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## Original research

## COVID-19 exposures and infection control among home care agencies

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## ABSTRACT

**Background and objectives:** Home care agencies (HCAs) provide caregivers, who perform an important role in maintaining the health and well-being of older adults. However, during the COVID-19 pandemic, paid caregivers had the potential to inadvertently spread COVID-19. We sought to characterize the effects of COVID-19 on HCAs and examine HCAs' infection prevention and control (IPC) policies.

**Research design and methods:** This was a qualitative analysis of data collected from a national survey of HCAs. Surveys were e-mailed to members of a national HCA association on March 18, 2020. Questions included queries on demographics, COVID-19 exposures, effects of COVID-19, and IPC protocols.

**Results:** 1204 HCAs responded with an average census of 96.2 (5–2800) patients daily. Across 36 states, 238 HCAs reported COVID-19 cases or exposures among caregivers. HCAs experienced challenges related to changing patient needs (e.g. decreased caregiver requests), staffing shortages (e.g., fear of COVID-19, inability to train caregivers), and management issues (e.g., inability to obtain supplies). ICP protocols varied in how HCAs followed recommended guidelines, responded to COVID-19 exposures, performed infection surveillance, and implemented precautions. Additionally, HCAs had varying policies for caregiver PTO.

**Conclusions:** HCAs experienced COVID-19 exposures and/or cases early in the pandemic. HCAs identified staffing and PPE shortages, and lack of IPC guidance as challenges. Although caregivers are providing essential care for millions of older adults, they have been largely absent from federal, state, and health system strategies for mitigating the spread of COVID-19. Future policies must include HCAs and their caregivers to optimize care for older adults.

## 1. Introduction

COVID-19 causes severe illness in vulnerable older adults, especially those with chronic health conditions. Mortality from COVID-19 disproportionately impacts older adults with death rates as high as 30 % (McMichael, Clark, & Pogojans, 2020). Limiting COVID-19 exposures among older adults is challenging because older adults are more likely to have contact with the healthcare system, reside in a senior residential community (e.g., assisted living or independent living facility), long-term care facility (LTCF) (e.g., nursing home), and have close contact with a health care worker such as a home healthcare aide or caregiver. While data has shown high rates of COVID-19 infections among healthcare workers in acute care hospitals and LTCFs (Heinzerling, Stuckey, & Scheuer, 2020; McMichael et al., 2020), less is known about COVID-19 infection among caregiver employees of Home Care Agencies

(HCA).

HCAs hire caregivers and deploy them to private homes of older adults and to residents in senior residential communities or LTCFs. (Behrens, McGhan, & Abbott, 2019; Reckrey, Geduldig, & Lindquist, 2019). Caregivers are also referred to as direct care workers, home-makers, formal caregivers, companions, personal care assistants, home healthcare aides, and personal attendants (Buck, 2017). Caregivers provide essential services such as aiding with activities of daily living (ADLs) which include helping older adults with bathing, grooming, meal preparation, and medication assistance (Fernandez, Reckrey, & Lindquist, 2016). Caregivers make up a large portion of the frontline healthcare work force, with over 3.25 million paid caregivers in 2018 in the United States, and are projected to grow 36 percent from 2018 to 2028, much faster than other healthcare occupations (Bureau of Labor Statistics, U.S. Department of Labor, 2020).

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**Table 1**  
Characteristics of Caregiver Agencies (n = 1205).

