

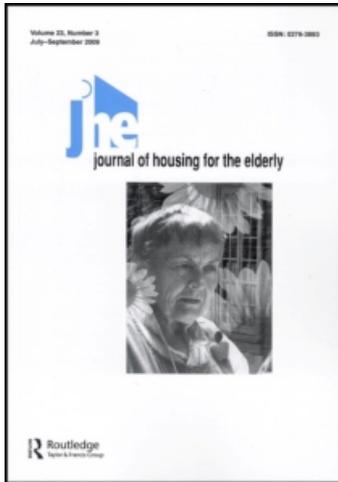
This article was downloaded by: [University of Toronto]

On: 2 November 2009

Access details: Access Details: [subscription number 915526586]

Publisher Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Journal of Housing For the Elderly

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title-content=t792306896>

Administrators and Quality of Care in Long-Term Care Facilities

Sean Keays ^a; Andrew V. Wister ^a; Gloria M. Gutman ^a

^a Simon Fraser University at Harbour Centre, Vancouver, British Columbia, Canada

Online Publication Date: 01 July 2009

To cite this Article Keays, Sean, Wister, Andrew V. and Gutman, Gloria M.(2009)'Administrators and Quality of Care in Long-Term Care Facilities',*Journal of Housing For the Elderly*,23:3,243 — 260

To link to this Article: DOI: 10.1080/02763890903035621

URL: <http://dx.doi.org/10.1080/02763890903035621>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Administrators and Quality of Care in Long-Term Care Facilities

SEAN KEAYS, ANDREW V. WISTER, and GLORIA M. GUTMAN
Simon Fraser University at Harbour Centre, Vancouver, British Columbia, Canada

This exploratory study investigated administrator and facility-related predictors of quality of care in long-term care facilities. Quality was measured using several unmet standards of care identified in the last inspection report of the Ontario Ministry of Health and Long-Term Care (2007). Supplemental data were gathered from surveys mailed to all 602 long-term care administrators in Ontario, Canada, 302 of whom completed the questionnaire. Multiple regression analyses were conducted to test sets of hypotheses linking characteristics of administrators and those of the long-term care facility to quality of care. Education and experience as an administrator in a participant's current position had a moderate positive influence on quality of care; however, negative associations were found between administrator salary and effort devoted to resident care problems and quality of care. In addition, smaller facilities, being located in less populated communities, and administrators with a nursing background significantly affected quality of care in a positive manner.

KEYWORDS *long-term care facility, nursing home, administrator, quality of care, quantitative research, built environment*

INTRODUCTION

Paid staff in long-term care facilities have an important influence on quality of care (Castle, 2001). Researchers have examined the effect of nursing staff and care aids on the quality of resident care in long-term care facilities, especially with respect to staff turnover (Castle, 2001). However, little research has investigated the extent to which characteristics of long-term

Address correspondence to Sean Keays, 14 Willow Court Welland, Ontario, Canada, L3C 4L2. E-mail: skeays@sympatico.ca

care facility administrators make a difference in terms of quality of care and residential care outcomes. This is surprising given that a large body of management research has determined that the characteristics of top managers affect the success or failure of their companies and organizations (Lohrke, Bedeian, & Palmer, 2004; Weiner & Mahoney, 1981). For example, unsuccessful organizations have been shown to be headed by weak chief executive officers (Lohrke et al., 2004; Miller & Friesen, 1977). On the other hand, strong chief executive officers have been shown to turn around failing companies (Lohrke et al., 2004; Whitney, 1987).

It is well-known that administrators of long-term care facilities have one of the most demanding positions in the health care field and that it is likely that the quality of care and quality of life of residents depends on their leadership skills (Allen, 2003). Administrators of long-term care facilities not only must oversee the treatment and rehabilitation aspects of care, but must also ensure the individual rights of each resident and his or her social and emotional well-being (Singh, 1997). The long-term care administrator has a 24-hour-a-day commitment that encompasses all the facets of managing a health care institution, a housing complex, and a social services program. They are typically called on to perform a broader range of management tasks and have a closer involvement with day-to-day operational details than most hospital chief executive officers. It has been suggested that, in comparison to hospital administrators and chief executive officers, the ability of the long-term care facility administrator to effectively perform the primary management functions of planning, organizing, directing, controlling, and coordinating may be more central to the organization's success (Singh, 1997). Therefore, on a personal level, long-term care facility administrators can have a direct affect on their staff, which may indirectly affect the lives of the residents.

This exploratory study attempted to determine whether characteristics of long-term care facility administrators and facility characteristics affect quality of care in long-term care facilities using a standardized measure of unmet standards collected by the Ministry of Health and Long-Term Care in Ontario, Canada. Specifically, the study examined preparatory skills, performance-related variables associated with long-term care facility administrators, and facility constraints or resource factors.

