Optional Enhanced Interventions to Prevent SARS-CoV-2 Transmission in Vermont Skilled Nursing Facilities

Background

SARS-CoV-2 can spread rapidly within skilled nursing facilities (SNFs). Because asymptomatic or presymptomatic residents likely play an important role in transmission in this high-risk population, additional prevention measures merit consideration, including using testing to guide isolation or cohorting strategies. The ability to test large numbers of patients and health care personnel (HCP) with rapid turn-around times may enable cohorting of residents and staff in locations designated for care of residents with SARS-CoV-2 infection, either in different locations within individual skilled nursing facilities, or in separate facilities. We are offering this testing strategy to all of Vermont's skilled nursing facilities (SNFs) in an effort to reduce the spread of SARS-CoV-2 among these high-risk populations. A successful intervention could lead to more efficient use of PPE, and reduce the spread of disease.

This protocol should not a barrier to admitting new residents and is intended to help facilities reduce concerns about any risks that may be associated with accepting new admissions.

Please note that this protocol is not considered to be an official recommendation or requirement and therefore will not be subject to enforcement by the Vermont State Survey Agency.

Objectives

1. Reduce COVID-19 cases in SNFs, decreasing strain on the local healthcare system.
2. Assess the impact of an expanded infection control and testing approach in preventing transmission in SNFs.
3. Support safely admitting new residents.
4. Gather information on this approach that can be shared to further reduce spread in SNFs, including:
    a. Implementation strategies, including ways to alter implementation to accommodate local systems;
    b. Barriers to implementation and strategies to overcome them.

Intervention Plan

Prevention measures include:

- expanded infection control
- cohorting of patients, staff, and health care providers (HCP)
- repeated testing

Testing

Nasopharyngeal swabs or nares swabs are the specimen collection method for this protocol.

Collection kits for Scenario A should be ordered through the Vermont COVID-19 Resource Request Form. It is recommended to order 5 kits per newly admitted or high-risk resident. Collection kits for a Scenario B point prevalence survey should be order by email through the Vermont Department of Health Laboratory (VDHL) staff: Joyce.Oetjen@vermont.gov and Katherine.Dudley@vermont.gov.

Specimens are encouraged to be submitted through the VDHL/UVMMC triage system. All Specimen Collection Boxes should be clearly labeled "High Priority Specimen from LTCF. Please Triage to Vermont

State Lab". Scenario A samples and when submitting 5 or fewer samples should be submitted through the UVMMC and NECLA Courier System. Submit specimen, labelled as described above, to your local hospital to utilize this courier system. Scenario B samples should be sent directly to the VDHL. Facilities should work with VDHL to arrange for special couriers to assist with transport of specimens.

Specimens received at VDHL by 11am will be tested the same day and results will be released in the late afternoon or early evening. All specimens received after 11am will be tested the next day. Typical turnaround times are 24-48 hours. In a situation where urgent testing is needed, please coordinate with your assigned Public Health Nurse.

Facilities can choose to submit specimens to their normal laboratory, but they should communicate this to VDH staff.

Data Management

Data management will be an important tool to understand the effectiveness of this protocol. Key elements of data collection and storage will include a facility level situational summary (census, PPE availability, staffing, ability to cohort, etc.) and protocol implementation method, as well as positive and negative sequential test results of residents and staff.

Each SNF will be required to submit a line list each day of testing. Both patient and facility data will be captured in an excel workbook. VDH staff will work with facilities to ensure data is being submitted in the appropriate format to reduce data entry and cleaning.

Procedures

All SNFs will be assigned a primary and back-up PHN contact. Assigned PHNs will reach out to all SNFs providing them with an informational email and to schedule a time to conduct the baseline assessment. Baseline assessments will be conducted for all facilities. Following contact of all facilities, VDH will host a follow-up informational call with facilities, DAIL representatives, Outbreak Prevention and Response staff, project coordinators, and public health nurses.

Facility-specific Infection Control Assessment and Response (ICAR) and PPE dashboard will be reviewed prior to contacting facilities to familiarize with infection prevention measures and increased PPE usage feasibility in that facility.

