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COVID-19 Vaccine Uptake Among Residents and Staff Members of Assisted Living and Residential Care Communities—Pharmacy Partnership for Long-Term Care Program, December 2020–April 2021

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A B S T R A C T

Objectives: In December 2020, CDC launched the Pharmacy Partnership for Long-Term Care Program to facilitate COVID-19 vaccination of residents and staff in long-term care facilities (LTCFs), including assisted living (AL) and other residential care (RC) communities. We aimed to assess vaccine uptake in these communities and identify characteristics that might impact uptake.
Design: Cross-sectional study.
Setting and Participants: AL/RC communities in the Pharmacy Partnership for Long-Term Care Program that had ≥1 on-site vaccination clinic during December 18, 2020–April 21, 2021.
Methods: We estimated uptake using the cumulative number of doses of COVID-19 vaccine administered and normalizing by the number of AL/RC community beds. We estimated the percentage of residents vaccinated in 3 states using AL census counts. We linked community vaccine administration data with county-level social vulnerability index (SVI) measures to calculate median vaccine uptake by SVI tertile.
Results: In AL communities, a median of 67 residents [interquartile range (IQR): 48-90] and 32 staff members (IQR: 15-60) per 100 beds received a first dose of COVID-19 vaccine at the first on-site clinic; in RC, a median of 8 residents (IQR: 5-10) and 5 staff members (IQR: 2-12) per 10 beds received a first dose. Among 3 states with available AL resident census data, median resident first-dose uptake at the first clinic was 93% (IQR: 85-108) in Connecticut, 85% in Georgia (IQR: 70-102), and 78% (IQR: 56-91) in Tennessee. Among both residents and staff, cumulative first-dose vaccine uptake increased with increasing social vulnerability related to housing type and transportation.
Conclusions and Implications: COVID-19 vaccination of residents and staff in LTCFs is a public health priority. On-site clinics may help to increase vaccine uptake, particularly when transportation may be a barrier. Ensuring steady access to COVID-19 vaccine in LTCFs following the conclusion of the Pharmacy Partnership is critical to maintaining high vaccination coverage among residents and staff.

Following the US Food and Drug Administration's Emergency Use Authorizations of the first vaccines for prevention of coronavirus disease 2019 (COVID-19), the Advisory Committee on Immunization Practices recommended that residents and staff members of long-term care facilities (LTCFs) be prioritized in the first phase of

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COVID-19 vaccine allocation.[1] As congregate settings, LTCFs pose increased risk for transmission of SARS-CoV-2, the virus that causes COVID-19,[2] and residents are also at increased risk for severe COVID-19 illness due to older age or underlying health conditions.[3] LTCFs include skilled nursing facilities (SNFs) and other nursing homes, assisted living (AL) and other residential care (RC) communities, and residential facilities for persons with intellectual and developmental disabilities. AL/RC communities provide assistance with activities of daily living (eg, bathing and toileting) and may also provide some health care services (eg, management and administration of medications) in a residential setting; these communities represent approximately 44% of US LTCFs.[4] Data from October 2020 indicated that 22% of AL/RC communities with available data reported at least 1 case of COVID-19 among residents or staff members, and that COVID-19–associated mortality among the resident population was significantly higher than that among the general population (21% vs 3%).[5]

To facilitate COVID-19 vaccination of residents and staff members in LTCFs, CDC launched the Pharmacy Partnership for Long-Term Care Program in December 2020.[6] This program, a public-private partnership with 3 pharmacies (CVS, Managed Health Care Associates, and Walgreens), conducted on-site visits to enrolled LTCFs to provide end-to-end management of the COVID-19 vaccination process, including appropriate storage, handling, and transport of vaccines, vaccine administration, and fulfillment of reporting requirements. More than 62,000 LTCFs across 49 states enrolled in the program and received on-site vaccinations for residents and staff members. Early estimates from the first month of the program indicated that a median of 78% of residents and 38% of staff members in SNFs received at least a first dose of COVID-19 vaccine.[7] Complementing these results, we aimed to assess vaccine uptake in AL/RC communities participating in the program and identify community and county characteristics that might impact uptake. Specifically, we assessed the association between uptake and county-level social vulnerability, which has been shown to impact COVID-19 vaccine uptake in LTCFs[8] and broader population settings.[9–11]

