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Infection Control Policies and Practices in Residential Care Communities by Selected Organizational and Geographic Characteristics: United States, 2020

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Abstract

Introduction—Emergency operations plans that are specific to or include response to pandemics, approaches to implement the plans, and related infection control policies and practices vary among residential care communities (RCCs). This report presents nationally representative percentages of RCCs with infection control programs by selected characteristics.

Methods—Data are from the RCC component of the 2020 National Post-acute and Long-term Care Study, conducted biennially by the National Center for Health Statistics. The study asked four binary questions, including whether the RCC had a written Emergency Operations Plan that was specific to or included pandemic response, had a designated staff member or consultant responsible for coordinating the infection control program, offered annual influenza vaccination to residents, and offered annual influenza vaccination to all employees or contract staff. RCC characteristics presented in this report are bed size, chain affiliation, ownership status, and provision of dementia-specific care (RCCs that only served residents with dementia or had a dementia wing). Metropolitan statistical area (MSA) was used to characterize geographic location.

Results—Most RCCs reported having a written Emergency Operations Plan that was specific to or included pandemic response. A higher percentage of RCCs with more than 26 beds and those with a designated space for dementia care reported having a written Emergency Operations Plan and a designated staff to coordinate an infection control program. The largest differences were observed in the provision of annual influenza vaccination to residents and to all employees or contract staff by MSA status, bed size, and presence of a designated space for dementia care. A higher percentage of RCCs in non-MSAs (83.4%), RCCs with a designated space for dementia care (95.0%), those with more than 50 beds (93.9%), those with 26–50 beds (93.3%), and those with nonprofit ownership (85.8%) offered annual influenza vaccination to all employees or contract staff.

Keywords: assisted living • long-term services and supports • emergency operations plan • infection control policies • National Post-acute and Long-term Care Study

Introduction

Disease outbreaks in long-term care facilities are common (1–4). Exposure of residents and staff to respiratory pathogens in assisted living and similar residential care communities (RCCs), which are facilities designed for those who cannot live independently but do not require more intensive nursing care, is an important factor in the spread of respiratory diseases. Reports link many respiratory disease outbreaks to influenza viruses, which account for a higher proportion of respiratory disease outbreaks in long-term care settings than other viruses (5). Influenza is a vaccine-preventable respiratory disease that results in high rates of hospitalizations and deaths, especially among seniors, because of age-related decline in the body's ability to fight infections and comorbidities (6–8). More recently, RCC residents were affected by the COVID-19 pandemic (9). A combination of factors, including congregate living arrangements, resident age, and comorbidities make older adults particularly susceptible to complications resulting from respiratory illnesses and other infectious diseases. Having an emergency operations plan that is specific to or includes response to pandemics



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or epidemics and a designated staff to implement the plan may help reduce and contain the spread of infections in RCCs, potentially minimizing adverse effects of respiratory illnesses on residents (10).

States regulate RCCs. Consequently, rules, guidelines, and requirements related to infection control policies and emergency response strategies, including responses to pandemic and epidemic diseases, vary from state to state (11). As a result, infection control policies and practices, for instance, resident and staff influenza vaccination requirements, as well as written emergency operations plans, may vary by RCC characteristics and geographic location.

Literature on emergency operations plans that are specific to or include pandemics and infection control policies and practices in RCCs at a national level is limited. Using nationally representative data from the National Post-acute and Long-term Care Study (NPALS), this report provides estimates of RCCs with emergency operations plans that are specific to or include pandemic response, approaches to implement these plans, and infection control policies and practices by selected organizational and geographic characteristics.

Methods

Data source

Data are from the 2020 NPALS RCC survey component, conducted by the National Center for Health Statistics (NCHS). To be eligible for the survey, an RCC must be regulated by the state to provide room and board with at least two meals per day, around-the-clock, on-site supervision, and help with personal care such as bathing and dressing or with health-related services such as medication management; have four or more licensed, certified, or registered beds; have at least one resident currently living in the community at the time of the survey; and serve a predominantly adult population. RCCs licensed to exclusively serve people with severe mental illness, intellectual disability, or developmental disability were excluded from the survey. The RCC component of the 2020 NPALS

used a sample of RCCs in some states and a census of RCCs in other states where sampling was not possible due to small sample size. Administrators, directors, or other knowledgeable RCC staff responded to the RCC survey component of the 2020 NPALS. The survey was administered by mail and web, with nonresponse follow-up by computer-assisted telephone interview. The questionnaire was completed for 4,312 eligible RCCs for a weighted response rate of 45%. Additional information on the sampling scheme of RCCs in the 2020 NPALS is available from: <https://www.cdc.gov/nchs/data/npals/2020-NPALS-methodology-documentation-508.pdf>. The 2020 NPALS data are restricted and can be accessed through NCHS' Research Data Center, available from: <https://www.cdc.gov/rdc/>.

