

A Preliminary Evaluation of the Paid Feeding Assistant Regulation: Impact on Feeding Assistance Care Process Quality in Nursing Homes

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Purpose: The Centers for Medicare and Medicaid Services and the Agency for Healthcare Research and Quality sponsored a nationwide study to evaluate the federal paid feeding assistant (PFA) regulation that allows nursing homes to hire single-task workers to provide feeding assistance to nursing home residents. Organizers designed the PFA regulation to increase the number of staff available to provide assistance with eating and improve nutritional care process quality. **Design and Methods:** Trained research staff used standardized protocols to conduct direct observations during meals and face-to-face staff interviews in a convenience sample of seven facilities with PFA programs to evaluate care process quality. **Results:** Most (84%) of the trained PFAs in the seven site visit facilities were non-nursing staff within the facility; the quality of feeding assistance care provided by these workers was comparable to that provided by indigenous nurse aides. There were no reported changes in existing staffing levels (nurse aide or licensed nurses) follow-

ing PFA program implementation, and the majority (> 90%) of indigenous staff at all levels reported positive benefits of the PFA program for both staff and residents. **Implications:** Findings from this preliminary study indicate that the PFA regulation may serve to increase the utilization of existing non-nursing staff to improve feeding assistance care during meals without having a negative impact on existing nurse aide and licensed nurse staffing levels.

Key Words: Staffing, Nursing homes, Regulations, Centers for Medicare and Medicaid Services

Multiple studies have shown that the adequacy and quality of feeding assistance care is substandard for many nursing home residents (Kayser-Jones, & Schell, 1997; Simmons, Babinou, Garcia, & Schnelle, 2002; Simmons et al., 2003). In a recent study, research staff conducted direct observations during meals using a standardized protocol to measure the adequacy (amount of time) and quality (presence of verbal cueing) of feeding assistance care provision for 302 residents in 10 nursing homes (Simmons et al., 2002). Results showed that 56% of the residents with low oral intake (i.e., who ate less than half of the served meal) received no help from staff. Similarly, 56% of the residents rated by staff as requiring assistance to eat received less than 5 min of assistance with meals. In addition, 35% of those who received physical help to eat did not receive any verbal cueing to enhance independence (Simmons et al., 2002).

Other observational studies have shown similar findings. Kayser-Jones and Schell (1997) observed 58 residents in two nursing homes during all meals for 7 days. These residents were at risk for undernutrition due to recent weight loss and/or low oral intake.

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Findings showed that staff both forced physical help upon residents who could eat independently but who did so slowly and provided assistance in a sporadic, rapid manner to all residents, even those who ate slowly due to swallowing difficulties. The nurse aides, who provided feeding assistance, self-reported that they lacked sufficient time to adequately help all of the eating-dependent residents for whom they were responsible (Kayser-Jones, 1996; Kayser-Jones & Schell, 1997).

Based on these findings, research and expert consensus groups have recommended that both nurse aide and licensed nurse staffing levels be increased during mealtime to ensure adequate feeding assistance and supervision (Kayser-Jones, 1996; Kayser-Jones & Schell, 1997; Mondoux, 1998; Schnelle, Cretin, Saliba, & Simmons, 2000). The results of a recent study of 21 nursing homes showed that facilities with staffing (nurse aide plus licensed nurse) above a total of 4.1 hr per resident per day provided significantly better feeding assistance care according to multiple care process measures (Schnelle et al., 2004). Other studies have shown an association between low staffing, eating dependency, and undernutrition in nursing home residents (Abbasi & Rudman, 1993; Keller, 1993).

In response to these research findings and staffing recommendations, the Centers for Medicare and Medicaid Services issued a federal regulation (Medicare and Medicaid Programs, 2003) that allows nursing homes to hire single-task workers to provide feeding assistance care. The intent of the federal regulation was to address the staffing shortage that exists in many U.S. facilities (at least during meals) to improve one aspect of daily nursing home care quality.

