



U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy



NURSING HOME WORK PRACTICES AND NURSING ASSISTANTS' JOB SATISFACTION

June 2009

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This article appeared in ***The Gerontologist*** (2009, 49(5):611-622; doi:10.1093/geront/gnp040). It was prepared under contract #HHS-100-03-0025 between HHS's ASPE/DALTCP and the Research Triangle Institute. For additional information about this subject, you can visit the DALTCP home page at http://aspe.hhs.gov/_/office_specific/daltcp.cfm or contact the ASPE Project Officer, Marie Squillace, at HHS/ASPE/DALTCP, Room 424E, H.H. Humphrey Building, 200 Independence Avenue, S.W., Washington, D.C. 20201. Her e-mail address is: Marie.Squillace@hhs.gov.

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June 8, 2009

Prepared for
Office of Disability, Aging and Long-Term Care Policy
Office of the Assistant Secretary for Planning and Evaluation
U.S. Department of Health and Human Services
Contract #HHS-100-03-0025

The opinions and views expressed in this report are those of the authors. They do not necessarily reflect the views of the Department of Health and Human Services, the contractor or any other funding organization.

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ACKNOWLEDGEMENT

Funding for this project was provided by the Office of Disability, Aging, and Long-Term Care Policy, Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services through a subcontract from RTI International.

We are grateful to Galina Khatutsky, Valentina Akhmerova, Dhuly Chowdhury, and Robert Krasowski for research support. The views expressed in this article are those of the authors and are not those of the U.S. Department of Health and Human Services or RTI International.

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ABSTRACT

Purpose: To estimate the impact of nursing home work practices, specifically compensation and working conditions, on job satisfaction of nursing assistants employed in nursing homes.

Design and Methods: Data are from the 2004 National Nursing Assistant Survey, responses by the nursing assistants' employers to the 2004 National Nursing Home Survey, and county-level data from the Area Resource File. Multinomial logistic regression was used to estimate effects of compensation and working conditions on nursing assistants' overall job satisfaction, controlling for personal characteristics and local labor market characteristics.

Results: Wages, benefits, and job demands, measured by the ratio of nursing assistant hours per resident day, were associated with job satisfaction. Consistent with previous studies, job satisfaction was greater when nursing assistants felt respected and valued by their employers and had good relationships with supervisors. Nursing assistants were more satisfied when they had enough time to complete their work, when their work was challenging, when they were not subject to mandatory overtime, and where food was not delivered to residents on trays.

Implications: This is the first investigation of nursing assistant job satisfaction using a nationally representative sample of nursing assistants matched to information about their employing nursing homes. The findings corroborate results of previous studies in showing that compensation and working conditions that provide respect, good relationships with supervisors, and better staffing levels are important to nursing assistant job satisfaction.

Key Words: *Long-term care workforce, Supervision, Staffing, Respect, Wages*

Turnover and absenteeism impose substantial costs on nursing homes (Seavey, 2004) and also may compromise quality of resident care. Annual job turnover in the nursing home sector has been estimated as high as 71% (American Health Care Association, 2003; U.S. General Accounting Office, 2001), and exit from the field of direct care work has been estimated at 40% annually (Smith & Baughman, 2007). When workers are more satisfied with their jobs, they are less likely to be absent from work or to quit their jobs (W.K. Baker, 2004; Drago & Wooden, 1992; Freeman, 1978; Kaiser, 1998). This link between satisfaction and job withdrawal behavior has been shown for nursing home workers specifically (Castle, Engberg, Anderson, & Men, 2007).

Nursing assistants' job satisfaction may also affect the quality of care and resident life that nursing homes provide. Wherever employees deal directly with customers, customer satisfaction is influenced by employee affect and attitude (Hallowell, Schlesinger, & Zornitsky, 1996; Snipes, Oswald, LaTour, & Armenakis, 2005; Wilson & Frimpong, 2004). Further, job satisfaction has been linked to employee work effort (Iaffaldano & Muchinsky, 1985; Petty, McGee, & Cavender, 1984). Bishop and colleagues (2008) demonstrate a relationship between nursing assistant job commitment and aspects of resident satisfaction. Further, nursing homes endeavoring to improve quality of care and life for their residents through culture change rely on committed, positive frontline workers as key actors in these efforts (B. Baker, 2007; Lopez, 2006a; Rahman & Schnelle, 2008; Robinson & Rosher, 2006; Tellis-Nayak, 2007; Yeatts & Cready, 2007).

A better understanding of organizational factors affecting job satisfaction can inform policy at two levels. First, findings will be useful to nursing home administrators wishing to improve job performance, reduce turnover and absenteeism, and motivate their workforce for quality improvement and culture change. Second, government policy makers and resident advocates should become aware of these factors so that they can support industry efforts for efficient provision of high-value care.