Measures

In 2020, for the first time, NPALS included four yes or no questions related to infection control policies and practices in RCCs. This report used these questions to define emergency operations plans and infection control policies in RCCs. Respondents were asked whether RCCs 1) had a written Emergency Operations Plan that was specific to or included pandemic response, 2) had a designated staff member or consultant responsible for coordinating the infection control programs, 3) offered annual influenza vaccination to residents, and 4) offered annual influenza vaccination to all employees or contract staff. Metropolitan statistical area (MSA) was used to characterize geographic location.

Organizational characteristics presented in this report include community bed size (grouped based on the number of licensed, registered, or certified RCC beds—both occupied and unoccupied—as 4–25 beds, 26–50 beds, and more than 50 beds), ownership status (for-profit or nonprofit), chain affiliation (chain-affiliated or nonchain-affiliated), and presence of a designated space for dementia care. RCCs that only served residents with dementia or had a designated unit or wing for dementia care were coded as having a designated space for dementia care; RCCs without a

designated space for dementia care could serve residents with dementia along with other residents. For-profit RCCs include private for-profit and publicly traded companies or limited liability companies, while nonprofit RCCs include private nonprofit and government—federal, state, county, or local—communities. Chain-affiliated RCCs are owned by a person, group, or organization that owns or manages two or more RCCs, which could include a corporate chain.

Data analysis

Bivariate relationships of emergency operations plans and infection control policies and practices by selected organizational and geographic characteristics of RCCs are presented. A chi-square test was used to assess whether statistically significant differences were observed in each of the outcomes, by organizational and geographic characteristics. Weights were used to adjust for nonresponse and unknown eligibility status of nonresponding RCCs. For significant relationships of variables with more than two categories, subgroup analyses were performed to identify whether differences were observed between all or some of the subgroups. Cases with missing data were excluded from the analyses on a variable-by-variable basis. The weighted percentage of cases with missing data for all variables in this report ranged from 0.14% for the dementia-specific care variable to 1.29% for the provision of annual influenza vaccination variable. Analyses accounted for complex survey design used in the study. All estimates were assessed to ensure conformity with NCHS standards for confidentiality and reliability, and all estimates shown meet NCHS data presentation standards for proportions, available from: https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf, and NCHS confidentiality standards. SAS-callable SUDAAN (version 11) and Stata/SE version 17 were used to conduct statistical analyses.

Results

The [Table](#) provides a distribution of RCCs by key organizational characteristics and geographic location. Nearly 85% of RCCs were in MSAs. More than one-half of all RCCs had 4–25 beds, at 57.1%, followed by 29.3% that had more than 50 beds, and 13.6% that had 26–50 beds. About 6 in 10 RCCs were affiliated with a chain (61.4%), and 8 in 10 were for-profit (81.9%). Nearly one in three RCCs (28.7%) only served residents with dementia or had a designated dementia unit or wing.

Geographic location

Infection control policies and practices in RCCs, by MSA status

- Among all RCCs, 94.8% had a written Emergency Operations Plan that was specific to or included pandemic response ([Figure 1](#)). The percentage of RCCs with an Emergency Operations Plan was similar for those in MSAs (95.2%) and those in non-MSAs (92.5%).
- About 98% of RCCs had a designated staff member or consultant responsible for coordinating the infection control program. The percentage of RCCs with a designated staff member or consultant responsible for

coordinating the infection control program was similar for those in MSAs (91.9%) and non-MSAs (91.4%).

- Approximately 87% of RCCs offered annual influenza vaccination to residents. However, a higher percentage of RCCs in non-MSAs offered annual influenza vaccination to residents (93.3%) compared with RCCs in MSAs (86.1%).
- Overall, 77.8% of RCCs offered annual influenza vaccination to all employees or contract staff. The percentage of RCCs in non-MSAs that offered annual influenza vaccination to all employees or contract staff (83.4%) was higher compared with RCCs in MSAs (76.8%).

