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Supporting employees' work-family needs improves health care quality: Longitudinal evidence from long-term care

Cassandra A. Okechukwu [a, *], Erin L. Kelly [b], Janine Bacic [c], Nicole DePasquale [d], David Hurtado [e], Ellen Kossek [f], Grace Sembajwe [g]

[a] Harvard T.H. Chan School of Public Health, Kresge Building, RM 722, 677 Huntington Avenue, Kresge 7th Floor, Boston, MA 02115, USA
[b] MIT Sloan School of Management, 30 Memorial Dr., Cambridge, MA, USA
[c] Boston University School of Public Health, 715 Albany St, Boston, MA, USA
[d] Pennsylvania State University, 422 Biobehavioral Health Building University Park, PA 16802, PA, USA
[e] Oregon Health and Science University, 3181 SW Sam Jackson Park Rd, Portland, OR 97239, OR, USA
[f] Purdue University, 403 W State St, West Lafayette, IN 47907, IN, USA
[g] The Graduate Center, CUNY New York, New York, USA

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ABSTRACT

We analyzed qualitative and quantitative data from U.S.-based employees in 30 long-term care facilities. Analysis of semi-structured interviews from 154 managers informed quantitative analyses. Quantitative data include 1214 employees' scoring of their supervisors and their organizations on family supportiveness (individual scores and aggregated to facility level), and three outcomes: (1), care quality indicators assessed at facility level (n = 30) and collected monthly for six months after employees' data collection; (2), employees' dichotomous survey response on having additional off-site jobs; and (3), proportion of employees with additional jobs at each facility. Thematic analyses revealed that managers operate within the constraints of an industry that simultaneously: (a) employs low-wage employees with multiple work-family challenges, and (b) has firmly institutionalized goals of prioritizing quality of care and minimizing labor costs. Managers universally described providing work-family support and prioritizing care quality as antithetical to each other. Concerns surfaced that family-supportiveness encouraged employees to work additional jobs off-site, compromising care quality. Multivariable linear regression analysis of facility-level data revealed that higher family-supportive supervision was associated with significant decreases in residents' incidence of all pressure ulcers (−2.62%) and other injuries (−9.79%). Higher family-supportive organizational climate was associated with significant decreases in all falls (−17.94%) and falls with injuries (−7.57%). Managers' concerns about additional jobs were not entirely unwarranted: multivariable logistic regression of employee-level data revealed that among employees with children, having family-supportive supervision was associated with significantly higher likelihood of additional off-site jobs (RR 1.46, 95%CI 1.08−1.99), but family-supportive organizational climate was associated with lower likelihood (RR 0.76, 95%CI 0.59−0.99). However, proportion of workers with additional off-site jobs did not significantly predict care quality at facility levels. Although managers perceived providing work-family support and ensuring high care quality as conflicting goals, results suggest that family-supportiveness is associated with better care quality.

1. Introduction

The United States (U.S.) lags markedly behind other developed countries in work-family policies: the U.S. is the only advanced economy that does not require employers to provide any statutory paid vacation, sick leave, or parental leave (Heymann et al., 2009). The *only* federally-mandated leave entitlement for U.S. workers is the Family and Medical Leave Act (FMLA), which allows those

* Corresponding author.
E-mail addresses: cassandrao@post.harvard.edu (C.A. Okechukwu), elkelly@mit.edu (E.L. Kelly), jbacic@hsph.harvard.edu (J. Bacic), nzd117@psu.edu (N. DePasquale), dah669@mail.harvard.edu (D. Hurtado), ekossek@purdue.edu (E. Kossek), gsembajw@hunter.cuny.edu (G. Sembajwe).

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employees who meet tenure requirements (of at least one year), work-hour requirements (of at least 1250 h in past twelve month) and who work for establishments large enough to be covered by the law (generally 50 or more employees) to take unpaid leave of up to 12 weeks to care for family members. Despite the absence of federally-mandated paid leave policies, many employers have attempted to help today's diverse workforce manage family and work responsibilities by adopting "family-supportive" policies and informal practices (Kelly, 2003; Swanberg et al., 2005). We investigate work-family support, as measured by both supervisors' support and by broader organizational climate of support for family life.

Emerging evidence suggests that not only can work-family support improve workers' ability to meet work and family demands, but they may also positively impact business outcomes by improving worker performance (Berkman and O'Donnell, 2013; Kelly et al., 2008). Reviews indicate that provision of work-family support influences employees' productivity, absenteeism and turnover and is strongly associated with organizational commitment—the degree to which workers intend to work towards the organization's mission (Kelly et al., 2008). Moreover, previous research using data from our study network indicated that long-term care managers' levels of work-family support predict employees' sleep (Berkman et al., 2010); sleep influences work performance (Buxton et al., 2012). The present paper extends that research by contextualizing work-family support and investigating whether the influence of work-family support extends to worker performance on key outcomes used to evaluate the long-term care industry.

