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Personal Care Aide Staffing in U.S. Residential Care Communities: The Role of Aide Training Hours, Training Reimbursement, and Organizational Structures

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Abstract

Residential care communities (RCCs) employ nearly 660,000 personal care aides but few studies have examined personal care aide staffing nationwide. This study examines RCC characteristics associated with aide hours per resident day. We used the 2022 National Post-acute and Long-term Care Study to analyze variables of interest without missing data (n = 518) and produced weighted regression model estimates. Variables associated with higher staffing ratios included reimbursement for initial training (b = .84, se = .36) and occupancy greater than 85% (b = .82, se = .34). Factors related to lower staffing included initial training of more than 60 hours (b = −1.36, se = .58), Medicaid support for 1–25% of residents (b = −1.19, se = .57), Medicaid support for 25% or more residents (b = −2.01, se = .51), and having more than 50 beds (b = −2.14, se = .30). This study provides new insights into aide staffing ratios in RCCs that are important for future investigation, policy/advocacy, and workforce practice.

Keywords

long-term care facilities, assisted living, employment, long-term services and supports, nursing aides, quantitative methods

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What This Paper Adds

- RCCs that reimbursed aides for initial training reported higher aide staffing levels.
- RCCs with current residents whose RCC services were paid by Medicaid reported lower aide staffing levels compared to RCCs who do not participate in Medicaid.
- RCCs that provided initial training of more than 60 hours were associated with lower aide staffing ratios compared to RCCs that provided 20 hours or less.

Applications of Study Findings

- This study provides new insights into personal care aide staffing levels in residential care that can be applied to workforce practices like orientation, advocacy regarding Medicaid rates, and future research and policy guidance.
- Reimbursing full-time aide employees for initial training should be considered for maintaining higher aide staffing levels in residential care.
- Further research is needed regarding Medicaid participation and payment rates, training characteristics, training reimbursement, and ownership factors in residential care.

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Introduction

Across U.S. residential care communities (RCCs), 655,950 personal care aides (PCAs) support 1.1 million older residents (PHI, 2024; Zimmerman et al., 2024) assisting with daily activities. The direct care workforce in RCCs consists of up to 76% PCAs and 12% licensed practical nurses (LPNs) and 12% registered nurses (RNs) (Bowers, 2025; Sengupta et al., 2025). Care aides are not licensed healthcare professionals, nor are they required to meet specific educational standards or take national licensure exams. Instead, care aides have only minimum training requirements established by state regulations (U.S. Bureau of Labor Statistics, 2025) and receive little formal training prior to providing resident care (Han et al., 2017); meanwhile, the nation is relying on PCAs to provide such essential work to assist individuals with daily activities and monitor their needs (Han et al., 2017; Melekin et al., 2024). PCAs may include home care and home health aides, certified and non-certified nursing assistants, and medication aides. PCAs spend 3 hours and 48 minutes per resident per day in RCCs (Sengupta et al., 2025). Yet, we know very little about the extent they are provided with on-the-job training (PHI, 2024) and how initial and continuing education and other organizational factors may be associated with the provision of PCA staffing (Kennedy et al., 2020) or perceived recruitment challenges (Kennedy et al., 2023). Staff educational development in residential care is important because of the lack of federal regulations and variable state regulations and licensure types (Badache et al., 2026; Smith et al., 2024; Zimmerman et al., 2024).

RCCs are overseen by state policies with varying PCA training requirements. For instance, initial training ranges from 1 hour in Missouri to 80 hours in North Carolina, while ongoing training varies from 4 to 16 hours, and many states do not specify the exact duration (Carder et al., 2015). Sengupta and colleagues (2025) reported that RCCs provided aides 33.5 hours of initial training prior to resident care and 15.8 hours on average for ongoing education. A policy overview of RCC direct care workforce training shows over half of states prioritize safety, including CPR, infection control, and fire training; however, training on residents' needs is limited, with consumer rights covered in 22 states and person-centered care in only 10 states (Kelly et al., 2020). Job-based education is very important to study and improve upon, as it has been associated with several benefits for care recipients, care staff, and care organizations including assisted living and skilled nursing (MacDonald & Walton, 2007; Nolan et al., 2008; Shiri et al., 2023; White & Cadiz, 2013). Enhancing the RCC workforce through better training, increased staffing and wages, and staffing standards are recommended (Zimmerman et al., 2024). Yet, researchers' ability to evaluate the provision and impact of training on the long-term care workforce has been challenging due to a lack of data (Travers Atlizer et al., 2025). Very few studies in the RCC setting have been conducted to examine organizational factors that would support our understanding of PCA staffing (Kennedy et al., 2020, 2023).