METHODS

Workers actively in the job market are assumed to choose a job from among the alternatives available to them based on expected satisfaction with compensation and working conditions (Borjas, 2008). The satisfaction of incumbent workers varies with the same factors (Akerlof, Rose, & Yellen, 1988; Anderson, 2001; Brown & McIntosh, 2003; Freeman, 1978; Hamermesh, 2001, 2004; Levy-Garboua, Montmarquette, & Simonnet, 2007). Personal disposition and tastes shape the worker's evaluation of compensation and working conditions (e.g., job design, quality of supervision). Further, workers may be more satisfied with current jobs when their local labor market provides fewer job alternatives or when their own personal characteristics, such as education or training, limit their access to alternative jobs. Consistent with previous studies, we hypothesized that a nursing assistant's satisfaction with his or her particular job depends on the characteristics of the job, including compensation, job demands and challenges, supervision, coworkers, and organizational context; the personal attributes that affect how he or she values those characteristics, for example, temperament and tastes; and the worker's alternative opportunities, determined by personal and job market characteristics (Castle et al., 2007; Karsh, Booske, & Sainfort, 2005; Lapane & Hughes, 2007; Parsons, Simmons, Penn, & Furlough, 2003; Tyler et al., 2006). Following the lead of the designers of the National Nursing Assistant Survey (NNAS; Squillace, Rensberg, Bercovitz, Rosenoff, & Branden, 2006), this study focused on aspects of jobs amenable to change by management or through public policy rather than on personal disposition or market factors. We estimated the effect on job satisfaction of compensation, objective indicators of working conditions related to job design (e.g., staffing ratios, overtime), and indicators describing supervisors, coworkers, and organizational context, controlling for personal and market characteristics.

Data Sources

The study participants were incumbent certified nursing assistants surveyed by telephone in the 2004 NNAS, the first national survey of nursing assistants working in nursing homes. Sampling and survey methods are described in detail by Squillace and colleagues (2006). The nursing assistant sample was drawn from all nursing assistants working at 790 nursing homes drawn at random from the 1,500 nursing homes in the sample for the 2004 National Nursing Home Survey (NNHS); the NNHS sample was representative of the nation's nursing homes (Squillace et al., 2006). Nursing assistants were eligible to participate in the NNAS if they were paid to provide assistance with activities of daily living (ADLs), were certified (or in the process of certification), worked at least 16 hours per week, and were employees of the nursing home (not contract employees). From the 582 eligible facilities that agreed to participate in the NNAS, 4,542 nursing assistants were sampled; of these, 4,274 were eligible and 3,017 responded. The sample used in this analysis consisted of the 2,252 of the original 3,017 respondents who were still working at the nursing home at the time of the interview and who provided complete information on the variables of interest. The complex sampling

design for the nursing assistant sample was accounted for using the cluster identifier for the workers in each nursing home and an identifier for the sampling stratum to which the nursing home belonged. The National Center for Health Statistics provided weights for each NNAS observation that allowed the nursing assistant sample to represent the national population of nursing assistants. Facility-level data from the NNHS were linked to each nursing assistant. To control for differences across market areas, data from the 2004 Area Resource File (ARF) were added to the merged records based on county location of each nursing home.

Dependent Variable

Nursing assistants reported their satisfaction with their jobs, the dependent variable, on a 4-point scale: *extremely satisfied*, *somewhat satisfied*, *somewhat dissatisfied*, and *extremely dissatisfied*. Very few incumbent workers (3.7%) reported that they were extremely dissatisfied and only 14.2% indicated that they were somewhat dissatisfied, suggesting that these two response categories be combined for statistical analysis.

Ordered logit analysis is a preferred method for a categorical dependent variable with clear order (Wooldridge, 2002), but its assumption of proportional odds is often rejected when sample size is large and independent variables are numerous (Allison, 1999). Multinomial logistic regression relaxes the assumption that each independent variable has the same proportional effect on the odds of every outcome, but results are difficult to interpret for models with many variables. Further, although some factors affecting nursing assistant satisfaction have been identified in previous research, most have not been confirmed in national data sets. This suggested a two-step approach to hypothesis testing. The SAS procedure SURVEYLOGISTIC, which accounts appropriately for the complex survey design and sample weights, was used to regress all candidate independent variables on a three-valued dependent variable denoting whether a nursing assistant was extremely satisfied, somewhat satisfied, or dissatisfied; the last category combined the responses of somewhat dissatisfied and extremely dissatisfied. Variables that achieved significance at the 20% level were carried forward to a parsimonious ordered logistic model to determine whether the proportional odds assumption would hold for a reduced variable set. When this assumption was rejected, we fitted a multinomial logistic regression using the reduced variable set. We used the multinomial logistic regression results to estimate expected effects of changes from the mean (marginal effects) for each independent variable on the probability that a nursing assistant would report being extremely satisfied, somewhat satisfied, or dissatisfied.

Independent Variables

Variables were developed to reflect job characteristics, personal characteristics, and job alternatives for each individual worker based on the responses of the nursing assistant and the responses of her or his employer. Table 1 presents brief definitions

and the source (NNAS, NNHS, or ARF) for these variables. Because we were seeking to estimate effects for factors under the control of the nursing home or subject to public policy, we chose measures from the nursing home survey whenever feasible, rather than perceptions of the nursing assistants recorded by the nursing assistant survey.

We excluded from the model endogenous factors that are influenced by satisfaction itself and are not subject to nursing home influence. For example, tenure on the current job has been shown to be related to worker satisfaction, but workers tend to stay in jobs when they are satisfied, so causation likely runs from satisfaction to tenure rather than the reverse.