State (number of HCAs) – 48 states represented				
Alabama (13)	Georgia (36)	Maryland (21)	New Jersey (41)	South Dakota (2)
Alaska (1)	Hawaii (2)	Massachusetts (24)	New Mexico (4)	Tennessee (28)
Arizona (45)	Idaho (8)	Michigan (46)	New York (28)	Texas (77)
Arkansas (6)	Illinois (76)	Minnesota (7)	North Carolina (32)	Utah (8)
California (129)	Indiana (25)	Mississippi (8)	North Dakota (3)	Virginia (37)
Colorado (26)	Iowa (4)	Missouri (25)	Ohio (56)	Washington (42)
Connecticut (38)	Kansas (6)	Nebraska (6)	Oklahoma (12)	West Virginia (1)
Delaware (9)	Kentucky (15)	Montana (1)	Oregon (8)	Wisconsin (26)
Dist. Columbia (1)	Louisiana (8)	Nevada (6)	Pennsylvania (63)	
Florida (75)	Maine (3)	New Hampshire (10)	South Carolina (28)	
Patient Census (average daily number)				96.2 (5–2800)
Caregiver Employee Mix (average number)				57.9 (2–1200)
- Part-time				36.8 (0–1200)
- Full-time				
Caregiver Employees Inquired about Paid Time Off (PTO)				42.6 % (454)
<b>Impact of COVID Pandemic</b>				
Agencies Reporting Caregiver/Patient Staffing Issues as a Result of COVID				89.9 % (1083)
- Patients cancelling services because they fear caregivers may spread COVID				63.3 % (747)
- Employee calling off due to children school closures				51.5 % (620)
- Higher than usual caregiver call-off				
Agencies Reporting a Shortage of PPE				57.1 % (688)
- Gloves				78.2 % (942)
- Hand Sanitizer				77.0 % (927)
- Masks				
Agencies with Patients or Employees reporting + COVID symptoms				19.8 % (238)
States of Agencies reporting COVID + symptoms				
- Alabama (1)	- Idaho (3)	- Missouri (2)	- South Carolina (4)	
- Arizona (9)	- Illinois (11)	- Nevada (1)	- South Dakota (1)	
- Arkansas (1)	- Indiana (8)	- New Hampshire (7)	- Tennessee (4)	
- California (21)	- Kentucky (4)	- New Jersey (2)	- Texas (13)	
- Colorado (13)	- Louisiana (2)	- New York (5)	- Utah (2)	
- Connecticut (10)	- Maryland (4)	- North Carolina (5)	- Virginia (7)	
- Florida (11)	- Massachusetts (6)	- Ohio (16)	- Washington (15)	
- Georgia (6)	- Michigan (9)	- Oregon (4)	- West Virginia (1)	
- Hawaii (1)	- Mississippi (2)	- Pennsylvania (17)	- Wisconsin (9)	

As caregivers fulfilled vital front-line roles during the COVID-19 pandemic, HCAs had to be prepared to support their safety and the safety of their older adult patients. Unfortunately, HCAs and caregivers were largely absent from COVID-19 prevention planning. (True, Neuman, Cubanski, Ochieng, & Koma, 2020) Caregivers were at high risk for contracting COVID-19 given their daily exposure to older adults and the healthcare system. With COVID-19 having an asymptomatic phase and some caregivers providing care to multiple older adults, there was potential of inadvertently spreading COVID-19 between older adults and caregivers in private homes, senior living facilities, and LTCFs (Kimball, Hatfield, & Arons, 2020).

There is significant variability in how HCAs recruit, perform background checks, train, and supervise caregivers, largely because HCAs, as opposed to Medicare certified home health agencies, are not federally regulated and there is significant variability among state regulation. (Lindquist, Jain, Tam, Martin, & Baker, 2011; Lindquist, Cameron, & Messerges-Bernstein, 2012) Even prior to the COVID-19 pandemic, many HCAs experienced limited resources and staffing concerns, with high turnover rates across the field. (Abrahamson, Myers, & Arling, 2016; Butler, Brennan-Ing, Wardamasky, & Ashley, 2014; Ejaz, Bukach, Dawson, Gitter, & Judge, 2015; Jump, Floen, & Baruth, 2001; Stear, 2017)

No literature exists on how HCAs and caregivers were affected by the COVID-19 pandemic and there is limited understanding on how HCAs established and implemented infection prevention and control (IPC) protocols. In this context, we sought to characterize how the COVID-19 pandemic affected HCAs and examine how HCAs developed and implemented IPC protocols to minimize the impact of COVID-19 on caregivers and their older adult patients.

