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Observations on Institutional Long-Term Care in Ontario: 1996–2002*

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RÉSUMÉ
Nous fournissons des statistiques descriptives sur les données recueillies par l'entremise de l'Enquête sur les établissements de soins pour bénéficiaires internes menée auprès d'établissements de soins de longue durée (SLD) exploités en Ontario entre 1996 et 2002. En Ontario, le secteur des SLD est dominé par d'importants établissements privés à but lucratif. Le pourcentage de pensionnaires recevant des soins de longue durée a augmenté, passant de 53 % en 1996 à plus de 61 % en 2002. Les établissements de soins exploités par le secteur public sont beaucoup plus grands que les établissements privés à but lucratif et les établissements laïques sans but lucratif. Les établissements religieux et laïques sans but lucratif prennent en charge davantage de pensionnaires de 85 ans et plus que ne le font les établissements privés à but lucratif et les établissements publics ; ces derniers prodiguent des soins à un plus grand nombre de pensionnaires ayant des besoins aigus. Les niveaux d'intensité des soins infirmiers et le pourcentage de personnel affecté aux soins directs sont plus élevés dans les établissements publics que dans les autres types d'établissements et les établissements à but lucratif ont des niveaux très inférieurs aux autres. Les établissements sans but lucratif ont des ratios¨ personnel administratif/personnel soignant£ supérieurs à ceux des établissements privés et publics.

ABSTRACT
We provide descriptive statistics for data collected via the Residential Care Facilities Survey (RCFS), from long-term care (LTC) facilities operating in Ontario between 1996 and 2002. The LTC sector in Ontario is dominated by large, proprietary for-profit facilities. The proportion of residents receiving extended care has increased from 53 per cent in 1996 to over 61 per cent in 2002. Government-owned facilities are significantly larger than both for-profit proprietary facilities and lay non-profit facilities. Religious and lay non-profit facilities provide care to more residents 85 years of age and older than do for-profit and government-owned facilities, while government-owned facilities provide care to a greater proportion of higher needs residents. Government-owned facilities have higher nursing intensity levels and higher direct care staffing levels than other ownership types, while for-profit facilities have significantly lower levels than other facility types. Non-profit operators have higher ratios of administrative to care staff than proprietary and government-owned facilities.

* This paper is part of a project funded by the Social Sciences and Humanities Research Council (SSHRC). We extend our thanks to members of our project Advisory Committee, including Mr. Richard Trudeau, Mr. John Lohrenz, Ms. Krista Robinson, and Dr. Mary Beth Montcalm, for their insights and discussions that have contributed to this work. Our special thanks to Dr. Raisa Deber for her comments on an early draft of the paper, and to M-THAC for providing start-up funding for developing the research proposal ultimately funded by the SSHRC. We thank Ms. Ellen Schraa for her research assistance. The project has received approval from the University of Toronto Research Ethics Committee.

Manuscript received: / manuscrit reçu : 20/01/04

Manuscript accepted: / manuscrit accepté : 20/10/04

Mots clés: soins de longue durée; maisons de soins infirmiers; niveaux de dotation en personnel; vieillissment

Keywords: long-term care; nursing homes; staffing levels; aging

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Introduction

In this paper, we report the results of our descriptive statistical analysis of data on long-term care (LTC) facilities operating in Ontario over the interval 1996–2002, collected through the Residential Care Facilities Survey (RCFS) administered annually by Statistics Canada. We develop and discuss descriptive summaries at the provincial level for facility characteristics, including ownership and profit status, size, staffing levels, resident age distribution, and the types of care provided. In prior studies conducted in other jurisdictions, all of these characteristics have been shown to affect some aspect of organizational performance (e.g., Banaszak-Holl, Zinn, & Mor, 1996; Harrington, Woolhandler, Mullan, Carrillo, & Himmelstein, 2001). Our ultimate goal in analysing the RCFS data is to contribute to an understanding of the relationships between the quality and costs of LTC–identified as a critical activity in improving the effectiveness and efficiency of the Canadian health care system (Hébert, 2002; Romanow, 2002) and LTC in general (Binstock & Spector, 1997). That said, we are in the early stages of working with the RCFS data. Generating descriptive statistics with the data is interesting and *necessary*, since the survey data, collected since 1974, have yet to be thoroughly validated against other sources (Canadian Institutes for Health Information, 2002). While our descriptive statistical analysis is a precursor to a study of the operational efficiency of long-term care facilities in Ontario[1] and in Canada,[2] we provide the results of our analysis here by introducing the RCFS data set to other researchers and initiating a discussion on the dynamics of the LTC sector in Ontario. Our paper offers an informative contemporary profile of the institutional LTC sector in Ontario that can serve as a backdrop to future empirical studies that further apply the RCF survey's rich organization-level data to explore relationships between facility characteristics and facility performance–and generally improve our understanding of the efficiency–effectiveness conundrum in long-term care.

