

**Staffing and Personal Protective Equipment Shortages Due to COVID-19: Literature
Review**

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A quantitative study uses measurable variables. This type of research allows researchers to control and eliminate any effects (Houser, 2023). A literature review gives a deep look into the topic and shows what is known and lacking on the subject (Houser, 2023). It is not a secret that nursing homes struggle with staffing and personal protective equipment (PPE) issues. COVID-19 impacted the staffing shortage even more.

Shortages of Staffing in Nursing Homes During the COVID-19 Pandemic: What are the Driving Factors?

The authors of this article include Xu, Intrator, and Bowblis, and they researched the impact that COVID-19 had on the nursing and PPE shortages within nursing homes. Self-reported information was collected on PPE availability, residents and staff exposed to COVID-19, and staffing shortages (Xu et al., 2020). This article discusses the factors contributing to staff and PPE shortages within nursing homes during COVID-19 (Xu et al., 2020).

Key Points

The data is collected from the first national COVID-19 nursing home staffing data from the Centers for Medicare and Medicaid Services (CMS) (Xu et al., 2020). Several databases were collected (Xu et al., 2020). The study consisted of primarily free-standing nursing homes that had COVID-19 information during the week of May 31, 2020 (Xu et al., 2020). The variables were then collected on whether the nursing homes self-reported a staffing shortage (Xu et al., 2020). Of the 11,920 participating nursing homes, 18.4%, 15.9%, 2.5%, and 9.8% reported staffing shortages (Xu et al., 2020). Nursing homes with residents with COVID-19 more

commonly had a staffing shortage. The staffing shortage made the p-value $P=.01$ (Xu et al., 2020). Nursing homes with any staff members with COVID-19 were more commonly reporting staffing shortages, making the p-value also $P=.01$ (Xu et al., 2020). Per 100 beds, there were 5.7 residents and 3.8 staff members who confirmed having COVID-19. Nursing homes that had any staff that had COVID-19 were more likely to have staffing shortages (Xu et al., 2020).

According to the chart within the article, nursing homes in the Midwest and East experienced higher staffing shortages (Xu et al., 2020). It is implied that nursing homes that reported more residents and staff members with COVID-19 experienced more staffing shortages (Xu et al., 2020). Nursing homes were low in PPE, and it was challenging to keep from transmitting COVID-19 (Xu et al., 2020).

Assumptions

This study provides evidence that correlates the relationship between staffing and PPE shortages to COVID-19. According to the article, one of the critical findings of the study was that COVID-19 factors were related to and associated with staffing shortages (Xu et al., 2020). 1 out of 6 nursing homes reported a staffing shortage during COVID-19 (Xu et al., 2020). To help support nursing homes and prevent the transmission of COVID-19, policymakers can help supply adequate PPE supplies (Xu et al., 2020). It has been proven that PPE is essential in preventing COVID-19 (Xu et al., 2020).

Deficit/Conclusion

This article aims to confirm the connection between COVID-19 and staffing shortages, along with PPE shortages. The Nursing Home COVID-19 Public File was downloaded from the Nursing Home Compare (NHCompare) website to help collect data for staffing and PPE shortages (Xu et al., 2020). Staffing and PPE shortages are correlated to COVID-19 factors (Xu

et al., 2020). Further research will help show how policymakers can support nursing homes. Not acknowledging the impact that COVID-19 has on staffing and PPE shortages would show implications. It would show implications because COVID-19 is very quickly contracted, and having adequate staffing and PPE is essential in preventing transmission.

Severe Staffing and Personal Protective Equipment Shortages Faced by Nursing Homes during the COVID-19 Pandemic

This article discusses the COVID-19 pandemic and how it affected nursing homes' PPE and staffing shortages (McGarry et al., 2021). The authors of this article include McGarry, Grabowski, and Barnett, and these researchers researched the effect that COVID-19 had on PPE supplies and staffing in nursing homes (McGarry et al., 2021). The study found that more than 1 in 5 nursing homes state that they have a serious PPE and staffing shortage (McGarry et al., 2021). Policies were implemented to provide adequate staffing and PPE supplies (McGarry et al., 2021).

