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Research Letters

Attitudes and Experiences of Frontline Nursing Home Staff Toward Coronavirus Testing

*To the Editor:*

Nursing home (NH) residents are particularly vulnerable to contracting Coronavirus Disease 2019 (COVID-19) because of congregate living and need for personal care. They are also more at risk for adverse outcomes due to advanced age and medical comorbidities.^{1,2} The Centers for Medicare and Medicaid Services (CMS) has issued multiple guidelines to prevent the spread of COVID-19 and reduce mortality in NHs, including caregivers use of personal protective equipment, resident cohorting, suspending visitation, and ongoing testing of staff.³

The Indiana State Department of Health (ISDH) conducted statewide NH staff testing in June 2020.⁴ This effort represented significant investment of resources with logistical challenges that required NH staff cooperation. Nationally, NH staff will continue to be regularly tested for COVID-19, yet we know little about the staff perspective on testing. We surveyed NH staff following Indiana's statewide testing effort to assess attitudes and beliefs about mandatory COVID-19 testing and vaccination.

Methods

Testing occurred June 1 to 30, 2020. Facilities either had ISDH staff test on-site or kits were distributed to test staff within 24 hours. Samples were collected via nasopharyngeal or interior nares swabs for a polymerase chain reaction (PCR)-based COVID-19 test. A total of 47,277 staff registered for testing and 28% had unique e-mail addresses. After excluding staff aged <18 years, 18,802 staff formed the sampling frame. A geographically diverse random sample of 4296 were invited to complete a 19-item online questionnaire developed by the investigators. The study was approved by the Indiana University Institutional Review Board.

Results

Overall, 242 (5.6%) staff responded to the survey. Respondent demographics and responses to key questions are in [Table 1](#). Most (n = 167, 69.0%) had no concerns about regular COVID-19 testing

and believed testing was “easy” (n = 148, 61.2%), although 50.4% (n = 122) noted testing was “uncomfortable.” Potential barriers to ongoing testing if done outside the workplace included time (n = 135, 55.8%) and cost (n = 106, 43.8%). Among respondents who did not see the importance of regular testing (n = 54, 22.3%), free-text answers anecdotally suggested belief that testing asymptomatic staff has little value if staff are correctly following infection protocols. Many staff have concerns about vaccines, with 26.5% (n = 64) stating they would wait to be vaccinated, 17.8% (n = 43) unsure of whether they will agree to vaccination once available, and 12.4% (n = 30) will refuse vaccination outright.

Discussion

Our survey of NH staff demonstrates that most NH staff are willing to undergo regular COVID-19 testing, but 1 in 4 had concerns or questioned the importance. Recent CMS guidelines specify NH staff must be tested at least monthly, and more often in areas with high levels of community COVID-19 activity, with facilities penalized for noncompliance.⁵ Without facility-based testing, staff face barriers such as time and cost to getting tested, thus underscoring the importance of providing workplace testing. Although CMS has begun distributing point-of-care antigen testing machines, concerns about the accuracy and availability and cost of test supplies remain.⁶

Some staff expressed beliefs that asymptomatic testing of staff is not important. Notably, 29.6% (n = 8) of administrators noted ongoing testing was not important compared with 21.6% (n = 24) of clinical staff. Any division between staff and administrators could result in testing noncompliance, and failure to identify asymptomatic staff could have significant consequences for residents.⁷ Coupling education with mandatory staff testing as a condition of employment and in-facility, less-invasive testing methods (ie, nasal swabs or saliva vs nasopharyngeal swabs) may ensure compliance. Answers varied among staff positions with future vaccine uptake, 3.7% (n = 1) of administrators will not get vaccinated compared with 15.3% (n = 17) of clinical staff. As noted by our results, when a vaccine is available, assurances of safety and efficacy will be necessary for NH staff uptake. Prior research has noted NH staff have poorer influenza vaccination rates compared with other health care workers.⁸ Thus, if a safe and effective vaccine becomes available, significant resources and strategy will likely be needed to promote uptake among NH staff.⁹

Limitations include a low response rate (5.6%); however, the distribution of respondents versus nonrespondents did not differ by race, ethnicity, or urbanicity; certified nursing assistants were underrepresented (16.5% responding vs 27.5% overall). Despite a low response rate, these data have value in understanding the experiences and attitudes of NH staff about COVID-19 testing, and potential vaccination. Federal and state officials and industry leaders have been grappling with the best approaches to ongoing testing during this pandemic, weighing likelihood of benefit with