Several key gaps have emerged as the evidence base linking work-family support to worker performance grows. First, the vast majority of the emerging evidence pertains to workplaces employing salaried professional and managerial employees, rather than workplaces employing lower-wage and/or hourly employees, such as the service industry (Lambert, 2009; Swanberg et al., 2005). Also, much of the evidence base relies on cross-sectional studies, which begs the question of temporal precedence (Kelly et al., 2008). Additionally, outcomes investigated in these studies are usually limited to worker attitudes and health outcomes, which are *presumed to* improve worker performance. Most studies have not directly measured outcomes used to evaluate businesses (Kelly et al., 2008).

Finally, most studies to date have examined work-family support only from the perspectives of employees, despite evidence that managers are centrally involved in determining employees' work-family support (Albiston, 2010; Hammer et al., 2010; Kelly, 2010; Kelly and Kalev, 2006). In fact, managers are one of the key mechanisms through which employees perceive their employers as work-family supportive. Meta-analytic reviews demonstrate that perceived managerial support is consistently linked to lower work-family conflict (Kossek et al., 2011). When family-supportive workplace policies exists, managers can provide—or fail to provide—information that influences employees' ability to use available policies with confidence (Albiston, 2010; Kelly, 2010). In the absence of family-supportive workplace policies, as is often the case for workers in the U.S. service industry, the provision of informal support by managers and presence of supportive organizational climate seems to matter most (Hammer et al., 2010; Kossek et al., 2011).

To address these gaps, the present paper uses data from long-term care workplaces. Compared to other service settings, long-term health care settings face a unique constellation of challenges in providing work-family support. First, these employers must balance the needs of two vulnerable populations: their employees as well as the patients (called residents) they serve. Workers in these settings are predominantly women, often single parents, in low-wage jobs (Baughman and Smith, 2012; Okechukwu et al., 2012). Compared to 22% and 8% among all US female workers, 52% and 18% of female certified nursing assistants were low-income and living in poverty, respectively (Smith and Baughman, 2007). Even more vulnerable are the residents, predominantly elderly individuals and persons living with disabilities (Feng et al., 2011). Second, the industry must comply with strict regulations governing how and when care is provided, and by whom. In the US, each long-term care facility is explicitly judged and rated on health outcomes indicating worker performance on care provision (Castle and Ferguson, 2010); these publicly-available ratings impact facility's reputation, and thus, its standing in society and ability to recruit prospective clients.

The organization of work in long-term care settings further complicates their ability to provide formal and informal work-family supports that are more easily implemented in white-collar settings. Most long-term health care tasks require the physical presence of employees, thus eliminating options for formal policies such as working remotely. Many care positions are interdependent, which can make it more challenging for individual managers to informally implement work-family support. For example, if the dietary manager allowed a dietary worker to come in later than the standard schedule, this decision could delay food tray distribution, and consequently medication distribution, as some medications must be given on either an empty or full stomach. Both meal and medication timing impact wound care schedules, because most residents need to be given pain medication before wound care; in turn, meal and wound care schedules also dictate residents' linens and clothing changes, meaning that compounded impacts of the dietary worker's late arrival could ultimately impede laundry service workers' ability to collect and wash laundry on schedule.

We designed the present paper to address the paucity of information on managers' perspectives on work-family support, and the dearth of work-family research in health care settings (Bianchi and Milkie, 2010). We first conducted qualitative interviews with managers to understand how they balance the goal of providing work-family support with their organizational mission to ensure that workers deliver high quality of care (henceforth called 'care quality'). We triangulated qualitative findings by analyzing quantitative data from employees' surveys and care quality data. Hypotheses for quantitative analyses arose from qualitative findings, namely: (1) facilities' scores on work-family support would be negatively associated with their care quality; (2) employees' ratings of work-family support would be positively associated with their likelihood of working extra hours at additional jobs; and (3) the proportion of employees with additional jobs at a facility would be negatively associated with care quality. According to the managers, formal and informal provision of work-family support leads to schedule practices that enable employees to work extra hours at additional jobs and this lowers care quality.

2. Methods

2.1. Study setting

Our analyses capitalized on the availability of qualitative data from managers and quantitative data from multiple sources through the Work, Family and Health Network (WFHN) study. WFHN is a multidisciplinary and multi-site collaborative study that was funded to occur in two phases. Phase One included four long-term care facilities in the Boston Metropolitan area, purposively sampled to fit the following characteristics: (1) religiously-affiliated, small-sized and non-profit; (2) privately-owned, medium-sized and non-profit; (3) chain-affiliated, large-sized and for-

profit; and (4) family-owned, small-sized and for-profit. Phase Two involved a different set of 30 chain-affiliated, for-profit long-term care facilities in six U.S. states. Half of the facilities were group-randomized to an intervention to improve employees' work and family lives (Kossek et al., 2014). The facilities, which were owned by a large for-profit company, were chosen to be diverse in size, urbanicity, quality rating, and resident characteristics. During both phases, institutional review boards at WFHN sites approved all study materials and informed consent was obtained from all study participants. Participants completed study activities on company time and received honoraria of $15 for Phase One, or $20 for Phase Two. Detailed descriptions of WFHN processes, study design, samples and intervention results have been published elsewhere (Bray et al., 2013; Kelly et al., 2014; Kossek et al., 2014).