Key Points

This study collected data from the Centers for Medicare and Medicaid Services (CMS) on COVID-19 and Nursing Home Databases (McGarry et al., 2021). Data was collected from two four-week periods between May 18, 2020, and June 14, 2020, and the second collection was between June 24, 2020, and July 19, 2020 (McGarry et al., 2021). 87% of the nursing homes reported data from all four weeks for the first collection. In comparison, 94% of nursing homes reported data for all four weeks for the second collection (McGarry et al., 2021). The study used samples from Medicare and Medicaid-certified U.S. nursing homes that reported responses about PPE and staffing during at least one week reporting period (McGarry et al., 2021). If nursing

homes reported a shortage of RNs, LPNs, clinical staff, CNAs, and other staff, they were considered short staff (McGarry et al., 2021). If nursing homes reported less than a week's supply of surgical masks, N95 masks, gowns, gloves, eye protection, and alcohol-based hand sanitizer, they were considered to have a PPE shortage (McGarry et al., 2021). There was 15,388 nursing home that participated and submitted reports. Of 15,388 nursing homes, 15,035 (98%) reported PPE and staffing shortages during June 24, 2020, and July 19, 2020 (McGarry et al., 2021). Towards the end of the collection, one of the studies ending on June 14, 2020, 20.7% of the nursing homes reported data on a shortage of PPE supplies of one week or less (McGarry et al., 2021). 20.8% of nursing homes reported a staffing shortage, which included 15.1%, 17.2%, and 9.2% of the shortage being nurses, CNAs, and other staff (McGarry et al., 2021). During the second data collection, 19.1% and 21.9% of nursing homes reported staffing and PPE shortages (McGarry et al., 2021). The p-value for the PPE shortage, in the end, was $P=0.025$. This number increased several times because nursing homes reporting shortages were for-profit, chain-affiliated, and reporting COVID-19 cases among residents and staff (McGarry et al., 2021). Larger nursing homes had a p-value of $P=0.033$ because they were less likely to report a staffing shortage. Nursing homes that were part of a chain had a p-value of $P=0.002$, which also had a lower rate of staffing shortage (McGarry et al., 2021). The results from the study show the different challenges nursing homes had to face during the COVID-19 pandemic (McGarry et al., 2021). Nursing homes reported higher PPE shortages than staffing shortages for profit (McGarry et al., 2021).

Assumptions

This article shows the impact that COVID-19 had on staffing and PPE supplies within nursing homes. The major shortages of PPE and staffing could leave a significant impact on not

only the ability of nursing homes to stick to the standard infection control protocols but their point to provide the necessary care that is not related to COVID-19 (McGarry et al., 2021). Nursing homes do not have a quick fix for these problems, but some financial support for direct patient care and supplies can help (McGarry et al., 2021).

Deficit/Conclusion

This article provides a profound overview of how COVID-19 affected nursing homes. Nursing homes were not equipped for the COVID-19 pandemic, which disadvantaged them (McGarry et al., 2021). A PPE shortage can make it easier to break infection control protocols, whereas a staffing shortage affects all aspects of clinical care (McGarry et al., 2021). Policymakers not highlighting these shortages will show implications. Policymakers need to acknowledge these shortages to help refrain from breaking infection control protocols and providing quality care to nursing home residents.

State Actions and Shortages of Personal Protective Equipment and Staff in U.S. Nursing Homes

The authors of this article include Gibson and Greene, who researched the impact that COVID-19 had on nursing homes with PPE, staffing, and State actions (Gibson & Greene, 2020). The article covers the shortage of staffing and PPE during COVID-19 and what some states did to take action (Gibson & Greene, 2020). According to the Centers for Disease Control and Prevention (CDC) and the Centers for Medicare and Medicaid Services (CMS), the key to protecting nursing homes is having enough PPE and staffing (Gibson & Greene, 2020).