Methods

Participating pharmacies reported LTCF-level aggregate COVID-19 vaccine administration data to CDC through a web-based data platform. This analysis included AL/RC communities that had at least 1 on-site vaccination clinic run by a participating pharmacy from December 18, 2020 (date of first on-site clinic), through April 21, 2021 (date of clinic completion for >99% enrolled communities; data as of April 28, 2021). Communities were classified as AL or RC based on self-identification during program signup. Pfizer-BioNTech COVID-19 vaccine and Moderna COVID-19 vaccine were administered through the program; both products required a 2-dose series for completion. Pharmacies generally conducted 3 on-site clinics at each community for administration of first and second vaccine doses; clinics were scheduled approximately 21-28 days apart depending on vaccine product. Smaller communities may have received only 2 clinics if all residents and staff members were vaccinated and a third clinic was not deemed necessary.

To estimate uptake, we calculated the cumulative number of first and second doses of vaccine administered to residents and staff members at each clinic and normalized by the reported total bed capacity per community (presented as number vaccinated per 100 reported beds for AL communities and per 10 reported beds for RC communities to account for differences in average community size; Supplementary Tables 1-2). Additionally, we estimated the percentage of residents who received a first dose of COVID-19 vaccine in AL communities in 3 states (Connecticut,[12] Georgia,[13] and Tennessee[14]) that reported resident census counts (number of occupied beds) in publicly available COVID-19 reports obtained via systematic website searches[5] during February 2-4, 2021. AL census counts were not available for additional states; RC census counts were available only for a small number of communities and were not included because of insufficient sample size. We linked community-level vaccination data from these states to AL census data using standardized values of community name and address. We calculated the estimated first-dose uptake per 100 residents by dividing the number of first doses of COVID-19 vaccine administered by the reported census count. Estimated first-dose uptake exceeded 100% if reported doses administered were greater than resident census counts.

We linked AL/RC communities with county-level social vulnerability index (SVI) measures.[15] SVI is based on county rankings of 15 census measures associated with social determinants of health and is summarized in 4 themes: (1) socioeconomic status, (2) household composition and disability status, (3) racial or ethnic minority status and language, and (4) housing type and transportation. A higher SVI score indicates higher social vulnerability. For communities without a reported Federal Information Processing Standards (FIPS) code (used for identification of US counties), the address zip code was mapped to the corresponding county FIPS code in the US Department of Housing and Urban Development–US Postal Service zip Code Crosswalk.[16] When multiple counties mapped to a single zip code, we chose the county with the highest proportion of residential and business addresses. Counties were classified into tertiles for each of the 4 SVI themes. We calculated the median vaccine first-dose uptake among residents and staff members of AL/RC communities by SVI tertile.

All analyses were performed using SAS statistical software (version 9.4; SAS Institute, Cary, NC) and R (version 4.0.2, R Core Team, Vienna, Austria). This activity was reviewed by CDC and was conducted consistent with applicable federal law and CDC policy.*

Results

As of April 21, 2021, 18,980 AL communities and 16,874 RC communities conducted COVID-19 vaccination clinics through the Pharmacy Partnership for Long Term Care Program. In total, 765,792 residents and 513,293 staff members in AL communities and 222,987 residents and 213,146 staff in RC communities received at least 1 COVID-19 vaccine dose. The median bed size was 35 [interquartile range (IQR): 10-77] among participating AL communities and 6 (IQR: 4-6) among RC communities.

In AL communities, a median of 67 residents (IQR: 48-90) and 32 staff members (IQR: 15-60) per 100 beds received a first dose of vaccine at the first on-site clinic; in RC communities, a median of 8 residents (IQR: 5-10) and 5 staff members (IQR: 2-12) per 10 beds received a first dose (Table 1). Cumulatively as of April 21, 2021, a median of 75 residents (IQR: 54-100) and 47 staff members (IQR: 24-85) per 100 beds in AL communities received a first dose of vaccine, and 66 residents (IQR: 45-88) and 37 staff members (IQR: 17-70) per 100 beds received a second dose. In RC communities, a median of 9 residents (IQR: 7-13) and 8 staff members (IQR: 3-18) per 10 beds received a first dose of vaccine, and 8 residents (IQR: 5-10) and 7 staff members (IQR: 2-14) per 10 beds received a second dose.

