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Collaborative Research Report: Personal Assistance Workforce Capacity and Quality Outcomes

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PERSONAL ASSISTANCE WORKFORCE CAPACITY AND QUALITY OUTCOMES

COLLABORATIVE RESEARCH REPORT

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HIGHLIGHTS

- Higher ratios of personal care aide (PCA) workers to consumers who may need services are associated with improved consumer choice and care quality as measured by the Long Term Services and Supports (LTSS) Scorecard.
- Increases in PCA ratios were associated with significant increases in four of the five LTSS Scorecard dimensions including Choice of Setting and Provider, Safety and Quality, Support for Family Caregivers, and Community Integration.

INTRODUCTION

The growing demand for home-based care services contends with a major shortage of personal care aide (PCA) workers. PCAs support older adults and people with disabilities in home and community-based settings with activities of daily living, such as bathing, dressing, eating, and more. A thriving PCA workforce is necessary to match demand for home and community-based care. However, persistently low wages and poor job quality lead to high rates of turnover and shortages in the workforce. When there are not enough PCAs to meet demand, consumers report negative outcomes such as missed or reduced care, discontinuity of care, and compromised care quality (Morris, et al 2023; Dill et al., 2023). Negative outcomes are reportedly more pronounced in rural communities relative to urban areas due to fewer PCA workers trying to meet higher rates of demand (Chapman et al., 2022; Dill et al., 2023).

Building on these findings, this research report aims to understand the relationship between PCA workforce capacity and quality of consumer-reported care for long-term services and supports. To develop this understanding, we explored how PCA worker ratios in each state (defined as the number of PCAs per 1,000 people with self-care disability) were associated with state-level rankings on AARP's Long Term Services and Supports Scorecard.

METHODS

Data Sources

We used two data sources to explore the relationship between PCA workforce capacity and quality indicators.

PCA worker ratios refer to the ratio of PCAs to the population of individuals with identified self-care disabilities. Ratios were calculated for each state using weighted data from the 2018-2022 American Community microdata sample (Ruggles et al., 2024). First, we estimated the number of people aged 18 years and older in each state with self-care disabilities by counting the number of respondents who answered yes to the question "Do you have difficulty dressing or bathing?" Second, we estimated the number of PCA workers by counting the number of respondents who reported being currently employed in PCA occupations as defined by the Census Occupation Code 3602. We used these two estimates to create a ratio of PCA workers per 1,000 people with self-care disabilities for each state.

Long-Term Services and Supports Scorecard. AARP developed a state scorecard assessing LTSS for older adults, people with disabilities, and family caregivers. The scorecard evaluates LTSS provided in both congregate and community-based settings on several dimensions including (1) Affordability and Access, (2) Choice of Setting and Provider, (3) Safety and Quality, (4) Support for Family Caregivers, and (5) Community Integration. While the LTSS Scorecard does not focus on PCAs and outcomes exclusively, we believe it is an adequate proxy measure for assessing the association between PCA worker ratios and quality of care.

In their LTSS Scorecard report, AARP rated the performance of every state and the District of Columbia on a zero to four scale for each of five dimensions of LTSS, where higher scores reflected better quality for LTSS consumers.

LTSS Scorecard Dimensions

The 2023 LTSS Scorecard dimensions of care included:

- Affordability and Access - measured with 7 indicators related to both costs of services and the availability of policies and programs that ensure access for individuals who cannot afford services.
- Choice of Setting and Provider - measured with 11 indicators that measure person-centered approaches to care, consumer choice and control, community living options, and availability of workers in various care settings.
- Safety and Quality - measured with 13 indicators focused on home and community-based services (HCBS) quality benchmarks, as well as nursing home indicators including staffing,

turnover, COVID-19 protocols, and selected health-related outcomes (such as hospital admissions and pressure sores).

- Support for Family Caregivers - measured with 12 indicators focused on policies that support family caregivers such as paid family leave and sick days, respite care through Medicaid waivers, spousal impoverishment protections, and caregiver tax credits.
- Community Integration - measured with 7 indicators focused on access to community-based services and supports for transportation, housing, and health, as well as metrics for community engagement such as employment and nursing home transition rates.

In addition to examining the specific LTSS Scorecard dimensions above, we created an LTSS aggregate score, which was the simple sum of the five dimensions and could range from a minimum of 0 to a maximum of 20. This aggregate score is mapped below.