## 2. Methods

### 2.1. Sample and procedure

The survey was electronically sent to HCAs who were members of a national HCA organization, the Home Care Association of America (HCAOA), which encompasses 3800 HCA members. Surveys were also posted on the HCAOA social media feeds (e.g. Twitter, Facebook). The survey link was distributed on March 18, 2020 and closed on March 24, 2020. Survey responses were directly entered by participants and exported to Excel. This research was deemed exempt by the Northwestern University Institutional Review Board.

### 2.2. Qualitative analysis

Three authors (LAL, TAR, MP) analyzed open-ended responses using constant comparative techniques, independently assessing participant responses for focal themes and then convening to compare and create a preliminary list of categories and major themes. (Creswell & Plano Clark, 1990; Forman & Damschroder, 2008; Wells, 2002) Identified themes were refined through a series of coder discussions, during which coders triangulated their perspectives and resolved any identified discrepancies through discussion. In no cases were the coders unable to reach consensus. The coders organized the content into themes relevant to participants' discussions of reluctance in accepting home-based care. Descriptive statistics were used to analyze quantitative portions of the surveys.

## 3. Results

Representing 46 states and the District of Columbia, 1204 Home Care Agencies responded to the survey. The average daily number of

**Table 2**  
Themes regarding impact of COVID-19 on Home Care Agencies (HCAs).

Themes	Representative Quote
<b>Staffing Challenges</b>	
Frequent “Call-Offs” or Absenteeism	<ul style="list-style-type: none"> <li>• “Caregivers calling in with fevers”</li> <li>• “Caregiver concerns about [their own] child care availability”</li> <li>• “Caregivers over 60 calling off concerns of being high risk”</li> </ul>
Inability to recruit new or replacement caregivers	<ul style="list-style-type: none"> <li>• “Patient and caregivers cancelling because they are unclear if our services are considered essential”</li> <li>• “We can't schedule orientations, people aren't coming in for orientations.”</li> <li>• “We are unable to perform background checks which are required by our state.”</li> </ul>
<b>Patient Changing Needs and Challenges</b>	
No longer need caregiver	<ul style="list-style-type: none"> <li>• “Patients are reducing hours because family members who would normally be at work are now home.”</li> <li>• “Kids or Grandkids home from College so no need for an Aid.”</li> </ul>
Patients fearful of exposure from caregivers	<ul style="list-style-type: none"> <li>• “Patients requested services delayed for 3–4 weeks due to the COVID-19 virus.”</li> </ul>
Patients' living facilities no longer permit caregiver entry	<ul style="list-style-type: none"> <li>• “Assisted Living communities not allowing us entrance.”</li> </ul>
Patient is COVID positive or deceased	<ul style="list-style-type: none"> <li>• “Lost 1 patient to COVID-19 and another suspended because they tested positive.”</li> </ul>
<b>HCA Business Operation Challenges</b>	
Lack of appropriate supplies (PPE, thermometer), cleaning disinfectant	<ul style="list-style-type: none"> <li>• “Not everyone has thermometers or cleaning supplies”</li> <li>• “Orders for supplies being denied and on back order, currently waiting for masks”</li> </ul>
COVID guidelines	<ul style="list-style-type: none"> <li>• “No direction from government for non-medicals”</li> </ul>
Financial hardship and sustainability	<ul style="list-style-type: none"> <li>• “Patients not sending in their payments which can directly affect payroll.”</li> <li>• “Concern about cash flow if we have to pay sick leave and FMLA.”</li> </ul>

patients served were 96.2 (5–2800) people. HCAs employed an average 57.9 (2–1200) part time caregivers and 36.8 (0–1200) full time caregivers. From 36 states, 238 agencies (19.8 %) reported having either caregivers or patients with COVID-19 exposures or symptoms.

HCA responses were organized in three overarching categories related to how they were handling the COVID-19 pandemic (Table 1).