2.2. Qualitative samples and procedures

During Phase One, the first author interviewed eight administrative-level managers (administrators or directors of nursing) and 45 frontline managers between 2006 and 2007 (92% response rate). An additional 61 administrative-level and 40 frontline managers were interviewed in 2008–2011 during Phase Two, leading to total sample size of 154 managers in 34 facilities. Both phases used semi-structured interview guides that were developed by organizational scholars with input from the respective broader WFHN teams. Questions were designed to elicit managers' attitudes towards and experiences with available family-supportive policies and practices, and included questions about facilities' processes for making decisions on offering family-supportive resources to employees. Phase Two guides additionally included questions designed to elicit managers' changing attitudes towards work-family support.

2.3. Quantitative sample and variables

Quantitative data came from three sources, merged during analysis: Phase Two employee surveys, care quality outcomes data in the six months subsequent to these surveys, and publicly-available data on 30 Phase Two facilities that were part of a for-profit chain. WFHN recruited 1524 employees (85.5% response rate) who completed computer-assisted surveys. We restricted the analyses for the present paper to Licensed or Registered Nurses (LPN/RN) and Certified Nursing Assistants (CNA) who provided direct nursing care (n = 1214). We used data from the second employees' survey, conducted between 2010 and 2011. At each facility, clinical outcomes were collected every month for six months after employees' survey data were collected, allowing for clear temporal precedence.

2.4. Independent variables

Employee surveys included two Likert-scale variables capturing different dimensions of work-family support. For both scales, employees scored 1 (*strongly disagree*) to 5 (*strongly agree*) in support of validated statements.

Family-supportive supervisor (α = 0.90), four-item scale measuring employee perceptions of managers' behavioral support for family and personal life (Hammer et al., 2013). Sample statement includes "Supervisor makes [respondent] comfortable talking about work/non-work conflicts."

Family-supportive organizational climate (α = 0.76), three-item scale measuring employees' perceptions of the workplace climate for making family or personal sacrifices for the sake of work (Kossek et al., 2001). This is reverse-coded so that higher scores indicate more supportive climate. Sample statement includes "Have to put family/personal life second to job."

Proportion with additional job: proportion of employees at each facility whose survey response indicated that they have another job (range 3.85%–41.18%).

2.5. Dependent variables

We selected the following five patient outcomes, known as 'care quality indicators.' Though a host of factors predispose residents to these outcomes, timely nursing care, including attention to residents' needs, and scheduled positioning of residents, can decrease occurrence (Castle and Ferguson, 2010; Lyder, 2003; Vu et al., 2004).

We included percent of patients with in-house acquired pressure ulcers (*all*) and further differentiated based on skin breakage (*Stage 2+*). Pressure ulcers are tissue necrosis resulting from the obstruction of capillary flow due to persistent pressure on bony sites (Lyder, 2003). Also included are percent of residents who experience *falls*, *falls with injury*, and *other injuries* (abrasions, skin tears excluding ulcers, bruising or other visible injury on residents' bodies). .

Additional job: employees' survey responses indicating whether they have an additional job outside the WFHN sites (1 = yes; 0 = no).

2.6. Covariates

Facility-level: The following were publicly-available from the U.S. government website (medicare.gov/nursinghomecompare) and are potential confounders due to influence on employees' performance and care quality (Castle and Anderson, 2011; Castle and Ferguson, 2010).

Staffing ratios: Numerical classification of daily staffing hours per resident for RN, LPN and CNA employees, indicates workload while controlling for patient acuity.

Overall quality: Facility rating based on multiple sources of evaluative data including past care quality and citations.

Resident census indicates numbers of residents present at the facility each month in which care quality was assessed.

Study condition: indicating whether facility was assigned to WFHN intervention.

The study survey also supplied information that was used to compute average values, for each facility, for *staff tenure* (years employee have worked at their facilities), *weekly hours* (number of hours worked weekly by employees) and *proportion of day-shift workers (*proportion of employees who work morning hours).

Study surveys were also used for each of the following scale variables with employees endorsing 1 (strongly disagree) to 5 (strongly agree) in support of statements in validated scales. Each facility received the average of values across all employees from that facility.

Schedule control: eight-item scale indicating the degree to which employees perceive they have control over their work schedules (Thomas and Ganster, 1995).