Four major concerns have been expressed by various stakeholder groups (e.g., National Citizen's Coalition for Nursing Home Reform, Service Employees International Union, Alzheimer's Association) in response to the paid feeding assistant (PFA) regulation (Medicare and Medicaid Programs, 2003; Remsburg, 2004). First, the regulation requires that single-task workers receive 8 hr of training, substantially less than is required for a certified nursing assistant (CNA; i.e., 75 hr). Thus, one concern is that inadequate training and supervision of staff responsible for providing feeding assistance will result in poor-quality assistance. A second concern also related to training is that resident safety will be jeopardized by allowing inadequately trained staff to assist residents with complicated feeding assistance needs (e.g., swallowing difficulties). A third concern related to single-task nursing home workers providing feeding assistance is that facilities will use these workers to provide other aspects of daily care for which they have not received proper training (e.g., transferring residents into or out of bed; assisting with toileting, dressing, and/or walking). The potential misuse of PFAs is a concern due to evidence that most nursing homes do not have

adequate nurse aide staff available to provide care in a number of areas, not just feeding assistance (Schnelle et al., 2000; Schnelle et al., 2004). Finally, there is concern that facilities will use PFAs, as single-task workers, to replace existing nurse aide staff who require more training, supervision, and higher pay, thus resulting in lower overall staffing and complaints among existing nurse aide and licensed nurse staffing with PFA programs.

The primary goal of this preliminary evaluation study was to assess the impact of PFA programs on feeding assistance care process quality at the facility level and individual level through site visits to a convenience sample of seven facilities with active programs. To our knowledge, this is the first formal evaluation study of PFA programs wherein trained research staff used standardized protocols to directly address the four major concerns raised by various stakeholder groups in response to the PFA regulation. We addressed the following specific research questions:

1. What type of staff (e.g., single-task workers, volunteers, family members, non-nursing staff within the facility) are being trained as PFAs?
2. How do trained PFAs compare to indigenous CNAs on feeding assistance care processes as measured by direct observation of care delivery?
3. Do PFAs engage in activity of daily living tasks other than feeding assistance (e.g., transfer or walking assistance) or related mealtime tasks (e.g., meal tray delivery) based on interview and direct observation of care delivery?
4. Have existing nurse aide or licensed nurse staffing ratios changed as a result of the PFA program based on staff interview?
5. Do existing nurse aide and licensed nurse staff view PFAs as helpful based on staff interview?

Methods

Identification of Convenience Sample of Facilities for Site Visits

We conducted a nationwide telephone inventory with representatives of state departments of health in order to generate a recruitment list of nursing homes with active PFA programs. The results of the telephone inventory revealed that respondents from 28 states reported having active PFA programs. Of these 28 states, we selected Colorado, New Hampshire, and Wisconsin for nursing home site visit recruitment because these states both had numerous nursing homes with approved programs ($n = 103$) and provided lists of those facilities. Additional states reported the use of PFAs but had fewer nursing homes that had implemented the program (e.g., Delaware, Kentucky). Project resources limited the number of state visits to three.

Between June and September 2005, research staff conducted random telephone calls from the lists of

nursing homes provided by each of the three states. Staff called until the first site in each state agreed to participate; we selected the second site based on its proximity to the first site so that researchers could visit two facilities during one site visit trip. Overall, staff contacted 33 nursing homes across all three states. One additional nursing home contacted the research team directly for study participation. Of the 34 total nursing homes contacted, 9 agreed to participate in the study. Reasons for nonparticipation among the remaining 25 nursing homes included the following: PFAs were not needed or used on a regular basis, therefore there was no guarantee of their presence in the dining room at the time of the site visit (6); PFAs were not currently being used because the facility had determined they were not needed at that time (7); scheduling difficulties existed between research staff and nursing home management (5); and the site did not respond to scheduling attempts for the site visit (7). Of the 13 nursing homes that were not regularly or currently using PFAs, none reported dissatisfaction with the PFA program.

Of the nine nursing homes that agreed to participate, we used one to pilot test the staff interview protocols and establish interrater reliability among research staff for the observational protocol; and we considered the other, a hospice nursing home, ineligible for site visit participation due to differences from other nursing homes on important factors such as the demographics of the resident population. The remaining seven nursing homes comprised the site visit sample for this study. Participation in this study was voluntary; thus, findings may be biased toward higher quality care than that which might be found in a larger study using a randomly selected sample of facilities.

Staff Interviews

Trained researchers used standardized protocols to conduct face-to-face interviews with nursing home employees, including upper-level staff (e.g., administrators, staff trainers) and assistants (i.e., CNAs, PFAs). We based the protocol used to interview CNAs on previous work (Schnelle et al., 2000; Simmons et al., 2003). We developed all other staff interview protocols specifically for the purposes of this study and field-tested them in one pilot site. Interviews with upper-level staff required approximately 30 to 45 min per person, on average. Interviews with CNAs and PFAs required less than 10 min per person, on average.

