, HIV or AIDS).

**Current or recent pregnancy** in the last two weeks.

**Endocrine disorders** (e.g., diabetes mellitus).

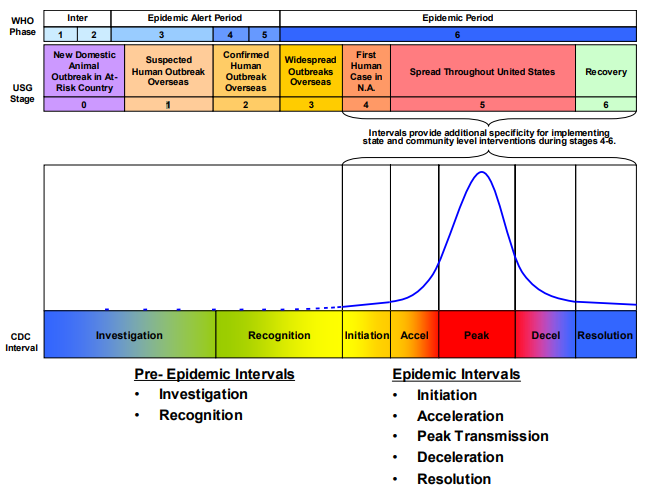
**Metabolic disorders** (such as inherited metabolic disorders and mitochondrial disorders).

**Heart disease** (such as congenital heart disease, congestive heart failure and coronary artery disease).

**Lung disease including asthma or chronic obstructive pulmonary disease** (chronic bronchitis or emphysema) or other chronic conditions associated with impaired lung function or that require home oxygen.

## Neurological and neurologic and neurodevelopment conditions [including disorders of the brain, spinal cord, peripheral nerve, and muscle such as cerebral palsy, epilepsy (seizure disorders), stroke, intellectual disability, moderate to severe developmental delay, muscular dystrophy, or spinal cord injury].

**Community-Wide Measures and Trigger Points**



Source: CDC Interim Guidance on Use of Intervals, Triggers, and Actions for Novel Influenza A (H1N1) Response, 2009

<https://epi.dph.ncdhhs.gov/cd/flu/plan/Intervals_Triggers_Actions.pdf>

**Investigation Interval**

Investigation of COVID-19 Cases: Sporadic cases of COVID-19 are occurring. Public health actions should focus on routine surveillance and epidemiologic investigations to identify human cases.

**Trigger: Identification of human case of potential COVID-19 within the state**

**Actions upon the identification of human case of potential COVID-19 infection within the state.**

· Voluntarily isolate and treat human cases

· Voluntarily quarantine if human-to human transmission is suspected; monitor situation

· Assess case contacts to determine human to human transmission and risk factors for infection

· Share information with health officials and other stakeholders, including reporting of cases according to the Nationally Notifiable Diseases Surveillance System and sharing virus samples

· Disseminate risk communication messages

**Recognition Interval**

Recognition of Efficient and Sustained Transmission: Clusters of cases of COVID-19 in humans are identified and sustained and efficient human-to human transmission is confirmed. Public health actions should concentrate on containment of the outbreak, focusing on case-based control measures, including isolation and treatment of cases and voluntary quarantine of contacts.

**Trigger: Confirmation of human cases of COVID-19 and demonstration of efficient and sustained human-to-human transmission**

**Actions upon the recognition of Efficient and Sustained Transmission of COVID-19 in the state.**

Continue/initiate actions described for ‘Investigation Interval’

· Implement case-based investigation and containment

· Implement voluntary contact quarantine

· Confirm all suspect cases at public health laboratory

· Consider rapid containment of COVID-19

· Report cases according to Nationally Notifiable Diseases Surveillance System

· Conduct enhanced COVID-19 surveillance

· Prepare to receive SNS countermeasures

· Disseminate risk communication messages, including when to seek care and how to care for ill at home

· Evaluate available data to determine case-fatality ratios or excess mortality to estimate the Pandemic Severity Index (PSI)

· Advise all health care workers to screen for travel history

**Initiation Interval**

Initiation of the Epidemic Wave: The first human case(s) of COVID-19 is identified in the United States. Continued implementation of case-based control measures (i.e., isolation and treatment of cases and quarantine of contacts) is essential, along with enhanced surveillance for detecting additional or potential cases of the epidemic strain to determine when community mitigation interventions will be implemented.