Work-to-family and family-to-work conflicts, were each assessed using five-item scales that evaluated incompatibility between work and family demands and vice versa (e.g. *make changes to family/personal activities due to work* or *demands of family/personal life interfere with work*) (Netemeyer et al., 1996).

Turnover intentions: two item scale indicating employees' intention to leave their positions (Boroff and Lewin, 1997).

Information on employees' characteristics came from study survey. *Age* and *job tenure* were continuous variables measured in years, while categorical variables were utilized for *education* (less than high school, some college or technical school, and college

graduate), *gender* (male or female), *children in household* (yes indicates at least one child living in household, and no indicates otherwise), *job title* (RN/LPN or CNA) and *race/ethnicity* (non-Hispanic White, non-Hispanic Black, Hispanic and others). A p*overty level* variable was created using income from all sources and household size to classify workers according to US federal poverty level (FPL) guidelines (Okechukwu et al., 2012).

2.7. Analysis

2.7.1. Qualitative analysis

We used Atlas.ti 5.2 for data management, coding, and analysis using an inductive form of content analysis to identify and refine emergent themes. Analysis followed an iterative process and drew on care work literature and institutional theory. Phase One data was analyzed through monthly meetings of researchers to review field notes, identify emergent themes, and explore these themes in subsequent interviews. The first author read all transcripts to develop an initial codebook with themes. Other investigators (EK, GS) evaluated these themes and sample excerpts and recommended codebook expansions. Phase Two analysis involved line-by-line coding of data and theme extraction by a team of graduate students, including cross-checking themes and meetings to arrive at key themes that were shared with the broader WFHN research team. Guided by these analyses, we identified areas of theme overlap.

2.7.2. Triangulation

We specifically merged the quantitative data to test the assumptions underlying arguments the managers proffered. The three hypotheses tested in the quantitative analysis were developed using findings from the qualitative analysis.

2.7.3. Quantitative analysis

Analyses began with descriptive analyses. Model estimations used the GENMOD procedure in SAS version 9.4 and a significance level of $p = 0.05$ for statistical inferences. All multivariable analyses employed linear or logistic Generalized Estimating Equation models with compound symmetric covariance structure, which accounts for the correlation among outcomes within a single facility that result from the repeated measurements of patient outcomes over time, and controls for clustering of employees by site.

Patient care quality data were only available at the facility level; consequently, individual workers' ratings of work-family support were aggregated to the facility level for analyses involving these outcomes. The final multivariable linear regression models testing the first hypothesis controlled for facility-level averages of *schedule control*, *family-to-work conflict, work-to-family conflict, turnover intentions, resident census, quality rating, weekly hours, job tenure, proportion on day-shift*, and *staffing ratios*. Models also included covariates to control for the underlying time trend in patient outcomes over the six-month period and any potential effect of the WFHN intervention. The final model, which tested managers' assertions that additional jobs negatively impacted resident care, included *proportion with additional job* as a predictor.

Analysis of the likelihood of employees having additional jobs (second hypothesis) was conducted at the employee level. We estimated risk ratios rather than odds ratios due to the high prevalence of the outcome (Zhang and Kai, 1998). We first estimated separate unadjusted logistic regression models of each predictor with the outcome. Family-supportive supervisor behaviors was significantly correlated with organizational climate ($\alpha = 0.13$; p value<0.0001). Therefore, the first multivariable models estimate each work-family support predictor separately, controlling for employees' age, children in household, job tenure, race/ethnicity, education, poverty level, and gender in addition to controlling for potential effect of WFHN intervention (Models 1–2). Next, we estimated multivariable models with both predictors estimating the outcome (Model 3). Previous studies indicated that work-family support is more relevant to employees with children (Davis et al., 2015; Kelly et al., 2008); therefore, our final model tested the interaction of the main effects with *children in household* (Model 4).

3. Results

3.1. Qualitative findings

Thematic analyses revealed that managers operate within the constraints of an industry that simultaneously: (a) employs low-wage workers with multiple work-family challenges, and (b) has firmly institutionalized goals of prioritizing care quality and minimizing labor costs. From managers' perspectives, institutionalized expectations about care quality are in conflict with providing work-family support to employees. Managers felt that supporting low-wage employees with multiple work-family challenges and prioritizing care quality were antithetical goals:

> *…we have very limited resources to do our mission so, if we use those we have to hire someone to manage that [family-responsive policies] for our staff and then we'd be taking away from our residents. There's a finite amount of money to do these things. [Director of nursing A]*

Administrative-level managers focused on labor costs associated with work-family support. According to them, investments in work-family policies, such as childcare reimbursement and parental leave, would invariably detract from investments in initiatives to improve care quality, such as hiring more skilled staff. Generally, managers doubted that formal or informal provision of work-family support could lead to improvements in worker performance.