Compensation. -- The hourly wage rate reported by the nursing assistant and indicators of benefits, reported by the nursing assistant or by the nursing home, represented compensation. Nursing assistants reported whether they received extra pay for working on holidays, paid personal days, and paid sick leave. The nursing home reported its offers of retirement benefits and health insurance to nursing assistants.

Job Demands. -- Nursing assistant hours per resident day indicated job demands. A variable representing licensed nursing hours per resident day was included to assess whether nursing assistants were more satisfied when there were more registered nurses (RNs) and licensed practical nurses (LPNs) to supervise and support resident care. Nursing assistants also reported directly on job demands in their responses to two questions concerning whether they had enough time to meet the needs of their residents for assistance with ADLs and whether they had enough time to perform other assigned tasks.

Supervision and Coworkers. -- We hypothesized that quality of supervision and thus satisfaction were related to the education, commitment, and tenure of the nursing assistants' licensed nurse supervisors and therefore included the following three NNHS variables: the proportion of licensed nursing hours at the nursing home supplied by RNs, at all levels of education; the proportion of licensed nursing hours supplied by contract RNs and LPNs (i.e., licensed nurses who are not employees of the nursing home); and an indicator set equal to 1 if the director of nursing had been at the nursing home for less than 2 years (otherwise 0). For a more immediate indicator of the quality of the supervisory relationship experienced by each individual nursing assistant, we used responses to an NNAS question that asked nursing assistants whether their individual supervisors were a reason that they remained employed in their particular jobs.

Variables developed from the NNHS to reflect the characteristics of the nursing assistant's coworkers were the proportion of nursing assistant hours supplied by contract workers rather than by workers directly employed by the nursing home and the proportion of nursing assistants whose first language was not English. The nursing assistants' response to the NNAS question about whether their jobs gave them the opportunity to work in teams was also included as a direct reflection of their experience with coworkers, although this indicates management practices as well.

Job Design and Organizational Context. -- We included variables reflecting nursing assistants' perceptions about scope for independent decision making, their involvement in challenging work, whether they were assigned to the same residents or were given rotating resident assignments, whether their supervisors encouraged them to discuss resident care and well-being with residents' families, and whether they had been required to work overtime in the past month. The nursing home's response about how often nursing assistants attended care plan meetings was used to capture nursing assistant involvement in care planning. The proportions of residents whose care was primarily paid for by Medicaid and by Medicare indicated the nursing home's orientation toward Medicaid residents and toward post-acute care, which may affect job content.

At the time that the 2004 NNHS and NNAS were being designed and fielded, some nursing homes were becoming involved in a movement, known as culture change, to increase their focus on individual residents' needs and preferences. This typically involves transformation of resident care and human resources practices. Shifting from centralized tray service to family-style dining, with food served from steam tables on the "neighborhood" or nursing unit rather than transported from a central kitchen on trays, is a step that nursing homes often take to make services less institutional. The variable "no trays" was coded as 1 if the nursing home respondents did not check "food delivered on trays" in a set of NNHS questions about dining that asked them to check all that apply; it was included in the model as a proxy for the nursing home's early commitment to culture change.

We included variables reflecting the nursing assistant's report of whether she or he felt respected, rewarded, and valued by the employer. Because other researchers have found a relationship between nursing home ownership and nursing assistant satisfaction or turnover (Brannon, Zinn, Mor, & Davis, 2002; Castle & Engberg, 2006), we included an indicator for proprietary ownership and an indicator variable for membership in a proprietary chain. A labor union that conducts collective bargaining on behalf of nursing assistants may increase nursing assistants' sense of control over their work situation or may decrease job satisfaction (Bryson, Cappellari, & Lucifora, 2004; Gordon & Denisi, 1995; Hammer & Avgar, 2005; Iverson & Currivan, 2003); an indicator for whether nursing assistants were represented by a union was included in the analysis.

Personal Characteristics. -- Personal characteristics identified by previous research as associated with satisfaction were included as control variables. These included three age categories (younger than 30 years; 30 years or older and younger than 45 years, the omitted category; and aged 45 years or older), gender, four race or ethnicity categories (Hispanic; Black non-Hispanic; White non-Hispanic, the omitted category; and other, for respondents not self-identifying as one of these), three education categories (less than high school diploma or General Educational Development examination, high school equivalency (GED); high school diploma including GED, the omitted category; and education beyond high school), immigrant status (immigrant or native born, the omitted category), marital status (widowed, divorced or separated; never married; or married, the omitted category). Nursing

assistants with family caregiving responsibilities may experience more stress on the job; a variable for dependent care was set equal to 1 if the nursing assistant was caring for a dependent child or elder.

