Nursing Home COVID-19 Outbreak Investigation Protocol

One case of COVID-19 in a nursing home is considered an outbreak. The goals of outbreak investigation are (1) to identify potential asymptomatic sources of COVID that caused the outbreak, and (2) to identify other asymptomatic cases involved in the outbreak, minimizing further exposures and facilitating care processes and cohorting, when possible. Testing of symptomatic residents and staff should be performed regardless of the outbreak investigation or exposure history.

Definitions:

Onset Date: The date the COVID test swab was done, or the date of onset of symptoms, whichever is earlier.

Positive Date: The date the COVID test result was reported. If the person was placed on isolation precautions prior to the date of the test result, use the date that isolation precautions started.

Protocol:

A. New Resident Case
   a. **Interview resident**, if resident is able to be interviewed:
      i. Verify symptoms and symptom onset
      ii. Inquire about any other residents or visitors who were within 6 feet of the resident for more than 15 minutes total over a 24-hour period from 48 hours before the onset date until the positive date.
   b. **Review the medical record** for any activities representing potential exposure events from 48 hours before the Onset Date until the Positive Date. Include a review of assessments, progress notes, care plan, dining seating plans, and activity attendance records.
      i. Communal dining or activities, and the other residents that attended. Consider those residents as exposed and place them in quarantine if they have not received all recommended doses of COVID-19 vaccine or if they are unable to tolerate wearing a mask. Consider quarantine for all exposed residents regardless of vaccination status when the new resident case has received all recommended doses of COVID-19 vaccine. **The resident may have been infectious before the Onset Date, generally considered to be a 48-hour period.**
      ii. Trips outside of the facility, including office visits, procedures, and hospitalizations. Notify the staff at the destination of the potential exposure.
      iii. Dialysis. Notify the dialysis staff of the potential exposure.
      iv. Physical, Occupational, or Speech Therapies
      v. Dental care
      vi. Eye care
   c. **Review the facility visitor log** for any potential exposure events in the 2 days prior to the Onset Date or between the Onset Date and the Positive Date. Notify them of the potential exposure.
   d. **Review staffing sheets, assignments, and medical record entries (including ADL documentation)** to identify any staff members who had an exposure to the resident, starting 2 days prior to the Onset Date up to the Positive Date.
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i. For each staff member identified, determine what **specific care or services were provided** to the resident. Only include staff members who provided prolonged services, such as feeding, bathing, dressing, incontinence care, or interview. Do not include staff members who only provided brief service, such as delivering medication or food tray, assistance with phone or TV remote, repositioning, or transfer.

ii. For each exposed staff member identified, determine if their COVID-19 vaccination status is “Fully Vaccinated” or “Up to date”.

iii. Screen each exposed staff member for symptoms of COVID-19.

e. Identify all residents who were roommates of the new resident case in the time period starting 48 hours before the onset date until the positive date. These roommates are considered exposed and are placed in quarantine if they have not received all recommended doses of COVID-19 vaccine or if they are unable to tolerate wearing a mask. Consider quarantine for all exposed residents regardless of vaccination status when the new resident case has received all recommended doses of COVID-19 vaccine.

f. For each resident and staff member identified as having an exposure, determine the First Exposure Date and Last Exposure Date starting 2 days before the Onset Date until the Positive Date. The first exposure date is the first worked day starting 2 days before the Onset Date until the Positive Date. The last exposure date is the last worked day starting 2 days before the Onset Date until the Positive Date. **The date(s) of exposure determine the optimal time for exposure testing for that staff member.**

g. (optional) For each resident identified as having an exposure, calculate the date that precautions can be removed following the guidance in COVID-19 Nursing Home Workflows.

h. Identify any residents on the resident’s nursing unit with onset of COVID-19 in the 14 days prior to the resident’s onset date (**suggesting an outbreak with nosocomial transmission**).

i. Identify any staff on the resident’s nursing unit with onset of COVID-19 in the 14 days prior to the resident’s onset date (**suggesting an outbreak with nosocomial transmission**).