Analyses

The goal of our analyses was to understand how the ratios of PCA workers (relative to people with self-care needs) were associated with different dimensions of care quality at the state level, as measured by the LTSS Scorecard. We hypothesized that higher PCA worker ratios would be positively related to all scorecard dimensions but that some associations would be stronger, such as Choice of Setting and Provider and Safety and Quality of services.

We first created visualizations of PCA worker ratios and LTSS aggregate scores for the United States. Within each map, darker shades of green were associated with higher PCA worker ratios and higher LTSS aggregate scores, respectively.

Second, we used bivariate regression to assess the strength and significance of associations between the PCA worker ratios and the five LTSS dimension scores and the LTSS aggregate score.

RESULTS

Visualizations

Map 1 presents state-level PCA worker ratios and is split into five shades of green, with darker shades representing higher ratios of PCA workers per 1,000 people with self-care reported disabilities. The thresholds for the five PCA worker ratio categories were set so that similar proportions of states fell into each category. For example, approximately 20% of states had PCA worker ratios less than 110, while approximately 20% of states had PCA worker ratios above 215.

For easy comparison, Map 2 is split into the same five shades of green, with darker shades representing higher LTSS scorecard ratings of care quality. While LTSS aggregate scores could range from 0 to 20, actual scores ranged from 3 to 17. The thresholds for the five LTSS aggregate score categories are simple quintiles, such that each shade of green represents a 3-point range of score. Comparison of the two maps shows that states with high PCA worker ratios tend to have high LTSS aggregate scores - the density of green shading is mostly consistent between the maps.

Map 1 – PCA Worker Ratios
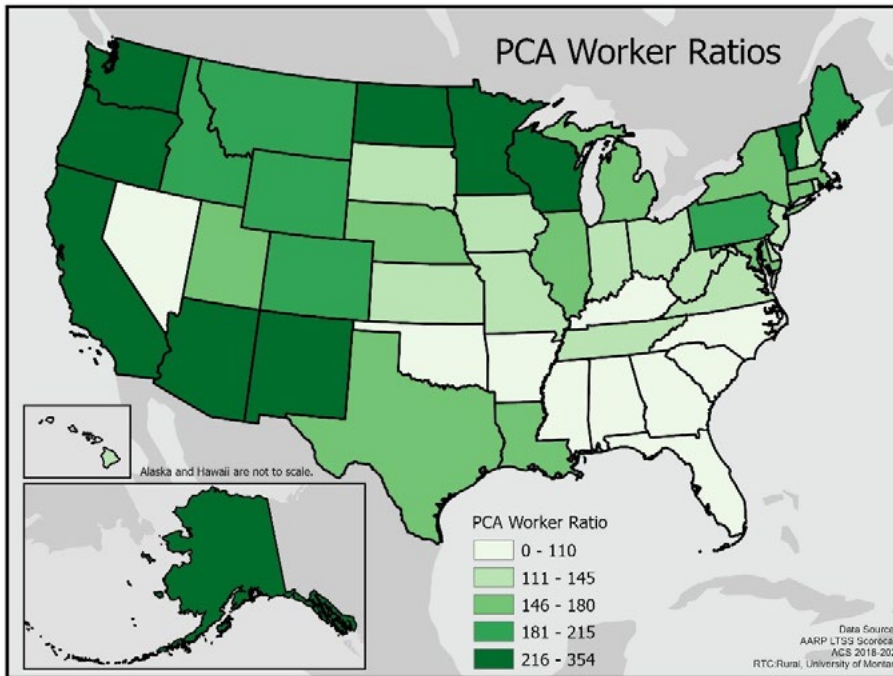
Note: PCA worker ratios reflect the number of PCA workers per 1,000 people with self-care disabilities.