Facility enrollment Process

Scenario A facilities (no COVID-19 cases) and Scenario B facilities (at least one new COVID-19 case), will be contacted by their designated PHN point of contact and a project coordinator to understand: interest in involvement, potential site limitations, cohorting preparedness, PPE use, and availability of isolation units. Facilities will be asked to create and maintain their line list based on the format provided by VDH if they chose to participate in this protocol.

Initial data to be shared with VDH includes staff and resident inventories with work locations, room numbers and floor plans. Facilities will also be responsible for providing daily resident admission and discharge information, changes in patient signs/symptoms, resident room location and staff cohort assignment. All of this information should be submitted to your assigned Public Health Nurse.

Staff consent

The facility will be responsible for coordinating staff consent of receiving their test results.

Sharing results

All results will be shared with the facility provider to be relayed to residents and staff.

For high risk residents testing positive, the facility they reside at would make contacts with their external providers (dialysis, wound care, offsite cancer treatments, etc.).

You can now receive COVID-19 test result reports from the Vermont Department of Health Laboratory (VDHL) through our Lab Web Portal(LWP). The LWP allows us to deliver reports to you securely, and in a more timely and efficient manner. Authorized users can view, print, and download, pdfs of patient reports soon after they are released by the lab. Positive result reports are flagged so that you can prioritize the processing of those as needed, and reports can be printed as a batch. At this time, the LWP can only be used to for COVID-19 results reporting. Test requests must still be made using our Micro 220 form. All COVID reports previously reported to your organization will also be available to you in the portal.

If you would like to pursue this reporting option with us, email us at AHS.VDHVTLWPSupport@vermont.gov with a list of users, along with their email addresses, that will be requesting access. We will set up your organization in the Portal and send each user on the list an email with the URL and instructions. Each user will be notified when access has been granted.

The case contact team will reach out to positive staff members and conduct contact tracing for contacts outside the facility according to their protocol. Additionally, the case contact team will follow-up with new arrivals who test positive on their admission day.

Enhanced Recommendations for facilities that choose to participate

Facilities will be encouraged to consider implementing as many of the recommended interventions described below as is appropriate for their setting and population. VDH will work with facilities to accommodate individual scenarios as needed.

These recommendations are the ideal interventions, but we understand all measures may not be feasible at each facility. VDH and the public health nurses are happy to work with facilities to make secondary recommendations on testing frequency and populations. While we have been encouraging facilities to consider facility-wide testing on days 0, 3, 7, and weekly, we certainly defer to your judgement of what is feasible. We want to clarify that if you decide you'd like to move forward with some of these testing dates and not others, that's an option as well (for example, if you decide you'd like to implement weekly or biweekly testing, we'd support you in that even if you want to skip day 3 or day 7). We are happy to help you tailor Scenario B to be beneficial to your facility. Other modifications to scenario B could include limiting testing to specific units or floors.

Discontinuing transmission-based precautions for patients with confirmed COVID-19 should be made using either a test-based strategy or a symptom-based/time-based strategy. Both options are imperfect, but facilities can decide which option is best for them[1]. Here are some considerations:

[1] While this strategy can apply to most recovered persons, either a test-based strategy (if feasible) or a symptom-based strategy with more stringent requirements may be used for recovered persons for whom there is low tolerance for post-recovery SARS-CoV-2 shedding and infectious risk because they are:

1. Persons who could pose a risk of transmitting infection to
    1. Vulnerable individuals at high risk for morbidity or mortality from SARS-CoV-2 infection, or

- There have been instances where people continue to have persistent positive tests for weeks following symptom resolutions.
- The infectiousness of those with persistent positives are unknown.
- The level of immunity associated with previous infection is unknown.
- There are many challenges with isolating individuals for extended time including psychological impacts on the resident, PPE use, and cohorting of both staff and residents.
- If a facility chooses to use test-based strategy but wants to transition to a time-based/symptom-based strategy they should consult with their public health nurse to determine the appropriate amount of time until the discontinuation of transmission-based precautions.