j. Identify residents who share the same **day shift CNA assignments** as the new resident case. **Residents on the same assignment may have had similar exposures and should receive asymptomatic testing.**

k. Report the above findings to the facility infection preventionist and the medical director(s).

l. **Targeted Testing:** Identify residents with the same day shift CNA assignments as the new resident case. Do not test any residents within 3 months of the onset of confirmed COVID-19 illness or who are being tested for an exposure. **Other residents may have unrecognized COVID-19 infection.**

   i. Test identified residents (with a PCR nasopharyngeal swab for COVID-19 resulted by a local lab), regardless of vaccination status, once.

m. **Exposure Testing:** In consultation with the infection preventionist and the medical director(s), identify residents and staff exposed by the new case, for exposure COVID-19 testing. Do not test any residents or staff within 3 months of the onset of confirmed COVID-19 illness.

   i. If available, test all staff, once, who usually work with the newly positive resident with a Point-of-Care Antigen test when they present for work.
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ii. Test exposed staff, regardless of vaccination status, with a nasal specimen (Antigen preferred or PCR):
   1. One or more days after the staff member’s First Exposure Date to the new resident case.
   2. Five to seven days after the staff member’s First Exposure Date to the new resident case.
   3. Five to seven days after the staff member’s Last Exposure Date to the new resident case. When the time periods overlap, this test can be combined with the second test.

iii. Test exposed staff who have not received all recommended doses of the COVID-19 vaccine (not “Up to Date”), each work day for 7 calendar days after the Last Exposure Date, or remove from work for 7 days and test once before returning.

iv. Test exposed residents (with a PCR nasopharyngeal swab for COVID-19 resulted by a local lab), regardless of vaccination status, who:
   1. Were roommates of the new resident case.
   2. Participated in the same service or activity as the new case in the seven days prior to the Positive Date.
   3. Visited by the same visitor as the new case.

v. Test these exposed residents:
   1. One or more days after the resident’s First Exposure Date to the new resident case.
   2. Five to seven days after the resident’s First Exposure Date to the new resident case.
   3. Six to seven days after the resident’s Last Exposure Date to the new resident case. When the time periods overlap, this test can be combined with the second test.

n. For residents within 6 months of confirmed COVID-19 illness, Point-of-Care Antigen testing is preferred, but PCR testing of a nasal sample is acceptable. Antigen testing reduces the possibility of identifying a “persistent positive” resident.

o. Residents may decline testing.
   i. A registered nurse will provide counseling to the resident regarding the type of test used, the benefits of testing to the resident and the other facility residents, and the risks of declining testing. Document any resident declinations of testing and the counseling provided in the medical record.
   ii. Residents who decline testing and have symptoms of COVID-19 illness should be isolated separately from residents who declined testing and do not have symptoms.
   iii. Residents with an exposure who decline testing and have not received all recommended doses of COVID-19 vaccine or are unable to tolerate wearing a mask are placed in Quarantine for 10 days after the exposure. Consider quarantine for all exposed residents regardless of vaccination status when the new resident case has received all recommended doses of COVID-19 vaccine.

p. A staff member that refuses testing is considered to have an outdated or incomplete health assessment and shall be prohibited from working for the nursing home until they complete testing.
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B. New Employee/Staff Case

a. **Complete Contact Tracing** beginning 2 days before the Onset Date and continuing until the Positive Date. *The employee may have been infectious before the Onset Date, generally considered to be a 48-hour period.*

   i. Review medical records (including ADL documentation), staffing sheets, and assignments to identify affected residents and staff members. Identify each **person’s vaccination status** (Fully Vaccinated, Up to Date) and, for residents, most recent COVID-19 vaccination date, if any. *People vaccinated against COVID-19 may be at lower risk of contracting the illness.*

   ii. Residents with close contact (within 6 feet of the new employee case for 15 minutes or longer within a 24-hour period) and who have not received all recommended doses of COVID-19 vaccine or are unable to tolerate wearing a mask are considered exposed and are placed in quarantine.