The institutional review boards obtained waivers of signed informed consent for all interview and observation protocols used in this study. Research staff used a standardized script to introduce the interview and to inform staff members of the confidentiality of their responses and the fact that they could refuse to answer the questions without

any effect on their job. Staff conducted interviews in person in a private area or according to the preference of the individual staff member.

Upper-Level Staff Interviews.—Research staff conducted in-person interviews with upper-level staff involved with the PFA program, including administrators ($n = 6$), directors of nursing ($n = 7$), charge nurses ($n = 5$), and staff developers/trainers ($n = 7$). Although the protocol called for one interview per facility with each of these employees, this was not always possible due to staff being unavailable for interview. No upper-level staff employee refused to be interviewed as part of this study. The upper-level staff sample included additional staff who were directly involved in curriculum development, training, and/or implementation of the PFA program (i.e., unit nurses, $n = 3$; dietitians, $n = 2$; speech and swallowing therapists, $n = 1$; and PFA supervisors, $n = 1$). A total of 32 upper-level staff were interviewed across all sites.

Upper-level staff interviews included both open- and close-ended questions that ranged from 10 (i.e., charge nurse interview) to 40 (i.e., staff trainer interview) items per interview. The wide range of items per interview was due to the fact that some questions were unique to a particular staff position. For example, only the nurse trainer interview included a set of questions that addressed the PFA training process (interview items available upon request).

CNA and PFA Interviews.—Research staff also conducted face-to-face interviews with CNAs ($n = 54$) and PFAs ($n = 39$). During the first (7 a.m.–3 p.m.) and second (3 p.m.–11 p.m.) shifts, research staff approached CNAs and PFAs at random and asked if they would like to participate in the study. Two CNAs agreed to participate but ultimately did not because of scheduling difficulties. One PFA refused to be interviewed due to time constraints from other nursing home responsibilities (i.e., housekeeping).

The CNA and PFA interviews consisted of 15 and 18 items, respectively, with considerable overlap in the questions asked. For example, both interviews included three multiple-choice items: (a) “How long have you worked in the nursing home setting: Less than 6 months, 6 to 12 months, 1 to 2 years, more than 2 years?” (b) “Of the residents you are helping to eat today, how many need: full assistance, partial assistance?” and (c) “Do you usually help the same residents to eat, or does your resident assignment change?” Both interviews included a short-answer item (“How many residents are you helping to eat today?”), a yes/no item that addressed whether or not they had received special training on feeding residents (beyond certification training for CNAs), and a series of five yes/no items that assessed involvement in meal-related job tasks (i.e., transporting residents to

and from the dining room; delivering, picking up, and setting up meal trays; documenting food and fluid intake; offering foods and fluids between meals; getting requested substitutions).

Unique to the CNA interview protocol were (a) two short-answer questions that assessed resident assignment, and (b) two yes/no items that assessed whether the CNA thought it was helpful to have the PFA present during meals and whether the CNA had any concerns about the use of the PFA program. If the CNA responded “yes” to the final question, staff asked him or her to elaborate.

The PFA interview protocol included an additional seven yes/no items specific to their role that were not included on the CNA interview protocol: “Do you feel comfortable with your resident assignment and their assistance needs?” and “Are you able to get help from licensed staff when/if you need it?” The five remaining yes/no items assessed whether the PFA assisted residents with non-meal-related activity of daily living tasks (i.e., transporting to social activities, transferring, dressing, toileting, and walking).

Mealtime Observational Protocol and Care Process Measures

Research staff used a standardized observational protocol in this study to conduct direct observations of feeding assistance care delivery by both CNAs and PFAs at each site during all three scheduled meals (breakfast, $n = 71$; lunch, $n = 98$; dinner, $n = 74$) across 2 consecutive days (e.g., lunch and dinner on Day 1 and breakfast on Day 2). Observers selected residents for observation based primarily on whether they received assistance from a CNA or PFA. On occasion, research staff included in the observations residents who were assisted by family members or who did not receive assistance at all. The rationale for including residents who did not receive assistance at all was that some of these residents may have been eating poorly on their own and, therefore, may have been in need of staff attention. Research staff observed a minimum of 4 and a maximum of 8 residents at any given meal.

Previous work established the interrater reliability, stability and validity of the observational protocol, and the feeding assistance care process measures (Schnelle et al., 2004; Simmons et al., 2002; Simmons et al., 2003). Specifically, a previous study showed that multiple trained observers achieved acceptable interrater reliability and that the measures were stable across different meals and days (Simmons et al., 2002). A separate study showed that the measures differentiated between facilities with staffing above a total of 4.1 hr per resident per day and staffing below this level, with higher staffed facilities performing significantly better on all measures (Simmons et al., 2003).