The purpose of this study was to examine the relationship between PCA training and organizational factors associated with aide staffing levels. We hypothesized:

H1: RCCs that provide more than 20 hours of initial training for aides will provide a higher level of aide staffing per resident day.

H2: RCCs that provide more than 10 hours of in-service/continuous education for aides will provide a higher level of aide staffing per resident day.

H3: RCCs that reimburse for initial training will have higher aide staffing per resident day.

H4: RCCs that are non-profit will have better aide staffing per resident day.

H5: RCCs with greater percentages of Medicaid-paying residents will have lower aide staffing per resident day.

Methods

Data Source

We used the publicly available provider survey data from the 2022 National Post-acute and Long-term Care Study (NPALS). NPALS is a nationwide survey covering all 50 states and the District of Columbia, overseen by the National Center for Health Statistics (NCHS) (NCHS, 2022a). It collects information on post-acute and long-term care from RCCs and adult day centers every 2 years since 2012. Each setting includes a provider survey that gathers facility-level data (e.g., ownership, size, training required or offered, staffing) along with a user survey that records resident-level information (e.g., demographics, health conditions, activity limitations, number of medications, adverse events, and services used). For this study, we used provider data from RCCs for 2022. Notably, the training questions, crucial to our analysis, were added in 2022, necessitating a cross-sectional study design.

Setting and Sample

Every RCC that participated in the survey was licensed, registered, certified, or otherwise regulated by a state; had at least four beds; and provided room and board with a minimum of two meals daily, 24/7 on-site supervision, and personal care assistance (NCHS, 2022a). RCCs serving exclusively severely mentally ill or intellectually disabled or developmentally disabled populations were excluded.

The NPALS selected RCC providers from a stratified sample. 688 ALs completed the provider questionnaire, resulting in a weighted response rate of 34%, which estimates a total of 32,231 RCCs nationwide (NCHS, 2022a). In addition to the original NPALS inclusion criteria for RCC, we excluded 41 RCCs that reported no PCAs, as the training questions specifically targeted care aides. Our final analysis sample with complete data across covariates included 518 RCCs.

Variables

We used variables from the 2022 NPALS public data (see Table 1; see Supplemental Material), based on the provider data codebook (NCHS, 2022b). These included (1) training requirements, such as initial and ongoing training hours (categorical), initial training reimbursement (binary), (2) organizational factors, such as non-profit/government ownership (vs. for-profit), size in terms of beds (50 plus/less than 50), occupancy rate (greater than 85%/85% or less), if the RCC provides dementia-specific wing/care (yes/no), if the RCC is a member of a chain (yes/no), the percentage of current residents paid by Medicaid (does not accept, 0 residents, 1–25%, 25% or greater), and has contract staff (yes/no); and (3) the outcome variable: the number of care aide hours per resident per day (continuous).

Analytic Approach

Weighted descriptive statistics were used to summarize RCC characteristics, including organizational structure, aide hours per resident day (HPRD), and training requirements. For descriptive statistics, we reported weighted percentages for categorical variables and weighted means and standard errors for continuous variables. To examine the relationship between training requirements and aide HPRD, we conducted survey-weighted generalized linear regression models, adjusting for training characteristics and organizational structure. We applied facility survey weights as recommended by the NPALS manual (NCHS, 2022a).

Results

The final analytic sample included 518 RCCs. For the survey-weighted descriptive statistics relating to training (Table 2), nearly 3 out of 10 (29.6%) RCCs provided 20 hours or less (i.e., less than 3 full days) of training prior to a new aide employee starts providing care. 50% of RCCs provided between 20 to 60 hours of training, and 20.3% provided more than 60 hours of initial training. Annual in-service hours were most often between 10 and 20 hours (70.4%).