Organizational characteristics

Infection control policies and practices in RCCs, by community bed size

- Having a written Emergency Operations Plan varied by RCC bed size. A higher percentage of RCCs with more than 50 beds and 26–50 beds reported having a written Emergency Operations Plan (97.7% and 96.8%, respectively) compared with RCCs with 4–25 beds (92.7%) ([Figure 2](#)).

- About 96% of RCCs with more than 50 beds and about 94% of RCCs with 26–50 beds had a designated staff member or consultant responsible for coordinating the infection control program compared with about 89% of RCCs with 4–25 beds.
- Nearly all RCCs with more than 50 beds and RCCs with 26–50 beds offered annual influenza vaccination to residents (97.8% and 96.8%, respectively) compared with RCCs with 4–25 beds (79.4%).
- Approximately 94% of RCCs with more than 50 beds and 93% of RCCs with 26–50 beds offered annual influenza vaccination to all employees or contract staff compared with about 66% of RCCs with 4–25 beds.

Infection control policies and practices in RCCs, by ownership status

- The percentage of for-profit RCCs with a written Emergency Operations Plan (94.7%) was similar to the percentage of nonprofit RCCs with a written Emergency Operations Plan (95.7%) ([Figure 3](#)).
- About 92% of for-profit RCCs and 93% of nonprofit RCCs had a designated staff member or consultant responsible for coordinating the infection control program.
- The percentage of nonprofit RCCs that offered annual influenza vaccination to residents (90.5%) was higher compared with for-profit RCCs (86.6%), but this difference was not significant.
- The percentage of nonprofit RCCs that offered annual influenza vaccination to all employees or contract staff (85.8%) was higher than for-profit RCCs (76.3%).

Table. Weighted percentage of residential care communities, by selected organizational and geographic characteristics: United States, 2020

Characteristic	Percent	Standard error
Urbanization level		
Metropolitan statistical area	84.6	0.64
Nonmetropolitan statistical area	15.4	0.64
Community size		
4–25 beds	57.1	0.32
26–50 beds	13.6	0.56
More than 50 beds	29.3	0.57
Ownership status		
For-profit ownership	81.9	0.76
Nonprofit ownership	18.1	0.76
Dementia care provisions		
Care provided for residents with dementia or has a designated dementia unit or wing	28.7	0.89
Care not provided for residents with dementia and does not have a designated dementia unit or wing	71.3	0.89
Chain affiliation		
Chain	61.4	1.13
Nonchain	38.6	1.13

SOURCE: National Center for Health Statistics, National Post-acute and Long-term Care Study, 2020.

Figure 1. Infection control policies and practices in residential care communities, by metropolitan statistical area status: United States, 2020

