

Point Prevalence Survey Testing in Acute Care Facilities

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Testing by point prevalence survey

Testing a group of individuals at a single point in time is called a “point prevalence survey.” This type of testing provides information on the overall number of individuals (patients and staff) affected in an entire health care facility, or in a specific department or unit. Conducting one or more rounds of testing when undetected transmission is suspected helps health care leaders identify infected patients and staff before they get symptoms or if they never get symptoms. This makes it possible to manage people who are infected to limit further spread of SARS-CoV-2 within the unit and facility. Patients who test positive should be placed into Transmission-based Precautions and moved to a COVID-19 unit, if available. Staff who test positive should be excluded from work until criteria are met for their return.

- [COVID-19 Recommendations for Health Care Workers \(www.health.state.mn.us/diseases/coronavirus/hcp/hcwrecs.pdf\)](http://www.health.state.mn.us/diseases/coronavirus/hcp/hcwrecs.pdf)

How is a point prevalence survey done?

All members of a group of individuals are tested at the same point in time. A point prevalence survey is an effective way to define the scope of transmission in a facility or unit where SARS-CoV-2 circulation is known or suspected. Staff who test positive are removed from the workplace. Patients who test positive are isolated.

As with all testing for SARS-CoV-2, a negative test indicates only that an individual, unit, or facility did not have detectable virus at the time of testing. Individuals who test negative could have been negative at the time of testing but may be in the incubation stage of viral infection. Thus, repeat testing is needed if anyone who has tested positive is known to have potentially exposed the group before the start of prevalence testing and/or if anyone tests positive in the first round of testing. Laboratory turnaround time should be short (less than 72 hours) for the survey to be most effective.

Additional testing rounds should be conducted with the following considerations:

- Only patients and staff who tested negative in the previous round should be included in subsequent rounds of testing.

- Repeat testing every three to seven days until 14 days have passed since the last exposure to a person who tested positive for COVID-19. This series of rounds is called a point prevalence survey cycle.
- The interval between repeated testing may be longer or shorter, depending on the expected extent of transmission and the facility's testing capacity and ability to divert staff to help with testing while still performing other critical infection prevention and control measures.
- Using a shorter interval (e.g., three days) early in the testing cycle (i.e., in the first two weeks) will help the facility identify and isolate additional cases more quickly. The interval between testing rounds can be lengthened (e.g., to seven days) after the first two weeks.
- Patients who test positive should be identified immediately for implementation of Transmission-based Precautions, isolation, and cohorting.
- Staff who test positive should be excluded from work.
- In the presence of high rates of community transmission, later testing rounds may identify staff who were exposed out in the community, rather than reflecting transmission within the health care facility. Exposure risk assessments and results of contact tracing can help facilities decide when to end the point prevalence survey cycle. In situations of high community transmission, routine approaches to staff testing could be considered.

Who should be included in point prevalence survey testing?

Patients and staff who have had laboratory-confirmed COVID-19 in the last three months and who currently do not have symptoms consistent with COVID-19 may not need to be included in testing (Table 1). Inclusion in screening (e.g., point prevalence survey, routine staff testing) should be considered if it has been more than three months since the prior infection.

Point prevalence survey testing of both patients and staff is recommended to define the full extent of transmission. This is particularly important in situations where:

- Nosocomial spread is suspected.
- Patients cannot be accommodated in individual rooms.
- Compliance with social distancing and wearing masks is low (e.g., inpatient psychiatry, behavioral health).
- There has been broad exposure to presymptomatic or asymptomatic staff who are infected with SARS-CoV-2.

Situations where point prevalence survey testing may be appropriate for staff only include:

- No confirmed or suspected instances of nosocomial transmission.
- There is a pre-existing testing plan for patients.
- SARS-CoV-2 spread has been documented only among staff.
- Lack of mask use or other personal protective equipment and distancing has been observed and/or reported, including in breakrooms, nursing stations and other similar areas.