Local Labor Market Conditions. -- To account for local labor market conditions, we used urbanization category (metropolitan area, micropolitan area, or rural, the omitted category) and the 2004 county unemployment rate from the ARF. The availability of nursing assistant jobs in the local area was accounted for by the number of certified nursing home beds in the county per 1,000 women aged 18-65 years in the labor force.

| TABLE 1. Variable Definitions and Descriptive Statistics | | | | |
|--|--------------------------------|---------------|-------------|-----------|
| Variable | Definition | Source | Mean | SE |
| Dependent variable job satisfaction | | | | |
| How satisfied are you with your current job? | Proportion | NNAS | | |
| Extremely satisfied | | | 0.296 | 0.014 |
| Somewhat satisfied | | | 0.524 | 0.014 |
| Somewhat dissatisfied | | | 0.142 | 0.010 |
| Extremely dissatisfied | | | 0.037 | 0.050 |
| Independent variables | | | | |
| Compensation | | | | |
| Hourly wage | | NNAS | \$10.32 | \$0.11 |
| Paid extra for working holidays | 1 = yes | NNAS | 0.841 | 0.013 |
| Paid personal days | 1 = yes | NNAS | 0.849 | 0.010 |
| Paid sick leave | 1 = yes | NNAS | 0.712 | 0.016 |
| NAs offered retirement/pension | 1 = yes | NNHS | 0.665 | 0.026 |
| NAs offered health insurance | 1 = yes | NNHS | 0.912 | 0.014 |
| Working conditions | | | | |
| NA hours per resident day | | NNHS | 2.706 | 0.122 |
| Licensed nurse hours per resident day | | NNHS | 1.329 | 0.057 |
| Not enough ADL time: NA does not have enough time to provide ADLs to residents in a typical work week | 1 = yes | NNAS | 0.436 | 0.015 |
| Not enough other time: NA does not have enough time to complete duties not related to residents in a typical work week | 1 = yes | NNAS | 0.441 | 0.015 |
| Licensed nursing hours supplied by RNs | Proportion | NNHS | 0.381 | 0.010 |
| Licensed nursing hours supplied by contract RNs or LPNs | Proportion | NNHS | 0.031 | 0.006 |
| DON employed here less than 24 months (or no DON) | 1 = yes | NNHS | 0.459 | 0.028 |
| Supervisor is a reason to stay on this job | 1 = yes | NNAS | 0.612 | 0.014 |
| NA hours supplied by contract NAs | Proportion | NNHS | 0.012 | 0.003 |
| NAs in nursing home with English as a second language | Proportion | NNHS | 0.118 | 0.014 |
| NA has opportunity to work in teams | 1 = strongly or somewhat agree | NNAS | 0.829 | 0.012 |
| Independent: NA can decide how to do own work | 1 = strongly or somewhat agree | NNAS | 0.900 | 0.009 |
| NA is involved in challenging work | 1 = strongly or somewhat agree | NNAS | 0.918 | 0.008 |
| Continuous assignment: NA is assigned to care for the same residents all or some of the time | 1 = yes | NNAS | 0.475 | 0.018 |
| Talk with family: supervisor encourages NA to discuss residents' care and well-being with families | 1 = yes | NNAS | 0.304 | 0.015 |
| Mandatory overtime: NA required to work mandatory overtime one or more times in last month | 1 = yes | NNAS | 0.093 | 0.011 |
| NAs involved in resident care planning meetings | 1 = always, most of the time | NNHS | 0.355 | 0.026 |
| Nursing home residents paid for by Medicaid | Proportion | NNHS | 0.620 | 0.011 |

| TABLE 1 (continued) | | | | |
|---|--------------------------------|---------------|-------------|-----------|
| Variable | Definition | Source | Mean | SE |
| Nursing home residents paid for by Medicare | Proportion | NNHS | 0.112 | 0.006 |
| Food not served on trays | 1 = yes | NNHS | | |
| Respect: NA is respected/rewarded for work by facility | 1 = strongly or somewhat agree | NNAS | 0.686 | 0.014 |
| Organization at nursing home values NA work | 1 = very much or somewhat | NNAS | 0.919 | 0.008 |
| Proprietary ownership | 1 = yes | NNHS | 0.580 | 0.028 |
| Nursing home is part of a proprietary chain | 1 = yes | NNHS | 0.396 | 0.027 |
| NAs at nursing home are represented by a union | 1 = yes | NNHS | 0.205 | 0.024 |
| Personal characteristics | | | | |
| <30 years | 1 = yes | NNAS | 0.315 | 0.014 |
| >30 and <45 years | 1 = yes | NNAS | 0.350 | 0.014 |
| Age 45+ | 1 = yes | NNAS | 0.335 | 0.014 |
| Male | 1 = yes | NNAS | 0.081 | 0.008 |
| White | 1 = yes | NNAS | 0.488 | 0.021 |
| Hispanic | 1 = yes | NNAS | 0.095 | 0.010 |
| Black non-Hispanic | 1 = yes | NNAS | 0.348 | 0.020 |
| Other race non-Hispanic | 1 = yes | NNAS | 0.038 | 0.006 |
| NA immigrated to the United States | 1 = yes | NNAS | 0.183 | 0.018 |
| Education: less than high school diploma or GED | 1 = yes | NNAS | 0.125 | 0.009 |
| Education: high school diploma or GED | 1 = yes | NNAS | 0.627 | 0.015 |
| Education greater than high school diploma or GED | 1 = yes | NNAS | 0.248 | 0.013 |
| Married | 1 = yes | NNAS | 0.515 | 0.015 |
| Widowed/divorced/separated | 1 = yes | NNAS | 0.221 | 0.012 |
| Never married | 1 = yes | NNAS | 0.264 | 0.012 |
| NA is caring for dependent child or elder | 1 = yes | NNAS | 0.384 | 0.015 |
| Labor market characteristics | | | | |
| Unemployment rate, percent population aged 16+, county | | ARF | 5.573 | 0.098 |
| Metropolitan area | 1 = yes | NNAS | 0.758 | 0.008 |
| Micropolitan area | 1 = yes | NNAS | 0.129 | 0.006 |
| Rural | 1 = yes | NNAS | 0.113 | 0.006 |
| Nursing home and skilled certified beds, county, per 1,000 women in labor force | | ARF | 3.785 | 0.579 |
| SOURCE: authors' analysis of merged NNAS, NNHS, and ARF data, using survey weights. | | | | |
| NOTE: ADL = activities of daily living; NA = nursing assistant; RN = registered nurse; LPN = licensed practical nurse; DON = director of nursing; GED = General Educational Development examination, high school equivalency; NNAS = National Nursing Assistant Survey; NNHS = National Nursing Home Survey; ARF = Area Resource File. <i>N</i> = 2,252. | | | | |

