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RESEARCH ARTICLE

An environmental scan of equity-related measures for the certified nursing assistant dementia care workforce

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Abstract

INTRODUCTION: Certified nursing assistants (CNAs) constitute the largest segment of the nursing home workforce, with over 50% of the dementia care workforce comprised of racial and ethnic minoritized individuals. Despite their critical role in dementia care, CNAs face significant inequities in terms of salary, treatment, and working conditions. To enhance equity and improve working conditions, valid and reliable measures are essential for nursing homes to assess their current environment, track progress, and refine strategies. This paper synthesizes existing measures and tools that assess equity-related constructs among CNAs.

METHODS: We conducted an environmental scan to identify existing measures, tools, and instruments assessing equity-related constructs among CNAs in nursing homes. Our search focused on nine key equity-related constructs: training, job satisfaction, compensation, staffing/workload, burnout, working conditions/environment, role, leadership, and turnover.

RESULTS: Our environmental scan resulted in 15 measures, tools, or instruments relevant to CNA equity. These instruments focused on job satisfaction, retention and turnover, job commitment, leadership experiences, and work environment. Sixty percent of these tools lacked reported validity or reliability data. While the remaining 40% demonstrated strong psychometric properties, overall, the methodological rigor of available measures is inconsistent. A critical gap in the existing literature is the absence of tools measuring burnout or workload, among CNAs.

DISCUSSION: The identified measures/tools offer potential for evaluating the effectiveness of interventions addressing CNA equity. However, it is imperative to establish the validity and reliability of these instruments across diverse populations, particularly among racial and ethnic minoritized groups, and develop or adapt tools that measure burnout and workload for CNAs. Furthermore, a deeper understanding of the underlying mechanisms driving these inequities through qualitative data is crucial for developing targeted and impactful interventions.

KEYWORDS
certified nursing assistants (CNAS), equity, retention, work environment

Highlights

- Measuring equity among CNAs is important to evaluate strategies intended to improve equity.
- The identified tools enable assessment of how CNAs feel about important constructs that are related to equity.
- We found no tools that comprehensively measured workload or burnout experienced by CNAs.

1 | INTRODUCTION

Certified nursing assistants (CNAs) are a diverse workforce essential to the care of residents with dementia.[1–4] Comprising over half of the dementia care workforce in nursing homes, CNAs deliver the majority of direct care to this vulnerable population.[5,6] Their daily responsibilities encompass activities of daily living, such as bathing, feeding, and toileting. CNAs often develop strong relationships with residents, enabling them to detect changes in condition and unmet needs earlier than other staff. This unique position makes them instrumental in optimizing care for individuals with dementia.

The CNA dementia workforce is predominantly female (90%) and disproportionately composed of racially and ethnically marginalized individuals. Over half identify as members of a minority group, with Black or African American, Hispanic or Latino, and immigrant populations significantly represented.[6] This workforce is relatively young, with a median age of 36 and limited educational attainment, as over half lack a high school diploma.[6] Obtaining a job as a CNA is very possible for those with limited education because as it stands, these jobs do not require a significant amount of education, experience, or training.[6]

1.1 | Inequity problems within the CNA dementia workforce

Despite being critical to dementia care, CNAs are often undervalued, underutilized, and underappreciated. They face significant inequities in the nursing home workplace, including low wages, poor treatment, and challenging working conditions.[7] Inequity, as defined by Merriam-Webster, means unfairness or injustice.[8] It refers to a situation where there is a lack of equality or fairness in the distribution of resources, opportunities, or treatment.[8] In 2016, CNAs earned a median hourly wage of $11.87, amounting to $2560 monthly before taxes.[6] This insufficient income is inadequate to cover basic living expenses such as housing, utilities, and food. Even with years of experience, CNAs see minimal wage increases, averaging only $2 more per hour than entry-level workers.[9] Access to healthcare is another challenge, with 20% of CNAs uninsured. Of those with employer-sponsored insurance, 42% cannot afford it.[9]

Beyond low wages, CNAs endure disrespectful treatment from peers, supervisors, and residents, including verbal and physical abuse.[10–12] Overwhelming workloads, often caring for 12 or more complex residents due to severe staffing shortages,[13] exacerbate these challenges and only 25% of nursing homes meet recommended minimum staffing standards. To compound matters, CNAs frequently lack adequate training to meet the escalating care needs of residents with dementia.[14–17] Many states require only 75 hours of initial training, which is insufficient for the complexities of the role and the residents being cared for.