Resident census data were available for 89 of 118 (75%) participating AL communities in Connecticut, 192 of 330 (58%) in Georgia, and 232 of 289 (80%) in Tennessee (Table 2). The median percentage of beds occupied was 68% (IQR: 55-81) in Connecticut, 58% (IQR: 48-69) in Georgia, and 70% (IQR: 58-84) in Tennessee. This resulted in an estimated median resident first-dose uptake of 93% (IQR: 85-108) in Connecticut, 85% in Georgia (IQR: 70-102), and 78% (IQR: 56-91) in

* See eg, 45 CFR part 46, 21 CFR part 56; 42 USC §241(d); 5 USC §552a; 44 USC §3501 et seq.

Table 1
COVID-19 Vaccine Uptake in Assisted Living and Residential Care Communities*—Pharmacy Partnership for Long-Term Care Program, December 2020–April 2021

	Assisted Living: Cumulative Vaccine Uptake, Median (IQR) per 100 Beds† (n = 18,980)	Residential Care: Cumulative Vaccine Uptake, Median (IQR) per 10 Beds† (n = 16,874)
Residents		
First dose		
Clinic 1	67 (48-90)	8 (5-10)
Clinic 2	75 (54-100)	9 (7-12)
Clinic 3‡	75 (54-100)	9 (7-13)
Second dose		
Clinic 1	0 (0-0)	0 (0-0)
Clinic 2	60 (40-82)	7 (4-10)
Clinic 3‡	66 (45-88)	8 (5-10)
Staff members		
First dose		
Clinic 1	32 (15-60)	5 (2-12)
Clinic 2	44 (23-81)	8 (3-17)
Clinic 3‡	47 (24-85)	8 (3-18)
Second dose		
Clinic 1	0 (0-0)	0 (0-0)
Clinic 2	28 (12-56)	5 (1-10)
Clinic 3‡	37 (17-70)	7 (2-14)

*Communities self-identified as assisted living (AL) or other residential care (RC) for this analysis. Classification and characteristics of AL and RC communities can differ by state; however, RC communities are generally smaller than AL communities. Additionally, AL communities might offer various levels of on-site nursing or medical care whereas RC communities might not; the care offered is less extensive than what is offered in a skilled nursing facility or nursing home.

†Uptake is presented as number vaccinated per 100 reported beds for AL communities and per 10 reported beds for RC communities to account for differences in community size; median bed size was 35 (interquartile range [IQR]: 10-77) in AL and 6 (IQR: 4-6) in RC.

‡Smaller communities may not have conducted third clinics if all residents and staff members were vaccinated in the first 2 clinics. Third clinics were conducted in 15,025 (79%) AL communities and 9881 (59%) RC communities as of April 21, 2021.

Tennessee at the first on-site clinic. Cumulatively as of April 21, 2021, first-dose uptake increased to 106% (IQR: 97-131) in Connecticut, 98% in Georgia (IQR: 84-120), and 88% (IQR: 66-100) in Tennessee.

Among the 35,854 participating AL/RC communities, 34,934 (97%) were linked to county-level SVI data. For both residents and staff members, cumulative first-dose vaccine uptake decreased with increasing social vulnerability related to socioeconomic status (SVI theme 1) and household composition and disability status (SVI theme 2) (Figure 1). However, uptake increased with increasing social vulnerability related to racial orethnic minority status and language (SVI theme 3) and housing type and transportation (SVI theme 4).

Discussion

Early data have indicated that COVID-19 vaccination is effective in reducing the risk for SARS-CoV-2 infection among LTCF residents[17]; thus, targeted COVID-19 vaccination campaigns, as conducted through the Pharmacy Partnership for Long-Term Care Program, are critical to interrupting virus transmission and decreasing COVID-19–associated morbidity and mortality in LTCFs. Through the Pharmacy Partnership, more than 1.7 million residents and staff members in AL/RC communities received on-site COVID-19 vaccination. First-dose vaccine uptake among both residents and staff increased with subsequent on-site clinics, which could result from doses administered to individuals who were not present at the first clinic (eg, new resident admissions or staff not working during clinic dates) or decreasing vaccine hesitancy over time.