Scenario A: Facilities with no new COVID-19 cases suggesting transmission among residents or staff (includes SNFs that accept convalescing patients):

1. **Line List:** Provide a line list to your assigned VDH Public Health Nurse each time a resident or staff member is tested.
2. **PPE:** Universal facemask use by all staff at all times while in building.
3. **Staff:** Active symptom screening of staff before shift or facility entry.
    a. If fever, respiratory symptoms, or any other symptom, staff will be excluded from work and prioritized for testing.
4. **New Residents & Returning Residents:** Test all new resident admissions (and upon implementation, any resident who has been admitted in the last 14 days), at the time of admission, at day 3, 7, 10 and 13. Residents who leave and return to the facility for any reason should follow this testing guidance. For residents regularly leaving the facility see "high risk residents".
    a. If test negative, quarantine through day 14 (use full PPE for all care of quarantined patients, in single room if possible).
        i. Residents should not be removed from quarantine until their final negative test has been received.
    b. If known positive at time of admission (e.g., discharged from hospital post COVID-19), keep in transmission-based precautions status until meeting your facilities discontinuation of transmission-based precautions.
        i. Test-based: two negative tests 24 hours apart.
            1. If symptomatic upon admission begin testing once symptoms have resolved and repeat every 3 days until first negative test.
            2. If asymptomatic upon admission begin testing 7 days following initial positive and repeat every 3 days until first negative test.
        ii. Symptom-based/time-based:
            1. If symptomatic upon admission, use symptom-based discontinuation of transmission-based precautions: at least 3 days (72 hours) have passed since recovery defined as resolution of fever

2.Persons who support critical infrastructure

2.Persons normally residing in congregate living facilities (e.g., correctional/detention facilities, retirement communities, ships) where there might be increased risk of rapid spread and morbidity or mortality if spread were to occur.

3.Persons who because they are immunocompromised may have prolonged viral shedding."

without the use of fever-reducing medications and improvement in respiratory symptoms and, at least 10 days have passed since symptoms first appeared.

2. If asymptomatic upon admission, use time-based discontinuation of transmission-based precautions: 10 days have passed since the date of their first positive COVID-19 diagnostic test, assuming they have not subsequently developed symptoms since their positive test.

5. **High Risk Residents:** Test high risk residents at least twice weekly (every 3-4 days). High risk residents are those who frequently leave the facility:
    i. Dialysis patients who receive dialysis outside of facility
    ii. Other patients who require care outside of facility (cancer, wound, etc.)
    a. High risk residents should be housed in private rooms when possible
6. **Residents refusing testing (see also "Memory Care Units" below):** Treat as high risk and isolate if possible. Symptom monitoring should be used in place of testing. These patients can return to negative units:
    a. If remain asymptomatic for 14 days following entry or re-entry into the facility.
    b. If symptomatic at any point: implement transmission precautions, isolating the individual, and recommend HCP use full PPE
7. Test any resident with fever, new/worsening cough, shortness of breath, or other COVID-19 related symptoms.
8. **If any new positive tests, notify PHN point of contact and transition to Scenario B guidance.**

Scenario B: Facilities with new COVID-19 cases among residents or staff suggesting transmission:

1. Continue all recommendations described above.
2. **PPE:** Use full COVID-19 PPE for all resident care in facility, regardless of resident symptoms.
3. **Testing:** Conduct testing of all residents and staff in facility (point prevalence survey [PPS]) as soon as new case identified (if insufficient testing capacity for entire facility, restrict PPS to involved unit or units).
    a. The Department of Health is available to provide testing support for a facility for the initial point prevalence survey and day 3 testing for staff and residents negative in the initial PPS. Please coordinate this support with your assigned public health nurse.
4. Based on initial point prevalence survey, separate test-positive and test-negative residents into two cohorts:
    a. Positive Cohort
        i. Positive residents should not be transferred to an acute care facility unless their clinical status requires it.
        ii. Ideal: Cohort positive residents in an outside alternate long-term care facility or Alternate Care Site designated for COVID-19 residents, if available.
            1. Minimum: Cohort positive residents in a designated unit or area and dedicate HCP that care for them exclusively.
        iii. In the case of staff shortages facilities could allow mildly ill, asymptomatic, or recovered HCP to work with positive cohort.