Five research staff observers established interrater reliability in this study ($n = 29$ resident meal

observations in the pilot training site). Reliability (as measured by Pearson correlation coefficients for continuous variables or Spearman’s rho coefficients for categorical variables) ranged from good to excellent between the five observers for all data elements used to score the feeding assistance care process measures. These data elements included the following: total percent eaten ($r = .985$, $p < .001$), total assistance time in minutes ($r_s = .661-.975$, $p < .001$), resident capable of eating independently ($r_s = .583-.919$, $p < .001$), staff provision of verbal cueing ($r_s = .509-.784$, $p < .001$), staff provision of physical assistance ($r_s = .535-1.0$, $p < .001$), supplement given during meal ($r_s = .681-1.0$, $p < .001$), and meal substitution offered by staff ($r_s = .632-1.0$, $p < .001$). We used these data elements to calculate five feeding assistance care process measures, which related to the adequacy and quality of staff assistance to encourage both meal intake and the resident’s independence in eating. The next section describes the scoring rule and rationale for each of the five measures.

Feeding Assistance Care Process Measures Scoring Rules and Rationale

Staff Ability to Provide Assistance to At-Risk Residents.—Scoring Rule: Score as “fail” any resident who consumes less than 50% of the food and fluid items on his or her meal tray and receives less than 1 min of assistance from staff. **Rationale:** Federal criteria define low oral intake as “leaves 25% or more of food uneaten” or consumes less than 75% of most meals (Health Care Financing Administration, 1999, p. 6-60). Recent evidence, however, suggests that nursing home residents who consistently consume less than 50% of most meals are at a significantly higher risk for weight loss (Gilmore, Robinson, Posthauer, & Raymond, 1995). Thus, if a resident who consumes less than 50% of a meal also receives less than 1 min of attention from staff, then the staff is providing potentially substandard feeding assistance, failing to recognize an oral intake problem, or both (Simmons et al., 2002; Simmons et al., 2003).

Staff Ability to Offer an Alternative, or Meal Substitution, When a Resident Does Not Like the Served Meal.—Scoring Rule: Score as “fail” any resident who consumes less than 50% of the served meal without being offered a meal substitution. **Rationale:** The ability of nursing home residents to obtain a substitute if they do not like a particular served meal is an indicator of nutritional care quality according to state deficiency citation source codes. If a resident consumes less than 50% of the served meal, staff should offer him or her at least one alternative to encourage meal consumption.

Staff Ability to Provide Adequate Assistance to Residents Who Receive an Oral Liquid Nutritional Supplement During Meals.—*Scoring Rule:* Score as “fail” any resident who receives an oral liquid nutritional supplement and less than 5 min of staff assistance to eat during the meal. *Rationale:* Oral liquid nutritional supplements are most effective in increasing daily caloric intake among nursing home residents when provided between regularly scheduled meals (Simmons & Schnelle, 2004). Direct observational data suggest that supplements are often inappropriately given with meals and may be used as a substitute for quality feeding assistance (Kayser-Jones et al., 1998; Simmons & Patel, 2006).

Staff Ability to Provide Assistance That Enhances a Resident’s Independence in Eating.—*Scoring Rule:* Score as “fail” any resident who receives physical assistance to eat when he or she is capable of eating independently. *Rationale:* Observational data indicate that nursing home staff often provide excessive physical assistance to residents who could otherwise eat independently with just verbal prompting or encouragement (Simmons et al., 2002; Simmons et al., 2003; Simmons & Schnelle, 2004).

Staff Ability to Provide a Verbal Prompt to Residents Who Receive Physical Assistance to Eat.—*Scoring Rule:* Score as “fail” any resident who receives physical assistance to eat without also receiving at least one episode of verbal prompting (e.g., “Try some of your soup”). *Rationale:* Research has shown that graduated prompting protocols using verbal prompting increase residents’ independent eating behaviors and oral food and fluid intake (Lange-Alberts & Shott, 1994; Simmons et al., 2002; Simmons et al., 2003; Simmons & Schnelle, 2004; Van Ort & Phillips, 1995).

