

# Antigen Testing for SARS-CoV-2 in Nursing Homes—Considerations for Local Public Health

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# Speaker Introduction

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### Testing in Nursing Homes

How can public health jurisdictions prioritize testing across nursing homes when resources are limited?	+
Is there an optimal frequency for testing residents and HCP who previously tested negative in nursing homes as part of an outbreak response?	+
Should residents in nursing homes who are asymptomatic be tested in non-outbreak settings?	+
When should an antigen test be considered a false positive?	+
If a nursing home is concerned about a false-positive antigen test result, what confirmatory test should be performed?	+
If a confirmatory test is performed on a person with a potential false-positive antigen test result or a potential false-negative result, what infection prevention and control (IPC) measures should be enacted while the result is pending?	+
What infection prevention and control (IPC) measures should be enacted in response to people with a positive result from an antigen test followed by a negative result from an RT-PCR test?	+
Should residents or HCP who have a positive antibody test for SARS-CoV-2 be tested as part of facility-wide testing?	+
How should facilities approach residents who decline testing?	+
How should facilities approach HCP who decline testing?	+
If HCP work at multiple facilities, do they need to receive a viral test at each facility?	+
Should asymptomatic HCP who are tested as part of facility-wide testing be excluded from work while waiting for test results?	+

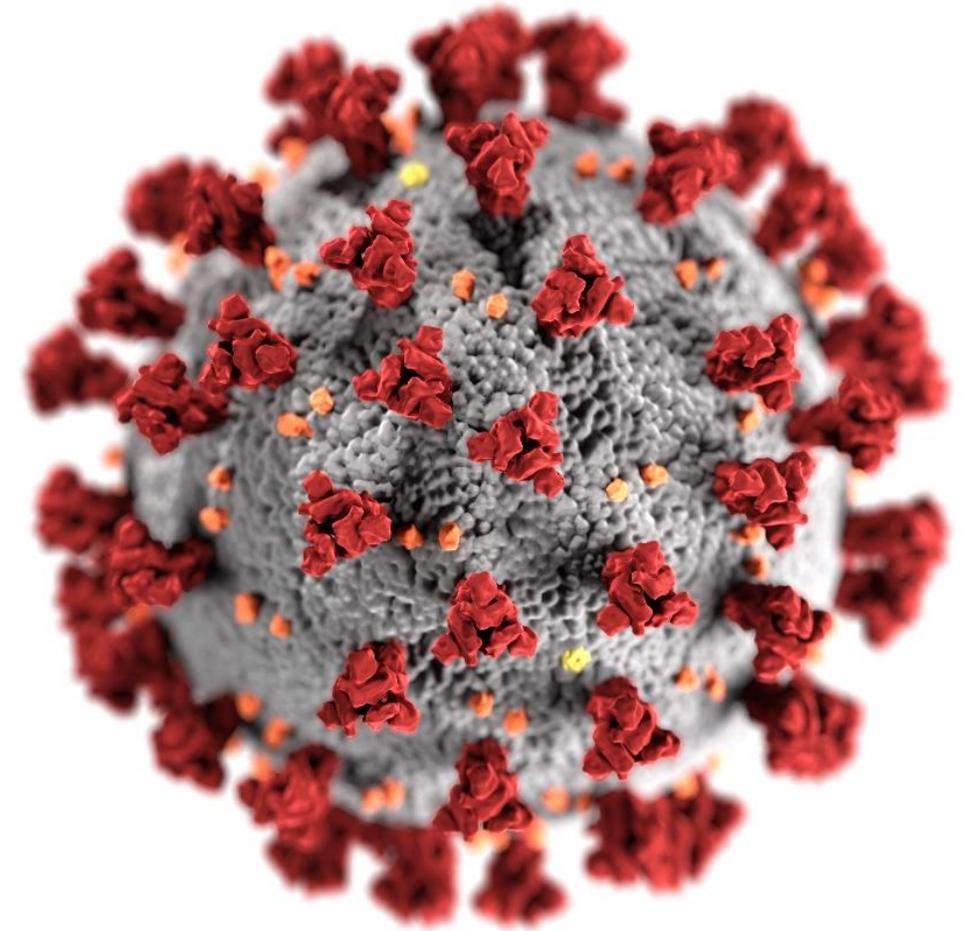
- This webinar is being recorded and the recording will be shared along with slides
- Submit questions through the Q&A Box at any time. We will discuss questions at the end of the presentation.
- If you need technical assistance, please use the Q&A box

# Antigen Testing for SARS-CoV-2 in Nursing Homes: Considerations for Local Public Health

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10/30/20



[cdc.gov/coronavirus](https://cdc.gov/coronavirus)

# Outline

- Describe testing recommendations in nursing homes
- Discuss current CDC guidance on antigen testing in nursing homes
- Provide an opportunity to ask questions and engage in open discussion.