POPULATION AGING AND DEMAND FOR LONG-TERM CARE

Population aging has caused an increase in the demand for long-term care services, particularly in the 85 years and older age group (Blumenthal & Thier, 2003). It is in these later years of life that chronic health conditions become more prominent and dependency of older adults and need for care becomes more common. Although less than 1% of the population aged 65

to 74 years are residents of long-term care facilities, this percentage climbs to 20% for individuals aged 85 years and older (Statistics Canada, 2005). The number of individuals aged 85 years and older, the fastest growing segment of the Canadian population, will nearly double in the next 20 years (Statistics Canada, 2005). The increase in numbers of individuals with dementia will also likely increase demand for long-term care facilities. Currently in Canada, it is estimated that there are approximately 420,000 individuals diagnosed with dementia, of whom 50% live in long-term care facilities. It is projected that 750,000 will be diagnosed by 2031 (Alzheimer's Society of Canada, 2005). Thus, extending our understanding of the factors and context that contribute to better quality of care in long-term care facilities may have important implications for our aging population.

MEASURING QUALITY IN CARE FACILITIES

Selecting appropriate indicators of quality of care in long-term care facilities is difficult. There is a great deal of controversy surrounding the conceptualization and measurement of quality of care (Dimant, 1991; Kane & Kane, 1988; Werner, Greenfield, Fung, & Turner, 2007). The Ontario Ministry of Health and Long-Term Care (2007) has developed a quality assurance measure that Ministry inspectors use to evaluate levels of quality in long-term care facilities on a yearly basis. The measure covers a comprehensive list of 450 quality assurance standards organized within 18 sections (Table 1). Given that this measure provides a standardized assessment of the extent to which a long-term care facility is operating in compliance with the existing legislation, regulations, standards, and policies relating to care and services and is publicly accessible (Ontario Ministry of Health and Long-Term Care, 2007), it is a useful indicator for this study.

CONCEPTUAL FRAMEWORK AND HYPOTHESES

The conceptual model framing this study is shown in Figure 1. It posits that characteristics of the administrators of long-term care facilities coupled with

TABLE 1 18 Sections in the Long-Term Care Program Manual

A) Resident safeguards	J) Dental services
B) Resident care and services	K) Foot care services
C) Nursing services	L) Other approved programs
D) Staff education	M) Facility organization and administration
E) Recreation and leisure services	N) Medical services
F) Social work services	O) Environmental services
G) Spiritual and religious programs	P) Dietary services
H) Therapy services	Q) Diagnostic services
I) Volunteer services	R) Pharmacy services

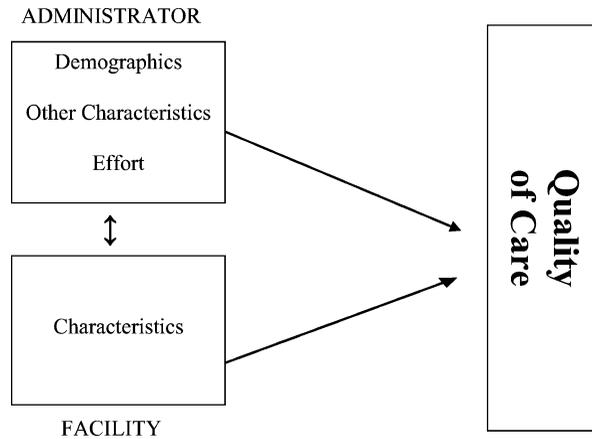


FIGURE 1 Relationship Between Administrator Characteristics, Facility Characteristics and Quality of Care

those of the facility influence resident quality of care. The two-way arrow between Facility and Administrator Characteristics reflects the possibility of reciprocal associations. For instance, the education of the administrator may affect the type of facility chosen and the size of the facility may affect salary. It has been adapted from the seminal work by Donabedian (1988), in which he developed the Tripartite Quality Assurance Model, encompassing structure, process, and outcome criteria for quality assessment. According to Donabedian (1988), structure denotes the attributes of the facility in which care occurs. For the purpose of this study, structure was measured through the facility characteristics. Process denotes administrator involvement in giving and receiving care. This is measured in the current study using key characteristics of the administrator (including, age, sex, education, job characteristics, and administrative effort). It is understood that these characteristics are crude proxies for process elements. Outcome denotes the effects of quality of care in the long-term care facility. Quality of care (outcome) was measured using the total number of unmet standards or criteria in the Ontario Ministry of Health and Long-Term Care inspection findings for each facility (see Methods for further discussion).