### 3.1. Effects of COVID-19 on HCAs

Qualitative thematic analysis revealed multiple themes on how HCAs were affected by COVID-19, which were separated into 3 major categories: Patient Challenges, Staffing Challenges, and Agency Needs. The categories and subcategories are summarized in Table 2.

#### 3.2. Patient changing needs and challenges

HCAs reported that patient needs were changing during COVID-19. Due to stay-at-home orders, many patient's family members were now working from home and no longer needed a caregiver: “Patients are reducing hours because family members who would normally be at work are now home.” Patients and families were also concerned about the potential exposure to COVID-19 from caregivers, and often requested a temporary delay in caregiver services. Further complicating the provision of care was that senior housing (e.g. assisted or independent living facilities) were not allowing entry to caregivers. This paralleled the limitation of non-health related visitors entering LTCF and hospitals. Additionally, few COVID-19 positive patients stopped receiving caregiving services due to their illness or death from COVID-19. One agency stated they: “lost 1 patient to COVID-19 and another suspended because they tested positive.” Some patients and families however, wanted to set up back-up caregivers and alternate plans in the event of their current caregiver becoming ill.

#### 3.3. Staffing challenges

Directly because of the COVID-19 pandemic, many HCAs reported caregivers not coming to work or calling off. Reasons of absenteeism included caregiver illness, fears about COVID-19, competing responsibilities (e.g. childcare responsibilities), and confusion about federal and state stay-at-home orders. HCAs reported that many employees were quarantined due to COVID-19 illness and exposures. For example, one agency reported: “employees calling off because they've been exposed to the virus at their other job.” Caregivers also feared COVID-19 exposure by caring for older adults and many were high risk themselves (e.g.

ages > 65 years, had multiple comorbidities). Lastly, HCAs also reported confusion about whether or not caregivers were classified as “essential employees” during state-wide stay-at-home orders. Further complicating these staffing difficulties was that many HCAs reported the inability to recruit new or replacement caregivers during the COVID-19 pandemic. Many of the initial onboarding activities were postponed due to social distance precautions, “We can't schedule orientations, people aren't coming in for orientations.” or other requisite hiring services being shut down “We are unable to perform background checks which are required by our state.”

#### 3.4. Home care agency Business/Management issues

HCAs also described how COVID-19 was impacting their business operations. As HCAs sought to adapt current practices and implement new protocols, they reported a lack of COVID-19 guidelines for caregivers. Additionally, many HCAs reported a lack of adequate supplies to serve COVID-19 positive patients such as thermometers, personal protective equipment (PPE), and the necessary cleaning and disinfectant products: “Not everyone has thermometers or cleaning supplies.” Additionally, due to the high demand for these products, HCAs reported delays in obtaining these critical supplies: “Orders for supplies being denied and on back order, currently waiting for masks.” From an operations perspective, HCAs reported experiencing financial hardship and a decrease in cash flow. Not only did HCAs report less revenue being brought in for services: “Patients not sending in their payments which can directly affect payroll.” But there was also concern about increased organizational payments they needed to make related to sick leave and Family Medical Leave Act (FMLA) contributions.

#### 3.5. Infection control and prevention protocols for COVID-19 among HCAs

Among the 1204 responses, 238 HCAs reported COVID-19 exposures or positive tests. Of those, 229 (96.2 %) had established IPC protocols. Additionally, only 101 HCAs (8.3 %) who did not report having any COVID-19 exposures, created COVID-19 specific IPC protocols: “We are all prepared for these calls, it's going to happen.” Themes for IPC protocols were categorized into 4 main overarching groups: guidelines, response to COVID-19 exposure/symptoms, surveillance, and precautions (Table 3).