Across 3 states with available resident census data, an estimated median of 78% to 93% of residents were vaccinated at the first on-site clinic in AL communities. These results are consistent with prior analyses indicating that a median of 78% of residents were vaccinated in SNFs during the first month of the program.[7] With subsequent clinics, median first-dose uptake among residents in AL communities in these states increased to 88% to 106%. Uptake above 100% likely resulted from new admissions and discharges of residents in these communities; because Pharmacy Partnership data were reported in aggregate at the community level and resident census data were obtained at a single point in time, we could not account or adjust for resident turnover. Other systems to monitor weekly COVID-19 vaccination coverage in long-term care settings, such as the National Healthcare Safety Network (NHSN) LTCF component, can fill this gap following the conclusion of the Pharmacy Partnership program.[18] As of June 13, 2021, SNFs are required to report weekly resident and staff COVID-19 vaccination coverage to NHSN.[19] Similar vaccination reporting policies for other LTCF settings, including AL/RC communities, could facilitate comprehensive monitoring and evaluation of COVID-19 coverage.

Consistent with our findings, prior analyses of COVID-19 vaccination coverage among the general population by county of residence identified lower vaccination coverage in counties with higher

Table 2
First-Dose COVID-19 Vaccine Uptake Among Residents, by Bed Capacity and Resident Occupancy, in Assisted Living Communities—Pharmacy Partnership for Long-Term Care Program, December 2020-April 2021

Variable	CT		GA		TN	
	Unlinked,* Median (IQR) (n = 29)	Linked,* Median (IQR) (n = 89)	Unlinked, Median (IQR) (n = 138)	Linked, Median (IQR) (n = 192)	Unlinked, Median (IQR) (n = 57)	Linked, Median (IQR) (n = 232)
Occupancy-to-capacity ratio†		68 (55-81)		58 (48-69)		70 (58-84)
Clinic 1						
Uptake per 100 beds‡	55 (41-63)	68 (55-83)	51 (31-71)	49 (36-63)	54 (42-67)	53 (40-71)
Uptake per 100 residents (%)		93 (85-108)		85 (70-102)		78 (56-91)
Clinic 2						
Uptake§ per 100 beds	65 (48-78)	75 (60-92)	60 (37-79)	57 (43-75)	57 (44-72)	59 (45-75)
Uptake§ per 100 residents (%)		103 (95-119)		97 (82-117)		88 (64-100)
Clinic 3						
Uptake§ per 100 beds	65 (52-80)	77 (61-96)	61 (38-83)	59 (44-76)	57 (44-73)	59 (46-76)
Uptake§ per 100 residents (%)		106 (97-131)		98 (84-120)		88 (66-100)

*"Unlinked" indicates communities not matched to publicly available resident census data; "linked" indicates communities matched to resident census data. Uptake per 100 residents was calculated only for linked communities. Census data were available for AL communities in 3 states; RC census data were available only for a small number of facilities and are not presented.

†Occupancy-to-capacity ratio was calculated as resident census (dated January 27–February 2, 2021) divided by total number of reported beds.

‡First-dose uptake per 100 beds was calculated as number of first doses of COVID-19 vaccine administered normalized per 100 reported beds (total bed capacity). First-dose uptake per 100 residents was calculated as number of first doses of COVID-19 vaccine administered normalized per 100 residents in census counts (occupied beds).

§Uptake for clinics 2 and 3 is cumulative vaccine uptake inclusive of previous clinics.