b. Identify any residents on the employee’s nursing unit with onset of COVID-19 in the 14 days before the employee’s Onset Date (*suggesting an outbreak with nosocomial transmission*).

c. Identify any staff on the employee’s nursing unit or in the employee’s department with onset of COVID-19 in the 7 days prior to the new case’s Onset Date (*suggesting an outbreak with nosocomial transmission*).

d. **Interview employee:**

   i. Verify swabbing date and Positive Date, and symptom Onset Date.

   ii. Inquire about any exposures in the 7 days prior to onset, whether inside or outside of the nursing home, including with other staff members or on breaks

      1. Community places or events where social distancing is difficult

      2. Carpooling or using public transportation

      3. Determine what **specific** care or services the employee provided to each resident on each day worked (starting 48 hours prior to Onset Date). Only include prolonged services, such as feeding, bathing, dressing, incontinence care, and interview. Do not include brief service, such as delivering medication or food tray, assistance with phone or TV remote, repositioning, transfer, transport.

         a. Consider these contacts as exposures and the affected residents are placed in Quarantine if they have not received all recommended doses of COVID-19 vaccine or if they are unable to tolerate wearing a mask.

e. For each resident and staff member identified as having an exposure, determine the First Exposure Date and Last Exposure Date starting 2 days before the Onset Date until the Positive Date. The first exposure date is the first worked day starting 2 days before the Onset Date until the Positive Date. The last exposure date is the last worked day starting 2 days before the Onset Date until the Positive Date. *The date(s) of exposure determine the optimal time for exposure testing for that staff member.*

f. *(optional)* For each resident identified as having an exposure, calculate the date that precautions can be removed following the guidance in COVID-19 Nursing Home Workflows.

g. Report the above findings to the facility infection preventionist and the medical director(s).
h. **Exposure Testing:** In consultation with the infection preventionist and the medical director(s), identify residents and staff exposed by the new case, for targeted COVID-19 testing. **Do not test any residents or staff within 6 months of the onset of confirmed COVID-19 illness.** Follow this guidance for any new cases identified.

   i. If available, test all staff, once, who usually work with the new resident with a Point-of-Care Antigen test when they present for work.

   ii. Test exposed staff, regardless of vaccination status, with a nasal specimen (PCR or Antigen):

      1. One or more days after the staff member’s First Exposure Date to the new resident case.
      2. Five to seven days after the staff member’s First Exposure Date to the new resident case.
      3. Five to seven days after the staff member’s Last Exposure Date to the new resident case. When the time periods overlap, this test can be combined with the second test.

   iii. Test exposed staff who have not received all recommended doses of the COVID-19 vaccine (not “Up to Date”) each work day for 7 calendar days after the Last Exposure Date, or remove from work for 7 days and test once before returning.

   iv. Test residents (with a PCR nasopharyngeal swab for COVID-19 resulted by a local lab), regardless of vaccination status, who had an exposure to the new staff case.

   v. Test these exposed residents:

      1. One or more days after the resident’s First Exposure Date to the new resident case.
      2. Five to seven days after the resident’s First Exposure Date to the new resident case.
      3. Six to seven days after the resident’s Last Exposure Date to the new resident case. When the time periods overlap, this test can be combined with the second test.

   i. For residents within 6 months of confirmed COVID-19 illness, Point-of-Care Antigen testing is preferred, but PCR testing of a nasal sample is acceptable. **Antigen testing reduces the possibility of identifying a “persistent positive” resident.**

   j. Residents may decline testing.

      i. A registered nurse will provide counseling to the resident regarding the type of test used, the benefits of testing to the resident and the other facility residents, and the risks of declining testing. Document any resident declinations of testing and the counseling provided in the medical record.

      ii. Residents who decline testing and have symptoms of COVID-19 illness should be isolated separately from residents who declined testing and do not have symptoms.