Background

In Ontario, long-term care programs are delivered via two distinct channels: communities and facilities. Community services for the elderly include visiting nursing, therapy, and in-home services, and various community support services designed to sustain individuals in their homes adequately and safely. Forty-three community care access centres located throughout the province provide single-entry assessments for suitability for long-term care facility placement or for the receipt of home care services. Long-term care facilities in Ontario provide a comprehensive range of services including nursing, personal care, and programs designed to enhance a resident's quality of life (Canadian Healthcare Association, 2001). Long-term care facilities generally provide a lower level of care than that offered in hospitals; however, some overlap exists (Statistics Canada, 2004). Individuals residing in long-term care facilities in Ontario, including nursing homes and homes for the aged, are those in need of high levels of daily personal care entailing supervision or assistance with activities of daily living, 24-hour nursing care or supervision, and a secure environment.

We focus on three types of long-term care facilities operating in Ontario:[3] nursing homes, municipal homes for the aged, and charitable homes for the aged. Compliance of nursing homes and homes for the aged with provincial standards is overseen by the Ontario Ministry of Health and Long Term Care (MOHLTC) through annual facility inspections. Inspection reports have historically not been available to the public. Regulations govern personnel and financial authority of facilities, and other aspects of their operations. The three types of LTC facilities in Ontario have different historical origins that have contributed to sustained differences in organization and governance; they continue to be governed under three different acts. Nursing homes, including private proprietary nursing homes and private not-for-profit nursing homes, operate under the *Nursing Homes Act*. Municipal homes for the aged are governed by the *Homes for the Aged and Rest Homes Act*, while charitable, non-profit homes are governed by the *Charitable Institutions Act* (Canadian Healthcare Association, 2003). The *Long Term Care Act* and the recent *Community Care Access Corporations Act* of 2001 govern the admission and coordinated placement of residents to long-term care facilities of all types in Ontario. While operating under separate acts, nursing homes and homes for the aged adhere to the same funding arrangements, care standards, and eligibility requirements for residents. However, some argue that historical differences continue to interact with newly imposed sector-wide standards and so perpetuate inequities across facility types that existed prior to omnibus legislation intended to "level the playing field" (Ontario Association of Non-Profit Homes and Services for Seniors, 2003).

In Ontario, as with the rest of Canada and other developed countries where care of the aging population is a public policy priority, research that explores the sources and complexities of performance variation in LTC– specifically, the relationships between the quality of care, the costs of care, and the

accountability of management and staff–is identified as critical to improving sector effectiveness and efficiency (Hébert, 2002; Romanow, 2002). A recent report released by the Ontario Ministry of Health and Long Term Care underscores the need for more knowledge on the relationships among funding, staffing, and quality of care (Smith, 2004). Research in the organization and management sciences demonstrates that a substantial proportion of performance variation across organizations is explained by differences in facility-level factors (e.g., Baum, 1996). Characteristics of facilities–such as size, ownership, structure, strategy, geographic location, and local market competition–can influence a facility's operations through their impact on decision making, knowledge transfer, and availability of vital resources and inputs. Therefore, we focus this initial descriptive analysis on a modest set of facility-level characteristics that have been shown to affect, or serve as a proxy for, quality of care and other performance outcomes relevant to LTC, including operational efficiency and care innovations (e.g., Banaszak-Holl et al., 1996; Harrington et al., 2001; Price Waterhouse Coopers, 2001). Specifically, we provide observations on the profit status of ownership, size, staffing levels, age distribution of residents, and types of care provided. *Profit status* and *organizational size* reflect fundamental differences in the missions and operations of long-term care facilities. They are structural dimensions that influence the ways in which – and ease with which – facilities secure capital and pursue growth, as well as their motivation and capacity to address residents' needs and health issues (Banaszak-Holl, Berta, Baum, & Mitchell, 2004). Profit status governs a nursing home's mission (Robinson, 2001), which in turn influences organizational priorities and behaviour. In theory, non-profit operators re-invest their revenues in initiatives designed to improve performance and to provide less profitable services and charity care. On the other hand, for-profit organizations are theoretically beholden chiefly to their shareholders, and so are less likely to invest their revenues in service and facility improvements (Lemke & Moos, 1989). *Organizational size* is related to organizational viability and performance since it affects an organization's ability to secure vital resources–like knowledge, capital and human resources–and to respond to change (e.g., new regulations) (Baum, 1996; McKelvey, 1982). Nurse staffing intensity has long been examined as a proxy for, or predictor of, quality of care in institutional long-term care. Here, we examine *staffing levels* in the interests of comparing the levels generated from the RCFS data to those cited recently by other sources for Ontario (i.e., Price Waterhouse Coopers, 2001; Smith, 2004), and for other jurisdictions. Other studies have shown significant differences in staffing levels by ownership type (e.g., Harrington et al., 2001; Lemke & Moos, 1989), therefore we compare staffing intensities by profit status and type of ownership here. We examine the *age distribution of residents* and the *types of care* provided across all Ontario facilities, in the interests of determining whether there are any discernible changes year-over-year from 1996 to 2002. We also offer statistics comparing age distributions of residents and type of care provided by profit status and type of ownership.