Map 2 – LTSS Aggregate Scores
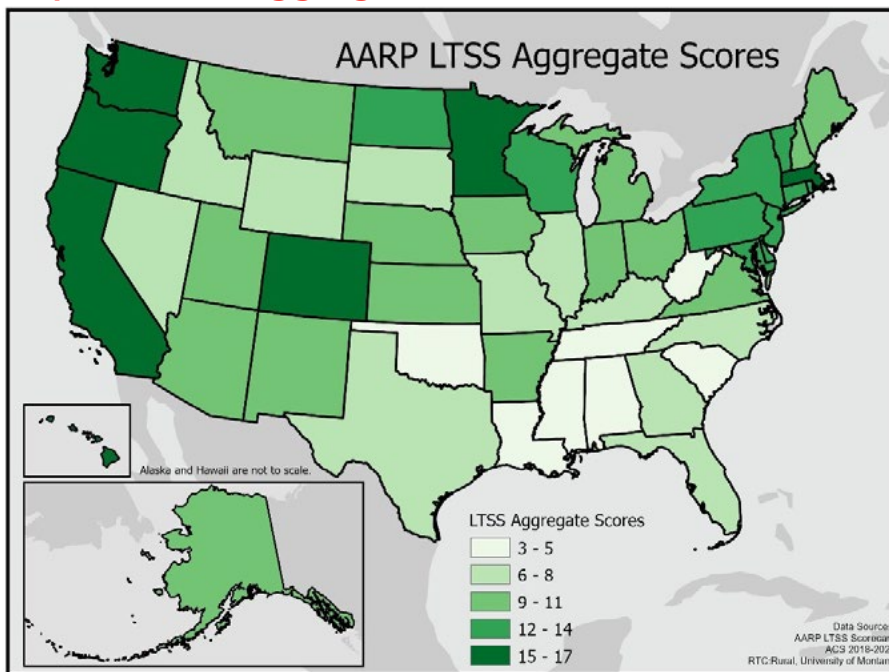
Note: LTSS Aggregate Scores reflect the sum of the five dimensions of care quality and could range from a minimum of 0 to a maximum of 20.

ASSOCIATIONS

Table 1 reports results from the six bivariate regression models - one model for each of the five LTSS Scorecard dimensions plus an aggregate across all dimensions. Dimension scores were rated on a five-point scale, where 0 was the lowest score possible and 4 was the highest score possible. The aggregate score represented a sum across these dimensions, ranging from 0 to 20.

Table 1: Associations between PCA worker ratios and LTSS care outcomes

Dependent Variable	Independent Variable	Coefficient	R-squared
Dimension 1: Affordability and Access	PCA worker ratio	0.003	.04
Dimension 2: Choice of Setting and Provider	PCA worker ratio	0.007***	.237
Dimension 3: Safety and Quality	PCA worker ratio	0.008***	.269
Dimension 4: Support for Family Caregivers	PCA worker ratio	0.01***	.361
Dimension 5: Community Integration	PCA worker ratio	0.005**	.098
LTSS Dimensions: Aggregated Score	PCA worker ratio	0.033***	.329

** indicates significance at the $p<.05$
*** indicates significance at the $p<.01$

There was not a statistically significant relationship between PCA worker ratios and Affordability and Access. For the other dimensions, the data indicate that an increase of 100 PCA workers per thousand people with self-care disabilities was associated with a 0.7 higher score in Choice of Setting and Provider, a 0.8 higher score in Safety and Quality, a 1.0 higher score in Support for Family Caregivers, and a .5 higher score in Community Integration, each out of a maximum score of 4. Functionally, this means that states with more PCA workers per capita had significantly higher scores in four of the five dimensions of LTSS, indicating higher reported quality of care for consumers.

Results were similar for the LTSS aggregated score. In this case, an increase in 100 PCA workers per thousand people with self-care disabilities was associated with a 3.3-point higher score, out of a maximum score of 20.

R-squared values multiplied by 100 indicate how much variance in the dependent variable (e.g., LTSS Dimensions) is explained by the independent variable (i.e., PCA Worker Ratios). The r-squared values were substantial for all significant findings and ranged from 23.7% to 36.1% variance explained. For example, the r-square for Support for Family Caregivers suggested that PCA worker ratios explained 36.1% of the variation in the score.

DISCUSSION

Based on the literature about the relationship between access to providers and quality of care, we anticipated that each dimension of the LTSS Scorecard would be positively associated with PCA worker ratios. For the most part, this hypothesis was supported by the data.

Affordability and Access. We initially expected higher PCA worker ratios to be positively associated with the Affordability and Access dimension of care. We reasoned that more workers would help meet demand, thereby improving affordability and access. This relationship, however, was not significant in the model. There are a variety of reasons this could be the case. Taken at face value, it is possible that Affordability and Access is simply driven by variables other than PCA worker ratios. The insignificant finding could also be attributable to our unit of our analysis. While we selected state-level data for ease of interpretation, PCA worker ratios vary significantly within states. This variation could undermine the strength of the bivariate relationship at the state level. This research team intends to further explore this possibility by using smaller units of analysis such as county level data in future research.