Regarding the organizational structure, non-profit or government-run RCCs represented 20.1% of the population, a

Table 1. Study Variables

Variables	Descriptions
Training variables	
Initial training	Care aides training hour requirements prior to providing care to residents: >60, (20-60], ≤20
Continuous training	Care aides training hour requirements for ongoing continuing education or annual in-service training: >20, (10-20], ≤10
Reimbursement	Does the RCC offer reimburse/pay to full-time aide employees for initial training? Yes/No
Outcome variable	
Aide hours per resident per day (HPRD)	Number of aide employee FTEs * 35 hours/7 days/number of current residents
Organizational structure	
Ownership	The type of ownership: No – private for profit; publicly traded company or limited liability company (LLC), yes – private non-profit; government (federal, state, county, or local)
Size	The number of both occupied and unoccupied licensed, registered, or certified residential care beds: < 50 beds, ≥ 50 beds
Occupancy rate	The total number of residents currently living in this residential care community/the number of licensed, registered, or certified residential care beds: >85%, ≤ 85%
Chain	Is this RCC owned by a person, group, or organization that owns or manages two or more RCCS? Yes/No
% Of current residents paid by Medicaid	During the last 30 days, for how many of the residents currently living in this residential care community did Medicaid pay for some or all of their services received at this community? (must participate in Medicaid to respond to this question) None, less than 25%, 25% or more
Contract staff	Does this community have any nursing, aide, social work, or activities contract or agency staff? Yes/No
Dementia wing	Does this residential care community only serve adults with dementia or Alzheimer's disease? Yes – has dementia wing or only serves residents with dementia/No

Note. The calculation of aide HPRD includes certified nursing assistants, nursing assistants, home health aides, home care aides, personal care aides, personal care assistants, and medication technicians or medication aides.

Table 2. Descriptive Statistics of Study Sample (*N* = 518)

	N – unweighted	Weighted percent	s.e. of percent weighted
Training			
Training hours prior to providing care			
20 or less hours	211	29.6	5
>20 and ≤ 60 hours	249	50	6.5
More than 60 hours	58	20.3	6.4
Continuing education or in-service training			
10 or less hours	90	13.4	3.1
More than 10 to 20 hours	327	70.4	5.3
More than 20 hours	101	16.2	4.4
Reimburse/pay for initial training	443	80.1	5.8
Structure			
Non-profit/Government	167	20.1	3.5
Part of a chain	364	63.2	6.5
50 or more beds	362	36.6	4.9
More than 85% occupancy rate	162	49.3	6.6
Dementia wing/only residents with dementia	265	27.1	3.7
Participation in Medicaid			
No, does not participate	294	48.8	6.5
Yes, Medicaid paid for 0 residents	96	19.6	5
Yes, Medicaid paid less than 25% of residents	66	12.4	4.1
Yes, Medicaid paid 25% or more of residents	62	19.2	6.3
Use contract staff	149	32.5	6.6
Personal care aide hours per resident day	518	3.88	0.5

Note. Residential care communities with missing data or with directors who did not respond to the question were excluded.

majority were part of a chain (63.2%), 49.3% had an occupancy rate greater than 85%, and only 36.6% reported having 50 or more beds. 27.1% of RCCs reported having a dementia wing or special focus on residents with dementia and 51.2% participated in Medicaid. Among RCCs authorized to participate in Medicaid, 19.6% reported Medicaid paid for services of 0 current residents in the last 30 days, 12.4% reported Medicaid paid for the services received of 1%–25% of residents in the last 30 days, and 19.2% reported Medicaid paid for one-quarter percent or more of residents' services received in the last 30 days. 32.5% reported some form of contract staff. The average personal care aide hours per resident day (PCA HPRD) was 3.88 (se = .50).

In the regression model to explain variance in PCA HPRD (Table 3), variables associated with higher staffing ratio included reimbursing aide staff for initial training (b = .84, se = .36) and occupancy greater than 85% (b = .82, se = .34). Variables related to a lower staffing ratio included initial training of more than 60 hours (b = −1.36, se = .58), Medicaid support for between 1% and 25% of residents (b = −1.19, se = .57) and Medicaid support for 25% or more residents (b = −2.01, se = .51), and having more than 50 beds (b = −2.14, se = .30).