Results

Setting for Site Visits: Facility Information for Convenience Sample

Of the seven nursing homes that participated in site visits, four were for-profit facilities. The average bed size was 180 (\pm 94, range 43 to 300). The average nurse-aide-to-resident ratio, as reported by the directors of nursing, was 8 (\pm 1) residents to 1 nurse aide during the day (7 a.m.–3 p.m., breakfast and lunch meals, range 7–10) and 10 (\pm 2) residents to 1 nurse aide during the evening (3 p.m.–11 p.m., dinner meal, range 8–13). The average licensed-staff-to-resident ratios (registered nurses + licensed vocational nurses) were 16 (\pm 4) residents to 1 and 22 (\pm 6) residents to 1 during the day and evening shifts, respectively. The PFA programs at the seven sites had begun between 2004 and 2005.

The average number of PFAs who had received training was 19 (\pm 16) per site (range 7–53), and the average number of respondents who were still working as PFAs at the time of the site visits was 14 (\pm 11) per site (range 6–35). Reasons for no longer working as a PFA included the following: currently working as a CNA (n = 4); quit with no reason provided (n = 1); and left the facility altogether for a variety of reasons, including retirement (n = 15). None of the upper-level staff at the seven facilities reported having dismissed a PFA for problems related to that person’s PFA responsibilities.

Staff Interviews: Upper-Level Staff

Research staff conducted 32 interviews with the administrators; directors of nursing; charge nurses; staff developers/trainers; and other individuals involved in PFA curriculum development, training, or implementation at each site (e.g., dietitians, PFA supervisors, unit nurses), with an average of four to five upper-level staff interviews per site. The interview data demonstrated that, overall, upper-level staff were satisfied with the PFA program in their facility. In response to the open-ended question “Do you have any concerns about the PFA program?” the majority of respondents stated that they had no concerns. Three respondents remarked that they had had initial concerns, such as CNAs taking advantage of PFAs and inappropriate resident assignment, but that their concerns had been quelled through proper training and appropriate resident assignment. Two respondents remarked that they would have liked to see more training so that PFAs would be sure to recognize when not to feed a resident. Finally, 100% of the respondents reported that their facility had made no changes to existing nurse aide or licensed nurse staffing levels following PFA program implementation, and all (100%) upper-level staff interviewed said that they planned to continue the PFA program and train additional staff.

In response to the open-ended question regarding reasons for implementing the PFA program, upper-level staff reported three primary motives: (a) to increase the number of available staff during meals to provide feeding assistance and to ensure timely, hot meal tray delivery; (b) to increase the individual attention and socialization that residents received during meals; and, (c) to allow nurse aides more time for other competing tasks (e.g., providing incontinence care, answering call lights, helping residents who eat in their rooms). Staff at one of the seven sites reported that they had already been using non-nursing staff from other departments to assist with mealtime tasks prior to the Centers for Medicare and Medicaid Services regulation and that the regulation had simply formalized this existing care practice.

The staff trainers at two sites reported that they used prepared training materials available from the

state, whereas the remaining five sites used either American Health Care Association, corporate, or their own training materials. Training consisted of a minimum of 8 hr training and competency evaluations (i.e., written test and performance-based observation of care provision) at all seven sites. In addition, all seven (100%) of the staff trainers had added content (hand washing, food pyramid, and percent consumed estimation) and/or additional training hours (up to 18 hr total) to their PFA training curriculum. Directors of nursing, staff trainers, and charge nurses at all sites reported that only residents “without complicated feeding assistance care needs” were assigned to PFAs, yet the criteria used to define “complications” was unclear at all sites (e.g., “based on care plan”).

There was variability in the PFA recruitment process across sites. For example, five facilities trained only existing non-nursing staff as PFAs, whereas two facilities also recruited from the community. Four facilities recruited existing non-nursing staff from various departments into the PFA program through volunteer participation. One other facility required that all laundry and housekeeping staff complete PFA training and be available as needed to help feed residents. The remaining two facilities had written PFA training and participation into certain nursing home job descriptions (e.g., housekeeping). One site that recruited existing non-nursing staff through voluntary participation offered a raise upon successful completion of the PFA training as a recruitment incentive. The frequency of use of PFAs also varied across sites. Three facilities reported using PFAs “as needed,” whereas the remaining four facilities scheduled PFAs for specific meals, days, and/or residents.