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Table 1
Nursing Home Staff Demographics, Attitudes, and Experiences With COVID-19 Testing

| | Overall (N = 242) | Clinical staff* (n = 111) | Administration (n = 27) | Support staff [†] (n = 45) | Other/Unknown (n = 59) |
|---|----------------------|------------------------------|----------------------------|--|---------------------------|
| Age, y | | | | | |
| 18–35 | 79 (32.6) | 38 (34.2) | 22 (37.3) | 14 (31.1) | 5 (48.2) |
| 36–50 | 88 (36.4) | 40 (36.0) | 20 (33.9) | 15 (33.3) | 13 (48.2) |
| 51–64 | 63 (26.0) | 28 (25.2) | 15 (25.4) | 12 (26.7) | 8 (29.6) |
| 65+ | 12 (5.0) | 5 (4.5) | 2 (3.4) | 4 (8.9) | 1 (3.7) |
| Race | | | | | |
| White | 203 (83.9) | 88 (79.3) | 23 (85.2) | 41 (91.1) | 51 (86.4) |
| Black | 21 (8.7) | 12 (10.8) | 2 (7.4) | 2 (4.4) | 5 (8.5) |
| Other | 18 (7.4) | 11 (9.9) | 2 (7.4) | 2 (4.4) | 3 (5.1) |
| Ethnicity | | | | | |
| Not Hispanic/Latino | 226 (93.4) | 107 (96.4) | 25 (92.6) | 43 (95.6) | 51 (86.4) |
| Hispanic/Latino | 4 (1.7) | 1 (0.9) | 1 (3.7) | 0 - | 2 (3.4) |
| Unknown | 12 (5.0) | 3 (2.7) | 1 (3.7) | 2 (4.4) | 6 (10.2) |
| Nursing home location | | | | | |
| Urban | 165 (68.2) | 77 (69.4) | 14 (51.9) | 32 (71.1) | 42 (71.2) |
| Rural | 76 (31.4) | 33 (29.7) | 13 (48.2) | 13 (28.9) | 17 (28.8) |
| Unknown | 1 (0.4) | 1 (0.9) | 0 - | 0 - | 0 - |
| Describe your most recent experience of being tested. (Check all that apply) | | | | | |
| Uncomfortable | 122 (50.4) | 60 (54.1) | 12 (44.4) | 21 (46.7) | 29 (49.2) |
| Easy process | 148 (61.2) | 72 (64.9) | 17 (63.0) | 29 (64.4) | 30 (50.9) |
| Fast process | 121 (50.0) | 65 (58.6) | 12 (44.4) | 19 (42.2) | 25 (42.4) |
| Painful | 34 (14.1) | 15 (13.5) | 4 (14.8) | 6 (13.3) | 9 (15.3) |
| Not upsetting at all | 26 (10.7) | 16 (14.4) | 2 (7.4) | 3 (6.7) | 5 (8.5) |
| Upsetting in some way | 17 (7.0) | 7 (6.3) | 1 (3.7) | 3 (6.7) | 6 (10.2) |
| Frustrating | 15 (6.2) | 5 (4.5) | 2 (7.4) | 3 (6.7) | 5 (8.5) |
| Other | 5 (2.1) | 1 (0.9) | 0 - | 1 (2.2) | 3 (5.1) |
| No response | 8 (3.3) | 4 (3.6) | 1 (3.7) | 1 (2.2) | 2 (3.4) |
| Do you think it is important for nursing home staff to get tested on a regular basis for coronavirus? | | | | | |
| Yes | 172 (71.1) | 80 (72.1) | 17 (63.0) | 35 (77.8) | 40 (67.8) |
| No | 54 (22.3) | 24 (21.6) | 8 (29.6) | 8 (17.8) | 14 (23.7) |
| Prefer not to answer | 16 (6.6) | 7 (6.3) | 2 (7.4) | 2 (4.4) | 5 (8.5) |
| Do you have concerns about getting tested yourself on a regular basis for coronavirus? | | | | | |
| Yes | 55 (22.7) | 30 (27.0) | 2 (7.4) | 11 (24.4) | 12 (20.3) |
| No | 167 (69.0) | 74 (66.7) | 23 (85.2) | 31 (68.9) | 39 (66.1) |
| Prefer not to answer | 20 (8.3) | 7 (6.3) | 2 (7.4) | 3 (6.7) | 8 (13.6) |
| What barriers do you have to testing outside of work? (Check all that apply) | | | | | |
| Time | 135 (55.8) | 66 (59.5) | 13 (48.2) | 19 (42.2) | 30 (50.9) |
| Cost | 106 (43.8) | 50 (45.1) | 10 (37.0) | 23 (51.1) | 23 (39.0) |
| Transportation | 34 (14.1) | 17 (15.3) | 2 (7.4) | 8 (17.8) | 7 (11.9) |
| No barriers | 30 (12.4) | 14 (12.6) | 2 (7.4) | 5 (11.1) | 9 (15.3) |
| Other | 10 (4.1) | 3 (2.7) | 1 (3.7) | 0 - | 6 (10.2) |
| Prefer not to answer | 27 (11.2) | 10 (9.0) | 4 (14.8) | 4 (8.9) | 9 (15.3) |
| Willingness to be tested and vaccinated for coronavirus | | | | | |
| Tested and vaccinated | 114 (47.1) | 49 (44.1) | 16 (59.3) | 21 (46.7) | 28 (47.5) |
| Tested, but not vaccinated | 60 (24.8) | 32 (28.8) | 5 (18.5) | 13 (28.9) | 10 (17.0) |
| Not tested, but vaccinated | 5 (2.1) | 1 (0.9) | 0 - | 1 (2.2) | 3 (5.1) |
| Not tested or vaccinated | 17 (7.0) | 8 (7.2) | 0 - | 3 (6.7) | 6 (10.2) |
| Prefer not to answer | 46 (19.0) | 21 (18.9) | 6 (22.2) | 7 (15.6) | 12 (20.3) |
| Once a coronavirus vaccine is available | | | | | |
| Will wait to get vaccinated | 64 (26.5) | 26 (23.4) | 10 (37.0) | 13 (28.9) | 15 (24.4) |
| Will get vaccinated as soon as possible | 58 (24.0) | 24 (21.6) | 7 (25.9) | 14 (31.1) | 13 (22.0) |
| Unsure | 43 (17.8) | 24 (21.6) | 3 (11.1) | 6 (13.3) | 10 (17.0) |
| Will not get vaccinated | 30 (12.4) | 17 (15.3) | 1 (3.7) | 4 (8.9) | 8 (13.6) |
| Prefer not to answer | 47 (19.4) | 20 (18.0) | 6 (22.2) | 8 (17.8) | 13 (22.0) |