Choice of Setting and Provider. Model results indicated that an increase of 100 PCAs per thousand was associated with a .7-point increase in the score for Choice of Setting and Provider. This finding may reflect that, disregarding cost, more PCAs per capita give consumers a wider range of choice among care providers. The PCA worker ratio may also capture a transfer of service providers from nursing homes to HCBS, in line with most consumers' preference (Ryan and Edwards, 2015). Third, a larger workforce may allow consumers more choice about who can best meet their needs. The relationship between choice and PCA worker ratios may be bidirectional, and merits further examination.

Safety and Quality. Results indicated that an increase of 100 PCAs per capita was associated with a 0.8-point increase in the score for Safety and Quality. This relationship could be explained by a number of factors. First, a larger PCA worker ratio may produce more consistent care, with more workers available to cover for one another when personal conflicts or illnesses arise. Second, a larger workforce may signal better working conditions, with increased attachment to the position and reduced turnover.

For this dimension, it is important to note that several LTSS indicators were focused on nursing home care, which are not necessarily impacted by PCA worker ratios. However, certain indicators such as nursing home staff turnover may parallel or otherwise shape turnover rates in the broader direct care workforce. If this is the case, PCA worker ratios may be tracking onto these indicators more than direct indicators of safety and quality of care. Future research is needed to fully understand the nature and directions of these relationships.

Support for Family Caregivers. The bivariate regression between PCA worker ratios and Support for Family Caregivers had the largest effect, with a 1-point increase for each additional 100 PCAs per 1,000 with self-care disabilities. This relationship may be a product of reverse causality, reflecting instead that policies that support family caregivers (i.e. allowing family caregivers to be paid) increase the number of PCAs in the workforce. More research is needed to confirm the direction of this relationship.

Community Integration. The relationship between PCA worker ratios and Community Integration had the smallest coefficient with a 0.5-point increase for each 100 additional PCAs per 1,000 with self-care disabilities. Upon closer examination this is congruent with the LTSS Scorecard indicators for Community Integration, which included factors such as nursing home transition rates, employment, and the availability and cost of transportation and housing. While PCAs perform many essential functions, the weakness of this relationship may reflect that, while helpful, the presence of a PCA is not enough to push through systematic social and material barriers to Community Integration.

LTSS Aggregate Score. Given the strength of associations between PCA worker ratios and the five dimensions of LTSS, it makes sense that aggregate results would also be significant and substantial. Specifically, the r-squared value suggested that PCA worker ratios explained 33% of the variance in LTSS aggregate scores. While more research is needed to investigate nuances in this relationship, this finding establishes that PCA worker ratios have a substantial impact on the quality of care received by people with self-care disabilities.

CONCLUSION

This fact sheet provides evidence of associations between PCA worker ratios and care quality. While additional research is needed to more clearly understand the factors influencing these relationships, an obvious first step is to build a more stable and comprehensive PCA workforce. High and growing demand for PCA workers gives PCA workforce investment the potential to be a powerful job creation engine. Furthermore, supporting PCA workers supports consumers' ability to receive care in their homes, a common and strong consumer preference (Ryan and Edwards, 2015).

Many factors shape entry into the direct care industry, including working conditions, pay and benefits, reporting requirements, career advancement opportunities, and labor policies. PCA consumers often cannot afford additional costs for services, so policymakers must find ways to improve direct care worker earnings and job quality without passing costs to consumers. Public sources, primarily Medicaid, already provide the majority of funding for HCBS. Increasing the PCA workforce will inevitably entail increasing public funding for this sector and implementing reforms to ensure that funding reaches workers and improves affordability and access for consumers.

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COLLABORATORS

This publication reflects a collaboration between RTC:Rural and PHI.

RTC:Rural connects research to practice and policy by developing evidence-based solutions that respond to the unique needs of people with disabilities living in rural communities.

PHI promotes quality direct care jobs as the foundation of quality care. They bring three decades of research, policy, and workforce innovation to meet the needs of direct care workers and their consumers, identify and implement best practices, and craft evidence-based policies to improve job and care quality.

RTC:Rural and PHI are excited to continue this partnership in future research efforts.

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