

Mass Testing Strategies for Long-Term Care Facilities

Improved COVID-19 testing capacity in San Bernardino County provides us with a powerful tool to intervene earlier in outbreaks in long-term care facilities (LTCF). In our limited experience with COVID-19 in congregate settings, San Bernardino County Department of Public Health (DPH) has found through mass testing that when a single or small number of symptomatic cases are identified, there are many additional asymptomatic or mild cases in other residents and staff. Without testing to identify and act on these additional cases, the outbreak cannot be effectively controlled. The following benefits of mass testing have been identified:

- Better-informed decisions can be made about cohorting. For example, for facilities with a large number of asymptomatic COVID-19-positive residents, DPH may recommend either to “reverse isolate” the negative patients or may recommend sending the COVID-19-positive residents to a dedicated COVID-19 facility.
- More informed decisions can be made on selecting patients for isolation and quarantine. With limited testing, we may be unintentionally exposing uninfected patients by isolating them together with infectious asymptomatic and pre-symptomatic COVID-19 patients.
- Asymptomatic staff who test positive will be excluded from work until no longer infectious, thus preventing unintentional spread of COVID-19 to other patients and staff.

Mass Testing Strategies

Two strategies have been identified for mass testing that will be implemented in parallel:

1. *Strategy 1: Facilities with COVID-19 infected staff or residents.* (Facilities experiencing single cases or outbreaks of patients with confirmed or suspect COVID-19). This strategy includes the following steps:
 - a. Test of all LTCF residents and healthcare workers.
 - b. Cohort all COVID-19-positive residents and staff as outlined in the [Potential Public Health Responses to Testing](#) section (Page 3) or consider transferring COVID-19-positive staff and residents to a designated COVID-19 receiving facility, after approval by DPH.
 - c. Collaborate with DPH on a virtual or in-person infection control assessment and response (ICAR).
 - d. Re-test all COVID-19-negative residents and staff weekly until they have 2 additional negative test results. Then do one additional round of tests on COVID-19-negative individuals at 28 days or more after the 2 additional negative results.
2. *Strategy 2: Pre-emptive intervention.* (Prospective surveillance of facilities not currently experiencing outbreaks). Testing facilities in this category will allow DPH to monitor facilities pro-actively to ensure that interventions can be made as early as possible.
 - a. Choose a sample of asymptomatic residents and staff within the facility (20% sample or

- larger for small facilities).
- b. Continue sampling of residents weekly if testing is negative.
- c. If sampling identifies any positive staff or residents, initiate Strategy 1.

Testing Logistics

Successfully executing these plans requires close coordination between the facility leadership and the public health investigators.

1. Test types.
 - a. Direct viral detection testing (i.e., PCR) is useful during outbreaks when patients are shedding virus in the days and weeks after initial infection.
 - i. Direct viral detection tests should be used for facility-wide testing of staff and residents as described in this document.
 - ii. Direct viral detection tests are not 100% sensitive, so if individuals have negative tests, they still may have COVID-19.
 - b. Serologic/antibody testing may become useful in determining past infection that may no longer be identified through direct detection. This type of testing is not useful in determining active asymptomatic cases, especially early during the infection when antibodies may not yet have developed. This testing may be helpful to determine whether individuals have cleared their active infection, but at this time the FDA has not yet determined the rate of false positivity related to non-COVID-19 coronaviruses.
2. Individual facilities should make plans to initiate testing themselves.
 - a. While governmental help with facility testing is available for facilities that have no readily accessible alternative, the large scope of the pandemic will require facilities to use their own resources to obtain testing results more rapidly.
 - b. Facilities should develop relationships with commercial laboratories.
 - c. Facilities that have current or past cases of COVID-19 are likely to have asymptomatic transmission and should test all residents and staff in their facility as soon as testing is available.
 - d. In facilities that do not have known cases of COVID-19, they should plan to test 20% of staff and residents weekly to identify early transmission. If any testing from the sample population is positive, the facility should plan to do facility-wide testing.
3. For facilities unable to test on their own, DPH can facilitate testing of the facility. DPH requires the following to initiate testing:
 - a. All sites to be tested should identify a person who can coordinate testing
 - b. All sites must furnish staff to perform the testing. The following information is required:
 - i. Name of facility
 - ii. Address of facility
 - iii. Contact name at the facility
 - iv. Phone number at facility
 - v. Name of the facility medical director (he/she must be the ordering MD for the facility to get test results directly)
 - vi. National Provider Identifier (NPI) of the facility medical director
 - vii. Number of swab kits to be used
 - viii. Date of proposed testing

- ix. List of residents and staff to be tested (Excel spreadsheet will be provided by DPH)
4. The results of testing will be forwarded to the facility medical director and must be copied to DPH. Specific details of result notification will be determined by the laboratory prior to initiating testing.