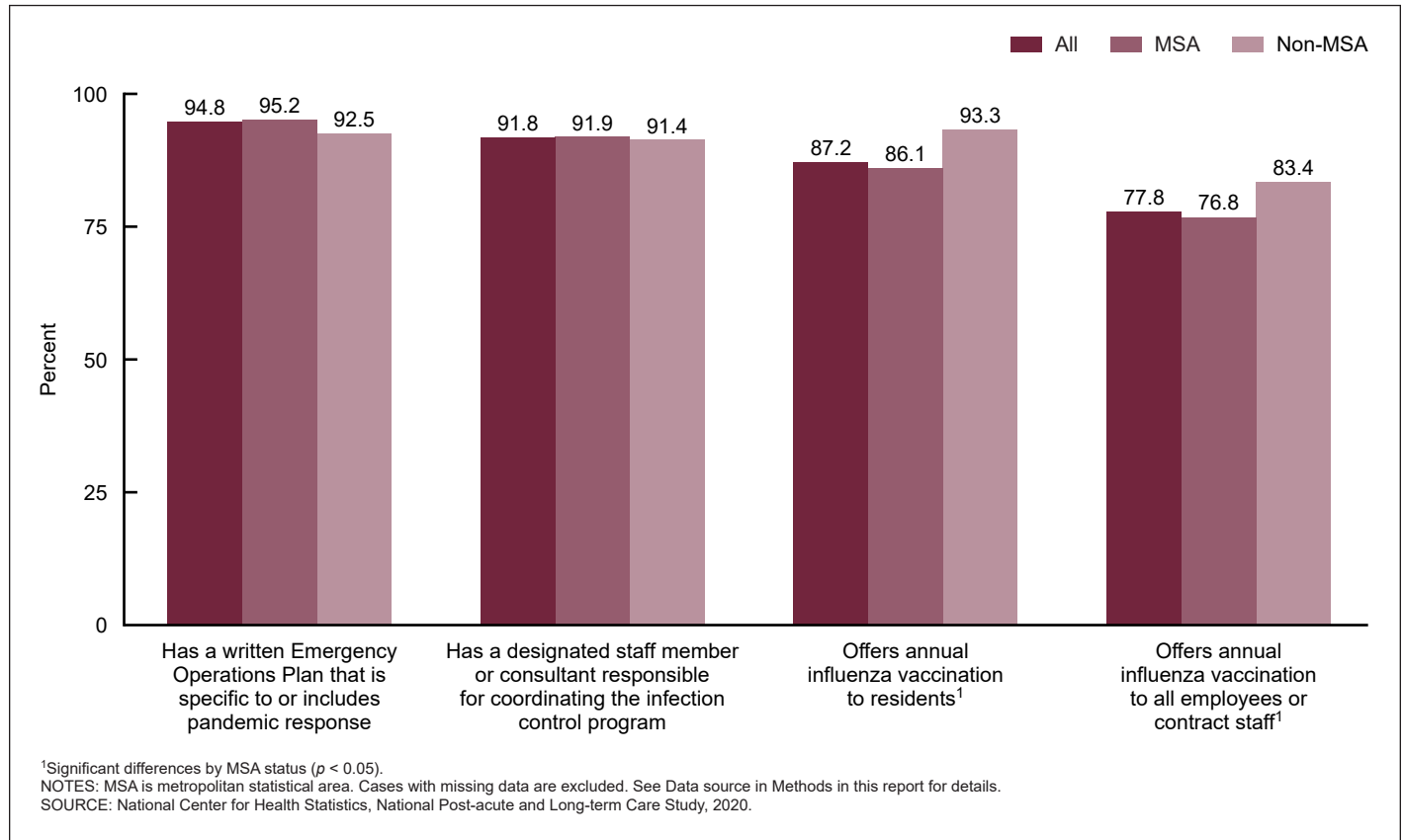


Figure 2. Infection control policies and practices in residential care communities, by community size: United States, 2020