RESULTS

Sample Description

Table 1 presents descriptive statistics for the study sample. A description of the characteristics of the nation's nursing assistants, as reported to the NNAS, is available elsewhere (Squillace et al., 2009). An analysis of the variance inflation factors for all proposed independent variables indicated that multicollinearity was not a problem.

Regression Results

The ordered logistic regression including all the variables testing hypotheses presented previously (listed in Table 1) failed to meet standard criteria for the proportional odds assumption. Because the proportional odds assumption is less likely to be valid when variables with only a random relationship to the dependent variable are included in the model, we identified unrelated variables using a multinomial logistic regression. Variables with any coefficient different from zero at $p < .2$ or better were then included in a parsimonious ordered logistic regression model. This model also failed the proportional odds test. We therefore estimated a multinomial logistic regression using the parsimonious variable set (Table 2). The differences in sign, magnitude, and significance of the coefficients in Table 2 further corroborated that an ordered logistic regression cannot appropriately summarize the effects of many factors that affect nursing assistant satisfaction. The preferred model was highly significant (chi-square test for the difference in log likelihood for the model vs. a null model with intercept only was significant at $p < .0001$) and McFadden's R^2 was .221.

Table 3 reports the projected effects on the probability that a nursing assistant will be extremely satisfied, somewhat satisfied, or dissatisfied in response to changes in each independent variable that was found to be significantly related to satisfaction. Effects are shown for small changes in the continuous variables (hourly wage, nursing assistant hours per resident day, licensed nurse hours per resident day) and for the difference between absence and presence of dichotomous factors (paid personal days, paid sick leave, etc.).

Compensation. -- Nursing assistants with higher hourly wages were more likely to be satisfied. A \$1.00 increase in the mean hourly wage for the sample (a 9.7% increase) is predicted to decrease the probability that a nursing assistant is dissatisfied by leave. Availability of retirement benefits and extra .014, a 7.8% decrease. Nursing assistants were significantly less likely to be dissatisfied when the nursing home provided paid personal days and paid sick leave. Availability of retirement benefits and extra pay for working on holidays did not affect satisfaction. Nursing home offers of health insurance were not significantly associated with satisfaction.

Job Demands. -- Nursing assistant hours per resident day in the nursing home, an indicator of job demands, were positively associated with nursing assistant satisfaction. An increase in nursing assistant hours per resident day of 0.5 hr (an 18% increase at the mean) was associated with a decrease of .015 in the probability that a nursing assistant would be extremely or somewhat dissatisfied, an 8.5% decrease. An increase in licensed nurse hours per resident day increased dissatisfaction.

Nursing assistants who reported that they did not have enough time to carry out ADL tasks for their residents or enough time for other tasks were much more likely to be dissatisfied. With all other variables at their means, a nursing assistant reporting too little ADL time had an estimated probability of dissatisfaction of .262; those with enough time had an estimated probability of dissatisfaction of .128. The effect of having sufficient time for other tasks was similar in magnitude.

Supervision and Coworkers. -- Hypotheses concerning the effect on satisfaction of quality of supervision, tested using the proportion of licensed nursing hours supplied by RNs as opposed to LPNs and the proportion of supervision provided by contract licensed nurses, were not supported, nor was a significant effect found for the tenure of the director of nursing. Nursing assistants who reported that their supervisors were a reason to stay in their jobs had a much lower estimated probability of dissatisfaction than those who answered this question in the negative: .119 rather than .307.

The hypotheses that nursing assistants would be less satisfied in work situations where more coworkers are contract workers or speak English as a second language were not supported. Jobs that provided opportunity for teamwork were significantly more satisfying for nursing assistants: A nursing assistant whose job offered teamwork had an estimated probability of dissatisfaction of .163, other factors constant, in contrast to an estimated probability of dissatisfaction of .277 for a job without teamwork.