Inequities faced by CNAs often stem from a combination of factors: a devaluation of both CNA work and older adult care, systemic issues rooted in racism, ageism (e.g., segregated nursing homes, low Medicaid payment), and sexism, and a lack of administrative awareness or preparedness to address CNA concerns.[18] Given the disproportionate representation of racially and ethnically marginalized individuals in the CNA workforce, these inequities exacerbate existing disparities. Many CNAs experience intersecting forms of disadvantage, including race, ethnicity, gender, and immigration status.[7]

1.2 | Poor working conditions for CNAs lead to high turnover and poor resident care

These inequities faced by CNAs have severe repercussions for residents living with dementia, those who care for them, and the healthcare system in general. High CNA turnover rates, reaching as high as 129% annually,[19] directly impact care quality. Studies link turnover to increased instances of pressure ulcers, pain, behavioral issues, and urinary tract infections among residents. [20,21] The financial burden on nursing homes is substantial, including increased training costs, reduced staff efficiency, understaffing, and overtime expenses.[22] These challenges collectively impact residents, families, and staff, emphasizing the urgent need for solutions.

To optimize care for residents with dementia and those who provide this care, it is critical to address inequities faced by CNAs, including disparities in salary, treatment, and working conditions. While initiatives like President Biden's nursing home reform[23] and the National Academies' report[24] highlight the need to focus on equity for this workforce, there's limited knowledge of equity focused measures that can be used to assess and improve CNA inequities within nursing homes. This paper aims to identify and evaluate existing

measures, tools, and instruments that assess equity-related constructs specifically for CNAs in nursing home settings.

2 | METHODS

We conducted an environmental scan of measures, tools, and instruments to identify research that measures equity-related constructs among CNAs in nursing homes.

2.1 | What is the difference between equity and equality?

It is important to differentiate equity and equality, as these terms have often been used interchangeably. Equity recognizes each person's different circumstances and needs, as well as their varying resource and opportunity needs. Equality, on the other hand, means giving everyone the exact same resources, regardless of actual needs or extant opportunities or resources.[25]

2.2 | Measuring equity

Measuring equity will depend not on identifying one indicator, but on breaking down equity issues into constructs and considering them within the populations experiencing inequities. To determine what constructs need to be evaluated, it is necessary to identify areas in which inequities exist and the key variables that reflect changes in these areas. These variables, then, can be used to measure the effect of interventions on the identified equity issues in a population.

2.3 | Operationalizing equity for CNAs

In previous work, we identified constructs that are priorities to address equity concerns for CNAs: training, job satisfaction, compensation, staffing/workload, burnout, working conditions/environment, role, leadership, and retention/turnover.[18] Thus, we consider measurements for these constructs to be relevant to measuring equity overall.

2.4 | Literature search

We conducted a search of the literature using PubMed, Web of Science, and Google Scholar. Our search focused on measures, tools, and instruments related to CNA equity within nursing homes. Terms that guided our search reflected the constructs described in the previous section. We reviewed additional literature to identify different terms that may have been used to describe these constructs and included them in our search. Search terms included CNA or CNA, tool, equity, burnout, job/work satisfaction, role, dissatisfaction, stress, tired, leadership, work relationship, remuneration, retention, benefits, turnover, vacancies, work environment, workplace violence, workload, demographics, sex, or race.

Studies were included if they were written in English and focused on CNAs or aides working in nursing homes. We prioritized research that developed or validated measures specifically for this population and setting, but also included studies without formal validation if they had face validity. Exclusion criteria included studies not centered on CNAs/aides and nursing homes and those without relevant measurement tools that were specific to our equity-related constructs. Our search encompassed peer-reviewed articles, gray literature (government and research organization reports), and citation searches. International research was excluded. To ensure inclusion criteria were met, two research team members conducted a full-text review of all potential articles and met to discuss the consensus of included articles and address conflicts.

2.5 | Data extraction and analysis

We extracted data from eligible articles into a table of evidence (Table 1), including the author of the tool, year of publication, measure concept, type of tool, description of the tool, number of items in the tool, domains/subscales existing within the tool, and measures of validation for the tool.