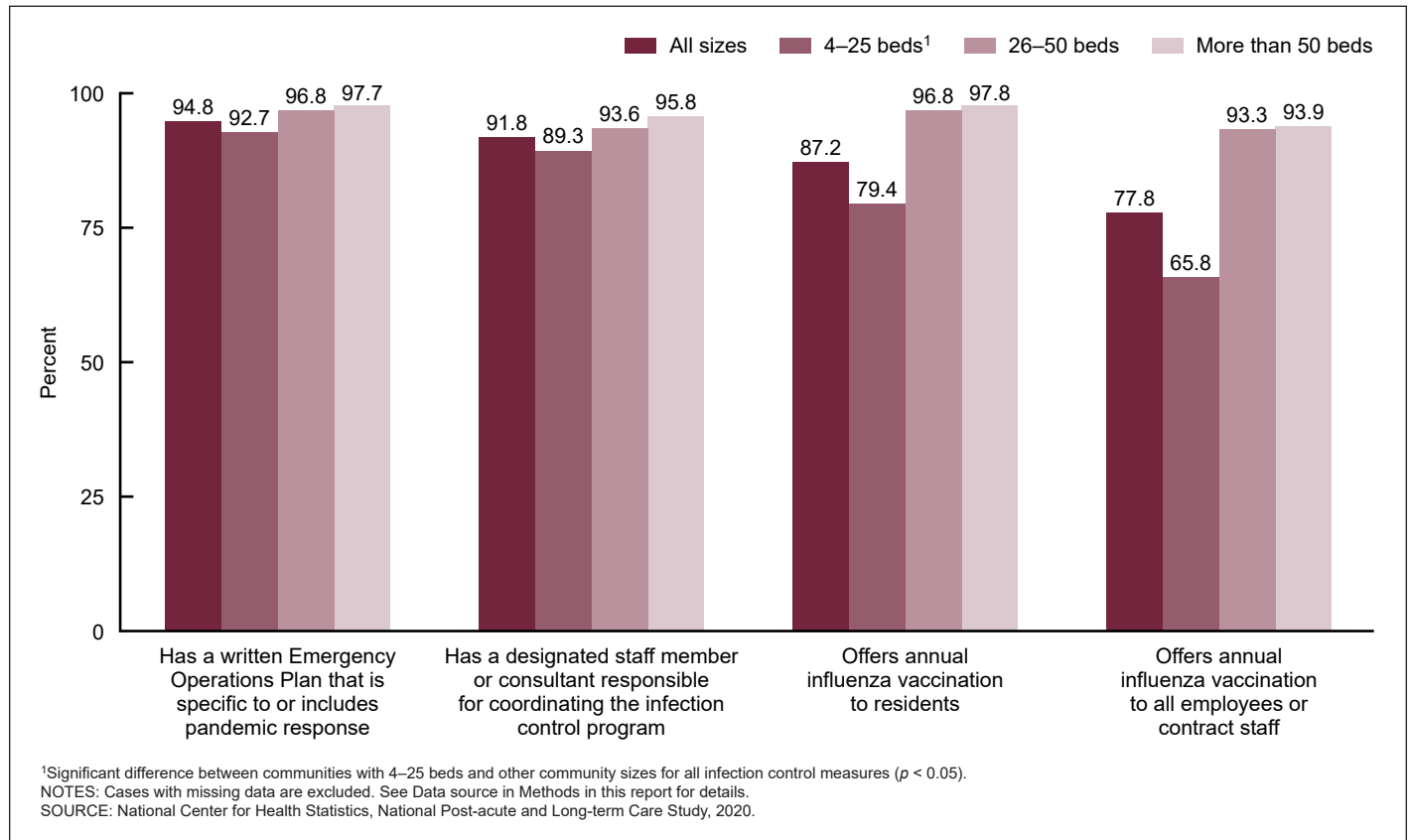
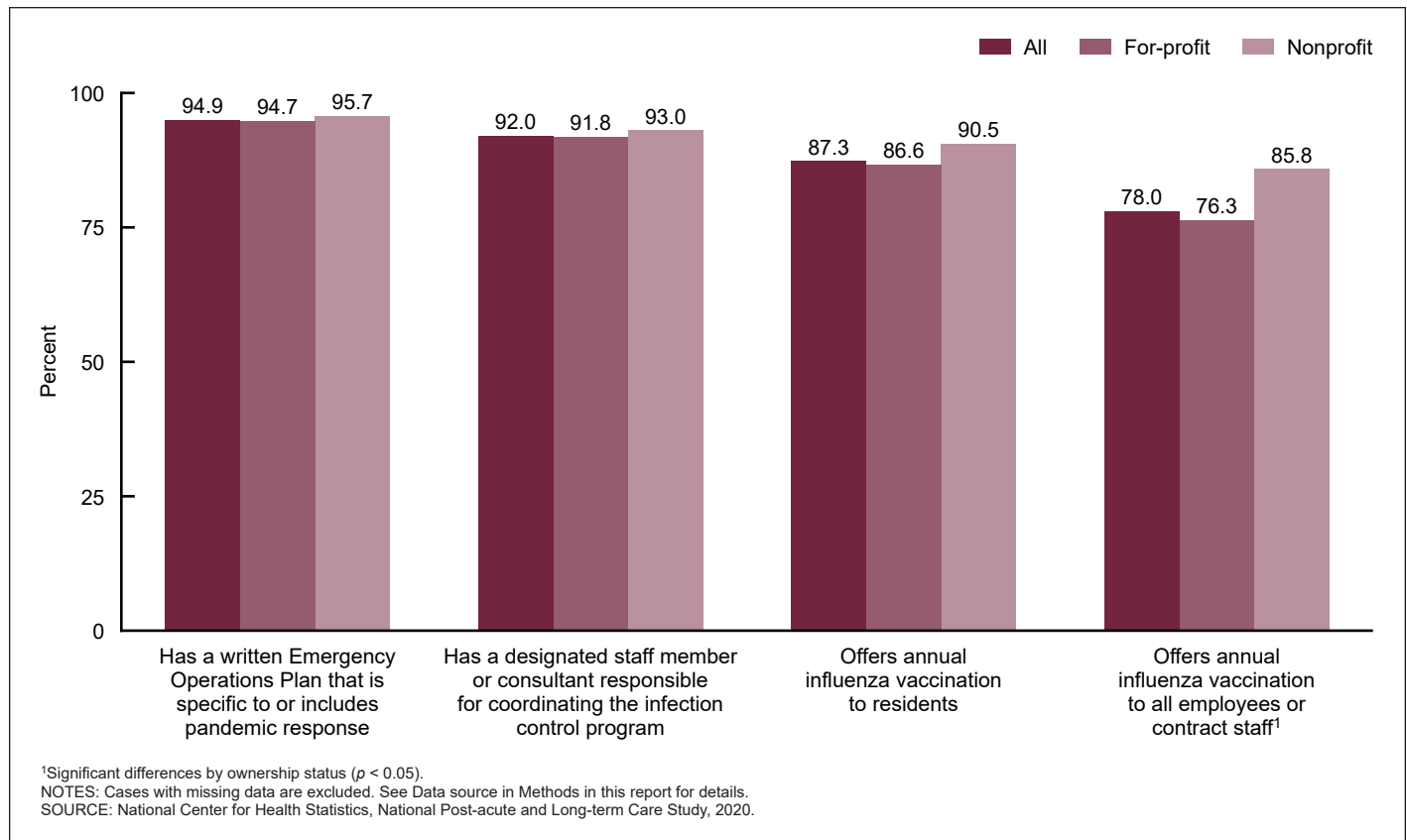