Although frontline managers also expected work-family support to negatively impact care quality, their attention focused less on labor costs. They, along with many administrative-level managers, expressed a concern that the flexible scheduling practices, which are key aspects of providing work-family support, would inadvertently harm care quality because employees would use the flexibility to work extra hours. The managers were particularly concerned about extra hours worked at second (and sometimes third) jobs at other settings. Generally, concerns were that working extra hours led to employee fatigue, which would reduce performance in delivery of care quality:

> *I allow that [extra hours], as long as I see they're able to function. But when they begin to – I see mistakes. I see the fact that they're not doing what they're supposed to be doing, and they're getting cross, or they're irritable with patients, then I have to say, you can only work 40 hours a week. [Director of nursing B]*

> *We're looking at that [flexible scheduling implemented by some frontline managers] because productivity isn't necessarily where it needs to be because I know so many of them are cramming in a 40-h week into two or three days and then going off and working 40 hours somewhere else. [Director of nursing A]*

Whether valid or not, these concerns are relevant for long-term care organizations that strive to provide work-family support. Most frontline managers regarded provision of extra work hours as a form of work-family support. Managers often referenced provision of extra work hours to employees when asked to describe

experiences with providing informal work-family support:

> *I have one girl that she had an opportunity to work a second job, she really – she had worked here for a lot of years, she knew her job well, and she had asked, you know, she could use the extra money … We worked it out so she could work her second job. [Unit manager A]*

> *One of my male aides [CNA] is looking to buy a house, so he wants the extra [work hours], but he doesn't want to work a full double shift, so sometimes he picks up a lot of the extra shifts. [Unit manager B]*

> *We have one particular girl here who I would help out in a minute, and I do. I give her a lot of time [extra work hours] …. For a while there,* ***if the initials weren't there, … the person would come to work and they'd tell them they're not on the schedule.*** *So I just put my initials down and once that girl has the time, she comes and that's her time. But I have had this [other] particular girl who had her mother and father who both recently died in the past year. She's supporting the kids, with a sick husband. So whatever time I can give her, I will give it to her. [Unit manager C]*

The antithetical framing of work-family support and care quality, however, meant that many managers attempted to inhibit employees' abilities to work extra hours on- and off-site. Formal policies and informal practices that made schedules inflexible and/or unpredictable were often used to control employees' hours. Another strategy, referenced in the bolded portion of the quotes from the latter unit manager, was for managers to alter schedules of employees who signed up for extra hours to reduce their hours. The quoted manager, as a form of work-family support, placed initials affirming support for the employee's extra work hours. Generally, administrative-level managers perceived a higher proportion of employees with additional jobs under frontline managers to signal lower prioritization of care quality by the managers. Managers were particularly concerned about hours worked off-site at additional jobs because they could not monitor the timing and amount of these hours.

3.2. Quantitative results

Table 1 summarizes Phase Two employee characteristics. Most were CNAs (70.6%). 88.1% had less than a college degree and 92.4% were female. More than half (58.3%) had children living in their households. Among the 19% who reported having an additional job, 81% worked full-time at their WFHN jobs.

The monthly incidence of patient outcomes varied widely with a range of 0%–16.7% and 0%–10.2%, respectively, for all *pressure ulcers* and *stage 2 + pressure ulcers*; 2.8%–49.8% for *all falls*, and 0%–15.4% for *falls with injuries*. The widest range (0%–81.2%) was for *other injuries*, but all values above 31% came from one small facility whose public records indicated persistent citations for deficiencies.

Tables 2 and 3 display results of multivariable models estimating associations between work-family support and care quality. Contradicting the managers' framing, average work-family support (measured in two distinct ways) demonstrated strong positive links to care quality (Table 2). Effects persisted even after controlling for *proportion with additional job* (Table 3). Each unit increase in employees' scoring of their facilities on *family-supportive supervision* was associated with facility-wide decreases of 2.62% and 9.79% in *all ulcers* and *other injuries,* respectively ($p < 0.05$); there were no significant associations with *stage 2 + ulcers*, *all falls* and *falls with injury*. *Family-supportive organizational climate* was associated with *all falls* and *falls with injury*, but not with other indicators: a one-unit increase was associated with 17.94% and 7.57% decreases, respectively, in incidence of *all falls* and *falls with injury* (Table 2; $p < 0.01$). Contrary to managers' assertions, the proportion of employees with *additional jobs* at a facility was not associated with any of the care quality outcomes (Table 3). Therefore, we consider Table 2 as our final model of the association between the work-family support variables and care quality.

The association between work-family support and the likelihood of employees working an additional job was more nuanced (Table 4). Both family-supportive supervision and organizational climate appeared to have non-significant associations with employees' likelihood of having additional jobs in unadjusted and multivariable models (Models 1–3). However, the managers' sense that work-family support facilitated additional jobs was partially supported: tests of interaction revealed that, among employees with children, family-supportive *supervision* was associated with significantly higher likelihood of having an additional job (RR 1.46, 95%CI 1.08–1.99); this finding aligns with our qualitative finding that frontline managers perceived additional work hours as work-family support and sometimes instituted informal practices that facilitated employees' additional jobs. Meanwhile, family-supportive organizational climate was associated with significantly lower likelihood of employees working additional jobs (RR 0.76, 95%CI 0.59–0.99).