#### 3.6. Guidelines

While local and national recommendations are available, HCAs

**Table 3**  
Themes Regarding COVID-19 Infection Protocols in HCAs.

Themes	Representative Quote
National Recommendations	<ul style="list-style-type: none"> <li>• “We go by CDC recommendations”</li> <li>• “COVID-19 Mandatory Guidelines”</li> </ul>
<b>Response to COVID exposure or symptoms</b>	
Quarantine	<ul style="list-style-type: none"> <li>• “Person just returned to US from a cruise. She is quarantined for 2 weeks.”</li> <li>• “Paid 14 day quarantine for employees exposed to possible exposure.”</li> <li>• “A caregiver has had fever, cough. She has been tested, not working. Taking 5 days.”</li> <li>• “If exposed 14 days off back to work following test, if symptomatic 5 days off.”</li> <li>• “Encourage to take day off”</li> </ul>
Testing or medical visit for Caregivers	<ul style="list-style-type: none"> <li>• “Referred to doctor and self-quarantine. Not allowed to work without a Doctors release.”</li> <li>• “Call Emergency Room and arrange for client to be taken in for testing.”</li> <li>• “We have contacted local health districts to get testing done.”</li> </ul>
Caregivers not permitted to work with Patients	<ul style="list-style-type: none"> <li>• “Removed caregiver from the active roster.”</li> </ul>
Notification of Patient and other caregivers	<ul style="list-style-type: none"> <li>• “We do contact all of the clients the caregiver has been in contact to tell them.”</li> <li>• “We also notify all persons in contact with the individual”</li> </ul>
<b>Surveillance</b>	
Passive – Caregiver	<ul style="list-style-type: none"> <li>• “Ask for immediate call if symptoms occur.”</li> </ul>
Active – Caregiver	<ul style="list-style-type: none"> <li>• “Policy is for everyone to take their temp before reporting to work. If 100, we will pay the worker to stay home.”</li> </ul>
Active – Patient	<ul style="list-style-type: none"> <li>• “We call daily all clients and employees and check for symptoms.”</li> </ul>
Empowered Patient	<ul style="list-style-type: none"> <li>• “Instructed client to call me if any of my caregivers come to work looking unwell or coughing.”</li> </ul>
<b>Precautions in Patient Setting</b>	
Hand washing	<ul style="list-style-type: none"> <li>• “We have instructed all caregivers to wash hands as soon as they enter the client’s home”</li> </ul>
Disinfection practices	<ul style="list-style-type: none"> <li>• “All shifts now include disinfecting surfaces, knobs, handles etc. at beginning and end of shifts.”</li> </ul>
Education	<ul style="list-style-type: none"> <li>• “All caregivers have received additional training and support.”</li> <li>• “Re-trained in Standard Precautions and Infection Control, regular messaging regarding mitigation.”</li> </ul>
Personal Protective Equipment (PPE)	<ul style="list-style-type: none"> <li>• “Provide PPE to staff who are working with patients that present with symptoms.”</li> <li>• “Use of masks gloves, changing scrubs/shoes between shifts.”</li> </ul>
Minimize multiple caregivers	<ul style="list-style-type: none"> <li>• “We have minimized the staff changes at the client home.”</li> </ul>

varied in which specific guidelines they were using. Organizations reported following the Centers for Disease control (CDC) recommendations. Other reported using local Departments of Health and State protocols: *We are a licensed state and are following all protocols. We have followed NYS DOH Matrix on Quarantine procedures.*

### 3.7. Response to COVID-19 exposure or symptoms

There was substantial diversity in HCAs IPC responses to caregivers exposed to COVID-19 or caregivers who developed signs and symptoms consistent with COVID-19, which coders organized into four sub-themes. (1) First, quarantining caregivers. This was commonly applied to caregivers with symptoms or perceived exposures. HCAs also reported using quarantine for asymptomatic caregivers after returning from travel, as exemplified by one agency: *“A person just returned to US from a cruise. She is quarantined for 2 weeks.”* However, there was variability in the number of days that HCAs instructed caregivers to quarantine. Many HCAs quarantined caregivers for 14 days, but some organizations reported shorter amounts of time, ranging from a single day to five days. (2) Second, was the recommendation of seeking medical attention. HCAs recommended caregivers visit their primary care physicians, hospital emergency departments, or departments of public health for testing. Some HCAs required a physician note prior to return to work while others did not. (3) Third, was the removal of caregivers from caring for older adults. Many HCAs reported removing caregivers from working with patients if they had symptoms, exposures or if they tested positive. However, some were not able to remove caregivers because of patient’s needs. (4) Lastly, notification of caregiver contacts about COVID-19 status. HCAs frequently notified patients when their caregiver tested positive for COVID-19; however, fewer agencies notified other caregivers who may have been in contact with them.