Discussion

While reviews and studies suggest that training for direct care workers may increase job satisfaction and, in some cases, improve retention in long-term care settings, especially in nursing homes (Badache et al., 2026; Barnable et al., 2025; Brush et al., 2018; Calver et al., 2025; Constantine & Fiore-Lopez, 2025; MacDonald & Walton, 2007; Searle, 2020), the

Table 3. Weighted Regression Model Estimates for Personal Care Aide Hours Per Resident Day (*N* = 518)

Variable	Estimate	s.e.	p-value
Intercept	4.14	.52	<.001
Training prior to start (Ref: 20 hours or less)			
Between 20 and 60 hours	-.04	.43	.925
More than 60 hours	-1.36	.58	.02
Continuing education (Ref: 10 hours or less)			
Between 10 to 20 hours	-.05	.39	.906
More than 20 hours	-.49	.44	.274
Reimbursement for initial training	.84	.36	.019
Non-profit/Government (Ref = For profit)	-.20	.27	.473
Medicaid (Ref = Not authorized)			
0% residents in last moth	-.34	.55	.540
Less than 25% residents in last month	-1.19	.57	.037
More than 25% residents in last month	-2.01	.51	<.001
Chain ownership	.64	.43	.142
50 or more beds	-2.14	.30	<.001
Greater than 85% occupancy rate	.82	.34	.018
Dementia-focus	-.10	.38	.786
Use contract staff	.58	.70	.404

evidence remains inconclusive, particularly in RCCs within the U.S. context at a national level. States are conducting their own research on personal care aides and their experiences in assisted living. One such evaluation in Oregon led by Carder and colleagues (2023) identified several themes relevant to staff training in assisted living/residential care settings, including variation in resources and training, promising innovative practices, creative solutions can improve workplace experiences. Researchers reported a mentored learning approach during initial training promoted direct care workforce well-being. Based on this policy momentum and the literature, we hypothesized that longer initial training would be positively associated with staffing outcomes (Kennedy et al., 2023). However, our findings did not support this. Instead, we observed that RCCs providing more than 60 hours of initial training reported significantly lower aide HPRD than those offering 20 hours or less. One possible explanation is that extensive training requirements may delay newly hired PCAs from beginning direct care work, thereby hindering facilities' ability to recover from staffing losses in a timely manner (Searle, 2020). This may suggest a potential tradeoff between training duration and staffing capacity, as also suggested in research on nursing home staff training (MacDonald & Walton, 2007). As hypothesized, reimbursement for training was associated with higher aide staffing levels. Our study is supported by the exploration of innovative practices for sustaining the direct care workforce, which included new fringe benefits and paying for training costs among assisted living settings in Oregon (Carder et al., 2023). This finding echoes the call for investment in training for direct care workers—as the workforce expands, training could scale up each worker's capacity to deliver quality care (Scales, 2022).

RCCs that had residents whose RCC services were paid by Medicaid were associated with lower staffing levels. The finding aligns with nursing homes, a similar long-term care option in the US, where high Medicaid census was linked to lower odds of meeting the nursing assistant staffing threshold (Hawk et al., 2022). Additionally, Medicare and Medicaid dually eligible residents are common in RCCs, with the lowest concentrations in states with state plan amendments covering RCC services, and the highest in states lacking Medicaid coverage for RCCs (Cornell et al., 2023). A high number of dual-eligible residents could be a disadvantage because Medicaid rates are usually lower than private pay, potentially limiting resources and staffing for those facilities.

Unexpectedly, not-for-profit/government ownership was not statistically significant in relation to the staffing ratio. This could be explained by residential care setting differences from nursing homes and supports future research into how ownership is associated with workforce and outcomes across RCCs nationwide. The level of continuous education hours was also not statistically significantly related to the staffing ratio, potentially because the quality or experience of continuous education may matter more than the required hours, such as experiences with peer-led training (Badache et al., 2026). Studies have identified staffing issues as a barrier to training, such as competing demands on DCWs' time and capacity or staffing problems that conflict with training schedules (Beeber et al., 2010; MacDonald & Walton, 2007; Surr et al., 2020).