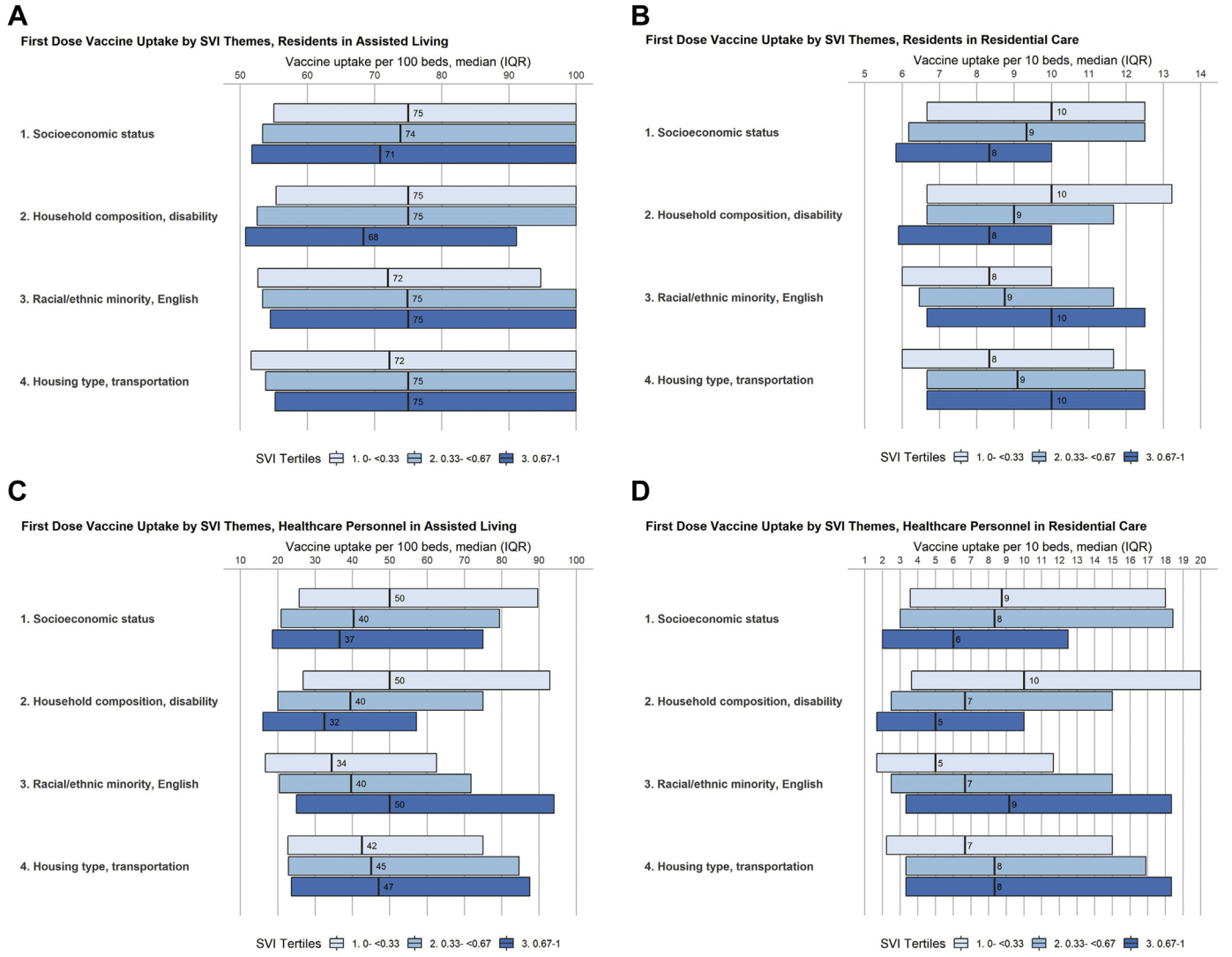

Fig. 1. First-dose COVID-19 vaccine uptake,* by social vulnerability index (SVI) theme† and tertile,‡ among residents and staff members of assisted living (A and B) and other residential care (C and D) communities—Pharmacy Partnership for Long-Term Care Program, December 2020–April 2021. *Includes cumulative first-dose vaccine uptake as of April 21, 2021. †SVI ranks counties according to 15 social factors (indicators): (1) percentage of persons with incomes below poverty threshold, (2) percentage of civilian population (aged ≥16 years) that is unemployed, (3) per capita income, (4) percentage of persons aged ≥25 years with no high school diploma, (5) percentage of persons aged ≥65 years, (6) percentage of persons aged ≤17 years, (7) percentage of civilian noninstitutionalized population with a disability, (8) percentage of single-parent households with children aged <18 years, (9) percentage of persons who are racial/ethnic minorities (all persons except non-Hispanic White), (10) percentage of persons aged ≥5 years who speak English "less than well," (11) percentage of housing structures with ≥10 units (multiunit housing), (12) percentage of housing structures that are mobile homes, (13) percentage households with more persons than rooms (crowding), (14) percentage of households with no vehicle available, and (15) percentage of persons in group quarters. Estimates are created using 2014-2018 (5-year) data from the American Community Survey. The 15 indicators are categorized into 4 themes: (1) socioeconomic status (indicators 1-4), (2) household composition and disability (indicators 5-8), (3) racial/ethnic minority status and language English (indicators 9 and 10), and (4) housing type and transportation (indicators 11-15). Additional details are available at https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html. ‡Higher tertile indicates increased social vulnerability.