RESEARCH IN CONTEXT

1. **Systematic review**: Despite their importance to dementia care, certified nursing assistants (CNAs) are often undervalued, underutilized, and underappreciated and experience substantial inequities in the nursing home workplace reflected in their salary, treatment, and working conditions. To improve equity and working conditions for CNAs, valid and reliable measures are needed to enable nursing homes to assess their current environments specific to equity, measure improvements, and adjust their focus if their strategies are ineffective.
2. **Interpretation**: We found tools that measured CNAs' job satisfaction, role, workload, retention and turnover, job commitment, leadership and CNA experiences, compensation, training, and work conditions/environment. There presently exists no tools that comprehensively measure workload and burnout among CNAs.
3. **Future directions**: The identified measure/tools can be used to measure the efficacy of solutions to equity issues commonly experienced by CNAs. It is critical that the mechanisms underlying these injustices be further investigated to ensure that interventions have a powerful and rapid impact.

TABLE 1 Equity measures

Concept	Tool	Name	Description	# of Items/ questions (if survey)	Subscales/domains	Evidence of instrument validation	Equity-related constructs
Job satisfaction	Scale	*Benjamin Rose Nurse Assistant Job Satisfaction Scale*	This scale measures job satisfaction of nursing assistants using 5 subscales.	18	Communication and recognition, amount of time to do work, available resources, teamwork, management practices	Internal consistency of scale is .92.	Job satisfaction, leadership, working condi-tions/environment, role
Job satisfaction	Scale	*Grau Job Satisfaction Scale*	A two-dimension measure of job satisfaction developed by Grau et al. for a study of nurse aides in nursing homes.	14	2 domains	N/A	Job satisfaction, compensation
Job satisfaction	Questionnaire	*Nursing Home Nurse Aide Job Satisfaction Questionnaire*	In this study, the author examined the job satisfaction of nurse aides working in nursing homes using the Nursing Home Nurse Aide Job Satisfaction Questionnaire.	22	7 subscales: work, quality, workload, training, coworkers, demands, rewards	N/A	Job satisfaction, training, workload, working condi-tions/environment, compensation
Job satisfaction	Questionnaire	*Nursing Home Certified Nurse Assistant Job Satisfaction Questionnaire*	This instrument consists of 19 questions that are specifically tailored for CNAs.	19	7 subscales: coworkers, work demands, work content, workload, training rewards and quality of care	The item-scale internal consistency analyses determined that the correlation of items within indices was higher than those of items with other indexes. Cronbach's alpha values for the domains ranged from .72 to .83 and were all higher than the usually recommended levels.	Job satisfaction, working condi-tions/environment, training, compensation, role, workload
Job satisfaction	Scale	*Job Satisfaction Scale by Probst et al.*	Job satisfaction was measured by a 6-item score. Respondents were asked to describe their satisfaction with 6 "aspects of your current job" using a 4-point Likert scale: workplace morale, doing challenging work, benefits, salary or wages, learning new skills, and overall job satisfaction.	6	N/A	Cronbach's alpha for the scale was 0.77	Job satisfaction, compensation, working condi-tions/environment, training
Job satisfaction	Questionnaire	*WeCare Connect*	WeCare Connect is used to gather self-report feedback from CNAs and measure overall job satisfaction.	N/A	3 subscales: relationship with supervisor, organizational supports, COVID-19 work-related stressors	For the measure of relationship with supervisor, Cronbach's Alpha of the scale was $\alpha = .93$.	Job satisfaction, leadership, working conditions/ environment

(Continues)

TABLE 1 (Continued)