# Purpose of testing

- Identify cases early
  - Prevent introduction
  - Prevent transmission
- (Determine resolution of infection)
- Testing should be implemented *in addition to* recommended IPC measures
- Testing should aim for rapid turnaround times (e.g., less than 24 hours) in order to facilitate effective interventions



# Current Recommendations For Testing In Nursing Homes

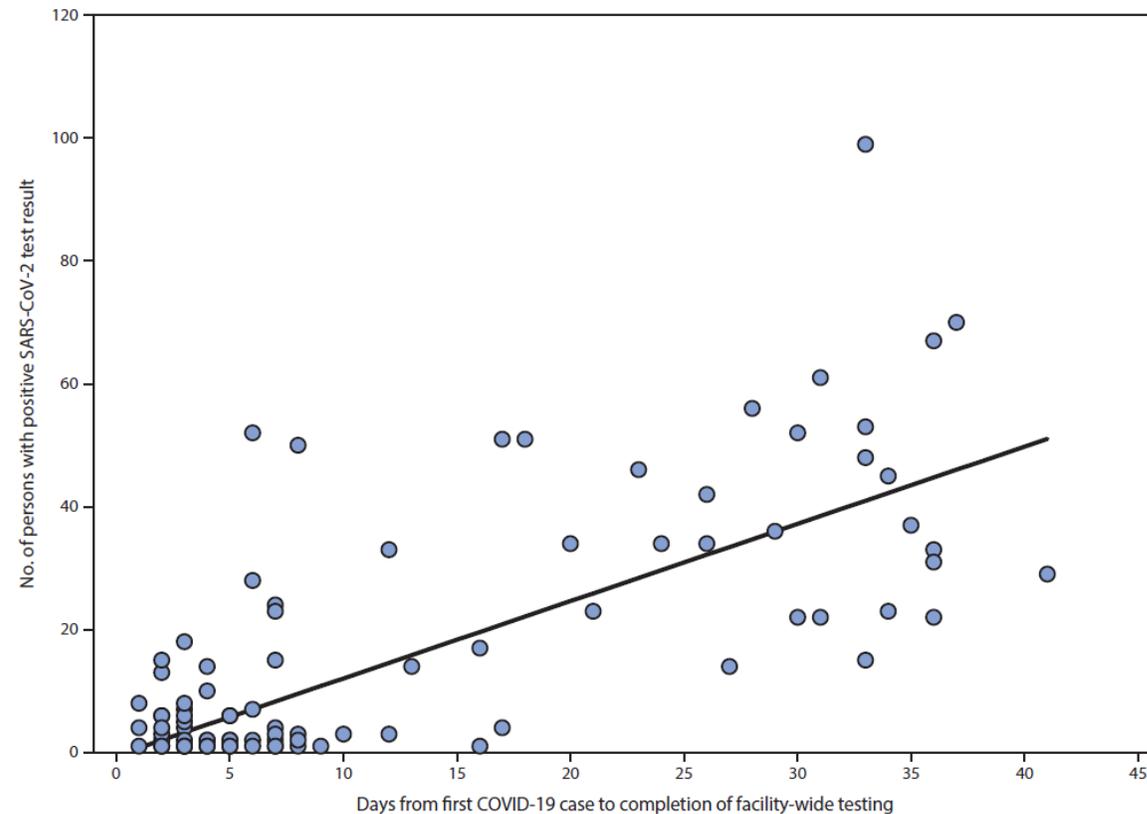
- **Symptomatic testing:**
  - Test all symptomatic [residents](#) and [staff](#)
- **Outbreak testing:**
  - A new SARS-CoV-2 infection in any healthcare personnel (HCP) or any nursing home-onset SARS-CoV-2 infection in a resident should prompt immediate investigation
  - Immediately test all residents and staff, then serially test every 3-7 days until no new cases for 14 days
- **Non-outbreak testing:**
  - **Baseline testing:** Test all residents and staff once as part of reopening
  - **Serial staff screening:** test asymptomatic staff at frequency determined by county positivity rate (monthly, weekly, twice weekly)