- Staff have engaged in social activities (e.g., potlucks, weddings) together within or outside of the occupational setting.

When undertaking point prevalence survey testing, facility leadership must be prepared for the likely detection of multiple patients and staff who test positive for SARS-CoV-2. Plans should be made to give staff appropriate personal protective equipment to care for all COVID-19-positive patients and to train them to use, put on and take off the equipment. Facilities should also develop plans for cohorting COVID-19-positive patients when possible, considering scenarios with a few and many cases detected.

Table 1. Testing of individuals previously positive for SARS-CoV-2

Exclude individual from routine screening for three months following initial positive test if:	Continue to include individual in routine screening after initial positive test if:
Individual was positive by RT-PCR testing, regardless of symptoms during the initial infection.	Individual was positive by antigen test (without confirmatory test) AND individual had no symptoms during the initial infection*
Individual was positive by antigen test (with or without RT-PCR confirmation) AND was symptomatic at time of testing or developed symptoms during the initial infection.	Individual was positive by antigen test, but determined to be a false positive after obtaining a negative confirmatory RT-PCR test (within 48 hours of antigen specimen collection) and a second negative RT-PCR test at least 24 hours after the first.

*Although these individuals will not be excluded from testing after their infection, they should be treated as positive during the initial infection. Staff should be isolated, including exclusion from work for a minimum of 10 days, including at least 24 hours fever-free and with improving symptoms. Patients should be placed into transmission-based precautions.

Facilities should prepare for potential short-term staffing shortages that result from detection of staff members who test positive. Staff with COVID-19 must stay out of work for a minimum of 10 days after symptoms start and at least 24 hours of no fever without fever-reducing medications and improvement of symptoms (see the earlier link to MDH: COVID-19 Recommendations for Health Care Workers). Staff with COVID-19 who have no symptoms must stay out of work for a minimum of 10 days after the date of testing. For patients with severe or critical illness, or who are severely immunocompromised, it is recommended that they stay out of work for 20 days after symptoms start, or for asymptomatic severely immunocompromised patients, 20 days after their initial positive SARS-CoV-2 diagnostic test. Consultation with an expert in infectious disease can help determine the isolation period for those who are immunocompromised.

Point prevalence survey testing in acute care settings

MDH has supported several acute care facilities through the process of point prevalence survey testing. These survey cycles have been conducted in a variety of settings, including in units providing psychiatric care and highly specialized medical care. Examples of point prevalence survey testing that MDH has supported:

- Facility-wide testing at a critical access hospital.

- Unit-level testing following an event outside of the workplace (e.g., wedding) that numerous health care workers from the same unit attended, to prevent ongoing transmission in the health care facility.
- Unit-level testing following a breakroom exposure.
- Unit-level testing following suspected nosocomial transmission among hospitalized patients.

Point prevalence survey testing in these situations has been used to prevent ongoing transmission to susceptible health care workers and patients from people who do not yet have symptoms or who never get symptoms. This testing also provides information to help facility leaders know when workplace transmission has been controlled.

Whole genome sequencing as an adjunct tool

Whole genome sequencing (WGS) has been used in Minnesota hospitals to explore the relationship among individual infections and to identify the potential route(s) of virus introduction into the facility. Because WGS highlights small differences among the SARS-CoV-2 viruses causing infection in different individuals, the approach can be used to speculate about whether transmission occurred directly between two or more individuals (e.g., in the health care facility) or whether they all had separate sources of infection (e.g., out in the community).

This adjunct approach to COVID-19 testing can help to discern possible nosocomial transmission or outbreaks among staff versus unrelated infections occurring during the same timeframe. WGS data can be used as a point of communication with staff about transmission routes and impact of social activities on facility transmission.

References

- [Screening for SARS-CoV-2 Infection Within a Psychiatric Hospital and Considerations for Limiting Transmission Within Residential Psychiatric Facilities — Wyoming, 2020](http://dx.doi.org/10.15585/mmwr.mm6926a4)
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