social vulnerability related to socioeconomic status (including income, employment status, and education level) and household composition/disability (including age, single-parent household status, and disability status) but higher vaccination coverage in counties with higher social vulnerability related to racial or ethnic minority status and limited English language fluency.[10] Prior analyses examining receipt of COVID-19 vaccine specifically among adults ≥65 years of age also found lower first-dose vaccination coverage associated with social vulnerabilities including poverty, Internet access, and living alone, though no relationship with race or ethnicity.[11] Notably, our findings indicated higher uptake associated with social vulnerabilities related to housing type and transportation (including multiunit and mobile home housing, crowding, lack of vehicle availability, and prevalence of institutionalized group quarters), whereas this was not identified among the general population.[10] Providing on-site access to vaccination at place of residence or work may help to mitigate access barriers posed by transportation issues, and individuals with these social vulnerabilities may be more likely to seek vaccination through a vaccine delivery program such as the Pharmacy Partnership. With appropriate planning, promotion, and delivery, on-site vaccination programs such as workforce vaccination programs,[20] off-site community clinics,[21] or mobile clinics[22] might similarly increase vaccine uptake across different settings.

These findings are subject to several notable limitations. Firstly, definitions of AL/RC communities vary across jurisdictions, and there may have been misclassification of LTCF types reported to CDC. Resident census data were only available for 3 states and did not include

all AL communities within these states; estimated percentage uptake may not be nationally generalizable. We were unable to assess the percentage of staff vaccinated as staffing ratios (number of staff members employed per resident or total bed capacity) vary widely across AL/RC communities.[23] In 2014, the national ratio of total nurse and aide staffing hours worked per resident in residential care communities was 2.84 hours per resident per day; state-level estimates ranged from 1.66 to 4.90, indicating wide variability.[24] Furthermore, our estimates may underestimate staff member vaccine uptake as we only captured staff vaccinated through the Pharmacy Partnership program and could not account for staff working at multiple communities, intentional staggering of staff vaccination, or staff vaccinated at other locations (eg, at a retail pharmacy). As previously described, we could not account for new resident admissions or discharges at AL/RC communities. Finally, we used county-level estimates of social vulnerability; these factors may vary within large counties, and the characteristics of community locations may not reflect those of residents and staff members admitted from or residing in other localities.

Conclusions and Implications

COVID-19 vaccination of residents and staff members in LTCFs continues to be a public health priority. Though the on-site component of the Pharmacy Partnership for Long-Term Care Program concluded in May 2021, ensuring steady access to vaccine in AL/RC communities and other LTCFs is critical to maintaining high vaccination coverage as new individuals enter the facilities or wish to be vaccinated.[6] Additionally, efforts to make vaccine available and accessible to LTCFs and other congregate housing communities with high social vulnerability are critical; delivery strategies such as the on-site clinic model used through the Pharmacy Partnership may help to mitigate access issues related to transportation. Finally, continued, systematic data collection in LTCFs and other high-risk settings is critical to assessing vaccination coverage and impact on COVID-19 disease burden.

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Supplementary Table 1
Facility Characteristics, Clinic Scheduling, and COVID-19 Vaccine First Doses Administered, by State, Among Assisted Living Communities—Pharmacy Partnership for Long-Term Care Program, December 2020–April 2021