Values are n (%).

*Includes certified nursing assistants, registered nurses, physical/occupational/speech therapists, licensed practical nurses, and physician assistants.

[†]Includes staff involved in providing services such as dietary, activities, housekeeping, and social services.

cost and supply issues. The attitudes and beliefs of staff, who provide the day-to-day care for NH residents, are key to understanding strategies required for successful implementation of ongoing testing programs.

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Supervised Exercise (Vivifrail) Protects Institutionalized Older Adults Against Severe Functional Decline After 14 Weeks of COVID Confinement



To the Editor:

Spain experienced a Coronavirus Disease 2019 (COVID-19)-related confinement for 14 weeks (March 14 to June 21, 2020) affecting all citizens irrespective of age, interrupting any kind of supervised physical activity programs for the older adults. This physical inactivity period could lead, among other complications, to disuse atrophy, functional decline, muscle wasting, and disability, which are all associated with longer hospitalization periods and a worse rehabilitation.¹ More so than ever, implementing structured and supervised exercise programs for older adults is critical to improve/maintain the health status of patients at risk of COVID-19 and alleviate the consequences of this pandemic.^{1–5} In an attempt to improve physical and functional capacity, we recently developed the Vivifrail multicomponent tailored exercise program (www.vivifrail.com) to focus on providing training to older adults, and to design strategies to promote and prescribe such tailored physical exercise.^{6,7} We assessed the impact of a 4-week multicomponent, tailored exercise program on functional capacity and muscle strength in sarcopenic older adults residing in nursing homes after a 14-week COVID-19 confinement. We also compared the functional status of those who stopped the exercise program in the following 14 weeks with those who continued with exercise training for a similar period.

This is a randomized trial on sarcopenic older adults aged ≥75 years living in nursing homes (Supplementary Table 1). Participants (n = 24) completed 4 weeks of the tailored multicomponent exercise training program Vivifrail (www.vivifrail.com).^{6,7} One group (training, n = 12) continued the intervention for a further 14 weeks, whereas the other (confinement, n = 12) interrupted the intervention for 14 weeks because of the COVID-19 lockdown. Sarcopenia was determined according to the Foundation for the National Institutes of Health algorithm.⁸ Functional capacity and strength were evaluated at baseline, after 4 weeks of exercise, and after 14 weeks of training or detraining. This study is part of an ongoing multicenter trial (NCT03827499).⁹

Participants enrolled into one of the individualized Vivifrail training programs according to their frailty level: Disability (A), Frailty (B), Pre-frailty (C), and Robust (D). Exercise regimen and weight load were set according to the Vivifrail prescription guidelines (<http://vivifrail.com/resources/>). Each program combined individualized regimens of strength, power, balance, walking, stretching, and cardiovascular exercises. Functional capacity was measured using the Short Physical Performance Battery (SPPB) test

The authors declare no conflicts of interest.

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