

Invited Commentary

Preventing COVID-19 in Assisted Living Facilities—A Balancing Act

Grace Y. Jenq, MD; John P. Mills, MD; Preeti N. Malani, MD, MSJ

Since the initial cases of coronavirus disease 2019 (COVID-19) were identified in the US, the unique vulnerability of older adults has been painfully demonstrated with several nursing home-associated outbreaks.¹ The public health response, though entirely appropriate to halt transmission and save lives, requires draconian limits on movement and visitation.

As a consequence, similar interventions have been put into place in other residential communities, such as assisted living facilities. As the name implies, assisted living facilities provide older adults with a range of assistance for activities of daily living. Nearly 1 million older adults live in an estimated 25 000 assisted living facilities in the US, most with impairments in cognition or mobility.

In this issue of *JAMA Internal Medicine*, Roxby and colleagues² report the findings of a prospective surveillance study of COVID-19 in an independent and assisted living facility in Seattle, Washington. After 2 residents were hospitalized with confirmed COVID-19, universal testing of all residents and staff using severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) real-time polymerase chain reaction was performed through a cooperative effort with the Centers for Disease Control and Prevention (CDC) and local public health authorities.

This study offers a snapshot of COVID-19 prevalence in a single independent and assisted living facility. Three of 80 residents had positive test results; 2 were fully asymptomatic and 1 experienced mild symptoms (resolved cough and a single loose stool) prior to testing. Two of 62 staff also had positive test results, both of whom were symptomatic. One additional resident, also asymptomatic, had a positive test result during follow-up testing a week later. Staff only had baseline testing.

The results demonstrate that symptom screening alone had low specificity and positive predictive value among a group of older adults. For example, 41% of residents reported symptoms potentially compatible with viral illness, but only 4% had positive test results. These findings illustrate the myriad challenges of symptom-based testing for an infection that has nonspecific protean manifestations and a wide range of clinical severity.

Although reassuring, the apparent lack of widespread transmission and severe COVID-19 cases may not be generalizable given this descriptive study is limited to a single facility. There are, however, several factors that may have contributed to the low infection rates. Although the residents had a mean age of 86 years, their overall functional status was good; for example, most were ambulatory. This contrasts with the demographics of an earlier nursing home outbreak that resulted in a 33.7% mortality rate among 101 infected residents.¹

A direct comparison of comorbid conditions between the study population described by Roxby et al² and typical residents of a skilled nursing facility is not possible, but low rates of renal disease and diabetes were notable. Also, better functional status among residents likely equated to less need for assistance that required physical contact with staff and hence more opportunities for transmission. Lastly, immediate limitations of communal activities such as shared meals likely had a substantial effect on decreasing spread among residents who were instructed to self-isolate in their apartments.

Active surveillance permits early detection of disease among residents who might not otherwise undergo testing, either because they are not symptomatic enough to seek care, their clinical picture is atypical, or they are asymptomatic. If logistically feasible, active surveillance can be vital to preventing COVID-19 in settings with high potential for person-to-person transmission, especially by asymptomatic individuals.³⁻⁵ But surveillance alone is ineffective unless paired with infection control measures. Early social distancing, including shutdown of communal areas, as well as enhanced environmental measures (cleaning and disinfection of high-touch surfaces and adequate access to hand hygiene) likely contributed to the lack of widespread transmission at the Seattle facility.

The work of Roxby et al² also highlights the potential role of infected staff members in the introduction and transmission of SARS-CoV-2. Because data on overlapping time and space of positive cases in context to their suspected period of contagiousness were not reported, the chain of transmission remains unknown. It is reassuring that no asymptotically infected staff were identified in this small study, lending support to the current CDC recommendations of daily symptom screening. However, with 28% of staff reporting symptoms potentially compatible with COVID-19, many staff were working while symptomatic. Chronic understaffing and suboptimal sick leave policies can contribute to “presenteeism,” an issue that cuts across many low-wage sectors. Robust and flexible sick leave policies can result in long-term savings by helping to mitigate the risk of infection transmission.

A key question raised by the results of Roxby et al² is whether assisted living facilities should undergo universal SARS-CoV-2 testing on detection of a case of COVID-19. It is difficult to determine best practice based on a single center’s experience, in part because the likelihood of identifying asymptomatic or presymptomatic carriers depends on local factors, such as timing of index case diagnosis, degree of ongoing community transmission, sick leave policies, and configuration of living quarters. However, this report does provide an illustration of how an aggressive infection control response could mitigate COVID-19 spread in a residential facility.