Assisted Living (AL) Communities										
State/Jurisdiction	No. of Participating AL Communities	No. of Beds		Clinic 1 Dates			Total First Doses Administered From Clinic 1 to Clinic 3		Median Vaccinated per 100 Beds	
		Total Across State	Median per AL	Earliest	Latest	Rollout Duration, d	Residents	Staff	Residents	Staff
AK	360	2228	5	12/30/2020	3/10/2021	70	2154	1701	80	60
AL	182	8167	35	1/7/2021	3/5/2021	57	7616	4927	72	38
AR	37	2642	70	12/29/2020	1/19/2021	21	1877	788	68	25
AZ	648	26,394	10	1/15/2021	3/25/2021	69	21,935	10,465	78	40
CA	1103	70,158	40	1/2/2021	3/4/2021	61	46,299	37,182	70	64
CO	604	25,010	16	12/31/2020	2/2/2021	33	21,532	22,375	75	57
CT	120	12,424	96	12/21/2020	2/5/2021	46	10,054	8447	74	58
DC	7	604	65	1/4/2021	1/16/2021	12	930	521	150	88
DE	30	2166	63	1/5/2021	2/5/2021	31	2158	1412	70	52
FL	1787	81,845	14	12/22/2020	2/12/2021	52	68,851	37,586	82	46
GA	330	24,131	70	1/6/2021	3/4/2021	57	15,824	8805	60	30
HI	17	2057	104	1/2/2021	1/28/2021	26	1952	1866	85	87
IA	260	14,886	48	12/28/2020	2/12/2021	46	10,841	6005	62	33
ID	139	6921	36	12/29/2020	2/15/2021	48	4994	2570	71	31
IL	557	37,400	60	12/29/2020	2/24/2021	57	31,389	21,378	75	44
IN	250	20,737	66	12/29/2020	2/15/2021	48	14,466	5343	65	24
KS	193	8998	36	12/28/2020	2/5/2021	39	8224	4658	76	42
KY	206	11,470	50	12/21/2020	2/3/2021	44	10,122	6090	80	44
LA	116	7472	60	12/29/2020	2/23/2021	56	4566	2509	65	28
MA	259	19,880	78	1/2/2021	2/9/2021	38	17,785	16,597	80	78
MD	769	17,961	8	1/6/2021	3/24/2021	77	17,116	12,709	88	60
ME	90	3910	23	1/4/2021	2/12/2021	39	4500	2170	88	63
MI	707	28,879	20	1/4/2021	3/16/2021	71	23,801	13,349	74	35
MN	711	40,063	44	1/4/2021	2/18/2021	45	32,258	24,790	76	56
MO	278	16,738	52	1/2/2021	2/21/2021	50	13,475	6647	66	31
MS	147	6469	34	1/6/2021	2/7/2021	32	4741	1984	73	27
MT	133	5297	18	12/31/2020	2/12/2021	43	4471	3914	79	45
NC	428	26,729	60	12/28/2020	3/20/2021	82	21,219	10,997	69	33
ND	32	1644	42	12/30/2020	1/28/2021	29	1243	798	78	32
NE	128	7408	46	12/28/2020	2/15/2021	49	5545	3466	71	43
NH	59	3493	56	1/6/2021	2/5/2021	30	3040	2633	79	66
NJ	263	25,862	97	1/2/2021	3/10/2021	67	18,725	15,632	66	48
NM	175	4049	15	12/30/2020	2/11/2021	43	3594	3053	75	67
NV	291	7893	10	12/31/2020	2/25/2021	56	6307	4186	80	60
NY	411	38,560	79	12/30/2020	2/17/2021	49	26,444	20,015	68	41
OH	537	47,625	76	12/18/2020	2/12/2021	56	31,848	20,535	61	34
OK	133	8616	58	1/8/2021	2/4/2021	27	5564	4144	62	35
OR	312	19,276	51	12/21/2020	2/18/2021	59	14,927	10,084	75	48
PA	559	41,641	66	12/29/2020	2/26/2021	59	31,711	23,077	66	45
PR	901	18,535	16	1/4/2021	3/10/2021	65	16,541	12,881	90	67
RI	62	4824	67	12/31/2020	2/18/2021	49	3415	2342	73	46
SC	299	16,184	48	12/28/2020	2/19/2021	53	13,331	6305	74	33
SD	60	2394	29	12/28/2020	1/21/2021	24	2262	520	74	8
TN	278	19,377	60	1/5/2021	3/2/2021	56	12,667	7841	59	34
TX	1250	67,418	42	12/28/2020	3/2/2021	64	55,122	41,833	77	50
UT	147	9282	55	1/2/2021	2/17/2021	46	6622	5301	66	52
VA	377	28,839	72	12/30/2020	2/15/2021	47	24,958	17,185	70	49
VT	49	2092	35	12/30/2020	2/3/2021	35	1780	1425	81	68
WA	366	28,650	64	12/30/2020	2/16/2021	48	25,402	15,396	79	46
WI	1802	31,169	7	1/10/2021	4/6/2021	86	28,627	16,543	81	50
WY	21	1456	61	1/6/2021	1/27/2021	21	967	313	66	22

Supplementary Table 2
Facility Characteristics, Clinic Scheduling, and COVID-19 Vaccine First Doses Administered, by State, Among Other Residential Care Communities—Pharmacy Partnership for Long-Term Care Program, December 2020–April 2021