      iii. Residents with an exposure who decline testing and have not received all recommended doses of COVID-19 vaccine or are unable to tolerate wearing a mask are placed in Quarantine for 10 days after the exposure.

   k. A staff member that refuses testing is considered to have an outdated or incomplete health assessment and shall be prohibited from working for the nursing home or adult care facility until they complete testing.
C. New Visitor Case

a. **Complete Contact Tracing** beginning 48 hours prior to the Onset Date and continuing until the 14 days after the Onset Date or the last visit to the facility, whichever is earlier. The visitor may have been infectious before the Onset Date, generally considered to be a 48-hour period.

b. **Review the facility visitor log** for any potential exposure events in the 48 hours prior to the Onset Date or between the Onset Date and the Positive Date. Identify all residents visited by the visitor.

c. **Interview visitor:**
   i. Verify swabbing date and Positive Date, date(s) of visit(s), and symptom Onset Date.
   ii. The duration of the visit, any close contact with the resident, and mask use.
   iii. Any other residents, staff or visitors who were within 6 feet of the visitor for more than 15 minutes total over a 24-hour period, and if PPE was used.
   iv. Inquire about any of the visitor’s other contacts or family members who have visited the facility or may visit the facility. Begin investigations for all such contacts.
   v. If the visitor entered any resident unit or other areas of the building where residents were present.
   vi. If the visitor complied with all COVID-19 precautions including hand hygiene and appropriate use of a face mask or face covering.
   vii. If the visitor and the resident maintained at least 6 feet of distance from each other for the entire duration of the visit.

d. **Interview resident(s) visited by the visitor case.**
   i. Duration of the visit, close contact with the visitor, and mask use.
   ii. Any other residents, staff or visitors who were within 6 feet of the visitor for more than 15 minutes total over a 24-hour period, and if PPE was used.
   iii. If the visitor entered any resident unit or other areas of the building where residents were present.
   iv. If the visitor complied with all COVID-19 precautions including hand hygiene and appropriate use of a face mask or face covering.
   v. If the visitor and the resident maintained at least 6 feet of distance from each other for the entire duration of the visit.

e. **Interview staff** on duty during the visitor’s visit(s).
   i. Duration of the visit, close contact with the visitor, and mask use.
   ii. Any other residents, staff or visitors who were within 6 feet of the visitor for more than 15 minutes total over a 24-hour period, and if PPE was used.
   iii. If the visitor entered any resident unit or other areas of the building where residents were present.
   iv. If the visitor complied with all COVID-19 precautions including hand hygiene and appropriate use of a face mask or face covering.
   v. If the visitor and the resident maintained at least 6 feet of distance from each other for the entire duration of the visit.

f. Report the above findings to the facility administrator, infection preventionist, and the medical director(s).
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g. The resident(s) who received the visit(s) should be treated as exposed and placed in Quarantine if they have not received all recommended doses of COVID-19 vaccine [not “Up to Date”] or if they are unable to tolerate wearing a mask.

h. Exposure Testing: In consultation with the infection preventionist and the medical director(s), identify residents and staff exposed by the new visitor case, for exposure COVID-19 testing, regardless of vaccination status. Do not test any residents or staff within 3 months of the onset of confirmed COVID-19 illness. Follow this guidance for any new cases identified.

  i. Test exposed staff, regardless of vaccination status, with a nasal specimen (PCR or Antigen):

     1. One or more days after the the staff member’s First Exposure Date to the new visitor case.
     2. Five to seven days after the staff member’s First Exposure Date to the new visitor case.
     3. Five to seven days after the staff member’s Last Exposure Date to the new visitor case. When the time periods overlap, this test can be combined with the second test.

  ii. Test exposed staff who have not received all recommended doses of the COVID-19 vaccine [not “Up to Date”] each work day for 7 calendar days after the Last Exposure Date, or remove from work for 7 days and test once before returning.

  iii. Test exposed residents (with a PCR nasopharyngeal swab for COVID-19 resulted by a local lab), regardless of vaccination status, who received visits within 2 days prior to the Onset Date until the 14 days after the Onset Date.