Practice Implications

There needs to be a careful balance between the initial training needs of PCAs and the immediate care needs of residents, as extensive training requirements can temporarily reduce staffing capacity. This challenge is especially relevant in RCCs, where staffing is already limited. To address this, it is important to develop and deliver efficient, flexible, and effective training formats that provide a consistent, standardized content. Research in nursing homes has begun to explore digital microlearning, which offers short, online, engaging modules that can be completed during or between shifts with minimal disruption to care (Inker et al., 2021). This format may be particularly useful for some of the training PCAs complete during orientation and ongoing, especially given the scheduling constraints and the complex care they provide for residents living with dementia and other health conditions (Han et al., 2017; Melekin et al., 2024; Smith et al., 2024). Incorporating adaptable educational strategies like online learning could support both workforce development and resident well-being (MacDonald & Walton, 2007; Nolan et al., 2008). Notwithstanding, hands-on training is essential to PCA duties of assisting residents with bathing, dressing, mobility, transferring, and toileting (Han et al., 2017; Melekin et al., 2024). State-based studies have found a mentored learning approach with a seasoned PCA is helpful (Carder et al., 2023).

Findings about large RCCs and lower aide staffing align with research that there are multiple models/typologies in residential care. Larger RCCs (over 50 beds) were often those that provide medical or skilled nursing services and serve residents with greater care needs (Smith et al., 2024), which can make them more susceptible to staffing shortages. In contrast, RCCs that primarily offered housing and hospitality services tended to serve more independent adults and were potentially less likely to experience the same level of staffing challenges. In addition, RCCs should consider providing reimbursement for initial training of aides as this was a significant factor in higher staffing levels. Only 33.6% of RCCs will need to implement this practice to become standard, according to the recent data published by Sengupta and colleagues (2025).

Policy and Research Implications

The finding of Medicaid payment for residents in residential care with lower aide staffing is likely due to lower reimbursement rates that impact direct care wages and benefit levels. This mirrors and builds upon research in the nursing

home setting (Harrington et al., 2007; Hawk et al., 2022) showing that the share of residents on Medicaid in RCCs is negatively associated with aide staffing levels. Drawing from the insights of Cornell et al. (2023), states should have state plan amendments to cover RCC services; meanwhile, RCCs in those states are associated with a lower concentration of dual-eligible residents, meaning more private-pay income for RCCs.

Researchers can use new national and longitudinal datasets from the National Dementia Workforce Study (NDWS, 2025) to assess how RCC and county-level factors are associated with PCA staffing and explore several types of job resource strategies to promote retention. Further research is needed in RCCs to explore on-the-job education of aides, current organizational resources, and the impact of Medicaid participation and share of residents on Medicaid on various staff and resident outcomes. Given the wide variety of RCC licenses and facility types, it will be important to explore the structures, processes, and outcomes of initial and continuous education for aides using methods that involve primary data collection with PCAs and RCC organizational and healthcare leadership. Future research is also needed to qualitatively explore what types of programs PCAs are being reimbursed for during initial training and whether they result in special certificates of education or other benefits.

Limitations

This study employed a cross-sectional approach and limits the conclusions to associations between the variables. Future studies could use multiple waves of NPALs data to better understand causes of aide staffing levels if later surveys collect this data. Future studies may want to replicate our analyses with the continuous forms of the variables that are available in the restricted use file. For example, training hours, the number of current residents paid by Medicaid, ownership, and number of beds were transformed into categorical variables in the public use file we used. This may mask non-linear effects.

Strengths

This study highlights the existing implications of investing in PCAs as essential human capital in RCCs, underscoring their central role in maintaining staffing stability, improving care quality, and enhancing resident well-being. With few opportunities to examine RCC characteristics nationally, this study meaningfully adds to the literature about organizational practices—namely, the training and training reimbursement of PCAs—that may impact aide staffing levels and turnover rates.

Summary

In analyzing the NPALS public data from 2022, we identified the nature of relationships between RCC training features, organizational structures, and aide HPRD. Paying for initial training and occupancy rates were positively associated with aide staffing ratios. As the share of current residents paid by Medicaid increased, aide staffing levels in RCCs decreased significantly. Similarly, facility size and those that provided more than 60 hours of initial training were associated with lower aide HPRD. We generated new findings by analyzing training-related variables in RCCs, an area that has been understudied. Future research can expand on these findings with new datasets such as the National Dementia Workforce Study, future NPALS waves, and qualitative research to unpack our unexpected findings regarding the relationship between initial training hours and aide staffing levels.

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Human Subjects' Approval

We completed the VAEDA Determination and received indication that this project does not meet the regulatory definition of research in accordance with 38 CFR 16.102(l).

Disclaimer

The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.

Data Availability Statement

The data used in this study is publicly available.

Supplemental Material

Supplemental material for this article is available online.

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