Staff Interviews: CNAs

Research staff interviewed a total of 54 CNAs across all sites, with an average of 8 aides (range 5–11) interviewed per site. Of these 54 CNAs, 67% ($n = 36$) represented the day shift (7 a.m.–3 p.m.), and the remaining 33% ($n = 18$) represented the evening shift (3 p.m.–11 p.m.). In all, 83% ($n = 45$) reported having 1 or more years of nursing home experience. The CNAs reported a resident assignment (number of residents per aide per shift) that was consistent with the staffing information reported by the directors of nursing for both the day and evening shifts (see *Setting for Site Visits: Facility Information for Convenience Sample*).

Most CNAs (80%) reported that resident assignments for feeding assistance changed daily or weekly. The CNAs reported that they were responsible for the following mealtime tasks, in addition to feeding assistance care provision: transporting residents to and from the dining room (96%); delivering, setting up, and picking up meal

trays (99%); documenting food and fluid intake in residents’ medical records (93%); retrieving substitutions from the kitchen, if the resident does not like the served meal (93%); and delivering additional foods and fluids between meals (98%). A total of 96% of the CNAs reported that they considered the PFAs “helpful” for performing one or more of these mealtime tasks in addition to feeding assistance care provision; 92% reported that they had “no concerns” about the PFA program within their facility.

Staff Interviews: PFAs

Research staff interviewed a total of 39 PFAs across all sites, with an average of 6 assistants (range 4–8) interviewed per site. The majority of PFAs (85%) who were interviewed represented the day shift. In all, 95% ($n = 37$) reported having at least 1 year of nursing home experience, which was comparable to the experience reported by the indigenous CNAs. PFAs reported that they helped an average of two (± 2) residents to eat per meal (range 1–7). Also, 54% ($n = 21$) reported that their resident assignment for feeding assistance changed daily or weekly, whereas the remaining 46% reported that they always provided assistance to the same residents.

Almost all ($n = 37$; 94%) of the PFAs reported that they had participated in a formal training program for feeding assistance care delivery. The 2 remaining PFAs were both certified as CNAs: One was an existing nursing home employee who was temporarily not serving as a CNA due to pregnancy, and the second was a CNA at another facility. Of the staff who had received training, most ($n = 31$; 84%) were existing non-nursing staff from other departments within the facility, including social services, activities, dietary, administration, housekeeping, and laundry. The remaining 16% ($n = 6$) were divided equally between two groups: CNAs who worked full time in other nursing homes (8%) and single-task workers hired from the community (8%).

All (100%) of the interviewees reported that they were “comfortable” with their resident assignment for feeding assistance and were able to “get help from licensed staff when needed.” Consistent with the reports of CNAs (but less frequently), PFAs reported that they helped with the following mealtime tasks beyond individual feeding assistance care: transporting residents to and from the dining room (82%); delivering, setting up, and picking up meal trays (85%); documenting food and fluid intake in residents’ medical records (42%); retrieving substitutions from the kitchen (75%); and delivering additional foods and fluids between meals (54%). Direct observations during meals substantiated these self-report data, in that observers noted that PFAs assisted residents beyond those for whom the PFAs were providing feeding assistance.

Table 1. Comparison of Percentages of Care Process Measures Between CNAs, PFAs, and Residents Who Received No Assistance

Feeding Assistance Care Process Measure	CNAs (<i>n</i> = 126 resident meals)	PFAs ^a (<i>n</i> = 70 resident meals)	No Assistance ^b (<i>n</i> = 42 resident meals)
1. Resident eats less than 50% of meal and receives less than 1 min of assistance	8.7 (11)*	1.4 (1)*	19.0 (8)*
2. Resident eats less than 50% of meal and is not offered a substitute	33.3 (42)	29.0 (20)	19.0 (8)
3. Resident receives less than 5 min of assistance and a supplement	0.8 (1)	0.0 (0)	4.8 (2)
4. Resident is independent but receives physical assistance	23.8 (30)	28.6 (20)	—
5. Resident receives physical assistance without verbal cue	3.2 (4)	1.1 (1)	—

Notes: Data are percentage (*n*) of resident meals. CNA = certified nursing assistant; PFA = paid feeding assistant.

^aResidents received assistance from both CNAs and PFAs during 14 of the 70 resident meals. We grouped these data with the PFA data because the PFA was assigned to the resident for the meal and provided the most assistance.

^bResidents who received less than 1 min of assistance from either type of staff.

**p* < .05.

Some PFAs also reported helping existing nurse aide staff with non-meal-related activities of daily living, including transporting residents to and from social activities (63%), helping residents get into and out of bed (8%), and providing toileting (5%) and walking (29%) assistance to residents. Most of the PFAs who reported helping residents transfer out of bed, toilet, or walk were existing non-nursing staff within the facility (92%) as opposed to single-task workers.