# Initiate outbreak testing immediately

- Transmission can be rapid
  - Estimated doubling time of 3.4 days
  - For each day that the outbreak response is delayed, 1.3 additional cases are identified

FIGURE. Association between total number of persons with positive SARS-CoV-2 test results after facility-wide testing and number of days from first case identification until completion of facility-wide testing\* — five state and local health department jurisdictions,† United States, March–June 2020



# Outbreak testing should be done serially

- Test all residents and staff every 3-7 days until no new cases for 14 days
- Most cases are identified in the first 2 weeks from index case
- If resources allow, consider testing more frequently (e.g., every 3 days) for the first two weeks of the outbreak, then test less frequently (e.g., every 7 days) thereafter until no new cases are identified for 14 days
  - Example: testing on day 0 (day the first case is identified), days 3, 6, 9, and 12, and then on days 19, 26, etc.



# Non-outbreak screening of asymptomatic nursing home HCP

- Testing intervals based on risk of transmission of SARS-CoV-2 in community, defined by county positivity rate in the past week
  - Weekly reports available on [CMS COVID-19 data website](#)

**Table 2: Routine Testing Intervals Vary by Community COVID-19 Activity Level**

<b>Community COVID-19 Activity</b>	<b>County Positivity Rate in the past week</b>	<b>Minimum Testing Frequency</b>
<b>Low</b>	<b>&lt;5%</b>	<b>Once a month</b>
<b>Medium</b>	<b>5% - 10%</b>	<b>Once a week*</b>
<b>High</b>	<b>&gt;10%</b>	<b>Twice a week*</b>

\*This frequency presumes availability of Point of Care testing on-site at the nursing home or where off-site testing turnaround time is <48 hours.

- Routinely testing asymptomatic residents in non-outbreak settings is not recommended



# Prioritizing testing when capacity is limited

- Prioritize testing
  - 1) Residents and healthcare personnel (HCP) with signs or symptoms of COVID-19 and
  - 2) Asymptomatic residents and HCP in response to an outbreak in the facility.
- When testing capacity is limited or test turnaround times are >2 days, testing HCP who are asymptomatic in facilities without an outbreak should be considered lower priority.



# Implementing SARS-CoV-2 viral testing

- Identify a process for ordering, documenting and communicating results, and funding tests obtained for residents and HCP
- Maintain availability of the specimen collection kits, test kits and reagents (for onsite testing), and personal protective equipment used for specimen collection and handling
  - HCP conducting specimen collection should receive training on safe specimen collection and handling