Potential Public Health Responses to Testing

Based on testing results, investigators may recommend a number of interventions, depending upon how many residents are affected and where they are located within the facility.

1. Staff
 - a. Staff with respiratory symptoms should be excluded from work and isolated until they meet the Centers for Disease Control and Prevention's (CDC) [return to work criteria](#).
 - b. Asymptomatic staff who test positive should be excluded from work and isolated for 10 days from the date of their first positive test (assuming they have not developed symptoms). See item d. exception for critical staffing needs below.
 - c. It is not recommend serial testing or test-of-cure for people testing positive, instead the CDC return to work criteria should be followed.
 - d. *Exception for critical staffing needs.* Asymptomatic staff may potentially be able to work with only COVID-19-positive patients in a setting of critical staffing, but facilities must ensure the following conditions exist prior to letting these staff work:
 - i. Asymptomatic COVID-19-positive staff must work only with COVID-19-positive residents and staff.
 - ii. Work areas for COVID-19-positive and negative staff must be kept separate, including break rooms, workstations and bathrooms.
2. Residents
 - a. Residents testing positive for COVID-19 should be separated from all residents who test negative (cohorting). Cohorting should be organized as follows:
 - i. All residents who test positive for COVID-19 should be located in a single area within the facility.
 - ii. Cohorted patients can be roomed together strictly by cohort (i.e., only COVID-19-negative with other COVID-19-negative residents and COVID-19-positive with other COVID-19-positive residents).
 - iii. COVID-19-positive and COVID-19-negative groups should not share common areas or bathrooms.
 - iv. The cohorting areas should be physically separate from other patient care areas within the facility. If there is no way to separate cohorting areas, then temporary physical barriers (e.g., screens) with clear signage posted should be used.
 - v. Cohorting should be done with as much separation as possible (minimum 6 feet separation). If separate floors or buildings are available for separate cohorts, this is ideal.
 - vi. Staff, equipment, etc. should be dedicated to a cohort (positive or negative) and should not be shared.
 - b. Residents who have symptoms consistent with COVID-19, but test negative should still be presumed to have COVID-19 given that the sensitivity of the COVID-19 PCR tests may

be around 70%. These residents should be placed on contact and droplet precautions, and isolated away from both COVID-19-positive and COVID-19-negative residents if possible. At the discretion of the facility medical director, re-testing can be performed if testing is available and then a disposition can be chosen based upon the retesting results.

- c. Residents who test positive but remain asymptomatic should be considered infectious for 14 days after the date of the initial positive test.
 - d. If after mass testing there is only a small number of individuals identified in one category, consider relocating this group to another facility. Given the risk of spreading infections to other facilities, transfers must first be cleared by DPH.
 - i. Residents testing negative:
 - 1) When relocating this group to another facility, they should be placed into quarantine at the receiving facility for 14 days.
 - 2) If DPH recommends moving these COVID-19-negative patients, but a patient refuses, the facility medical director should explain the risks of developing COVID-19 with continued exposure in the current facility. If the resident still refuses transfer, the discussion should be documented and the patient will not be compelled to move. The patient should be put in "reverse-isolation" to be protected from the COVID-19 infected patients.
 - ii. Residents testing positive:
 - 1) When relocating this group to another facility, the receiving facility should be either a dedicated COVID-19 facility or have a dedicated COVID-19 unit.
 - 2) If DPH recommends moving these COVID-19-positive patients, but a patient refuses, the facility medical director should explain the risk of transmission to other residents/patients. If the patient still refuses, DPH may consider issuing a Health Officer Order to isolate the patient in an appropriate facility.
3. Completion of cohorting. Viral shedding is still not clearly defined for COVID-19 for all patient groups, therefore the recommended duration of cohorting may vary between different public health authorities. Because patients in LTCFs are at particular risk for poor outcomes, these guidelines are more stringent than for the general population or for home-dwelling individuals. Residents who test positive for COVID-19 can be removed from a COVID-19 designated cohort area after they are considered no longer infectious:
- a. Asymptomatic COVID-19 residents who remain asymptomatic: 14 days from testing date.
 - b. Symptomatic COVID-19 patients that were originally hospitalized: 14 days from the date of hospitalization or 72 hours after last fever, whichever is longer.
 - c. Symptomatic COVID-19 patients that were never hospitalized: 14 days from symptom onset or 72 hours after last fever, whichever is longer.

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