Mealtime Observations and Feeding Assistance Care Process Measures

Research staff observed a total of 243 resident meals across all sites; they represented all three scheduled meals (breakfast = 30%, lunch = 40%, dinner = 30%). All observations occurred in a common dining area because that is where the CNAs and PFAs were assigned to provide feeding assistance during meals. The average observation time per meal was 59 (\pm 17) min. Of the 243 resident-meal observations, 42 (17%) received no assistance, 126 (52%) received assistance from nurse aide staff, 70 (29%) received assistance from PFAs, and the remaining 5 (2%) received assistance from family. A licensed staff member was present in the dining room during 66% of the meal observations.

Table 1 shows the results for the five feeding assistance care process measures (see *Mealtime Observational Protocol and Care Process Measures*) compared between CNAs (126 resident meals), PFAs (70 resident meals), and residents who received no assistance from either type of staff (42 resident meals) using chi-square analyses (proportion who met the criteria for each measure). There were few to no significant differences in the adequacy and quality of assistance provided by regular nursing home staff (CNAs) versus PFAs. PFAs spent significantly more

time providing help to residents to eat compared to nurse aides (17 ± 14 vs 11 ± 12 min per resident per meal, respectively; $t = -2.81$, $p < .01$). A significantly higher proportion of residents ate less than half of the served meal and received less than 1 min of assistance from CNAs compared to PFAs (Table 1, Measure 1: 8.7% vs 1.4%, respectively; $\chi^2(df = 1, N = 196) = 4.17$, $p < .05$). There was no significant difference in the proportion of residents who ate less than half of the served meal between those helped by CNAs versus by PFAs (41% vs 33%, respectively). The two groups of staff also were comparable on all other care process measures (Measures 2–5). Both groups of staff failed to offer the resident a substitution when he or she ate less than half of the served meal during approximately one third of the observations (Measure 2). Oral liquid nutritional supplements were rarely provided to residents during meals regardless of oral intake and/or which type of staff provided assistance (Measure 3). Both groups of staff provided physical assistance even when the resident was capable of eating independently during 24% (CNAs) to 29% (PFAs) of the observations (Measure 4); however, it was rare for either type of staff to provide physical assistance without also providing at least one episode of verbal cueing (Measure 5). In addition, both groups of staff helped residents to eat who had modified texture diets (i.e., ground, mechanical soft, or pureed texture), which suggests swallowing difficulties (51% vs 57% for CNAs and PFAs, respectively).

Of those who received no assistance from either type of staff (*n* = 42 resident meals), 19% ate less than half the served meal and were not offered a substitution (Measures 1 and 2). The proportion of residents who failed Measure 1 was significantly higher among those receiving no assistance (19%) compared to those receiving assistance from CNAs or PFAs, $\chi^2(df = 2, N = 238) = 10.62$, $p < .01$. Family members provided an average of $25 (\pm 17)$ min of

assistance per resident per meal (range 6–50 min) for a small group ($n = 5$ resident meals; data not shown). This group was too small to make valid comparisons for any of the five care process measures.

Discussion

This preliminary evaluation study sponsored by the Centers for Medicare and Medicaid Services and the Agency for Healthcare Research and Quality and conducted on a convenience sample of seven nursing homes in three states showed that the quality of feeding assistance care provided by staff trained as PFAs was comparable to that provided by indigenous nurse aide staff according to five care process measures. The majority of PFAs were non-nursing staff within the facility (84%) or CNAs who worked in other nursing homes (8%) as opposed to single-task workers hired from the community (8%); in addition, the nursing home experience of these workers was comparable to that of the indigenous CNAs. Moreover, there were no reported changes in existing staffing levels due to PFA program implementation. These preliminary results suggest that single-task workers were not being used to replace existing nurse aide staff in this small sample of facilities.

With regard to the adequacy of staff training, almost all staff providing feeding assistance had received at least 8 hr of formal training specifically focused on feeding assistance, which included both written and performance-based competency evaluations. In comparison, although CNAs require a total of 75 hr of training, typically only 9 hr focus on nutritional care. Thus, PFAs and CNAs actually received comparable training relative to this specific care process. However, CNAs themselves may lack adequate training and supervision related to mealtime care (Amella, 2004; Kayser-Jones, 1996; Kayser-Jones & Schell, 1997; Mondoux, 1998; Pelletier, 2004).