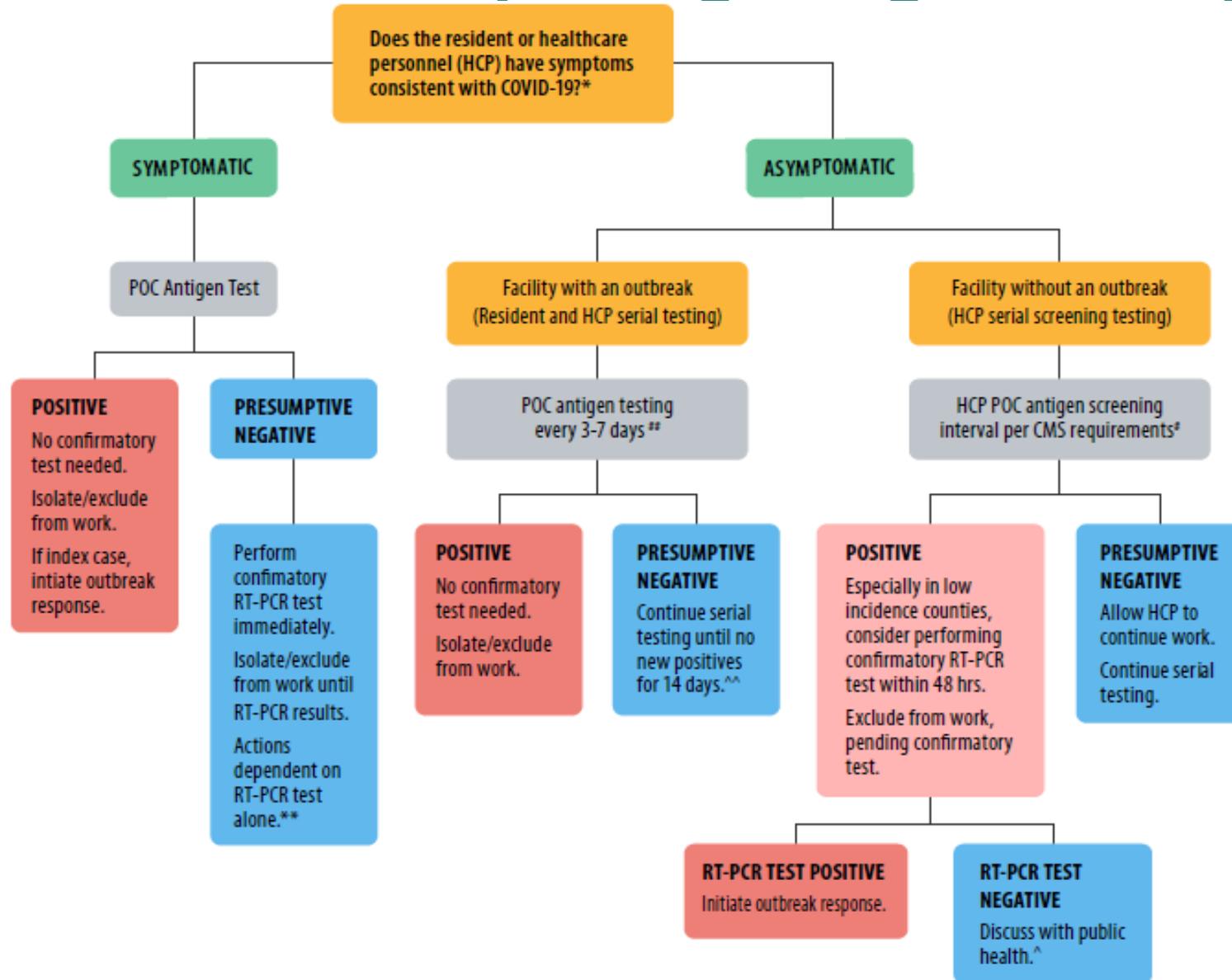
# SARS-CoV-2 viral testing: Molecular vs. antigen

Table 2. Summary of Some Differences between RT-PCR Tests and Antigen Tests

	RT-PCR Tests	Antigen Tests
<b>Intended Use</b>	Detect current infection	Detect current infection
<b>Analyte Detected</b>	Viral RNA	Viral Antigens
<b>Specimen Type(s)</b>	Nasal Swab, Sputum, Saliva	Nasal Swab
<b>Sensitivity</b>	High	Moderate
<b>Specificity</b>	High	High
<b>Test Complexity</b>	Varies	Relatively easy to use
<b>Authorized for Use at the Point-of-Care</b>	Most devices are not, some devices are	Yes
<b>Turnaround Time</b>	Ranges from 15 minutes to >2 days	Approximately 15 minutes
<b>Cost/Test</b>	Moderate	Low



# Considerations for interpreting antigen testing results



# Guidance for SARS-CoV-2 Point-of-Care Testing

- Regulatory requirements
- CLIA-certificate of waiver
- Specimen collection and handling
  - Risk assessment
  - Quality control and instrument calibration
  - Personal protective equipment considerations
- Reporting of results



# CDC Testing Guidance

The image displays two screenshots of the CDC website's COVID-19 testing guidance page. The top screenshot shows the page for "Testing Guidelines for Nursing Homes" with a sidebar menu highlighting "Infection Control". The bottom screenshot shows the page for "Interim Guidance on Testing Healthcare Personnel for SARS-CoV-2" with a sidebar menu highlighting "Testing". Both pages include a "Summary of Changes" section and a "Note" regarding the intended use of the guidance.

**Testing Guidelines for Nursing Homes**  
Interim SARS-CoV-2 Testing Guidelines for Nursing Home Residents and Healthcare Workers  
Updated July 21, 2020

**Summary of Changes:**

**Revisions were made on July 17, 2020, to reflect the following:**

- Updated "Testing to determine resolution of infection" to add information about people immunocompromised.

**Revisions were made on July 1, 2020, to reflect the following:**

- Focus on testing recommendations for nursing home residents only.
- Create separate guidance for testing healthcare personnel (HCP), which is available in the [Testing Healthcare Personnel for SARS-CoV-2](#).