### 3.8. Surveillance

Surveillance practices were classified into three sub-themes: passive, active, and empowered; with differentiation between surveillance of the patient and caregiver. Some HCAs reported passive caregiver

surveillance practices, where the caregiver would report symptoms or exposures if they occurred. While other HCAs reported active caregiver surveillance practices, for example, HCAs instructed caregivers to check temperatures and use screening checklists for symptoms prior to working with the patient. For example one HCA reported their policy was *“everyone to take their temp before reporting to work. If 100, we will pay the worker to stay home.”* With regards to patient surveillance, some agencies reported active surveillance where patients had their temperature checked and/or screened for symptoms at shift start. Lastly, an empowered patient strategy encouraged the patient to contact the HCA supervisor to report any notable symptoms displayed by the caregiver, as one respondent stated: *“I’ve instructed patients to call me if any of my caregivers come to work looking unwell or coughing.”*

### 3.9. Precautions in the patient setting

Many HCAs implemented precautions in the patient setting. This included hand washing and education about hand washing, *“We have instructed all caregivers to wash hands as soon as they enter the patient’s home.”* Additionally, some HCAs conducted disinfecting practices in the patient home. For example, one agency reported that *“All shifts now include disinfecting surfaces, knobs, handles etc. at beginning and end of shifts.”* PPE was instituted by many HCAs although the difficulties in locating PPE was common, and organizations sought to limit the number of shift changes or multiple patients with one caregiver. In addition to specific protocol modifications, caregivers received additional training and education to reduce the transmission of COVID-19. For example, caregivers were *“re-trained in Standard Precautions and Infection Control, regular messaging regarding mitigation”*

### 3.10. Paid time off for caregiver employees

While IPC measures were being implemented, a key issue for many HCAs was whether to provide paid time off (PTO) for caregiver employees. When asked, *“Has any of your staff inquired about PTO if they are unable to work due to COVID-19 or cannot work because they have no childcare?”*, 42.6 % of the HCAs responded yes. In follow-up, HCAs were asked what percentage of your employees would call off, if paid

sick and family sick leave were mandated by law?, 47.2 % (n = 437 of 925 respondents) responded yes.

In open-ended responses on the topic of PTO, qualitative analysis revealed several themes. Many HCAs felt that offering PTO was the right thing to do, as one agency reported *"I already voluntarily offer PTO."* Additionally, PTO was already mandated by law in some states. HCAs felt that some of their caregiver employees were dedicated to patients and would not abuse PTO policies. *"I don't think many would call out because of the law. We are calling them daily and they are very dedicated to their patients."* However, other HCA reported concerns over PTO and its financial impact on the organization. For example, one HCA reported *"If there are too many of them taking it we will go out of business."* This sentiment was echoed by another agency who stated *"[It would] create a huge financial burden on our company and make it very difficult to service our patients as there is already a shortage of caregivers."*

#### 4. Discussion

HCAs and their frontline caregivers, who provide care to millions of older Americans, were affected by COVID-19 early in the pandemic, as represented by these results from a national survey. The effects of COVID-19 on HCA related to changing patient needs (e.g. families no longer requesting caregivers), staffing shortages (e.g., fear of COVID-19, inability to hire and train caregivers), and business and management issues (e.g., inability to obtain adequate supplies). ICP protocols varied substantially in how HCAs followed national and state guidelines, how they responded to COVID-19 exposures, how they performed infection surveillance and how they implemented precautions in the patient setting. Additionally, HCAs had varying policies for caregiver PTO.