4. Conclusion

Our qualitative analysis indicated that managers viewed work-family support and workers' performance on care quality as antithetical to each other. However, our quantitative analyses indicate that work-family support is associated with better care quality. We found that work-family support predicted care quality in the six months subsequent to collection of employees' data on work-family support. Both measures of work-family support were associated with care quality outcomes in statistically significant ways: 1) greater family-supportive supervision predicted lower incidence of all pressure ulcers and other injuries; and 2) family-supportive organizational climate predicted fewer falls and falls with injuries.

The second part of our quantitative analysis provided some support for the managers' concerns that work-family support could increase likelihood of employees working extra hours at additional jobs. Among employees with children, family-supportive organizational climate was associated with lower likelihood of having an additional job, but employees' perception of their manager as family-supportive significantly increased their likelihood of having additional jobs. These findings reflect the different reference points for the two measures of work-family support. Family-supportive supervision asks employees about managerial behaviors that signal support for employees' family and personal lives. The qualitative data suggests that allowing employees to sign up for additional work hours within the site and scheduling employees to allow them to take a second job were understood to be supportive managerial behaviors. Family-supportive organizational climate has a broader reference, asking about employees' perceptions of whether they were expected to put work before family in this organization. Perhaps workers in facilities with higher family-supportive organizational climate have more opportunities to work extra hours onsite, therefore negating the necessity to work additional hours offsite. Alternatively, a higher family-supportive organizational climate may reflect a cultural commitment to prioritizing family life and so discourage additional jobs. Future research could investigate these dynamics with additional measures of work-family support, including managers' and organizations' facilitation of the hours that low-wage workers need or want to work in order to support their families. Despite managers'

Table 1
Employee characteristics (n = 1214).

	N (%)
Female	1122 (92.4)
Children at home	708 (58.3)
Married/living with partner	732 (60.3)
Non-Hispanic White	783 (64.5)
Non-Hispanic Black	165 (13.6)
Hispanic	172 (14.2)
Other/mixed	94 (7.7)
High school or less	461 (38)
Some college or technical school	612 (50.1)
College graduate	140 (11.5)
<100% Federal Poverty Level (FPL)	96 (8.2)
100–200% FPL	318 (27.3)
200–300% FPL	310 (26.6)
>300% FPL	443 (38.0)
Working additional jobs	230 (18.9)
Registered nurse/licensed practical nurse	357 (29.4)
Certified nurse assistants	857(70.6)
	Mean(SD)
Age	39(12.3)
Tenure	7.2(6.7)
Weekly hours	36.5(7.6)
Scale variables, range 1-5	
Family-supportive supervision	3.6(0.88)
Family-supportive organizational climate	2.8(0.87)
Work-to-family conflict	2.7(0.89)
Family-to-work conflict	2.1(0.55)
Schedule control	2.6(0.74)
Turnover intentions	2.2(1.1)

expectations that facilitating additional jobs would negatively impact care quality, the proportion of employees working additional jobs at facility was *not* associated with care quality at the facility. Taken together, the study provides evidence that work-family support may be an important predictor influencing workers' performance in care quality.

Interpretation of these results does not completely apply to ongoing debates about physicians' and nurses' hours and performance on care quality (Geiger-Brown and Trinkoff, 2010). Additional job connotes extra hours, especially in our sample where 81% of those with additional hours were already full-time employees. While those with second jobs are likely to work longer hours, employees with a single job are also sometimes asked to work (or seek out) additional hours—which the additional job variable does not capture. In the specific context of the managers in our study, they could assess whether additional hours worked by employees onsite lead to possible decrements in performance (*e.g. "getting cross, or they're irritable with patients"* as articulated by director of nursing B), and reduce their hours if needed. But the hours worked at another facility were outside managers' control and so there was greater anxiety on managers' parts that working a second job would negatively affect patient care. Our findings indicate second jobs, per se, are not related to the outcomes but it still quite plausible that staff who work very long hours (in one facility or in multiple) are not able to provide the care quality as those working more moderate hours.

That family-supportive supervision predicted pressure ulcers, while organizational climate predicted falls is interesting. Unit-level nursing personnel have more control over preventing initial formation of pressure ulcers and occurrence of injuries generally (Lyder, 2003; Vu et al., 2004). Once pressure ulcers advance beyond initial stages to stage 2, medical treatment and residents' health status may be more important than nursing care. The associations observed for organizational climate may be due to the reality that falls are also heavily influenced by organizational-level investments, such as non-skid surfaces (Vu et al., 2004).