Figure 3. Infection control policies and practices in residential care communities, by ownership status: United States, 2020

Infection control policies and practices in RCCs, by whether RCCs had a designated space for dementia care

- Approximately 98% of RCCs with a designated space for dementia care had a written Emergency Operations Plan compared with about 94% of RCCs without a designated space for dementia care (Figure 4).
- About 95% of RCCs with a designated space for dementia care had a designated staff or consultant to implement the Emergency Operations Plan compared with about 90% of RCCs without a designated space for dementia care.
- A higher percentage of RCCs with a designated space for dementia care offered annual influenza vaccination to residents (95%) compared with RCCs without a designated space for dementia care (84%).
- Ninety percent of RCCs with a designated space for dementia care offered annual influenza vaccination to all employees or contract staff compared with 73% of RCCs

without a designated space for dementia care.

Infection control policies and practices in RCCs, by chain affiliation

- About 96% of chain-affiliated RCCs reported having a written Emergency Operations Plan compared with 92.2% of nonchain-affiliated RCCs.
- The percentage of chain-affiliated RCCs that had a designated staff member or consultant responsible for coordinating the infection control program (92.6%) was similar to the percentage of nonchain-affiliated RCCs (90.4%).
- A higher percentage of chain-affiliated RCCs offered annual influenza vaccination to residents (90.9%) compared with nonchain-affiliated RCCs (81.2%).
- Approximately 84% of chain-affiliated RCCs offered annual influenza vaccination to all employees or contract staff compared with about 68% of nonchain-affiliated RCCs (Figure 5).

Discussion

Using nationally representative data, this report provides estimates of percentages of RCCs that had emergency operations plans and infection control policies and practices by selected organizational and geographic characteristics. Most RCCs reported having a written Emergency Operations Plan that was specific to or included pandemic response, a designated staff member or consultant to implement the plan, and infection control policies and practices that offered annual influenza vaccination to residents and all employees or contract staff. The percentage of RCCs with a written Emergency Operations Plan, a designated consultant or employee to implement the plan, and infection control policies and practices varied by organizational and geographic characteristics.

A higher percentage of RCCs in non-MSAs offered annual influenza vaccination to residents and all employees or contract staff compared with RCCs in MSAs. The largest differences were observed in the

Figure 4. Infection control policies and practices in residential care communities, by dementia care: United States, 2020