HYPOTHESES

Administrator Characteristics

LEVEL OF EDUCATION

Al-Assaf, Taylor, and Langston (1992) have argued that the level of education of administrators is associated with higher quality of care because they would typically have more administrative and organizational knowledge. It

was hypothesized that there would be a positive relationship between administrators with higher levels of education and facility quality of care.

TYPE OF TRAINING

In one of the most comprehensive studies of administrator characteristics conducted to date, Singh (1997) found that training in nursing was associated with quality of care. The rationale for such an association is based on the notion that nursing training is comprehensive and has a strong emphasis on resident care quality. We hypothesized that there would be a positive relationship between administrators with training in nursing and facility quality indicators.

YEARS OF EXPERIENCE

There is some research suggesting that administrator experience may affect quality of care due to the accumulation of problem-solving skills (Al-Assaf et al., 1992; Singh, 1997). It was hypothesized that the number of years in the current position would be positively associated with quality of care.

SALARY

Salary, including bonuses, can also function as an indicator of expertise (Singh, 1997). The assumption is that better qualified long-term care facility administrators command a premium salary. It was hypothesized that administrators with higher salaries would administer long-term care facilities that had fewer unmet standards.

RESIDENT CARE

Resident care has been noted as a potential factor influencing quality of care (Singh, 1997). Thus, it was hypothesized that there would be a positive association between the amount of time that administrators spent on resident care-related activities and quality of care. For purposes of this research, resident care was defined as time spent on clinical responsibilities. Examples provided to administrators completing the survey included consultations with physicians and nurses, rounds throughout the facility to talk to residents and staff, resident privacy and dignity, infection prevention and control, pharmacy and therapeutics, fall prevention, end of life, Minimum Data Set, skin and wound, swallowing, feeding, eating, and nutrition practices.

Facility Characteristics

SIZE OF FACILITY

It was hypothesized that facilities with fewer beds would be associated with higher levels of quality because care could be more intensely focused on fewer residents. There is some support for this relationship in earlier work (Thomas, 2003; Thomas & Johansson, 2003).

SIZE OF COMMUNITY

It was also hypothesized that facilities located in smaller communities would have fewer unmet standards. This association is based on the same rationale as the previous one and has also been supported by the research of Thomas (2003).

ACCREDITATION

In Canada, accreditation is a voluntary process that organizations use to evaluate their services and improve the quality of their services based on the rules and regulations of *Accreditation Canada* (Canadian Council on Health Services Accreditation, 2009). *Accreditation Canada's* assessment process consists of a self-assessment, an on-site survey, and follow-up action for making improvements. The accreditation program is applied consistently across the country, using the same standards and accreditation process in all jurisdictions and for all types of long-term care organizations. Organizations examine all areas of their service, obtain advice from peers, increase credibility, and involve partners and clients during on-site interviews. It was hypothesized that accredited sites would have fewer unmet standards than facilities that had not sought accreditation.

SPONSORSHIP

Bell and Krivich (1990) showed that there were considerable differences in mortality rates among care facilities studied in Illinois. Their data indicated that government owned care facilities had the highest mortality rates followed by non-profit and for-profit facilities. Therefore, it was hypothesized that for-profit facilities would exhibit fewer unmet standards.

AFFILIATION OR CHAIN

Finally, it was hypothesized that affiliated facilities would show higher levels of quality than independent facilities. The rationale was that affiliated

facilities have a greater number of resources they can utilize and share. For example, larger companies may have a corporate office that can have multiple departments that employ experts in human resources, organizational development and education, quality development, spirituality and pastoral care, fundraising, finance, accounting, privacy, communications, volunteer resources, purchasing, information technology, and governance. Furthermore, multiple site facilities can share human resources (e.g., nursing staff) when certain sites experience staff shortages.

METHOD

This study combined data from two sources: (1) a questionnaire that was mailed to administrators of each of the 602 long-term care facilities that receive funding from the Ontario Ministry of Health and Long-Term Care (based on the April 2006 Ontario Ministry of Health and Long-Term Care list of certified long-term care facilities in the Public Reporting on Long-Term Care Homes posted at <http://publicreporting.ltchomes.net>); and (2) information from the quality assurance inspections that is made public on the above web site (Ontario Ministry of Health and Long-Term Care, 2007).

Data Collection, Instrument Development, and Sample

The questionnaire was mailed to administrators of the 602 long-term care facilities in Ontario during July and August 2006, along with a preaddressed, postage paid return envelope, a cover letter, and a letter of support. A follow-up was conducted in September 2006 to increase the response rate. The first and second wave returned 226 and 76 replies, respectively, for a total sample of 302 (50.2%) long-term care facility administrators in Ontario.