We found that as early as March 20, 2020, HCAs were experiencing COVID-19 cases nationally. Many HCA COVID-19 cases included states not experiencing high numbers of COVID-19 in the community. (McMichael et al., 2020) HCAs were experiencing staffing shortages due to sick caregivers, competing caregiver responsibilities (e.g., childcare), COVID-19 fears, and inability to recruit new hires. Despite staffing shortages, there was also a decreased need of caregivers at many levels. Since stay-at-home orders were initiated, HCAs noted that several patients stopped caregiver services as family members no longer needed to physically go to work and could assume primary caregiver roles. Additionally, some LTCFs were not allowing visitors, including caregivers, to enter facilities to prevent spread of COVID-19 as a result of the Centers for Medicare and Medicaid (CMS) visitor restriction policy (True et al., 2020). Interestingly, though restrictions were not countrywide, caregivers in some LTCFs were allowed entry while prohibited from others. This variability shows that LTCFs recognize the risk caregivers pose in spreading COVID-19, but also that many older residents depend on caregivers for vital care.

HCA's IPC protocols were highly variable. HCAs with early COVID-19 cases had to quickly develop and institute COVID-19 specific IPC practices, often before there was guidance from local state and federal health agencies. While some HCAs had extensive protocols, others were minimal (e.g. take a day off if symptoms) because of limited resources. Such variability is concerning as ineffective IPC practices likely contributed to the spread of COVID-19. (Kimball et al., 2020) We suspect that insufficient IPC practices could potentially be due to a lack of unified messaging from by federal, state and local governments and health departments early on in the pandemic. Similar to other health-care settings, HCAs reported a lack of PPE for their caregiver employees and significant difficulty obtaining COVID-19 testing. Interestingly, several HCAs without known exposures or positive patients, developed methods for active COVID-19 surveillance for both patients and caregivers, often before there was clear guidance on how best to approach COVID-19 screening. While this likely helped with reducing COVID-19 spread among those caregivers, less than 10 % of HCAs reported performing active surveillance. This finding underscores the need for clear

national guidance for IPC practices among HCAs.

While a few states have mandatory paid time off for caregiver employees, it is not the known standard in the industry. (Lindquist et al., 2012) Caregiver compensation is usually low<sup>8</sup> and often results in caregivers living in financial insecurity. As a result, caregivers may feel pressure to work for the needed compensation – although they may be feeling sick. From our results, few HCAs indicated they were paying for some leave, but many were not able to do so.

The home care industry is expected to grow tremendously over the next decade as Americans are living longer with chronic conditions. However, because of the significant variability in state regulations, it is the industry we know very little about, lacking in data, research and national standards. (Lindquist et al., 2012) These data suggest that, national, state, and local health system COVID-19 efforts need to include HCAs and caregivers in their ICP strategies. These shared strategies will be necessary to reduce the spread of COVID through front-line caregivers.

There are few limitations to this study. First, we were not able to determine which individual from each HCA completed the survey – whether it was an owner, manager, or staff member. Second, the survey was intentionally anonymous so agencies would not be concerned about negative consequences. It is also unclear if HCAs underreported COVID-19 cases due to this concern. Third, since this survey was conducted early in the pandemic, it will be interesting to see if responses to IPC protocols change over time.

#### 5. Conclusion

Nationally, home care agencies and paid caregivers experienced COVID-19 exposures and positive COVID-19 cases early in the pandemic, with limited IPC guidance and support. Although caregivers are on the front-line providing direct care for millions of older adults, they were largely excluded from federal, state, and health system strategies for mitigating the spread of COVID-19. Policies for both COVID-19 and future pandemics must include HCAs and their caregivers to optimize care for older adults.

#### Declaration of Competing Interest

All authors: No reported conflicts.

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Author contributions. TR, AL, LL provided study concept and design, analysis, and interpretation of data and preparation of manuscript. SM, VH participated in acquisition of data, analysis and interpretation of data and preparation of manuscript.

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