Few empirical investigations of associations between work-family support and worker performance with which to compare our findings exist. The findings are consistent with another WFHN study that investigated schedule control and care quality using the same sample (Hurtado et al., 2014). That study, which used publicly-available annual data on pressure ulcers, activities of daily living and weight loss, found that long-term care facilities where workers reported higher levels of schedule control had lower prevalence of pressure ulcers the following year (Hurtado et al., 2014).

There are several mechanisms through which work-family support may influence patient care quality. Work-family pressures are significant stressors demonstrated to decrease employees' task performance (Berkman and O'Donnell, 2013; Kelly et al., 2008; Sabbath et al., 2015). Longitudinal evidence has linked work-family support with improvements in employees' organizational commitment, job satisfaction and well-being, though samples have primarily included white-collar workers (Kelly et al., 2008, 2014; Moen et al., 2011). Previous research with health care and non-health care samples indicated that managers' ability to provide work-family support predicts sleep outcomes in their employees (Berkman et al., 2010; Crain et al., 2014). These findings help explain our results: perhaps when employees perceive their managers and/or their organizations as family-supportive, their increased organizational commitment may lead to conscious efforts to provide better care. Availability of work-family support may also create less stressful working conditions that help employees concentrate on providing better care.

Strengths of the present paper include the clear temporal precedence of predictor variables to outcome data. Also, our outcomes were assessed at multiple points—monthly incidence for six months following assessment of work-family support. Additionally, the outcomes we evaluated are valid and concrete measures of care quality used in official judgments of quality care; hence, embodying them with strategic implications for long-term care organizations. Our work-family support measures have been validated across many samples, including low-wage workers (Hammer et al., 2013; Kossek et al., 2001). We were also able to control for numerous possible confounders, including organizational drivers of care quality, in our analyses using available primary and secondary data from private and public sources. Calculation of staffing ratio uses levels of required patient care thereby implicitly controlling for patient acuity. Also, by using generalized estimating equations to conduct repeated measures modeling of outcomes collected over

Table 2
Association of family-supportive supervision and organizational climate with facility-level quality of care over a 6-month period (n = 1214 workers in 30 facilities)[a].

	All ulcers B(SE)	Stage 2 + ulcers B(SE)	All falls B(SE)	Falls w/injury B(SE)	Other injuries B(SE)
Intercept	3.48(14.25)	−6.36(9.53)	0.77 (42.39)	−11.73 (13.30)	52.12(51.61)
Family-supportive supervision	−2.62(1.32)*	0.18(0.87)	−0.14(3.99)	−0.46(1.35)	−9.79(4.58)*
Family-supportive organizational climate	−2.98(2.04)	−0.42(1.41)	−17.94(6.42)**	−7.57(2.20)**	−5.88(6.87)

*p < 0.05; **p < 0.01.
[a] Models control for following facility variables: outcome assessment month, schedule control, family-to-work conflict, work-to-family conflict, turnover intentions, staff weekly hours, tenure, proportion of day shift employees, staffing ratio, number of residents, overall quality rating, and study condition.

Table 3
Association of family-supportive supervision, organizational climate and proportion of employees with additional jobs with facility-level quality of care over a 6-month period (n = 1214 workers in 30 facilities)[a].

	All ulcers B(SE)	Stage 2 + ulcers B(SE)	All falls B(SE)	Falls w/injury B(SE)	Other injuries B(SE)
Intercept	3.43(14.40)	−6.43(9.56)	4.50(43.10)	−10.92(13.37)	57.46(50.60)
Proportion with additional jobs	−0.01(0.04)	−0.01(0.03)	0.18(0.12)	0.04(0.03)	0.26(0.15)
Family-supportive supervision	−2.61(1.32)*	0.19(0.86)	−0.35(3.75)	−0.51(1.29)	−10.10(4.36)*
Family-supportive organizational climate	−2.92(2.15)	−0.34(1.42)	−19.73(7.39)**	−7.96(2.35)**	−8.45(6.19)

*p < 0.05; **p < 0.01.
[a] Models control for the following facility variables: outcome assessment month, schedule control, family-to-work conflict, work-to-family conflict, turnover intentions, staff weekly hours, tenure, proportion of day-shift employees, staffing ratio, resident census, quality ratings, and condition.

Table 4
Association of family-supportive supervision and organizational climate with likelihood of employees working additional jobs (N = 1214).