Concept	Tool	Name	Description	# of Items/ questions (if survey)	Subscales/domains	Evidence of instrument validation	Equity-related constructs
Retention	Questionnaire	*Leon, et al. Retention Instrument*	The retention rate for the organization was calculated as the percentage of direct care workers who worked for a certain time period (less than 1 year, 3 or more years, 10 or more years) divided by the total number of DCWs at the time of the telephone interview.	3	N/A	N/A	Retention/turnover
Retention	Questionnaire	*Remsburg, Armacost, and Bennett Retention Instrument*	Remsburg, et al., investigated retention by calculating the length of service for terminated employees and employees who remained.	N/A	N/A	N/A	Retention/turnover
Retention and turnover	Surveys	*Meyer et al.'s survey on Employment Patterns*	The instrument was used to investigate the status of employment, at 6 months and 1 year after the initial survey, for CNAs who were trained by the LTC facility versus the ones that were not. Results indicate other social factors were the reasons for CNAs retention or turnover during the period at which they conducted surveys.		(1) 4 sections: demographics, reasons for working in LTC, training and preparedness, workplace issues (2) 5 sections: demographics, work history, workplace issues, comparison from CNA employment in LTC to current role, reasons influencing a return to CNA role in LTC setting	N/A	Retention/turnover, training, working conditions/environment, role
Turnover	Questionnaire	*Eaton Instrument for Measuring Turnover*	Eaton measured turnover of LTC employees as the number of newly hired employees in a certain category (e.g., registered nurses, licensed practical nurses, nurse aides) divided by the number of employees in that category over a 12-month period.	N/A	N/A	N/A	Retention/Turnover
Commitment	Questionnaire	*Program Information and Commitment Questionnaire*	The instrument includes measures of 3 concepts: participation, nursing home effort, and CNA commitment.	11	3 sections: participation, nursing home effort, and CNA commitment	Internal consistency scores were calculated for each section.	Working conditions, environment

(Continues)

TABLE 1 (Continued)

Concept	Tool	Name	Description	# of Items/ questions (if survey)	Subscales/domains	Evidence of instrument validation	Equity-related constructs
Commitment	Questionnaire	*Nursing Assistant Survey*	Their investigation included: a) whether certified nursing assistants (CNAs) are more committed to nursing home jobs when they perceive their jobs as enhanced (greater autonomy, use of knowledge, teamwork), and b) whether CNA job commitment affects resident satisfaction.	82	N/A	N/A	Job satisfaction, compensation, working conditions, turnover, role
Leadership and experience	Questionnaire	*CNA Perceptions Questionnaire*	This tool surveyed CNA perceptions of nursing home administrators, supervisors, and coworkers, and then compared generational differences.	6	Sections: demographic, administrators, supervisors, intrinsic satisfaction and commitment, and workplace climate.	With the shorter scales, they calculated Cronbach alpha scores to ensure reliability of scales. The four scales and their Cronbach alphas are perceptions of administrators (0.89); perceptions of supervisors (0.91); the workplace climate (0.89); and job satisfaction and commitment (0.72).	Leadership, environment, job satisfaction
Leadership and experience	Questionnaire	*Health Care Worker Survey*	This tool serves 2 aims: (1) To examine factors associated with entry into direct care work, and (2) To examine factors related to retention of direct care workers, including caseload, wages, supervisory style, and job satisfaction.	33	N/A	N/A	Leadership, working conditions, compensation, job satisfaction, role, retention/turnover
Workplace environment	Questionnaire	*Knowledge and Self-Efficacy Survey*	The tool describes the frequency and context of assaults against NAs from residents and to describe NAs' beliefs about their violence prevention knowledge and self-efficacy to prevent assaults from residents.	9	N/A	N/A	Working conditions, environment

Abbreviations: CNA, certified nursing assistant; DCW, direct care worker LTC, long-term care; NA, nursing assistant.

3 | RESULTS

Our environmental scan resulted in 15 measures. Measures focused on job satisfaction, retention and turnover, job commitment and intention to stay, leadership and CNA experiences, and work environment. We found no measures that assessed workload or burnout. Sixty percent of the tools ($n = 9$) did not have validity or reliability scores reported. Of the 40% of tools reporting validity and reliability scores, the validation scores were found to be high. More details about each measure and how they link to the equity-related constructs can be found in Table 1. Below, we describe these measures by construct and how they might be used to measure equity among CNAs.