1. **Ensure negative HCP who work with positive residents do not provide care to negative residents.**

iv. Residents can be returned to the original facility or unit when they meet the requirements of the test-based or symptom-based/time-based discontinuation of transmission-based precautions.
   1. For facilities using the test-based release strategy: residents may return to the negative cohort following 2 consecutive negative tests 24 hours apart as in scenario A.
      a. If symptomatic upon admission begin testing once symptoms have resolved and repeat every 3 days until first negative test.
      b. If asymptomatic upon admission begin testing 7 days following initial positive and repeat every 3 days until first negative test.
   2. For facilities using symptom-based/time-based strategy: residents can be returned to original facility or unit once they meet the following criteria.
      a. If symptomatic, use symptom-based discontinuation of transmission-based precautions: at least 3 days (72 hours) have passed since recovery defined as resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms and, at least 10 days have passed since symptoms first appeared.
      b. If asymptomatic, use time-based discontinuation of transmission-based precautions: 10 days have passed since the date of their first positive COVID-19 diagnostic test, assuming they have not subsequently developed symptoms since their positive test.

v. HCP and other staff may return to work and caring for negative patients following 2 consecutive negative tests 24 hours apart. (See CDC's return to Work Guidance for HCP.)

b. Negative Cohort
   i. **Residents and staff:** repeat at day 3, 7 and then weekly until no new positives for 14 days. Then follow #5 below.

c. **Residents refusing testing:** Treat as high risk and isolate if possible. Symptom monitoring should be used in place of testing. These patients can return to negative units:
   i. If remain asymptomatic for 14 days following entry or re-entry into the facility.
   ii. If symptomatic at any point: implement transmission precautions, isolating the individual, and recommend HCP use full PPE. Do not cohort them with residents who have tested positive.

5. Implement strategy of PPE use de-escalation in test-negative cohort based upon results of successive PPS.
   a. In the negative cohort (or original facility if an alternative care site utilized), allow stopping use of COVID-19 level PPE once no new positives are identified on successive PPS over 14 days.
   b. These facilities would then follow recommendations described in Scenario A as above.

Memory Care Units

Memory care units pose unique challenges and the safety and comfort of patients must be taken into consideration before moving them to isolation units or alternate care facilities. Facilities should consider

the feasibility of isolating patients in units where they are located and conducting sequential testing on each patient. In facilities where at least one COVID-19 positive resident or staff has been identified, memory care units should be established as negative units. If one or more positives are detected in the memory care unit, the entire unit should be designated as a positive cohort. HCP giving care in this unit should use COVID-19 level PPE and symptom monitoring until transmission has stopped within the facility. In this situation, HCP should be sure they are changing PPE between care of known positive residents and other memory care residents.

Resources

Personal Protective Equipment

- We recommend that all facilities in Vermont operate in at least contingency capacity as described in CDC's Guidance for PPE Optimization. This includes recommendations for extended use of PPE (not including gowns) and additional suggestions for reducing the need to use PPE/ways to make current supplies last longer.
- PPE should try to be ordered through your usual distribution streams.
- If additional PPE resources are needed order through the Vermont COVID-19 PPE Resource Request Form.

Specimen Collection Training

- Video from the New England Journal of Medicine "How to Obtain a Nasopharyngeal Swab Specimen": https://www.nejm.org/doi/full/10.1056/NEJMvcm2010260
- Technical Assistance can be provided by the Health Department and coordinated through your assigned Public Health Nurse.

Staffing Shortages

- During the COVID-19 response, Vermont Department of Health is directing healthcare partners to submit all emergency staffing requests through the State Emergency Operations Center's Staffing Unit via the 24-hour Watch Officer: 1-800-347-0488.

CDC Guidance and Considerations

- Responding to Coronavirus (COVID-19) in Nursing Homes
- Testing for Coronavirus (COVID-19) in Nursing Homes
- Guidelines for Collection, Handling, Testing Clinical Specimens from Persons for COVID-19
- Infection Prevention & Control for Patients with COVID-19 in Healthcare Settings
- Discontinuation of Transmission-Based Precautions and Disposition of Patients with COVID-19 in Healthcare Settings