The questionnaire was developed using information found in the long-term care literature coupled with consultations with three long-term care facility administrators, two long-term care compliancy inspectors in Ontario, and two academic experts in long-term care research. There were several sets of questions in the mailed survey. First, administrators were asked to specify their gender and age. Second, they were asked questions about their job and preparation for it (highest level of education attained, type of training received, number of years as an administrator, number of years in their current position, and annual salary including bonuses). Third, they were asked about administrative effort and how much time per week they spent on average in different domains of practice. Finally, the survey asked a series of questions about their facility and the community in which it was located (affiliation, facility age, number of beds, ownership, and size of the community).

Dependent Variable: Unmet Standards and Criteria

Quality of care in long-term care facilities was operationalized using the number of unmet standards (continuous interval variable) reported by the Ontario Ministry of Health and Long-Term Care. Inspectors appointed by the Ontario Ministry of Health and Long-Term Care visit all long-term care facilities at least once a year to verify whether they are in compliance with the existing legislation, regulations, standards, and policies relating to the care and services they are required to provide to their residents. When compliance inspectors find that a long-term care facility does not meet one or more of these requirements, they issue a “finding” of unmet standards to the operator of the home. Unmet standards or criteria found during compliance inspections provide a reasonable measure of quality because they are based on standards that have been uniformly defined and interpreted to minimize ambiguity (Ontario Ministry of Health and Long-Term Care, 2007). Further, trained multidisciplinary teams of inspectors are employed in the survey process to reduce subjectivity. However, it is important to note that the Ontario unmet standards or criteria inspection is fundamentally a minimum standards failure rate and does not differentiate the severity level of deficiencies. Therefore, it is a crude estimate of quality of care.

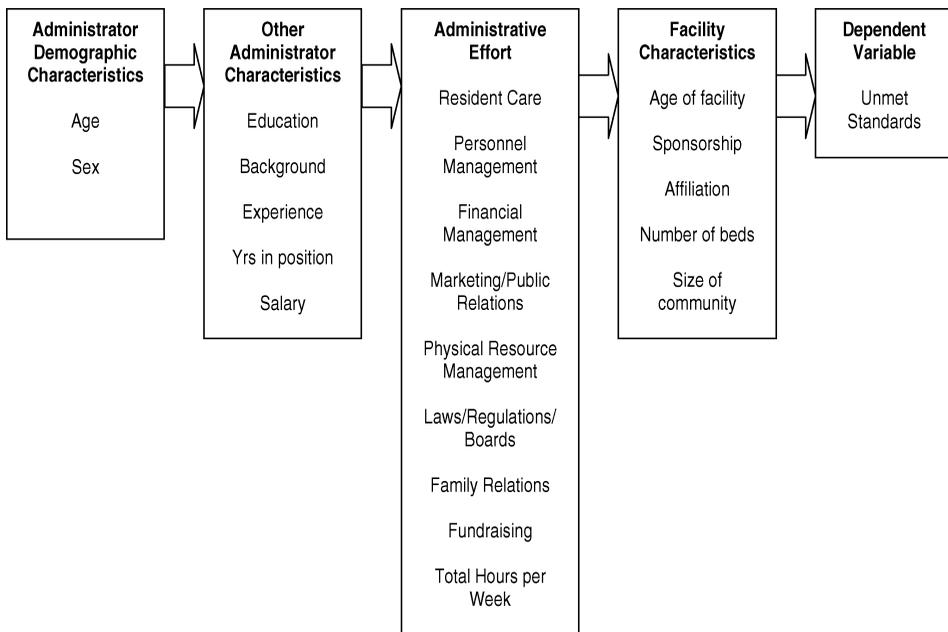


FIGURE 2 Analytical Model

Independent Variables

The age of the facility, the total number of years of experience as a long-term care administrator, the number of years in current position, and gender of the administrator were all measured in the usual manner. Education was obtained by asking administrators to list their degrees, certificates, diplomas, and the type of each. We distinguished between college education or less, undergraduate university, and Masters-level or higher. In Canada, qualifications for admission, level of instruction, and grading standards are higher at the university level, where graduates are awarded a degree on completion (e.g., BA or BSc), whereas college level graduates are awarded a diploma. It is only recently that it has been possible at some colleges in some provinces to obtain a bachelors degree from a college in Canada.

Employment type and length were determined for the 10 years preceding completion of the survey. Sponsorship or ownership of the facility was measured using the following categories: public, private for-profit, private not-for-profit, charitable, or other. Administrative effort was measured by asking administrators to indicate the average number of hours they spent per week in each of the eight domains of practice shown in Figure 2. Finally, administrators were asked to specify (yes or no) whether their facility was part of a chain or was affiliated and whether it was accredited.

Descriptive Results

SPSS version 8.2 (SPSS, Inc., Chicago, IL) was used to conduct all descriptive and multivariate analyses. Please see Table 2, a regression analysis of unmet standards.

Unmet Standards

Of the 302 care facilities in the sample, 85 (28.1%) had no unmet standards or criteria, 69 (22.8%) had 1 to 2, 47 (15.6%) had 3 to 4, and 101 (33.4%) had 5 or more. It should be noted that the mean number of unmet standards or criteria (4.2, standard deviation [SD] = 6.2) is identical to the provincial average (4.2, SD = 5.5), suggesting that the sample is representative of the population under study (Table 3).

Administrator Profile

Based on the study sample, the typical care facility administrator in Ontario is female (72.8%), an average age of 49.5 years, has a bachelor's degree, and has a nursing background. Furthermore, the average respondent had an

TABLE 2 Regression Analysis of Unmet Standards

Model	Independent Variables	Beta	Standard Error	Sig.
1	(Constant)		1.631	.014
	Age	.072	.315	.216
	Sex	-.032	.773	.581
2	(Constant)		3.214	.514
	Age	.122	.339	.051
	Sex	-.035	.875	.596
	Education MA (ref< = college)	-.195	1.112	.014
	Education BA (ref< = college)	-.149	.838	.034
	Years experience in current job	-.183	.053	.003
	RN/RPN	.116	.773	.075
	Bachelor in commerce	.021	.930	.761
	Salary	.133	.162	.031
3	(Constant)		3.464	.800
	Age	.113	.343	.074
	Sex	-.059	.883	.371
	Education MA (ref< = college)	-.184	1.120	.021
	Education BA (ref< = college)	-.151	.841	.032
	Years Experience in Current Job	-.177	.053	.005
	RN/RPN	.119	.776	.069
	Bachelor in Commerce	.043	.935	.530
	Salary	.140	.167	.027
	Hours spent on resident care	.148	.052	.018
	Hours personnel management	-.099	.059	.103
	Hours financial management	.073	.092	.229
	Hours physical resource management	-.053	.132	.368
	Hours laws/regs/board	.026	.112	.673
	Hours family relations	.036	.102	.546
	Hours fundraising	-.073	.177	.216
	Hours other	.030	.060	.619
4	(Constant)		3.878	.616
	Age	.088	.347	.166
	Sex	-.043	.887	.521
	Education MA (ref< = college)	-.202	1.120	.011
	Education BA (ref< = college)	-.157	.836	.025
	Years experience in current job	-.169	.055	.009
	RN/RPN	.107	.776	.100
	Bachelor in commerce	.058	.935	.399
	Salary	.077	.176	.249
	Time in resident care	.151	.052	.015
	Time in personnel management	-.095	.059	.119
	Time in financial management	.058	.093	.347
	Time in physical resource mgmt.	-.032	.133	.587
	Time in laws/regs./board	.022	.113	.721
	Time in family relations	.023	.103	.696
	Time in fundraising	-.079	.184	.194
	Time in other	.015	.060	.800
	chain/ownership	-.009	.350	.882
	facility age	.083	.013	.180
	Number of beds	.124	.005	.070
	Size of community	.076	.281	.244
Accreditation	.027	.818	.654	

TABLE 3 Number and Percentage Distribution of Unmet Standards/Criteria, Sample and Population

No. of US/C	Sample Long-Term Care Facilities (n = 302)	All Long-Term Care Facilities (n = 602)
0	85 (28.1%)	170 (28.2%)
1–2	69 (22.8%)	136 (22.6%)
3–4	47 (15.6%)	99 (16.4%)
5+	101 (33.4%)	197 (32.8%)

US/C = unmet standards.

average of 9 years experience as a long-term care facility administrator and an average of 6.6 years experience as the administrator of their respective facility. Slightly more than 25% had been previously employed as a director of nursing in a long-term care facility, whereas approximately 20% had been employed as an administrator of a care facility in the previous 10 years. The median annual salary was \$80,000 to \$89,999, which is equivalent to \$64,000 to \$72,000 USD.

Administrative Effort in the Domains of Practice

Administrators reported spending the most time on a weekly basis on resident care (mean = 10.9 hours). The second most commonly performed activity was personnel management/human resources functions (9 hours), followed by financial management (6.1 hours), and marketing/public relations (6 hours). They spent less time in laws/regulations/boards-related activities (3.9 hours), fundraising (3.6 hours), physical resource management (2.8 hours), and family relations (1 hour).

Facility Characteristics

The mean age of the facilities was 30.7 years. The most frequently reported community size served by the facilities was 100,000 and more and the majority of the long-term care facilities were privately owned and for-profit. Just more than half (57.6%) were independently operated (i.e., not part of a chain). The mean number of licensed beds per facility was 127.9 (SD = 74.9), which was similar to the provincial average (123.8 beds; SD = 71.5). The majority of long-term care facilities were accredited (75.2%). Eighty-four percent of facilities had a family council and almost all (99.7%) had a resident council.

Regression Analysis Results

Multivariate regression was conducted to test hypotheses based on the conceptual model. Standardized beta coefficients (b), their standard errors (SE),

significance levels (P), and the explained variance (R^2) for each model are presented. Negative coefficients indicate fewer unmet standards and therefore higher quality of performance.

The independent variables are divided into four blocks based on the sequence of factors organized in the conceptual model: administrator demographic characteristics; other administrator characteristics; administrative effort; and facility characteristics. The rationale for separating the variables into these blocks is that age and sex are immutable characteristics, whereas education, background experience, years in position, and salary are indicators of an administrator's training or remuneration. The third block captures administrator effort using the variables: time spent in resident care, personnel management, financial management, marketing/public relations, physical resource management, laws/regulations/boards, facility relations, fundraising, and total hours per week as a percentage of all the time administrators say they spend across the different areas. Finally, age of facility, sponsorship, affiliation, number of beds, and size of community are incorporated as facility characteristics. Figure 2 demonstrates these blocks in their hierarchical order:

As observed in Table 4, only the R^2 change associated with model 2 is statistically significant. However, the explained variances (R^2) for models 2, 3, and 4 are statistically significant.

MODEL 2: OTHER ADMINISTRATOR CHARACTERISTICS

In Model 2, associations were found for the "two education contrasts," "years in current position," and "salary." Having a college-level education or less was the reference category for education. Education 1 contrasts administrators with an MA or more with the reference category, and Education 2 contrasts those with a BA or BSc with the reference category. A moderate inverse relationship was found between both Education 1 ($b = -2.8$, $SE = 1.1$, $P < .05$) and Education 2 ($b = -1.8$, $SE = 0.84$, $P < .05$) and unmet standards, lending support to the hypothesis that a lower number of unmet standards (higher quality of care) is associated with administrators who have higher levels of education (when controlling for all other variables in

TABLE 4 Model Summary

Model	R	R^2	Sig. F Change	Model Sig.
1	.061	.004	.574	.574
2	.243	.059	.005	.012
3	.318	.101	.108	.009
4	.360	.129	.105	.005

Model 2). This is supported for both an MA or more and BA or BSc degrees compared to college or less.

A weak inverse association was also found between “years in current position” and unmet standards ($b = -.16$, $SE = 0.05$, $P < .01$). This supports the hypothesis that administrators who have been employed at the facility for longer periods of time have fewer unmet standards associated with their facility.

In addition, a marginal positive relationship was found between “salary” and unmet standards ($b = .35$, $SE = .16$, $P < .05$), providing evidence that administrators with higher salaries tend to have more unmet standards in their facilities. This unexpected finding may be explained by the fact that smaller facilities with fewer beds are associated with better quality (fewer unmet standards) and tend to have administrators with smaller salaries.

A weak positive association was found between the absence of a nursing background and unmet standards ($b = 1.4$, $SE = 1.1$, $P < .10$). This borderline significant finding supports the hypothesis that administrators with a nursing background are associated with facilities with fewer unmet standards.

MODEL 3: ADMINISTRATIVE EFFORT

Model 3 added a set of contrasts representing “time spent in various duties.” A weak positive association was found between “time spent in resident care” (compared to a negative association) and unmet standards ($b = .12$, $SE = .05$, $P < .05$). This finding indicates that administrators who spend more time in resident care are associated with facilities with more unmet standards. Although this is opposite to what one would expect and contrary to our hypothesis, it is possible that administrators with more unmet standards are devoting more time to resident care issues to address these problems.

MODEL 4: FACILITY CHARACTERISTICS

The associations with the variables discussed above were replicated in Model 4. None of the variables added in Model 4 were statistically significant at the $P < .05$ level. These included facilities that were part of a chain of facilities, facility age, number of beds, size of community, and accreditation. On the other hand, the data showed that there was a weak positive relationship ($b = .01$, $SE = .01$, $P < .10$) between the number of beds and unmet standards. This borderline significant finding supports the hypothesis that smaller facilities are associated with fewer unmet standards.

DISCUSSION

Prior research has provided sparse information on characteristics of administrators that are associated with quality of care in long-term care facilities.

This study found that, in Ontario, the average administrator is approximately 50 years of age, female, and has a BA or BSc as the highest level of education. The most frequently held degree or diploma was in nursing followed by business administration. Respondents had an average of 9 years of experience as a long-term care administrator and 6.5 years experience as administrator in their current facility. The median salary fell in the \$80,000 to \$89,999 (\$64,000 to \$72,000 USD) range. Administrators spent the majority of their time on resident care and personnel/human resource management responsibilities. The average facility was an accredited 31-year-old facility, averaging 128 beds, and located in communities with populations of 100,000 or greater.

Because administrators play a vital leadership role in long-term care facilities, it was deemed to be important to investigate whether differences in their characteristics predicted quality of care. The current study incorporated several potential predictor variables related to administrator and facility characteristics. Overall, approximately 13% of the variance in the number of unmet standards is explained using the variables included in the models. Although this is a modest amount of explained variance, it is not atypical for studies of this nature. In addition, it represents the first study of its kind in Canada and is a starting point for future research addressing this topic.

Specifically, eight hypotheses were tested. These were drawn from our conceptual framework based on Donabedian's (1988) Tripartite Quality Assurance Model that encompasses structure, process, and outcome criteria for quality assessment. Four of the eight hypotheses tested at the multivariate level were supported and another two were found to be opposite in direction to what was hypothesized. First, a clear relationship was found between the administrator's level of education and the number of unmet standards. The relationship between these variables was moderate and in the expected direction, even after statistically controlling for the other variables in the models. This suggests that the higher the level of education obtained by the administrator the better the quality of care for residents. Second, an inverse association was found between years in current position and unmet standards. This finding provides evidence that administrators who have been employed at their facility for longer periods of time have fewer problems associated with the care provided to residents in their facility. Third, a positive borderline significant ($P < .10$) relationship was found between a background in nursing and unmet standards. This suggests that administrators with training in nursing are associated with facilities that provide higher quality of care. Fourth, a weak association was uncovered between facilities with a larger number of beds and unmet standards. This finding supports earlier research suggesting that smaller facilities would have better quality because staff and residents tend to be more familiar with each other and can provide more intensive care (Thomas, 2003; Thomas & Johansson, 2003). Similar to a small community where it is easier to establish a reputation,

smaller facilities may also be able to foster rapport with staff and residents (Thomas, 2003).

However, two statistically significant associations were found to be in the opposite direction of the hypotheses. First, there was a weak negative association between salary and number of unmet standards, which appears to contradict earlier research (Singh, 1997) and common sense. This finding may be the result of a confounding factor. It is possible that administrators in larger facilities tend to have more unmet standards and therefore tend to receive higher salaries. This interpretation stems from the finding that smaller facilities were associated with better quality of care (Keays, Wister, & Gutman, 2007), and that administrators managing facilities with fewer beds are remunerated less than administrators responsible for directing larger facilities. Second, a weak negative association was uncovered between administrators who spend a greater amount of time in resident care (compared to administrators who spend less time) and the number of unmet standards. This is inconsistent with results based on Singh's (1997) research in the United States. One possible explanation is that administrators of care facilities with a high number of unmet standards may spend more time in resident care to fix problems of quality. In other words, these factors may be reciprocal in their association, or at least contemporaneous. A longitudinal design is needed to provide more definitive results on this association.

Implications for the Long-Term Care Industry

When hiring, boards of directors may find it helpful to compare managerial applicants against the average profile in terms of education, experience, and other qualifications. However, administrative profiles do not automatically contribute to the achievement of desired quality. There remains a need to seek individuals with a profile that is associated with the attainment of higher quality of care in long-term care facilities. Identification of such a profile should be useful not only when hiring, but also for training and developing administrators who would be well-prepared to respond to new challenges in the changing environment of health care delivery.

The relationship between the length of employment and long-term care performance appears to be a clear indicator for quality of care. Management should more precisely determine why long-term care facility administrators leave and implement programs to retain well-performing administrators. Such programs should not only be a matter of salary, but rather they should focus on training and building on experience.

Limitations

The study has some limitations. First, it relied on a sample from only one province, which may not be indicative of all other provinces. Although only

half of the eligible administrators chose to participate in the study, comparisons with the full sample on several key variables suggest that this sample was highly representative of the total population of administrators of the 602 long-term cares in Ontario.

The lag between the time the inspection was done and the time administrators completed the mail survey along with the relatively high turnover rate among administrators suggests that the administrator who completed the survey may not have been the administrator present at the time of the inspection in some cases. Also, it is likely that some of the information on the survey was estimated by the administrators, and accuracy of the information reported on the survey was not verified. This may have contributed to the modest amount of variance explained by the model.

Measurement of performance was based on cross-sectional data and used a single measure. It is also recognized that the using number of unmet standards or criteria is only a proxy for quality of care, given that our measure reflects failure to meet minimal standards. However, it is a standard and comprehensive measure of unmet standards and therefore is useful for this exploratory study. Furthermore, because quality of resident care is dynamic in nature, results based on cross-sectional measurement are likely to have some biases. The associations found between administrator's salary and time spent on resident care problems and unmet standards were opposite to what we would expect, and may have resulted from the reciprocal relationships among these variables. A longitudinal design is needed to disentangle these associations. Also, the study may not have included all major predictors. Because the study was exploratory in nature, it is possible that all confounding factors were not statistically controlled.