Key Points

Data was collected from Nursing Home COVID-19 Public File and combined with facility-level Nursing Home Compare data (Gibson & Greene, 2020). The sample was made up of information about PPE shortages, which included surgical masks, gowns, N95 masks, eye protection, and gloves. The sample comprised four different types of staff, including nurses, CNAs, clinical staff, and other staff types (Gibson & Greene, 2020). The variable that was being examined was whether or not the nursing homes were low in a 1-week supply of PPE or whether the nursing homes had a staffing shortage during a week or more over five weeks (Gibson & Greene, 2020). During each five-week study period, 16.8% and 18.8% of nursing homes had a PPE shortage. 20.0% and 21.8% of nursing homes had a staffing shortage, while 32.4% and 34.4% had a PPE and staffing shortage (Gibson & Greene, 2020). There was a period when 27.6% of nursing homes were missing a week's worth of PPE supplies, and 30.1% reported a staffing shortage during one week (Gibson & Greene, 2020). N95 masks and gowns were the most common shortages of PPE, while nursing staff and CNAs were the most common staffing shortages (Gibson & Greene, 2020). Nursing homes in the Northeast were less likely to have a PPE shortage, and the p-value is $P=.021$ (Gibson & Greene, 2020). States with a long-term care team in nursing home facilities were less likely to have staffing shortages, making the p-value $P=.064$ (Gibson & Greene, 2020). Nearly half of nursing homes reported a PPE and staffing shortage during at least one week over the five-week study (Gibson & Greene, 2020).

Assumptions

The author aimed to establish the relationship between COVID-19, staffing, and PPE shortages (Gibson & Greene, 2020). The study proved that it takes work to acquire PPE, a problem many nursing homes face (Gibson & Greene, 2020). The difficulty of maintaining staffing is closely connected to lower-quality nursing homes (Gibson & Greene, 2020).

Deficit/Conclusion

Nearly half of nursing home facilities nationwide still need help to provide adequate PPE and staffing (Gibson & Greene, 2020). The risk of these types of shortages has been slightly reduced due to several governmental initiatives to assist nursing homes in preventing PPE and personnel shortages (Gibson & Greene, 2020). Nevertheless, COVID-19 has also left several states facing substantial budget shortages (Gibson & Greene, 2020). The implication of the article is that people need to acknowledge the effects that COVID-19 has had on nursing homes. The article supports the findings of the need for continuing federal assistance with staffing and PPE to help provide a safe environment for residents (Gibson & Greene, 2020).

Conclusion

The COVID-19 pandemic has significantly impacted nursing home facilities. Staff shortages are caused mainly by COVID-19 variables, including COVID-19 among residents and employees and a lack of PPE (Xu et al., 2020). Early in July 2020, 1 in 5 nursing homes had a significant PPE shortage or a staffing shortfall. The supply of gowns has increased, which has led to a minor decline in the number of institutions with any PPE shortfall. However, overall PPE and personnel shortages have not significantly improved since late May 2020 (McGarry et al., 2021). Nearly fifty percent of nursing homes nationwide still need help to procure PPE and effectively staff their facilities (Gibson & Greene, 2020).

The information collected during COVID-19 will improve patient outcomes by showing the change that needs to be brought. The decline in staffing and PPE supplies must be addressed for quality and safety improvement. Data collected from COVID-19 helps understand the effects of not having adequate PPE supplies and staffing.

The information from the articles helps the nursing practice improve infection control. The results within the articles provide potential funding from the government. Further research will help provide help for patient care and nursing practice.

Experiencing the outcomes of difficult situations, like the COVID-19 pandemic, helps one gain knowledge for clinical practice (Quality and Safety Education for Nurses [QSEN] Institute, 2020, Table 4). Using skills like measurable variables to compare PPE and staffing shortages helps better quality improvement (QSEN Institute, 2020, Table 4). Attitudes toward quality improvement help improve unwanted variables affecting care and look at the change it has on care and how to strive to improve (QSEN institute, 2020, Table 4).

The research done on PPE and staffing shortages related to COVID-19 can help improve the healthcare system. Policymakers need to show support to help the healthcare system from the loss it took from the COVID-19 pandemic (Xu et al., 2020). Data collected from COVID-19 and how PPE and staffing decreased helps nursing homes realize the effects of inadequate PPE supplies and staffing and how it affects patient care and outcomes.

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