3.1 | Job satisfaction

Job satisfaction can be defined as the degree in which an individual is satisfied with various aspects of their job. Six tools were found that measure job satisfaction for CNAs. The domains that were measured varied across tools. All tools except for one, assessed satisfaction with financial aspects of the job, such as pay and benefits. In addition, some tools measured aspects related to job satisfaction, such as communication and recognition, amount of time/organization, resources, teamwork, management practice, and policy.[26] Several measures also included details on working conditions, responsibility, employee complaints, management listening to ideas, and feedback. The *Grau Job Satisfaction Scale* covers two domains: intrinsic job satisfaction and job benefits.[27] Within those domains they include aspects such as authority to do one's job, friendly co-workers, preparation for better jobs, benefits, pay, promotion, and job security. The *Nursing Home Nurse Aide Job Satisfaction Questionnaire* consisted of 22 items and 7 subscales, including work demand, work content, workload, training, rewards, and quality of care.[28] Across the items, it assesses whether CNAs believe they have adequate skills to perform their job, whether they feel a part of a team, whether they have support when doing their job, whether they experience demands from residents and families, whether they have opportunities to talk about concerns, whether they would recommend the facility to a friend, and whether they experience fair pay and opportunities for advancement. The *Nursing Home CNA Job Satisfaction Questionnaire*[29] consists of 19 questions that are specifically tailored to CNAs working in long-term care, covering the domains of coworkers, work demands, work content, workload, training, rewards, and quality of care. Items centered around pay, advancement, training, coworkers, teamwork, support, ability to talk about concerns, and resident and family demands.[29] The *Job Satisfaction Scale*[30] was measured by a six-item score. Respondents were asked to describe their satisfaction with six "aspects of your current job" using a four-point Likert scale: workplace morale, doing challenging work, benefits, salary or wages, learning new skills, and overall job satisfaction. The *WeCare Connect Questionnaire*[31] is used to gather self-report feedback from CNAs and measure overall job satisfaction within three subscales: relationship with supervisor, organizational supports, and coronavirus disease 2019 (COVID-19) work-related stressors. The Benjamin Rose Nurse Assistant Job Satisfaction Scale includes five subscales: communication and teamwork, amount of time to do work, available resources, teamwork, and management practices.[32] The survey uses a four-point Likert scale with 0 = very dissatisfied to 3 = very satisfied.

For the three measures that had evidence of validation, Cronbach' alpha scores were high (range $\alpha = 0.72–0.93$).[29–32]

3.2 | Retention and turnover

Retention reflects the number of employees that stay at a job over time (i.e., stayers), and turnover reflects the number of employees that leave a job over time (i.e., leavers). The instruments assessing retention and turnover consisted of analytical approaches to measuring these events. The *Leon, et al. Retention Instrument* is a three-item measure that calculated the retention rate[27] as the percentage of direct care workers who worked for a certain time period (i.e., less than 1 year, 3 or more years, 10 or more years), divided by the total number of direct care workers at the time of the interview.[27] The *Remsburg, Armacost, and Bennett Retention Instrument* calculated retention rates as the number of CNAs employed for more than 1 year, divided by the number of employees on the payroll on the last day of the fiscal year.[33] In addition, they looked at retention by calculating the length of service for terminated employees versus employees who remained.[33] When assessing retention and turnover, it is important to consider whether turnover events are concentrated in specific positions or across positions and whether the turnover is a result of termination of employment, which can be voluntary, involuntary, or a result of promotion or transfer.[34] The *Eaton Instrument for Measuring Turnover* [27] took a different approach, measuring turnover as the number of newly hired employees in a specific position (e.g., registered nurses, licensed practical nurses, nurse aides) divided by the number of employees in that position over a 12-month period. For example, if an organization employed 50 CNAs during the year and had hired 20 over the course of the year, the turnover rate would be 20/50 = 40%. While straightforward, this method of calculating turnover may be problematic, as the number of newly hired employees does not necessarily equate to a 1:1 replacement of those who left in general or of those who left in the past 12 months. *Meyer et al.'s Survey on Employment Patterns* assesses the reasons for CNAs retention or turnover during specific time periods and broken up across 9 sections.[35] None of the measures on retention and turnover had evidence of validation.