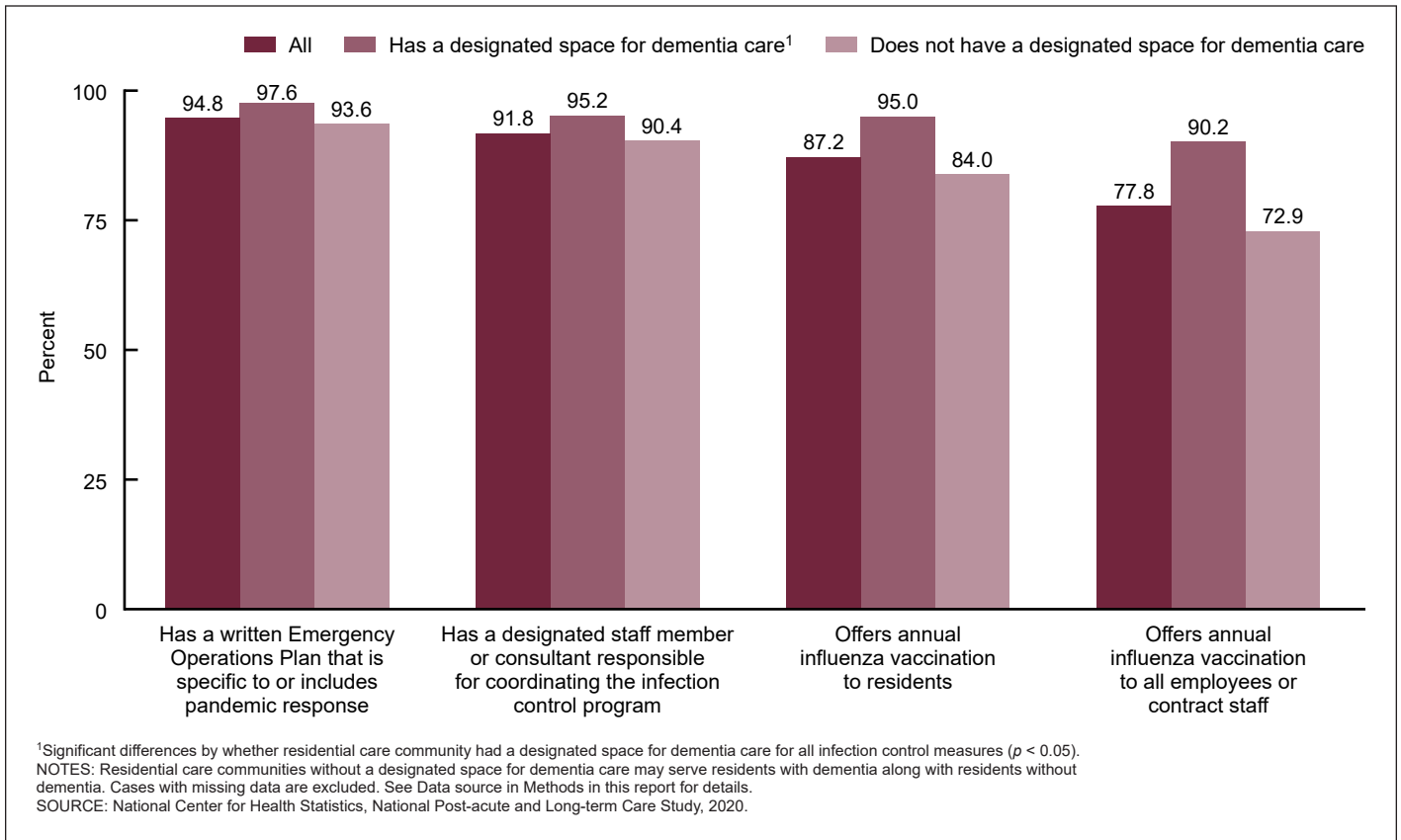
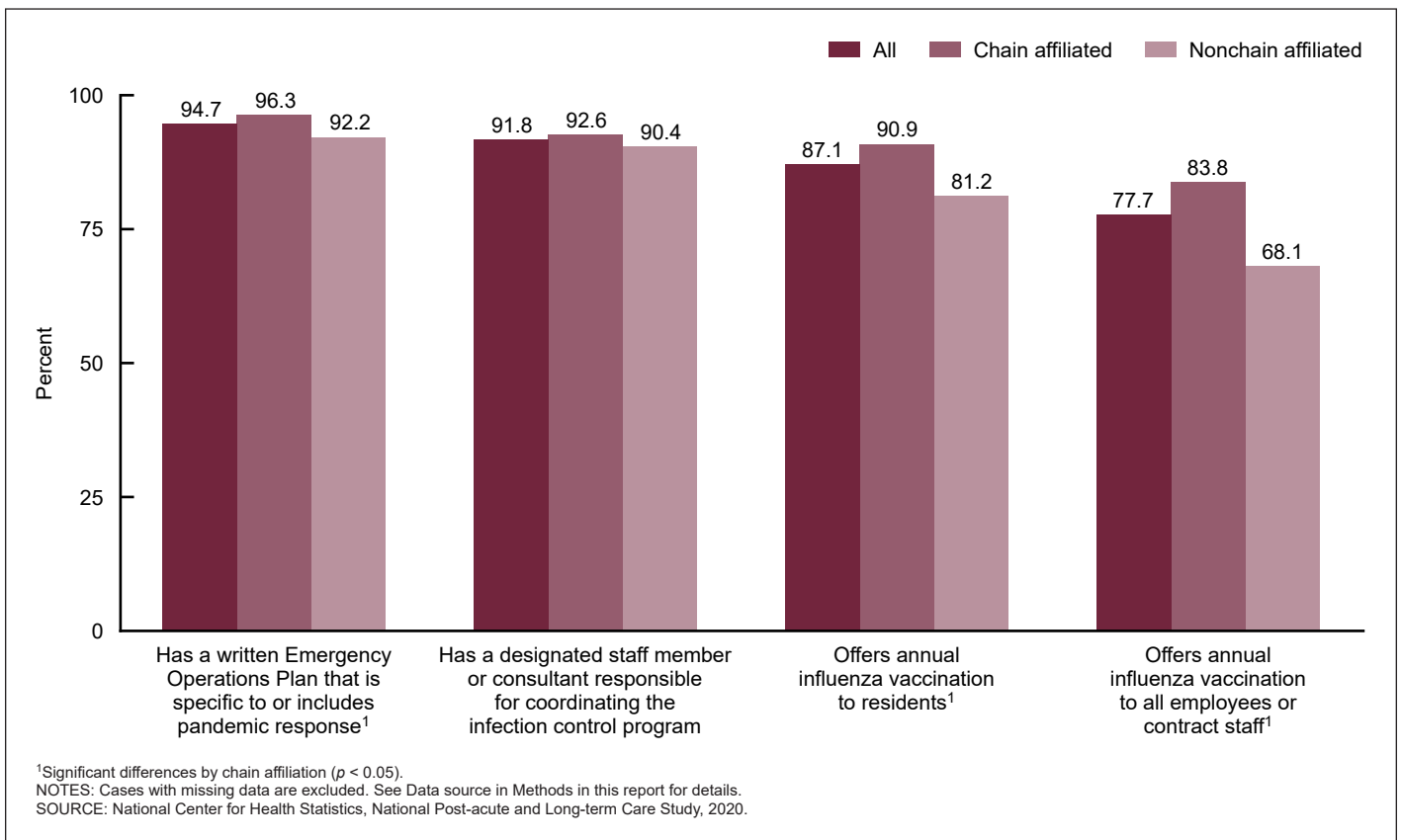