	Unadjusted models RR(95% CI)	Model 1[a] RR(95% CI)	Model 2[a] RR(95% CI)	Model 3[a] RR(95% CI)	Model 4[a] RR(95% CI)
Family-supportive supervision	0.97(0.83, 1.13)	1.01(0.87, 1.17)	N/A	1.01(0.87, 1.17)	0.81(0.65, 1.03)
Family-supportive organizational climate	0.94(0.84, 1.05)	N/A	0.99(0.89, 1.09)	0.98(0.89, 1.07)	1.13(0.94, 1.36)
Family-supportive supervision*children in household	N/A	N/A	N/A	N/A	1.46(1.08, 1.99)**
Family-supportive organizational climate*children in household	N/A	N/A	N/A	N/A	0.76(0.59, 0.99)*

*p < 0.05; **p < 0.01.
[a] Multivariable models control for study condition, children in household, schedule control, age, job tenure, race/ethnicity, education, poverty level, job title, and gender.

six months, the analyses compared each site to itself in addition to comparing sites to one another.

Our focus on health care workers in long-term care is a notable contribution to the field. Few studies in the work-family literature have focused on health care workers, and those few have primarily included hospital nurses (Grzywacz et al., 2006; Killien, 2004; van der Heijden et al., 2008). While hospital nurses also negotiate a 24/7 workplace and perform care work, they usually have more socially advantageous profiles compared to the certified nursing assistants (CNAs) and other employees who make up 70% of the long-term care workforce (Torpey, 2011).

Despite these strengths, a few limitations of this study warrant mention. Although the quantitative data allow us to construct a picture of employees' behaviors, we lacked qualitative assessments of employees' perspectives on work-family support. Patient outcome data were only available at facility level; therefore, we cannot determine if the specific workers who scored managers or organizations highly on work-family support provided the observed higher levels of care quality. To mitigate this limitation, we used facility-level predictors and controlled for several variables demonstrated to impact care quality, including facilities' past care quality ratings. As with any observational study, unmeasured confounders may remain. Last, including only chain for-profit facilities limits external validity, as our findings may not apply to the 36% of nursing home employees who work in non-profit facilities (Salamon et al., 2012). However, for-profit chains are becoming a higher proportion of the nursing home market worldwide (Harrington et al., 2011). Moreover, the characteristics of the managers and employees in our sample were similar to population-wide characteristics of managers and employees in U.S. long-term care organizations (Torpey, 2011).

The study has multiple implications. Today's aging workforce is tomorrow's aged population. Nursing homes generally make minimal investments in their relatively low-skilled workforce (O'Campo et al., 2004). Their workers face multiple work-family challenges resulting in detriments to mental and physical health (Okechukwu et al., 2012). Improvements in work-family support at these settings have been slow (Lambert and Waxman, 2005; Swanberg et al., 2005). Given mounting evidence of the importance of work-family pressures to morbidity and mortality risks (Sabbath et al., 2015), framing work-family support as contributor to improved care quality may be strengthen arguments for organizational investments in work-family support. Meeting care needs is the technical core of nursing homes; a goal imbued with moral value. The observed antithetical framing of work-family support and care quality may impede successful implementation of available family-supportive policies to benefit nursing home employees. Empirical evidence may be useful in reassuring managers that work-family support may benefit care quality.

The study may also apply to many other workplaces where the universal pressure to conform to care quality expectations for ratings and reputation apply. Some findings are potentially transferable to other healthcare settings (e.g., hospitals) and service industry workplaces (e.g., the airline industry) with highly interdependent employee jobs and managers who must actively weigh their employees' family/personal needs against high institutional performance expectations. The finding that being family-supportive did not contribute to employees compromising their performance may be relevant encouragement for any manager who coordinates complex schedules and care regimens, particularly with a vulnerable workforce.

Furthermore, we demonstrated a direct link between work-family support and care quality that has not been addressed in the literature. Pressure ulcers, falls and injuries are painful experiences with negative mental and physical health consequences for nursing home residents. The majority of their occurrences in nursing homes are preventable with appropriate nursing care, such as repositioning and proper restraint practices (Comondore et al., 2009). While the focus of the extant literature on care quality on policy and organizational drivers is important because, if modified, these macro-level drivers have the potential for greater population-wide effects, they necessitate immense political and financial expenditures. The current findings may offer low-cost options for improving care quality for nursing home residents, while additionally benefiting employees.

Our study reveals the need for work-family field to increase the range of topics examined, including addressing the financial needs of low-wage workers. About 66% of nursing home workers in a community sample reported some financial strain, while 16% reported family food insufficiency (Okechukwu et al., 2012). Nationally-representative samples indicate high proportions of nursing home workers living in poverty (Smith and Baughman,

2007; Torpey, 2011). Some line managers enabled employees to work additional hours—a solution that provides critically-needed extra earnings but limits the quantity of family time availability. Financial need is an important work-family factor, though one that is not directly addressed in the common work-family scholarship.

Further studies with diverse samples and settings and with designs that allow for direct linkage of work-family support to specific employees' provision of better care quality are needed to confirm these findings. Experimental studies testing impacts of provision of work-family support on care quality and other workers performance measures are also important next steps. Research from members of the WFHN study network has demonstrated such impacts using white-collar sample with plans for future evaluations with service industry samples (Kelly et al., 2014).

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