3.3 | Job commitment/intent to stay

The extent to which one is committed to their job is related to the effort they will put forth at work and to their desire to stay in their position and/or at their institution. Several factors are at play regarding this construct. Rosen et al. suggested that CNAs leave their job or the field for several reasons: physical health problems, emotional distress, low job satisfaction, low supervisor respect, demanding work, problems with supervisors, and better opportunities.[36] Physical health problems are

the most common reason for leaving. On the other hand, CNAs who stay report better access to health insurance, more paid time off, higher wages, and greater job satisfaction.[36] CNAs cite the importance of pay, career advancement, and respect from supervisors in their desire to stay.[36] The *Program Information Commitment Questionnaire* is an 11-item survey that assesses employees' commitment to programs within an organization.[34] In this questionnaire, CNAs are asked to list all programs their employer offers to employees (e.g., employee-mentoring programs, employee of the month, leadership classes, employee picnics, awards for attendance, or awards for outstanding service). They are then asked to describe their participation in these programs, reasons for participation or nonparticipation, knowledge about programs, and value of programs. The *Nursing Assistant Survey* is an 82-item survey that assessed job commitment and related factors.[37] These include whether the individual plans to leave their job, personal characteristics, tangible job rewards, whether the supervisor respects and uses CNA knowledge, job autonomy, teamwork, basic supervision, benefits, pay, promotion, whether employees are asked for ideas, whether the supervisor acknowledges work and helps, and whether they receive respect from nurses and supervisors.[37] Only the Program Information Commitment Questionnaire had evidence of validation which consisted of a calculation of internal consistency scores for each section.[34]

3.4 | Leadership and CNA experiences

Leadership plays a significant role in CNAs' experiences in the workplace, and power differentials often create tension between leadership and CNAs.[7] For example, leaders who are unsupportive and not inclusive of CNAs can increase CNAs' intention to leave the nursing home or the discipline altogether.

The *CNA Perceptions Questionnaire* assessed the CNA's "feelings" related to leadership (i.e., supervisors and administrators).[38] The questionnaire consisted of six sections and each section had three to six statements to assess administrators, supervisors, intrinsic satisfaction and commitment, and workplace climate.[38] CNAs are asked whether they feel (1) their supervisor is satisfied with their work, (2) their supervisor knows how good they are at their job, (3) their supervisor understands their work problems and needs, and (4) their supervisor cares about them and their opinions. Only this questionnaire had evidence of validation in which Cronbach alpha scores were calculated and ranged from 0.72 to 0.91.[38]

The 33-item *Health Care Worker Survey*.[34,39] includes questions about direct care workers' backgrounds and work experiences, including worker-supervisor relationships, reasons for becoming a direct care worker, and reasons for leaving their previous place of employment. Other items focus on demographics, reasons for taking a direct care job, second job, proximity of job from home, total hours of work each week, supervisor seeks input from CNA, insurance, responsiveness to ideas and concerns, supervisor treats employees fairly, supervisor values employee, autonomy, demands, dissatisfaction, and intent to leave.

3.5 | Work environment

The work environment has been defined as the setting, social features, and physical conditions in which one performs their job. It can impact feelings of well-being, workplace relationships, collaboration, efficiency, employee health, and intent to leave the workplace.[40]

The *Knowledge and Self-Efficacy Survey* [41] was developed by the authors to gain baseline information about CNAs' beliefs about violence prevention with residents in their work setting. This scale has nine items that use a five-point Likert scale to measure CNAs' beliefs about why residents become aggressive and their self-efficacy to prevent assault and decrease a resident's agitation or aggression.

4 | DISCUSSION

Measuring equity among CNAs is crucial for quantifying the magnitude of equity-related challenges experienced by this workforce and evaluating strategies to enhance equity and, consequently, improve care for nursing home residents with dementia. This is especially important as caring for a high-needs population like individuals with dementia can intensify burnout, dissatisfaction, and turnover among CNAs if they lack adequate support and face unresolved inequities. Our scan identified available tools assessing key equity-related constructs among CNAs, including job satisfaction, retention and turnover, job commitment, leadership experiences, and work environment. A significant gap in the existing literature is the absence of comprehensive tools measuring CNA workload in conjunction with burnout. While some tools incorporate workload as a component, a holistic assessment of workload alongside these critical factors remains elusive. The measures identified in this scan, with their limitations, can be utilized by nursing home administrators, researchers, and policy-makers to gauge progress in addressing equity issues prevalent among CNAs.

Most measures identified in our scan focused on job satisfaction. Within these tools, there was a consistent emphasis on financial compensation, including pay and benefits, which is reflective of the critical role economic factors have been shown to play in job satisfaction. Additionally, the tools heavily focused on assessing the work environment characterized by manageable workloads, effective teamwork, supportive management, and respectful interactions. Of consideration, these tools may have limited scope in capturing the full spectrum of CNA experiences, such as physical and emotional demands, work-life balance, and career progression opportunities.