Job Design and Organizational Context. -- Nursing assistants were more satisfied when they regarded their work as challenging and when supervisors encouraged them to discuss resident care with residents' families. Being subject to mandatory overtime had a negative effect on nursing assistant satisfaction; nursing assistants facing mandatory overtime had an estimated probability of dissatisfaction of .275, in contrast to the estimate of .159 for those in jobs without mandatory overtime. Nursing assistants were significantly less likely to be dissatisfied in nursing homes where food was not delivered on trays (estimated probability dissatisfied was .144 vs. .184, other factors at sample means). Nursing assistants who responded that they felt respected and rewarded for their work were less likely to be dissatisfied with their jobs (probability dissatisfied of .132 vs. .308), as were those who reported that their employer valued their work (.163 vs. .382). Nursing home ownership and representation by a union were not significantly related to satisfaction.

TABLE 2. Ordered Logistic Regression for NA Job Satisfaction

| | Extremely Satisfied vs. Dissatisfied | | | Somewhat Satisfied vs. Dissatisfied | | | Extremely Satisfied vs. Somewhat Satisfied | | |
|--|--------------------------------------|-------|--------------|-------------------------------------|-------|--------------|--|-------|--------------|
| | Estimated Coefficient | SE | Significance | Estimated Coefficient | SE | Significance | Estimated Coefficient | SE | Significance |
| Intercept | -7.416 | 1.207 | <.0001** | -1.749 | 0.600 | .004* | -5.667 | 1.063 | <.0001** |
| Hourly wage | 0.159 | 0.057 | .005** | 0.062 | 0.041 | .135 | 0.098 | 0.047 | .040* |
| Paid personal days | 0.578 | 0.275 | .035* | 0.405 | 0.200 | .043* | 0.174 | 0.220 | .430 |
| Paid sick leave | 0.467 | 0.230 | .042* | 0.211 | 0.185 | .252 | 0.256 | 0.176 | .145 |
| NAs offered health insurance | -0.467 | 0.332 | .160 | -0.254 | 0.293 | .386 | -0.213 | 0.247 | .390 |
| NA hours per resident day | 0.278 | 0.100 | .005** | 0.161 | 0.081 | .047* | 0.118 | 0.061 | .052 |
| Licensed nurse hours per resident day | -0.444 | 0.188 | .019* | -0.188 | 0.159 | .238 | -0.256 | 0.136 | .606 |
| Not enough ADL time | -1.324 | 0.225 | <.0001** | -0.635 | 0.186 | .001** | -0.690 | 0.177 | <.0001** |
| Not enough other time | -0.837 | 0.224 | .0002** | -0.401 | 0.193 | .038* | -0.436 | 0.168 | .009** |
| Proportion of licensed nursing homes supplied by RNs | -0.363 | 0.528 | .493 | -0.123 | 0.456 | .788 | -0.240 | 0.454 | .598 |
| Supervisor reason to stay on the job | 1.792 | 0.221 | <.0001** | 0.881 | 0.180 | <.0001** | 0.911 | 0.182 | <.0001** |
| NAs with English as second language | -0.952 | 0.479 | .047* | -0.497 | 0.382 | .193 | -0.454 | 0.368 | .216 |
| Opportunity to work in teams | 0.776 | 0.305 | .011* | 0.622 | 0.212 | .003** | 0.154 | 0.273 | .572 |
| Challenging work | 1.094 | 0.473 | .021* | 0.469 | 0.257 | .068 | 0.625 | 0.426 | .143 |
| Encouraged to talk with family | 0.556 | 0.260 | .033 | 0.059 | 0.229 | .797 | 0.497 | 0.144 | .001** |
| Mandatory overtime | -1.005 | 0.332 | .003** | -0.437 | 0.244 | .074 | -0.568 | 0.262 | .030* |
| Medicare residents | 1.797 | 0.983 | .067 | 1.152 | 0.813 | .157 | 0.645 | 0.594 | .277 |
| No tray service | 0.555 | 0.247 | .025* | 0.111 | 0.240 | .643 | 0.444 | 0.213 | .037* |
| Respected | 1.794 | 0.287 | <.0001** | 0.738 | 0.185 | <.0001** | 1.056 | 0.233 | <.0001** |
| Organization values work | 2.587 | 0.725 | .0004** | 0.754 | 0.251 | .003** | 1.834 | 0.701 | .009** |
| NAs represented by a union | 0.539 | 0.322 | .094 | 0.208 | 0.263 | .429 | 0.332 | 0.222 | .135 |
| Age <30 years | -0.352 | 0.250 | .159 | 0.074 | 0.199 | .709 | -0.426 | 0.166 | .010* |
| Hispanic | 0.660 | 0.357 | .064 | 0.301 | 0.297 | .310 | 0.359 | 0.295 | .224 |
| Immigrant | -0.380 | 0.303 | .209 | -0.188 | 0.287 | .512 | -0.192 | 0.273 | .482 |
| Education less than high school | 0.529 | 0.357 | .138 | -0.277 | 0.303 | .360 | 0.806 | 0.216 | .0002** |
| Widowed, divorced, or separated | -0.369 | 0.281 | .189 | -0.535 | 0.238 | .025* | 0.166 | 0.168 | .322 |
| Caring for dependent family member | -0.413 | 0.218 | .058 | -0.164 | 0.188 | .384 | -0.249 | 0.156 | .110 |
| Micropolitan area | -0.231 | 0.258 | .372 | 0.082 | 0.202 | .683 | -0.313 | 0.192 | .103 |
| Nursing home beds per 1,000 women in labor force | -0.002 | 0.004 | .586 | 0.000 | 0.004 | .978 | -0.002 | 0.002 | .325 |

SOURCE: author's analysis of merged National Nursing Assistant Survey, National Nursing Home Survey, and Area Resource File data.
NOTE: NA = nursing assistant; ADL = activities of daily living; RN = registered nurse. This multinomial logistic regression includes only candidate independent variables that had at least one coefficient significant at $p < .2$ in a full model regressing the three satisfaction categories on all candidate independent variables (Table 1). $N = 2,252$; McFadden's $R^2 = .221$.

* $p < .05$. ** $p < .01$.

DISCUSSION

This analysis is the first national study to link characteristics of nursing home jobs to nursing assistant job satisfaction. Most incumbent workers expressed satisfaction with their jobs, consistent with workers' avoidance of jobs with low expected satisfaction and the tendency of dissatisfied workers to leave their jobs; but 18% of nursing assistants responded that they were extremely or somewhat dissatisfied. Our estimates of the effect of nursing home work practices (compensation and working conditions) on the probability that a nursing assistant is dissatisfied have important implications for nursing home human resources management and for public policy.

Compensation

Incumbent workers have already chosen to take nursing assistant jobs in return for offered wages and benefits. That the variation in wages still had a significant association with satisfaction of incumbent workers underlines the importance of wages for sustaining a positive engaged nursing home workforce. Public policy for nursing home payment should include support for nursing assistant wages.

The analysis indicated that offering certain types of paid time off increased nursing assistants' job satisfaction, but health and retirement benefits were not shown to have significant effects on satisfaction. Nursing assistants may be discouraged by benefit offers they cannot afford -- Squillace and colleagues (2009) found that more than 40% of uninsured nursing assistants did not participate in their employer's plans because they could not afford their share of the premium. With regard to health and other benefits, inconsistencies between the responses of administrators about benefit offers and the responses of nursing assistants about benefits available to them suggest that some nursing assistants were unaware of their benefits. Nursing home managers should be advised to more effectively inform their workers about the benefits they offer. Further research could pinpoint which benefits are most valuable to workers, providing nursing homes with guidance for spending scarce benefit dollars.

Staffing Levels

In addition to ensuring adequate staffing levels, managers should monitor and balance job demands to reduce the probability that nursing assistants will feel they have too little time to complete ADL care and other assignments. If improvements in compensation and other working conditions can increase satisfaction and reduce turnover, staffing may be stabilized, further increasing satisfaction. Public policies requiring minimum staffing levels may increase nursing assistant job satisfaction, as may Medicaid wage bill pass-throughs that pay nursing homes more when they spend more on labor (Institute for the Future of Aging Services, 2002).

Supervision

Nursing homes can increase job satisfaction by supporting good relationships between nursing assistants and supervisors. Previous research (Castle, 2005) has found an association between turnover among directors of nursing and turnover of frontline workers, and almost half of the nursing assistants in the current study worked in nursing homes where the director of nursing had been in place for 2 years or less. However, we did not find a significant relationship between nursing assistant satisfaction and the tenure of the director of nursing.

Job Design and Organizational Context

Nursing home managers can support aspects of job design valued by nursing assistants, including challenging work, teamwork, respect, and involvement with families. Mandatory overtime, experienced by 9.6% of the nursing assistants during the month before the survey, should be avoided.

Although the opportunity to do challenging work was significantly associated with satisfaction, the opportunity to work independently was not, nor was the nursing assistant's opportunity to participate in care planning. These findings are inconsistent with research based on theories of Hackman and Oldham (1980), which has shown that worker autonomy and involvement in all aspects of the work make jobs more meaningful. However, these studies were conducted with highly skilled workers. Our findings are consistent with some studies of nursing assistants (Bishop et al., 2008; Gruss, McCann, Edelman, & Farran, 2004; Lopez, 2006a, 2006b), which note that nursing assistants typically are not rewarded when they take on independent decision making, care meetings, and other functions traditionally assigned to management.

The association between the absence of tray service and less dissatisfaction for nursing assistants is not definitive confirmation of an effect of culture change on worker satisfaction but suggests support for further research (Rahman & Schnelle, 2008).

Permanent assignment of nursing assistants to residents is often associated with culture change (Doty, Koren, & Sturla, 2008), although evidence for its impact on resident quality of care and life is not clear (Rahman & Schnelle, 2008). Burgio, Fisher, Fairchild, Scilley, and Hardin (2004) report greater nursing assistant satisfaction in the two of their four study nursing homes that self-identified as practicing permanent assignment. However, a permanent assignment policy was not associated with nursing assistant job satisfaction in the current analysis. Measures that capture the proportion of time that a nursing assistant cares for primary assigned residents, in contrast to rotating assignments, could support better estimates of the relationship between permanent assignment and job satisfaction.

Respect

Our findings are consistent with the many studies that have called attention to nursing assistants' experience of disrespect from supervisors, employers, and others (Barry, Brannon, & Mor, 2005; Dodson & Zinbarg, 2007; Flesner & Rantz, 2004; Gittel, 2006; Secretst, Iorio, & Martz, 2005). Fostering a culture of respect for nursing assistant work at the level of the organization and through public policy may be both the simplest and the most difficult recommendation to be underscored by this national study of nursing assistant job satisfaction.