  iv. Test these exposed residents

     1. One or more days after the resident’s First Exposure Date to the new visitor case.
     2. Five to seven days after the resident’s First Exposure Date to the new visitor case.
     3. Six to seven days after the resident’s Last Exposure Date to the new visitor case. When the time periods overlap, this test can be combined with the second test.

  i. Do not test any residents or staff within 3 months of the onset of confirmed COVID-19 illness.

j. For residents within 6 months of confirmed COVID-19 illness, Point-of-Care Antigen testing is preferred, but PCR testing of a nasal sample is acceptable. Antigen testing reduces the possibility of identifying a “persistent positive” resident.

k. Residents may decline testing.

  i. A registered nurse will provide counseling to the resident regarding the type of test used, the benefits of testing to the resident and the other facility residents, and the risks of declining testing. Document any resident declinations of testing and the counseling provided in the medical record.

  ii. Residents who decline testing and have symptoms of COVID-19 illness should be isolated separately from residents who declined testing and do not have symptoms.
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iii. Residents with an exposure who decline testing and have not received all recommended doses of COVID-19 vaccine or are unable to tolerate wearing a mask are placed in Quarantine for 10 days after the exposure.

l. A staff member that refuses testing is considered to have an outdated or incomplete health assessment and shall be prohibited from working for the nursing home or adult care facility until they complete testing.

D. New Resident or Staff Case, Unable to do Contact Tracing.

Contact tracing is less effective in a larger outbreak (more than 3 new resident or staff cases within 7 days) and when adequate numbers of staff trained to do the contact tracing are not available. Consult the medical director(s) when abandonment of contact tracing is considered.

a. Identify Residents and Staff for testing. Determine the geographic areas of the facility where positive residents and/or staff were present. If over 75% of the facility is affected, test all facility residents and staff. Include all staff who may have entered these areas, including non-clinical staff and staff from non-nursing disciplines.

b. Residents in the affected geographic areas who have not received all recommended doses of COVID-19 vaccine [not “Up to Date”] or are unable to tolerate wearing a mask are placed in quarantine for 14 days after the most recent case.

c. Staff in the geographic area who have not received all recommended doses of COVID-19 vaccine [not “Up to Date”] are restricted from work unless contingency or crisis staffing procedures are in effect.

d. Begin testing of identified residents and staff within 24 hours after identification of the new case.

e. Test all identified residents and staff for 7 days. If additional cases are identified, test all identified residents and staff for 14 days after the most recent case Onset Date.

i. If using Antigen testing, test every 2-3 days.

ii. If using PCR testing, test every 3-4 days.

f. Test identified staff who have not received all recommended doses of the COVID-19 vaccine [not “Up to Date”] each work day for 7 calendar days. If additional cases are identified, test identified staff for 14 days after the most recent case Onset Date.

g. Document all residents and staff identified for testing and the dates and results of all tests.

h. Do not test any residents or staff within 3 months of the onset of confirmed COVID-19 illness.

i. For residents within 6 months of confirmed COVID-19 illness, Point-of-Care Antigen testing is preferred, but PCR testing of a nasal sample is acceptable. Antigen testing reduces the possibility of identifying a “persistent positive” resident.

j. Residents may decline testing.

i. A registered nurse will provide counseling to the resident regarding the type of test used, the benefits of testing to the resident and the other facility residents, and the risks of declining testing. Document any resident declinations of testing and the counseling provided in the medical record.

ii. Residents who decline testing and have symptoms of COVID-19 illness should be isolated separately from residents who declined testing and do not have symptoms.
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iii. Residents with an exposure who decline testing and have not received all recommended doses of COVID-19 vaccine or are unable to tolerate wearing a mask are placed in Quarantine for 14 days after the exposure.

k. A staff member that refuses testing is considered to have an outdated or incomplete health assessment and shall be prohibited from working for the nursing home or adult care facility until they complete testing.

References: