Objectives: To understand key characteristics of the leadership team, and to examine if differences in these factors exist between for-profit (FP) and not-for-profit (NFP) nursing homes (NHs).

Design: Cross sectional.

Setting: US nursing homes.

Participants: A nationally representative sample of 1174 US NHs conducted in 2004.

Intervention: N/A.

Measurements: Reported data on tenure, education, and certification of NH administrators (NHAs), medical directors (MeDs), and directors of nursing (DoNs) at FP and NFP facilities.

Results: NHAs, MeDs, and DoNs at NFP facilities all had significantly greater tenure at their current facilities compared with their FP counterparts. NHAs and MeDs at NFP facilities were also more likely to have more years of accumulated experience in those roles. MeD certifications differed substantially by specialty, with 23.3%, 37.6%, and 43.5% of MeDs having certification in geriatric, internal, and family medicine, respectively, and about 42% of MeDs were certified by AMDA. However, no differences in MeD certification were observed by facility ownership. Although 68% of all US nursing homes had a MeD who spent 4 or fewer days per month in the facility and only 14% spent 11 days or more per month in the facility, nearly twice as many NFP MeDs spent 11 days or more onsite in the facility compared with FP MeDs. Facility ownership was strongly associated with NHA educational attainment, with a significantly higher proportion of NFP NHAs having master’s degrees or higher (41.4% versus 26.6%, \( P < .0001 \)), and smaller proportions of NFP NHAs having a bachelor’s degree or less.

Conclusion: In 2004, members of the leadership teams of NFP NHs had more favorable profiles for several characteristics related to education and tenure compared with their FP counterparts. More research is needed to understand how variation in leadership skills and capacity affects quality of care and quality of work life outcomes, including the role of FP/NFP differences in explaining differential quality outcomes. (J Am Med Dir Assoc 2009; 10: 423–430)

Keywords: Ownership; nursing home administrator; epidemiology; nursing home; long-term care; aging

The relationship between nursing home (NH) ownership status and quality of care has been a focus of attention for many years.\(^1\) A recent review of 38 studies on 81 results describing the relationship between ownership and various quality indicators concluded that overall quality of care is lower in for-profit (FP) facilities.\(^2\) However, understanding of ownership status in relation to characteristics of the NH leadership team—the nursing home administrator (NHA), the medical director (MeD), and the director of nursing (DoN)—has been limited. This gap in the literature is of concern because there is evidence to suggest that administrative deficiencies are associated with lower quality of care.\(^3\)
The scant literature on the relation between ownership status and tenure, certification, and education of the NH leadership team is surprising because this team is positioned to play a central role in providing direction, innovation, and continuity to organizations that care for an especially vulnerable segment of the population. Studies have, for example, found that turnover of NHAs and DoNs have a negative impact on the quality of the work life in NHs and the ability of facilities to engage in ongoing quality improvement. Thus, in the context of the many reports on the association between quality of care and NH ownership, it may be useful not only to understand key characteristics of the leadership team, but also to examine if differences in these factors exist between FP and not-for-profit (NFP) facilities.

We hypothesized that tenure, certification, and education among NHAs, MeDs, and DoNs at NFP facilities would be more favorable than among their counterparts at FP facilities. There are a number of factors underlying our hypotheses. First, NFP NHs tend to have more resources than their FP peers that can be used to attract and retain upper management staff. There is also evidence that the quality of work life is higher in NFP NHs than in FP facilities. NHAs, MeDs, and DoNs in the former group, therefore, have a greater incentive to remain in the job than those where problems with staff morale, turnover and vacancies create instability, work stress and pressure. Accordingly, in this report we report new data on key cross-sectional associations related to NH ownership status and the leadership team.

METHODS

Study Design

In the 2004 National Nursing Home Survey (NNHS), 1500 facilities were selected from a sampling frame of US NHs. The sampling frame was drawn from 2 sources: (1) the Centers for Medicare and Medicaid Services Provider of Services file of US NHs, and (2) state licensing lists. Of the 1500 sampled facilities, 283 refused to participate and 43 were considered out of scope for one or more of the following reasons: the NH had gone out of business, it failed to meet the definition used in this survey, or it was a duplicate of another facility in the sample. A total of 1174 NHs participated at the first stage by providing facility information, resulting in a response rate of 81%. This data set is considered an accurate and reliable means to report national trends on both nursing home resident and facility characteristics.

Data Collection

The 2004 NNHS was administered in sampled NHs using a computer-assisted personal interviewing (CAPI) system that was loaded on the interviewers’ laptops. During the in-person interview with the administrator, the interviewer collected the completed staffing questionnaire and administered the Facility Component of the CAPI. All data in this report were collected in the Facility Component of the NNHS.

Ownership and Facility Characteristics

The 2004 NNHS contained information on ownership status (FP versus all others, including NFP, local and state government, and Veterans Affairs). For the purposes of this report, the terms for-profit (FP) and nonprofit (NFP) are used to describe this dichotomous variable. Additional variables describing the facility, including bed size and whether the facility was a member of a chain were also recorded.

Tenure

Data on years of experience (eg, total years working as a DoN at any NH) as well as tenure at the current facility (eg, years working as DoN at the sampled facility) were recorded. For example, the wording of the tenure questions for the DoN were, “About how long has he/she been the Director of Nursing at this facility?” and “Altogether, about how long has he/she been the Director of Nursing at any nursing home or similar type of facility/unit, including this one?” Data for all members of the leadership team for both tenure questions were coded as: less than 1 year, 1 to 4 years, 5 to 9 years and 10 years or more.

The practice models of NH MeDs varies greatly. We examined the number of days per month that the MeD worked on site at the facility. This variable was highly skewed. Data were coded as: 1 day per month, 2 or 3 days per month, 4 days per month, 5 to 10 days per month, and 11 days or more per month.

Certification

NHAs were asked if they were a certified nursing home administrator (CNHA) by the American College of Health Care Administrators or if they were certified by the American Nurses Credentialing Center (ANCC). Responses to these variables were used to construct a single dichotomous variable contrasting certified and uncertified NHAs.

MeDs’ board certification was ascertained in the following areas: family medicine, emergency medicine, internal medicine, and geriatrics. These variables were analyzed individually and were also used to construct a dichotomous variable contrasting MeDs who were and were not board certified in at least one of these areas. In addition, information on whether MeDs were certified by the American Medical Directors Association (AMDA) was also recorded.

Data were collected on DoNs’ certification by the National Association of Directors of Nursing Administration in Long-Term Care, the American Nurses Credentialing Center in Gerontological Nursing, the American Association of Nurse Assessment Coordinators, American Nurses Credentialing Center in Gerontological Nursing, American Association of Critical Care Nurses, and Association for Professionals in Infection Control. These variables were used to construct a single dichotomous variable contrasting certified and uncertified DoNs.

Education

NHAs’ highest degree was collected and coded as a 3-level ordinal variable: less than college (high school diploma or associate degree), bachelor’s degree, or master’s degree and higher. MeDs’ degrees (DO or MD) were collected, as well as whether MeDs had advanced education in geriatrics, palliative/end-of-life care, or management. The latter variables were analyzed individually and also used to construct
a dichotomous variable contrasting MeDs with and without advanced education in one or more of these areas.

**Statistical Analysis**

Analyses were conducted with the PROC SURVEY procedures in SAS (SAS Institute, Cary, NC), which take into account the strata, cluster, and weight variables that define the complex sampling approach used in the NNHS. In addition, the finite population correction was used per National Center for Health Statistics (NCHS) recommendations. Weighted proportions and cross-sectional associations of interest were therefore generated in a manner that renders results generalizable to all US NHs in 2004. Point estimates and their 95% confidence intervals (95% CI) are provided.

The reliability of estimates for the NNHS was evaluated based on the relative standard error (RSE) of the estimate and the number of observations on which the estimate is based. Estimates are not presented unless a reasonable assumption regarding the probability distribution of the sampling error is possible. The following guidelines, which are recommended by NCHS, are used in presenting estimates in this report: Estimates based on cell sizes less than 30 are not reported. If the cell size is 30 to 59 or if the cell is 60 or more and the RSE is greater than 30%, the estimate is reported, but should not be assumed reliable. This is indicated by an asterisk (*). If the cell size is 60 or more and the RSE is 30% or less, the estimate is reported and is considered reliable.16

**RESULTS**

The 2004 NNHS included data for 1174 NHs, which, when weighted, represented approximately 16,081 facilities nationwide. Among these facilities, 61.5% were FP and 38.5% were NFP. Selected characteristics of US NHs are presented in Table 1 for the whole sample, and by ownership. About 54% of US NHs were part of a chain, and chain membership was inversely related to ownership: about 67% of FP facilities were part of a chain, whereas an equal proportion of NFP facilities were not part of a chain. Although nearly 80% of US NHs had between 50 and 200 beds, 48% of FP facilities had between 100 and 199 beds, whereas only 33.6% of NFP facilities were in this category. Conversely, differences in ownership were observed among the smallest facilities: only 8.4% of FP facilities had between 3 and 49 beds compared with 22.7% of NFP facilities. Approximately 96% of surveyed facilities had a MeD and DoN on staff at the time of the survey.

**Table 1.** Selected Characteristics of Nursing Homes, United States, 2004*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total</th>
<th>For Profit</th>
<th>Nonprofit†</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent</td>
<td>Weighted N</td>
<td>Percent</td>
</tr>
<tr>
<td>Member of Chain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>54.2 (8709)</td>
<td>67.9 (6711)</td>
<td>32.1 (1998)</td>
</tr>
<tr>
<td>No</td>
<td>45.8 (7372)</td>
<td>32.2 (3178)</td>
<td>67.7 (4194)</td>
</tr>
<tr>
<td>Bed size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3–49</td>
<td>13.9 (2242)</td>
<td>8.4 (836)</td>
<td>22.7 (1406)</td>
</tr>
<tr>
<td>50–99</td>
<td>37.3 (6005)</td>
<td>38.6 (3814)</td>
<td>35.4 (2191)</td>
</tr>
<tr>
<td>100–199</td>
<td>42.5 (6840)</td>
<td>48.2 (4762)</td>
<td>33.6 (2078)</td>
</tr>
<tr>
<td>≥200</td>
<td>6.2 (994)</td>
<td>4.8§ (477)</td>
<td>8.3 (517)§</td>
</tr>
<tr>
<td>Ownership</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Profit</td>
<td>61.5 (9889)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Nonprofit</td>
<td>38.5 (6192)</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

* Data are weighted using SAS SURVEYFREQ. Some categories may not add to 100.0 due to rounding.
† Includes nonprofit, state/local government, and Veteran’s Administration facilities.
‡ Chi-square test for differences in proportions between for-profit and nonprofit facilities.
§ Estimated based on 30 to 59 observations and should be interpreted with caution.

**Tenure**

Although nearly half of NHAs and MeDs had 10 years or more of accumulated work experience in NHs, only 25% of DoNs had a similar level of experience (Table 2). Conversely, 11% of DoNs had less than 1 year of accumulated experience, compared with 5% of NHAs and 4% of MeDs. While about 10% of MeDs had less than 1 year of tenure at their current facility, 23% and 30% of NHAs and DoNs were in their current positions for less than 1 year at the time of the survey. About 31% of MeDs had been at their current facility for 10 or more years, compared with 17% and 9% of NHAs and DoNs, respectively.

NHAs’ total years of experience did not differ by ownership; however, NHAs at NFP facilities were more likely to have longer tenure at their current facility (Figure 1, Panel A). MeDs at NFP facilities were more likely to have both more years of total experience and longer tenure at their current facility (Figure 1, Panel B). DoNs followed a pattern similar to NHAs, with those at NFP facilities having longer tenure at their current facilities (Figure 1, Panel C).

Nearly 68% of all NH had a MeD who spent 4 or fewer days per month in the facility (~9884 facilities), and only 14% (~2034 facilities) had a MeD who spent 11 or more days per month in the facility. A significant association was observed between facility ownership and number of days per month that MeDs spent onsite in the NH (Figure 2). Nearly
twice as many NFP MeDs spent 11 or more days onsite in the facility compared with FP MeDs (19.6% versus 10.6%).

Certification

Only 27.7% of all NHAs were certified, with no differences in certification between NHAs at FP (28.1%) and NFP (27.0%) facilities. MeDs’ certifications differed substantially by specialty, with 23.3%, 37.6%, and 43.5% of MeDs having certification in geriatric, internal, and family medicine, respectively. However, no differences in MeD certification for these areas were observed by facility ownership. Although 86% of MeDs were certified in at least one of the specialty areas assessed in the survey, a slightly higher proportion of MeDs at FP facilities had at least one of these certifications (87.9% versus 83.0%, P < .05).

About 42% of MeDs were certified by AMDA, with a higher proportion of FP MeDs having this certification (45% versus 37.9%, P < .05). Approximately 42% of DoNs were certified, with no difference noted in certification between FP and NFP facilities (41.4% versus 43.6%).

Education

In 2004, 17% of NHAs had a high school diploma or associate’s degree as their highest level of education, and 32.3% had a master’s degree or higher level of education. Facility ownership was strongly associated with NHA educational attainment, with a significantly higher proportion of NFP NHAs having master’s degrees or higher (41.4% versus 26.6%, P < .0001, Figure 3). Eighty-eight percent of MeDs had MD degrees, with no observed difference in the proportion of MD/DO degrees between FP and NFP facilities (87.5% versus 89.3%, respectively). There were 40%, 12.4%, and 7.8% of MeDs who had advanced education in geriatrics, palliative/end-of-life care, and management, respectively. Although no differences were observed between FP and NFP facilities in the proportion of MeDs with advanced training in geriatrics (40.0% versus 39.7%, respectively) or in palliative care (11.9% versus 13.2%, respectively) a slightly higher proportion of MeDs at NFP facilities had advanced training in management (9.9% versus 6.3%, P = .04).

DISCUSSION

This report provides novel data on the association between NH ownership and key characteristics of the NH leadership team. A key finding in this report is that compared with their FP counterparts, all members of NFP facility leadership teams—the administrator, the medical director, and the director of nursing—had longer tenure at their current facility. In addition, MeDs at NFP facilities had more years of accumulated experience overall in NFP facilities compared with FP ones.

Turnover of high-level staff is an important factor that has a direct impact on measurement of tenure. Thus, shorter tenure can be thought of in terms of higher turnover, a topic that has received considerable attention in recent years in the NH setting. Although many reports have focused on organizational characteristics and turnover in nursing staff, others have focused on the relationship of turnover in management, particularly the NHA and DoN, and issues related to quality of care and retention of front line staff. Our data, which show that NFP facilities have consistently longer tenure among members of the leadership team, may contribute in part to the observation of higher quality of care in NFP facilities. It is important to note, however, that longer tenure is not always a positive indicator. This is particularly true for DoNs, where the scope and nature of practice have changed dramatically over the years and where longer tenured nurses may not be up to date with current clinical and management knowledge and techniques.

It should be noted that NFP ownership is associated with other organizational characteristics that have been associated with higher quality. In particular, a number of studies have suggested that NHs that are members of a chain have lower quality than those that are not part of a chain. Our data show that about 68% of FP facilities are part of a chain compared to only 32% chain membership among NFP. Thus, “stand-alone” facilities are more common among NFP NHs, with both factors being associated with higher quality of care. It is possible that the ability to rotate easily among facilities that are part of the same chain is facilitated among NHAs and other members of the leadership team who are employed by chains. An interesting distinction that our data...
Fig. 1. (A) Total Years of Experience and Tenure at Current Facility of Nursing Home Administrators, (B) Medical Directors, and (C) Directors of Nursing, by Ownership, United States, 2004.

*Estimated based on 30-59 observations and should be interpreted with caution.
stable leadership on the part of DoNs was associated with lower turnover in nursing staff, a factor that is known to be associated with quality of care.19

Our data showed that MeDs at NFP facilities were not only more likely to have more years of total experience, but that they were also more likely to have longer tenure at their current facility. Further, MeDs at NFP facilities were almost twice as likely as those at FP facilities to spend 11 or more days per month at their facility, and they were slightly more likely to have formal training in management. Indeed, whereas NFP facilities represented only 38.5% of the total sample, 54.0% of facilities with MeDs who spent 11 or more days in the facility were NFP. However, MeDs at NFP facilities were somewhat less likely to be certified by AMDA, a professional organization that has been responsive to concerns about medical oversight by defining no fewer than 23 roles and responsibilities for the NH MeD.20 It is conceivable that the ability of a MeD to be both aware of AMDA’s criteria for a quality MeD and to have time to fulfill them is a function both of having an established relationship with the professional association, and being onsite in the facility to a sufficient degree to fulfill the roles. It is in this context that our findings related to the MeD were somewhat contradictory: more FP MeDs were certified by AMDA, but NFP MeDs spent more time onsite in their facilities. One possible reason for the higher AMDA certification among FP MeDs relates to the higher rates of Medicare post–acute care use among the FP as compared with the NP facilities. The MeDs overseeing this level of care may be more likely to feel the need to obtain AMDA certification and education in order to address the increasingly complex medical needs of the post acute care population.

Our data also showed that among the certifications examined, geriatrics was the least frequent among MeDs, with only 23% of MeDs with certification in this specialty. Generally, geriatricians are primary care physicians who are board certified in either family medicine or internal medicine and have completed the additional training necessary to become board certified in geriatric medicine. There is a national shortage of geriatricians, with only 7590 licensed geriatricians in the United States as of April 2008.21 This translates to 1 geriatrician for every 2500 Americans 75 or older. It should be noted that because of the projected increase in the number of older Americans, this ratio is expected to drop to 1 geriatrician for every 4254 older Americans in 2030, a factor that will likely have an impact on the availability of qualified, experienced MeDs for US NHs with specialized training in geriatrics. A 2008 Institute of Medicine report highlighted this lack of attention to geriatric training and competencies and has called for a national effort to increase the number of physicians and other health professionals trained in this area. Interestingly, our 2004 data on MeD geriatric certification were slightly less favorable than an older report from a survey of New York NHAs in which 27% of MeDs were reported to have certification in geriatrics, a reduction that may reflect an increasing shortage of geriatricians and/or a decrease in geriatrics training among MeDs.22

Our data showed that only 27% of all NHAs were certified, with no differences in NHA certification by facility ownership.
ownershi. To the extent that certification from a professional long-term care association is required to improve quality of resident care, these data suggest that in 2004, there was much room for improvement among NHA. Indeed, a recent report showed higher quality measures at NHs whose administrators were members of a professional association relative to facilities whose administrators were not members of such an association. This report suggested that higher quality at facilities whose administrators were members of a professional association resulted from administrators having use of the association as a resource. Although membership and certification are 2 distinct issues, these data underscore the potential role that professional associations play in quality of care in the long-term care setting.

Although DoNs at NFP facilities were more likely to have longer tenure than their counterparts at FP facilities, DoN certification did not differ by ownership. However, DoNs had the lowest level of experience among staff on US NH leadership teams, both in terms of accumulated years as a DoN, and years at the current facility. One explanation for shorter tenure among DoNs is that they often come to the job from the acute care sector and therefore may not have had as many years in the NH setting.

Finally, although our data showed that 17% of all NHA had an associate’s degree or high school diploma as their highest level of education, nearly 20% of FP NHs had this level of education, compared with 13.8% among NFP NHs. Conversely, whereas 26% of FP NHs had a master’s degree or higher, this figure was 41.3% among NFP NHs. In terms of number of facilities, these figures translate to approximately 2660 facilities nationwide with administrators who had less than a bachelor’s degree in 2004, of which approximately 70% (~1850) were administrators at FP facilities.

This study has a number of important limitations. First, the NNHS is cross-sectional, a design feature that prevents testing of hypotheses focused on longitudinal associations between characteristics of the leadership team and outcomes such as resident quality of life or quality-of-care indicators. However, the NNHS provides the first nationally representative data on training, education, and certification of NHAs, MeDs, and DoNs in US NHs, making this data source extremely valuable for benchmarking future trends in NH leadership in the future. The data also provide a foundation for hypothesis-generating activities aimed at the design and implementation of future studies that aim to better understand the relationship between characteristics of the leadership team and key quality outcomes in long-term care.

A second potential limitation of the study involves the potential for misclassification. In the Facility Component of the NNHS, the NHA was asked not only to report education, tenure, and certification information for him- or herself, but also to provide corresponding data on the DoN and MeD at the same facility. It is therefore possible that the NHA data are more accurate than the DoN and MeD data, particularly among NHAs with limited tenure at their current facility. However, it is not possible to definitively assess the degree to which information reported by NHAs may have misclassified DoN and MeD characteristics, and whether any misclassification differed by facility ownership. Nonetheless, it is important to emphasize that distinct patterns were consistently repeated in this national data set in a manner that suggested a more favorable leadership profile in NFP nursing facilities. Finally, there are a variety of unmeasured and unobserved factors that might account for the differences we report. For example, higher pay, a community board, or bonuses may be related to differences in training and education, but these factors were not measured in the NNHS, making the role of these and other potential confounders difficult to assess in this report.

Along with other factors, differences in characteristics of the NH leadership team may contribute to the consistent observation of higher quality of care in NFP NHs.

CONCLUSION

This study has presented the first national data on key characteristics of the NH leadership team and how it differs between NFP and FP facilities. It has also raised important questions about the level of education and training that NHAs, MeDs, and DoNs bring to and continue to develop in the NH setting. Some of the findings affirm the observations made in the Institute of Medicine report that the lack of quality, competent leadership in long-term care is a crisis and is expected to worsen without significant intervention. More research is needed to understand how the variation in leadership skills and capacity affects quality of care and quality of work life outcomes, including the role of FP/NFP differences in explaining differential quality outcomes. At the same time, policymakers and practitioners need to focus on strategies to raise the educational and training levels of the NH leadership team to ensure that we have a quality pipeline to meet the needs of an aging America.

REFERENCES