Limitations

The workplace survey (NNHS) that we combined with the satisfaction survey (NNAS) was not designed to provide information on the many aspects of human resources management practices that are likely to affect nursing assistant satisfaction. Job demands depend on resident needs, reflected in case mix measures, which were not available in the linked data. Further, the working conditions represented by staffing ratios, supervisor qualifications, and coworker characteristics can differ from unit to unit, and variables used here were measured at the nursing home level rather than for the nursing assistant's unit. For this reason, we also included nursing assistants' own perceptions of workload, supervisor's skills, and opportunity for teamwork. Finally, it would be a challenge for any workplace survey to capture the philosophy of care and management held by nursing home leadership and implemented on nursing home units, which sets the context for how work is done and how nursing assistants feel about their work (Eaton, 2000, 2001). This critical organizational policy variable can only be observed indirectly here, through workers' reports of respect and good working relationships.

TABLE 3. Change in Nursing Assistant Job Satisfaction for Projected Changes in Independent Variables

| Sample Probability Variables | Independent Variables | | | Predicted Probability | | | Difference from Sample, Probability Dissatisfied |
|---------------------------------------|-----------------------|-----------------|----------------------|-----------------------|--------------------|--------------|--|
| | <i>M</i> | Simulated Value | Change from <i>M</i> | Extremely Satisfied | Somewhat Satisfied | Dissatisfied | |
| Hourly wage | \$10.32 | \$11.32 | \$1.00 | .320 | .514 | .166 | -.014 |
| Paid personal days | 0.849 | No | | .247 | .508 | .245 | .066 |
| | | Yes | | .305 | .526 | .169 | -.010 |
| Paid sick leave | 0.712 | No | | .252 | .535 | .213 | .033 |
| | | Yes | | .315 | .518 | .167 | -.013 |
| NA hours per resident day | 2.71 | 3.21 | 0.500 | .300 | .524 | .177 | -.003 |
| Licensed nurse hours per resident day | 1.33 | 1.58 | 0.250 | .281 | .529 | .190 | .010 |
| Not enough ADL time | 0.436 | No | | .377 | .494 | .128 | -.051 |
| | | Yes | | .204 | .534 | .262 | .082 |
| Not enough other time | 0.441 | No | | .347 | .507 | .146 | -0.34 |
| | | Yes | | .237 | .534 | .229 | .049 |
| Supervisor reason to stay on the job | 0.612 | No | | .169 | .523 | .307 | .128 |
| | | Yes | | .393 | .488 | .119 | -.061 |
| Opportunity to work in teams | 0.829 | No | | .240 | .483 | .277 | .097 |
| | | Yes | | .307 | .530 | .163 | -.016 |
| Challenging work | 0.918 | No | | .173 | .542 | .285 | .106 |
| | | Yes | | .309 | .520 | .171 | -.008 |
| Encouraged to talk with family | 0.304 | No | | .265 | .545 | .190 | .011 |
| | | Yes | | .375 | .470 | .154 | -.025 |
| Mandatory overtime | 0.093 | No | | .357 | .484 | .159 | -.020 |
| | | Yes | | .183 | .542 | .275 | .096 |
| No tray service | 0.113 | No | | .285 | .531 | .184 | .005 |
| | | Yes | | .390 | .466 | .144 | -.035 |
| Respected | 0.686 | No | | .149 | .543 | .308 | .129 |
| | | Yes | | .382 | .486 | .132 | -.048 |
| Organization values work | 0.919 | No | | .059 | .559 | .382 | .203 |
| | | Yes | | .332 | .506 | .163 | -.017 |

SOURCE: authors' analysis of merged National Nursing Assistant Survey, National Nursing Home Survey, and Area Resource File data. Probabilities computed only for variables with an effect significant at $p < .05$ in parsimonious multinomial logistic regression (Table 2).

NOTE: NA = nursing assistant; ADL = activities of daily living.

CONCLUSIONS

This analysis is the first to examine factors affecting job satisfaction of nursing assistants using a nationally representative sample of nursing assistants that places them within their workplaces. This analysis was able to locate individual workers in their nursing homes and thus to estimate associations between organizational factors and job satisfaction of nursing assistants. Because nursing homes as organizations determine compensation and working conditions, the analysis linked some key aspects of organization-level work practices to individual worker satisfaction. Many of the findings corroborate results of previous studies of nursing assistant satisfaction with respect to the importance of compensation, working conditions that provide enough time for nursing assistants to do their work, good relationships with supervisors, teamwork, freedom from mandatory overtime, and, most important, the sense of being respected and valued by the organization. Increased satisfaction for nursing assistants should reduce turnover and increase worker commitment to quality, thus further improving working conditions by increasing staffing, reducing the need for mandatory overtime, and increasing the stability of teams and supervisory relationships. This should support better outcomes for residents, the ultimate aim of nursing home service provision and policy.

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Received April 28, 2008

Accepted October 22, 2008

Decision Editor: William J. McAuley, PhD

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