Recommendations for Future Research

There is a need to more precisely define and measure quality of care in long-term care facilities. For instance, a measure such as the one used in this study does not capture the subjective perceptions of quality of care of family or residents. Subsequent research should examine these types of indicators of quality of care as well. It is also not clear as to the types of work that administrators actually conduct; for instance, some administrators handle staffing crises, whereas others focus on direct care areas. Future research on long-term care administrators should also focus on the problem of turnover. It is important to know not only the extent of the phenomenon, but also the reasons why administrators leave. Such findings could help develop retention strategies to maximize organizational stability. Research needs to identify other factors that may have an influence on quality of care and should include characteristics of the Director of Care as well as other employees. In addition, research needs to be conducted to explore whether it is economically viable for larger facilities to transform one large facility into

multiple smaller facilities and whether this change would affect quality of care. Research should also explore whether publicly accessible information (e.g., ratings) about care providers is associated with better quality of care. Such findings could help residents and their families when selecting a nursing home.

REFERENCES

- Al-Assaf, A. F., Taylor, T. L., & Langston, R. (1992). Management preparedness criteria: A study of nursing home administrators. *Health Care Supervisor, 10*(3), 12–27.
- Allen, J. E. (2003). *Nursing home administration* (4th ed.). New York: Springer Publishing Company, Inc.
- Alzheimer's Society of Canada. (2005). *Alzheimer Society of Canada*. Retrieved December 15 2005, from <http://www.alzheimer.ca>.
- Bell, R., & Krivich, E. (1990). Effects of type of ownership of skilled nursing facilities on residents' mortality rates in Illinois. *Public Health Reports, 105*, 515–518.
- Blumenthal, D., & Thier, S. O. (2003). Improving the generation, dissemination and use of management research. *Health Care Management Review, 28*, 366–375.
- Canadian Council on Health Services Accreditation. (2009). *Accreditation Canada*. Retrieved January 20, 2009, from <http://www.accreditation-canada.ca/default.aspx>.
- Castle, N. G. (2001). Administrator turnover and quality of care in nursing homes. *Gerontologist, 41*, 757–767.
- Dimant, J. (1991). From quality assurance to quality management in long-term care. *Quality Review Bulletin, 17*, 207–215.
- Donabedian, A. (1988). The quality of care: how can it be assessed? *Journal American Medical Association, 260*, 1743–1748.
- Kane, R. A., & Kane, R. L. (1988). Long-term care: Variations on a quality assurance theme. *Inquiry, 25*, 132–146.
- Keays, S., Wister, A. V., & Gutman, G. M., (2007). *Characteristics of administrators and quality of care in Ontario care facilities*. Vancouver, British Columbia, Canada: Simon Fraser University.
- Lohrke, F. T., Bedeian, A. G., & Palmer, T. B. (2004). The role of top management teams in formulating and implementing turnaround strategies: A review and research agenda. *International Journal of Management Reviews, 5*(6), 63–90.
- Miller, D., & Friesen, P. H. (1977). Strategy, structure, CEO personality and performance in small firms. *American Journal of Small Business, 10*(3), 47–62.
- Ontario Ministry of Health and Long-Term Care. (2007). *Reports on Long-Term Care Homes*. Retrieved July 9, 2006, from <http://publicreporting.ltchomes.net/english/index.htm>.
- Singh, D. A. (1997). *Nursing home administrators: Their influence on quality of care*. New York: Garland Publishing, Inc.
- Statistics Canada. (2005). *Statistics Canada*. Retrieved December 21, 2005, from <http://www.statcan.ca/start.html>.

- Thomas, W. H. (2003). Evolution of Eden. *Journal of Social Work in Long-Term Care*, 2, 141–157.
- Thomas, W. H., & Johansson, C. (2003). Elderhood in Eden. *Topics in Geriatric Rehabilitation*, 19, 282–290.
- Weiner, N., & Mahoney, T. A. (1981). A model of corporate performance as a function of mental, organizational, and leadership influences. *Academy of Management Journal*, 24, 453–470.
- Werner, R. M., Greenfield, S., Fung, C., & Turner, B. J. (2007). Measuring quality of care in patients with multiple clinical conditions: Summary of a conference conducted by the Society of General Internal Medicine. *Journal of General Internal Medicine*, 22, 1206–1211.
- Whitney, J. O. (1987). *Taking charge: Management guide to troubled companies and turnarounds*. Homewood, IL: Dow-Jones-Irwin.