Successful implementation of active surveillance requires close partnership with local public health depart-

ments who can provide epidemiologic expertise and testing resources that may not be available otherwise, along with a plan for addressing positive test results. With large numbers of vulnerable older adults in care settings, outbreaks could easily overwhelm the local health care infrastructure. Understanding how many facilities are in the area, occupancy rates, current testing plans, and supplies of personal protective equipment are important aspects to monitor. A centralized system to share current information among local public health, health systems, and care facilities can help prioritize resources.

In particular, a comprehensive strategy is needed to distribute limited testing capacity. Testing of symptomatic hospitalized patients and symptomatic health care workers are currently considered highest priority by the CDC, followed by these symptomatic groups: older adults, those with underlying medical conditions, long-term care facility residents, and first responders.⁶ Increasing reports of asymptomatic or presymptomatic SARS-CoV-2 infection, and the implications for subsequent transmission, make active surveillance a pragmatic component of a public health-informed response. However, in the context of continued nationwide testing constraints, it

is essential to identify the groups who should be prioritized for screening. Populations who are likely to benefit include those at increased risk of severe complications of COVID-19 and those living in environments with high likelihood of extensive transmission especially where mitigation strategies such as social distancing are not feasible.

Lastly, the CDC recommends that nursing homes and assisted living facilities enact strict isolation policies to protect the health of residents and staff.⁷ On a temporary basis, this certainly is prudent; however, residents cannot and should not be isolated from their loved ones indefinitely. Restricted visitation is yet another tragedy of COVID-19 because friends and family are not only supporting social well-being but often providing essential care for residents. The pandemic will undoubtedly add to loneliness and social isolation that already plagues many older adults.

As testing becomes more prevalent, accurate, and efficient, one might envision a system of point-of-care COVID-19 testing for visitors. In the end, COVID-19-associated deaths will not just be related to infection but falls, chronic conditions, and worsening emotional health.

ARTICLE INFORMATION

Author Affiliations: Department of Internal Medicine, University of Michigan, Ann Arbor (Jenq); Division of Geriatrics and Palliative Medicine, University of Michigan, Ann Arbor (Mills); Division of Infectious Diseases, University of Michigan, Ann Arbor (Malani).

Corresponding Author: Preeti N. Malani, MD, MSJ, F4135 University Hospital South, 1500 East Medical Center Drive, Ann Arbor, MI 48109 (pmalani@umich.edu)

Published Online: May 21, 2020.
doi:10.1001/jamainternmed.2020.2224

Conflict of Interest Disclosures: None reported.

REFERENCES

- McMichael TM, Currie DW, Clark S, et al. Epidemiology of Covid-19 in a long-term care facility in King County, Washington [published online March 27, 2020]. *N Engl J Med*. doi:10.1056/NEJMoa2005412
- Roxby AC, Greninger AL, Hatfield, KM, et al. Outbreak investigation of COVID-19 among residents and staff of an independent and assisted living community for older adults in Seattle, Washington [published online May 21, 2020]. *JAMA Int Med*. doi:10.1001/jamainternmed.2020.2233
- Kimball A, Hatfield KM, Arons M, et al; Public Health – Seattle & King County; CDC COVID-19 Investigation Team. Asymptomatic and presymptomatic SARS-CoV-2 infections in residents of a long-term care skilled nursing facility - King County, Washington, March 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69(13):377-381. doi:10.15585/mmwr.mm6913e1
- Bai Y, Yao L, Wei T, et al. Presumed asymptomatic carrier transmission of COVID-19. *JAMA*. 2020;323(14):1406-1407. doi:10.1001/jama.2020.2565
- Tong ZD, Tang A, Li KF, et al. Potential presymptomatic transmission of SARS-CoV-2, Zhejiang Province, China, 2020. *Emerg Infect Dis*. 2020;26(5):1052-1054. doi:10.3201/eid2605.200198
- Centers for Disease Control and Prevention. Evaluating and Testing Persons for Coronavirus Disease 2019 (COVID-19). <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html>. Accessed on April 24, 2020.
- Coronavirus Disease 2019: Considerations for Assisted Living Facilities. Centers for Disease Control and Prevention. Updated April 15, 2020. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/assisted-living.html>. Accessed on April 24, 2020.