Figure 5. Infection control policies and practices in residential care communities, by chain affiliation: United States, 2020



provision of influenza vaccination to residents and employees by organizational characteristics. Overall, more RCCs offered annual influenza vaccination to their residents than their employees or contract staff. Compared with RCCs with 4–25 beds, a higher percentage of RCCs with more than 25 beds had a written Emergency Operations Plan and a designated staff member or consultant to implement the plan. Similarly, a higher percentage of RCCs with more than 25 beds offered annual influenza vaccination to residents and all employees or contract staff compared with RCCs with 4–25 beds. Provision of annual influenza vaccination to all employees or contract staff varied by ownership status, where a higher percentage of nonprofit RCCs offered annual influenza vaccination to all employees or contract staff. No differences were observed in the provision of annual influenza vaccination to residents by ownership status.

More RCCs with designated space for dementia care reported having a written Emergency Operations Plan, a designated staff member or consultant to coordinate the plan, and infection control policies that offered annual influenza vaccination to residents and all employees or contract staff. The difference was larger in the percentage of RCCs with designated space for dementia care that offered annual influenza vaccination to residents and employees or contract staff compared with RCCs that did not have a designated space for dementia care.

This report is the first to provide a profile of infection control policies and practices in RCCs during the COVID-19 pandemic using nationally representative data from the 2020 NPALS. Some limitations should be considered when interpreting the results. The data were collected between November 2020 and July 2021, and it is unclear whether some RCCs put infection control policies in place in response to the COVID-19 pandemic and may not have had time to implement the plan. The report also cannot address whether these policies were in place before the COVID-19 pandemic. Additionally, offer of vaccination to residents and employees does not indicate vaccine uptake. Despite

these limitations, the findings in this report may inform and benefit policy makers, providers, advocates, and researchers in understanding an RCC emergency operations plan that is specific to or includes pandemic response and infection control policies and practices across RCCs by selected organizational characteristics.

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