Residential Care (RC) Communities										
State/Jurisdiction	No. of Participating RC Communities	No. of Beds		Clinic 1 Dates			Total First Doses Administered From Clinic 1 to Clinic 3		Median Vaccinated per 10 Beds	
		Total Across State	Median per RC	Earliest	Latest	Rollout Duration, d	Residents	Staff	Residents	Staff
AK	6	21	4	1/11/2021	2/10/2021	30	15	11	7	2
AL	7	497	62	1/15/2021	2/5/2021	21	343	84	7	1
AR	7	344	60	12/30/2020	1/15/2021	16	229	33	7	1
AZ	113	1312	3	1/16/2021	2/10/2021	25	1213	839	10	7
CA	5318	96,505	6	12/28/2020	4/8/2021	101	66,814	76,509	8	10
CO	29	373	6	1/6/2021	1/28/2021	22	224	466	8	15
CT	191	4442	6	1/4/2021	2/17/2021	44	4460	3226	10	6
DE	34	804	4	1/10/2021	2/8/2021	29	593	424	11	7
FL	312	4927	6	1/11/2021	2/17/2021	37	4849	3390	9	7
GA	113	1437	4	1/11/2021	3/4/2021	52	1335	760	10	7
HI	8	151	19	12/28/2020	1/30/2021	33	157	145	7	9
IA	241	1626	4	1/5/2021	2/13/2021	39	2904	2350	12	8
ID	5	358	50	1/14/2021	1/30/2021	16	210	76	6	1
IL	123	6286	10	12/29/2020	2/24/2021	57	4774	3181	9	5
IN	61	4804	80	1/12/2021	2/18/2021	37	3554	1064	7	1
KS	83	3290	9	12/30/2020	2/9/2021	41	2603	1662	8	6
KY	14	653	49	12/23/2020	2/12/2021	51	718	497	9	6
LA	35	1066	18	1/7/2021	2/6/2021	30	934	598	8	9
MA	1309	11,865	5	1/2/2021	3/15/2021	72	13,275	19,896	10	14
MD	494	5872	5	1/20/2021	3/24/2021	63	12,009	10,135	15	12
ME	124	742	4	12/30/2020	2/22/2021	54	1179	1670	10	20
MI	2484	37,344	6	1/4/2021	4/21/2021	107	27,359	16,157	8	5
MN	412	2815	4	1/9/2021	3/19/2021	69	2577	3154	10	10
MO	213	5437	12	12/29/2020	2/23/2021	56	4061	2579	7	3
MS	22	229	4	1/12/2021	2/5/2021	24	214	83	10	5
NC	303	6913	6	12/28/2020	2/26/2021	60	6284	3621	8	7
ND	9	362	42	12/31/2020	1/14/2021	14	383	176	7	3
NE	1	162	—	1/17/2021	—	—	73	45	5	3
NH	22	802	15	1/6/2021	2/2/2021	27	689	748	9	14
NJ	368	4593	4	1/4/2021	3/6/2021	61	5442	8580	10	13
NM	60	727	4	1/5/2021	1/22/2021	17	1097	1500	10	10
NV	37	719	9	12/30/2020	2/12/2021	44	535	463	9	7
NY	386	7123	8	1/11/2021	2/26/2021	46	7364	7545	10	10
OH	302	3208	3	12/26/2020	2/20/2021	56	2333	1387	10	3
OK	7	502	43	1/16/2021	2/5/2021	20	461	122	6	2
OR	493	3886	5	12/26/2020	2/19/2021	55	3850	3944	9	8
PA	646	7321	3	1/1/2021	2/24/2021	54	7524	10,429	10	15
RI	61	5161	25	1/18/2021	2/14/2021	27	3214	1089	8	3
SC	119	1283	4	12/29/2020	2/19/2021	52	1330	722	10	8
SD	3	56	12	1/8/2021	1/19/2021	11	44	42	6	7
TN	40	1605	6	1/7/2021	2/2/2021	26	1494	459	9	3
TX	169	1587	4	12/28/2020	3/18/2021	80	2477	1447	10	3
UT	72	1786	5	12/28/2020	2/10/2021	44	2071	2599	13	17
VA	337	3256	4	1/10/2021	3/12/2021	61	3423	3838	10	9
VT	71	1473	12	12/23/2020	2/12/2021	51	991	1130	8	6
WA	1045	10,313	6	1/1/2021	3/9/2021	67	8752	10,762	8	7
WI	564	6791	4	1/14/2021	3/16/2021	61	6469	3399	8	4
WY	1	99	—	1/22/2021	—	—	84	110	9	11