The available tools for retention and turnover provide a foundation for identifying potential equity issues, such as discriminatory practices, unfair working conditions, and inadequate compensation. The lack of standardized measures and validation data, however, limits their effectiveness in drawing definitive conclusions. To fully comprehend the relationship between retention, turnover, and equity, a combination of quantitative and qualitative research is essential.

The two tools measuring job commitment varied in lengths and topics. The shorter tool focused on employee participation in

workplace programs, such as mentoring and awards which provides insight into the programs that nursing homes can offer to enhance the CNA experience and then assess the effects of these offerings. The longer tool covered a wider range of topics, including job satisfaction, work environment, and supervisor relations.

The available tools for leadership allowed for deeper insights into CNAs' perceptions of leadership in which a famous quote says, "CNAs don't leave their jobs, they leave their supervisors." These tools, however, fell short in capturing the full complexity of leadership-CNA relationships. To fully comprehend the impact of leadership on equity, comprehensive measures of leadership quality are necessary, along with longitudinal studies examining the long-term effects.

While the concept of work environment is broad, existing tools that we identified primarily focused on specific aspects of the work environment, such as violence prevention. A more comprehensive approach is needed to capture the multifaceted nature of the work environment.

The absence of tools specifically measuring CNA workload and burnout is particularly concerning given the significant stress and demands of the role.[42] The COVID-19 pandemic underscored the perilous nature of CNA work, with CNAs often caring for over 20 residents while facing low wages, illness, and excessive hours. While burnout among nurses and physicians has received substantial attention,[43,44] the experiences of CNAs in this regard remain relatively understudied. Future research might look to adapt such tools to include CNAs in nursing homes.

Regarding the existing tools identified in our scan, limited research has examined their cultural appropriateness. Future research should investigate whether items reflect the values and experiences of CNAs from diverse backgrounds, whether collected data accurately represent the realities of CNAs experiencing inequities, and whether tools adequately address CNAs' language and literacy needs. While measures and tools are valuable, qualitative data collected through interviews and focus groups offer crucial context and potential solutions, especially at the institutional level.

Additionally, variables such as income, race, gender, education level, and zip code, which significantly impact equity, may not be captured by existing measures. Nursing homes should collect this "home-grown" data, meaning data collected specifically for the research or internal purposes or repurposed from routine data collection, to establish a baseline.

Important to note, that the variation in the quality of nursing homes such as found in segregated nursing homes, for-profit nursing homes, and nursing homes that serve a large proportion of Medicaid enrollees or complex residents can impact the measurement of equity if measurement is limited to aggregated data.

An aspect of equity that was not included in our scan but worth noting is racism, bias, and discrimination. Tools to measure discrimination and racism experienced by CNAs are not readily available. These experiences, often stemming from residents, families, peers, and supervisors, significantly impact CNA well-being.[18] It is critical that the mechanisms underlying the effects of interpersonal and structural racism and discrimination be thoroughly investigated and that efforts to address these injustices be measured carefully to ensure that interventions have a powerful and rapid impact. Of note, tools exist that may consist of constructs reflective of consequences of inequities among CNAs such as the Super Woman schema tool or tools measuring stress.[45–47]

Moreover, while our scan was comprehensive, it was not meant to be exhaustive, but instead present selected measures to support the use of measurement tools that increase our ability to understand and assess solutions to equity-related issues specific to CNAs.

By prioritizing equity in research and practice, we can significantly improve the experiences of CNAs and enhance the quality of care provided to residents.

5 | CONCLUSION

Significant concerns related to equity for CNAs exist in which several efforts are underway to ensure that CNAs receive equitable treatment. Equally important are the measures that evaluate the success of these efforts. This will take a deeper understanding of what works, for whom, under what conditions, and if there is a differential impact. To address the gaps noted in the identified tools, future research must prioritize the development and validation of comprehensive measures that incorporate qualitative data to provide rich context. Disaggregating data by demographic factors, including race, ethnicity, gender, age, socioeconomic status, and geographic location, is additionally essential for identifying inequities.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to disclose. Author disclosures are available in the Supporting Information.

CONSENT STATEMENT

Consent was not necessary as there were no human subjects.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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