**Trigger: Laboratory-confirmed case of COVID-19 detected within the US**

**Actions upon the initiation of Epidemic Wave**

· Continue/initiate actions described for ‘Recognition Interval’

· Continue enhanced local surveillance

· Offer mental health services to health care workers

* Distribution Phase 1 of local PPE assets held by health department/state

**Acceleration Interval**

Acceleration of the Epidemic Wave: Public health officials identify that containment efforts have not succeeded and onward transmission is occurring. Immediate initiation of community mitigation activities such as school and childcare closures, social distancing, and the efficient management of public health resources will be of primary importance.

Isolation and treatment of cases along with voluntary quarantine of contacts will continue as a key mitigation measure.

Historical analyses and mathematical modeling indicate that early institution of combined, concurrent community mitigation measures may maximize reduction of disease transmission (and subsequent mortality) in the affected areas.

**Trigger: Increasing numbers of cases exceed resources to provide case-based control measures**

**Actions upon acceleration of epidemic wave**

· Continue/initiate actions described for ‘Initiation Interval’

· Activate community mitigation interventions for affected communities

· Transition surveillance from individual case confirmation to mortality and syndromic disease monitoring

· Begin pre-shift healthcare worker physical and mental health wellness screening

· Monitor effectiveness of community mitigation activities

* Distribution Phase 2 of local PPE assets held by health department/state

**Peak/Established Transmission Interval**

Transmission is Established and Peak of the Epidemic Wave: Extensive transmission in the community and a state reaches its greatest number of newly identified cases. The healthcare system is overburdened. To reduce the societal effects of the epidemic and maintain critical infrastructure, utilization of available resources should be optimized.

**Trigger: Half or more of geographical regions in a state are reporting COVID-19 activity**

**Actions upon peak/established transmission**

· Continue/initiate actions described for ‘Acceleration Interval’

· Manage health care surge

· Maintain critical infrastructure and key resources

· Laboratory confirmation of only a sample of cases as required for virologic surveillance

· Implement surveillance primarily for mortality and syndromic disease

* Distribution Phase 3 of local PPE assets held by health department/state

**Deceleration Interval**

Deceleration of the Epidemic Wave: The rates of epidemic infection are declining, providing an opportunity to begin planning for appropriate suspension of community mitigation activities and recovery. State health officials may choose to rescind community mitigation intervention measures in select regions within their jurisdiction, as appropriate, when new cases are not occurring or occur very infrequently.

**Trigger: Less than half of geographical regions in a state are reporting COVID-19 activity**

**Actions upon deceleration of epidemic wave**

Continue/initiate actions described for Peak/Established Transmission Interval

· Assess, plan for, and implement targeted cessation of community mitigation measures, if appropriate

· Transition surveillance from syndromic to case-based monitoring and confirmation

· Initiate targeted cessation of surge capacity strategies

· Maintain aggressive infection control measures in the community

**Resolution Interval**

Resolution of the Epidemic Wave: COVID-19 cases are occurring only sporadically. Primary actions should focus discontinuing all community mitigation interventions, facilitating the recovery of the public health, healthcare, and community infrastructure, resuming enhanced surveillance protocols to detect possible subsequent waves, and preparing for next waves of infection, should they occur.

**Trigger: Laboratory-confirmed COVID-19 cases are occurring sporadically, or The health care system capacity is approaching pre-epidemic levels**

**Actions upon resolution of epidemic wave**

· Continue/initiate actions described for ‘Deceleration Interval’

· Rescind community mitigation interventions

· Continue case confirmation of selected cases to verify resolution of epidemic wave

· Resume enhanced virologic surveillance to detect emergence of increased transmission.

· Prepare for subsequent epidemic waves

· Continue to promote community mitigation preparedness activities on standby for subsequent waves

· Conduct after-action review for lessons learned

· Replenish stockpiles/caches as able

This list of actions could/should be expanded to include some specific local actions like the recommend closures -> order closures etc.