**Note: This document is intended to provide guidance on the appropriate use of testing residents and does not dictate the determination of payment decisions or insurance coverage except as may be otherwise referenced (or prescribed) by another entity or federal or state agency.**

Nursing home residents are at high risk for infection, serious illness, and death from COVID-19 virus that causes COVID-19, in respiratory specimens can detect current infections (referred to as residents in nursing homes). Viral testing of residents in nursing homes, with authorized nucleic acid assays, is an important addition to other [infection prevention and control \(IPC\)](#) recommendations for COVID-19. This information will be refined and updated as more information becomes available.

Testing conducted at nursing homes should be implemented *in addition to recommended IPC*

**Interim Guidance on Testing Healthcare Personnel for SARS-CoV-2**  
Updated July 17, 2020

**Note: This document is intended to provide guidance on the appropriate use of testing among healthcare personnel and does not dictate the determination of payment decisions or insurance coverage of such testing, except as may be otherwise referenced (or prescribed) by another entity or federal or state agency.**

This document provides a summary of considerations and current Centers for Disease Control and Prevention (CDC) recommendations regarding testing healthcare personnel (HCP) for SARS-CoV-2. This document does not apply to individuals who do not meet the definition of HCP as defined below. The CDC recommendations for SARS-CoV-2 testing have been developed based on what is currently known about COVID-19 and are subject to change as additional information becomes available.

Testing of HCP can be considered in four situations:

- Testing HCP with [signs or symptoms](#) consistent with COVID-19
- Testing asymptomatic HCP with known or suspected exposure to SARS-CoV-2
- Testing asymptomatic HCP without known or suspected exposure to SARS-CoV-2 for early identification in [special settings](#) (e.g., nursing homes)
- Testing HCP who have been diagnosed with SARS-CoV-2 infection to determine when they are no longer infectious

[Viral tests](#) (authorized nucleic acid or antigen detection assays) are recommended to diagnose acute infection. Testing practices should aim for rapid turnaround times (i.e., less than 24 hours) in order to facilitate effective interventions. Testing the same individual more than once in a 24-hour period is not recommended.

HCP undergoing testing should receive clear information on:

- the purpose of the test
- the reliability of the test and any limitations associated with the test

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/nursing-homes-testing.html>

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/testing-healthcare-personnel.html>

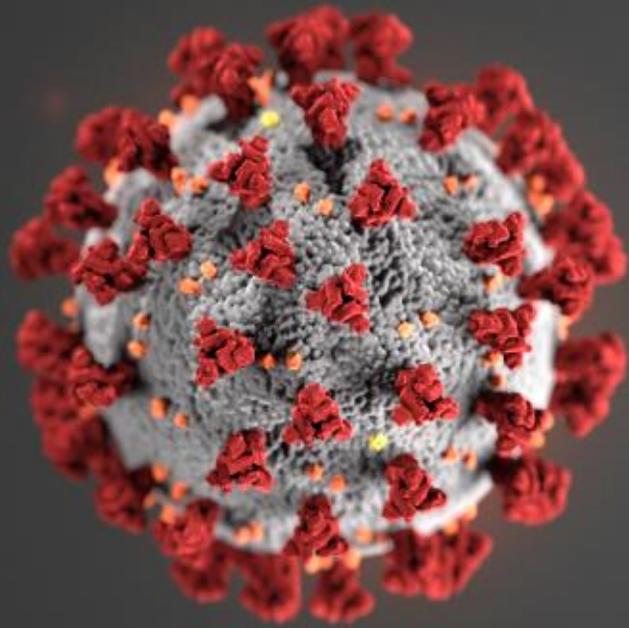
# COVID-19 Resources for Nursing Homes

The screenshot shows the CDC website's resource page for healthcare workers. The page is titled "Nursing Homes and Long-Term Care Facilities" and was updated on August 24, 2020. It features a navigation menu on the left with categories like "Infection Control" and "Nursing Homes & Long-Term Care Facilities". The main content area includes sections for "Infection Control Guidance" (with links for nursing homes, public health response, memory care units, and FAQs), "SARS-CoV-2 Testing Guidance" (with links for residents, personnel, and facility-wide testing), "Infection Control Assessment Tool" (ICAR Tool), "Training Resources" (including a COCA webinar and a CDC TRAIN course), and "Videos for Training Front Line Long-Term Care Staff" (a mini webinar series).

- CDC COVID-19 Resource Page
  - Infection Control Guidance
  - Testing guidance
  - Assessment tools
  - Training materials

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/nursing-home-long-term-care.html>





For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



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Contact us with questions

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