In terms of supervision, licensed nurses were not always present in the dining room, regardless of who was providing care (PFAs or CNAs). This finding is consistent with the results of other studies, which have suggested that licensed nurse supervision needs to be increased for direct care staff during mealtime care to aide in the identification of residents in need of assistance and to oversee the feeding of residents with complicated needs (Kayser-Jones & Schnell, 1997; Mondoux, 1998). With regard to resident identification, 19% of those who received no assistance from either type of staff also ate less than 50% of the served meal, which suggests that some of these residents may be in need of staff attention during meals. During the site visits interviewees reported that only residents without complicated feeding needs had been assigned to PFAs, although research staff observed PFAs helping many residents to eat

who had modified texture diets (e.g., pureed) and/or who required physical assistance (spoon-to-mouth feeding). The fact that some residents helped by PFAs had modified texture diets or needed physical assistance to eat suggests these individuals may have had swallowing difficulties and/or other physical impairments that placed them at risk for feeding complications. In addition, a minority of PFAs reported via interview that they helped residents with other activities of daily living beyond feeding and for which they had not received additional training (e.g., transferring out of bed, or providing toileting and walking assistance). The collection of resident-level data related to medical conditions (e.g., diagnosis of dysphagia, history of aspiration), nutritional status (e.g., body weight, history of weight loss), and physical impairment (e.g., eating dependency, ambulation, fall risk) would determine to what extent these care activities pose a threat to resident safety, although we did not collect such data as part of this study.

The lack of resident-level data to more specifically address the impact of PFAs on resident safety and clinical outcomes (i.e., weight loss) represents one limitation of this study. A second important limitation of this study is that we conducted site visits with a small convenience sample of nursing homes in only three states. It is likely that these facilities reflect a biased nursing home sample, both in terms of overall staffing levels and quality of nutritional care provided to all residents. In fact, both PFAs and CNAs observed in the site visits provided better feeding assistance care than that observed in previous studies using the same care process measures (Schnelle et al., 2004; Simmons et al., 2002; Simmons et al., 2003). Thus, future studies should include a more nationally representative, random sample of facilities as well as resident-level data collection to better determine the impact of the PFA regulation on feeding assistance care quality and weight loss outcomes. In addition, the nursing home sample was too small to allow us to make comparisons between nursing homes with different staffing levels or between shifts within the same nursing home in order to determine to what extent PFAs added to total staffing resources. Furthermore, although upper-level staff reported no changes in nurse aide or licensed nurse staffing as a result of PFA program implementation, investigators would need to study a larger sample of facilities over a longer time period to determine the impact of PFA programs on existing staffing levels.

Finally, future studies should explore work efficiency issues. There was wide variability between sites in the number of trained PFAs, the number of residents helped by an individual PFA per meal, and the extent to which PFAs assisted with other mealtime tasks for all residents (e.g., transferring to and from the dining room; delivering, setting up, and picking up meal trays; interacting socially; and

cueing verbally). Other studies have shown a positive impact of the use of nontraditional staff (e.g., volunteers, social activities, student nurses) to assist in mealtime care tasks on residents' dining experience and nutritional status, even prior to the PFA regulation (Marken, 2004; Musson et al., 1990; Remsburg, Radu, & Bennett, 2001). In addition, it is notable that family members provided the most assistance during meals (average of 25 min) to a small group of residents.

In summary, the results of this preliminary evaluation study of a small sample of facilities suggest that the use of nontraditional but trained staff to provide assistance to residents during meals may pose a potential solution to concerns about both nursing home workforce and feeding assistance care quality problems. Given the labor resource shortages that exist in many facilities, policies should encourage nursing homes to explore alternative staffing models, such as the use of PFAs, while also protecting the integrity of the licensed staff workforce. Achieving a balance between maintaining the professionalism of the licensed workforce and using nonlicensed staff to provide some aspects of care appears to be possible based on the results of this preliminary study. It is noteworthy that licensed staff in this study reported not only acceptance of the use of PFAs but even enthusiasm for existing programs.

This is the first evaluative study to address the impact of the federal regulation on feeding assistance care quality. However, it is unclear to what extent nursing homes use such workers on a nationwide basis and what the impact of PFA programs has been on overall staffing within individual facilities. Investigators should further evaluate the promising use of such workers in a more nationally representative, random sample of facilities to address the extent to which nursing homes use these types of workers and the impact PFAs have on staffing levels. If future studies support these preliminary findings, experts should make efforts to disseminate PFA program training and management materials to all nursing homes.

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