Methods

Data

Our data is derived from the Residential Care Facilities Survey (RCFS) administered annually by Statistics Canada since 1974 to all residential care facilities operating in most Canadian[4] provinces and territories. According to the Canadian Healthcare Association's annual *Guide to Canadian Healthcare Facilities*, there were 499 nursing homes and homes for the aged in operation in Ontario in 1996/1997, increasing to a total of 597 by 2001/2002 (Canadian Healthcare Association, 1996; 2001). The RCF survey is a census, and its completion is a legal requirement under the *Statistics Act*. Except in Quebec, the survey data are collected via self-completed mail-out/mail-back questionnaires that are sent out every March to all administrators of residential care facilities operating in Canada that are included in inventories provided annually by funders and licensors of the facilities, the provincial and territorial ministries of health and/or social services. Thank you/reminder cards are mailed to facilities at the end of May, and during the summer of each year non-respondents are called. In the fall, non-respondents are called again, and where possible, the survey is completed over the telephone.[5] Here, we focus on charitable and municipal homes for the aged and nursing homes operating in Ontario[6] over the period 1996–2002, and include only those facilities reporting the principal characteristic of their residents as *aged* (that is, residents are 65 years old and older and may have disabilities associated with aging). In the last observation year, 594 of 597 possible facilities responded to the RCF survey. The RCFS contains information about: (1) facility's type, location, and ownership structure; (2) bed types and capacity; (3) personnel involved in providing direct care and general services to residents; (4) the age, sex, care requirements, and morbidity distribution of residents; (5) the number of patient days provided; and (6) the number of deaths and discharges each year.

Textbox 1: Staffing–Definitions for types of direct care providers

Registered nurses have graduated from a recognized formal nursing educational program and have qualified to practise nursing as registered nurses according to appropriate provincial legislation. Depending on the size of the facility, they may include the director of nursing, the assistant director of nursing, supervisors, and general duty nursing staff who qualify as registered nurses.

Registered qualified nursing assistants/licensed practical nurses are authorized to function as nursing assistants according to appropriate provincial legislation.

Physiotherapists are qualified to practise by meeting the requirements of the Canadian Physiotherapy Association or equivalent standards and are responsible for the maintenance and improvement of the functional capacity of a resident through procedures including exercise, massage, and manipulation. Occupational therapists, qualified to practise by meeting the requirements of the Canadian Association of Occupational Therapists, are responsible for the maintenance and improvement of the functional capacity of the resident through the practice of activities of daily living and the development of vocational and manual skills.

Other therapists include speech therapists, child therapists, behaviour therapists, and group therapists.

Activity/recreation staff set up or maintain a program of social activities, recreation, or hobbies for the residents.

Other direct care staff include nursing aides, health care aides, counsellors, child care workers, orderlies, social workers, graduate nurses, and chaplains.

Source: Statistics Canada: Residential Care Facilities Survey 1999–2000, ‘‘Instructions and Definitions’’

Data Accuracy

Based on data collected by the Canadian Healthcare Association, and summarized in its annual *Guide to Canadian Healthcare* Facilities,[7] we estimate that survey respondents represent between 91 per cent (in 1998/1999) and 99.5 per cent (2001/2002) of the total bed capacity in Ontario over the study interval. We compared details, where available, from the annual *Guide to Canadian Healthcare Facilities* with the RCFS data and did not detect any systematic differences across respondents based on their size or ownership over the study interval.

Definitions

We apply the categories for *facility ownership* developed by Statistics Canada for use in the RCF survey; these include lay, religious, government, and proprietary ownership. These categories distinguish the profit status of ownership. *Lay* ownership signifies that the facility is owned and operated on a non-profit basis by a voluntary lay entity. *Religious* ownership refers to facilities operated as non-profits by a religious organization. *Government*[8] facilities include those operated by (1) municipalities or equivalents (i.e., also cities, counties, or other municipal government), (2) departments, branches, divisions, or agencies of the Ontario government, (3) a federal department of the Government of Canada (e.g., Veterans Affairs), and (4) a regional governance structure like a regional health authority, board, or district. *Proprietary* facilities are those operated as for-profits by an individual, private organization, or corporation.

We measure *facility size* as the number of LTC beds in each facility operating in each observation year. The number of LTC beds in a facility reflects production potential/capacity and is proportional to the resources that the organization uses for its day-to-day operations.

Textbox 1 defines the types of direct care providers as defined in the RCF survey. For our summary statistics below, we develop fewer groupings. For the figures that follow, the *RN* category comprises registered nurses as described in the textbox, the *RNA* category includes registered qualified nursing assistants/licensed practical nurses, the *OTPT* category includes physiotherapists, occupational therapists, other therapists, and activity/recreation staff, *Other DCS* comprises all other direct care staff as per the textbox, and *Total DCS* is the sum of hours of care provided by all staff described in the textbox.

An accepted approach to studying the aspects of the quality of LTC that relate to resourcing is to examine

Textbox 2: Definitions for types of care provided in long-term care facilities

Room and board is provided for residents who pay only for the use of a room. No services or type of care are received.

Type I care in Ontario is referred to as residential care, required by a person who is ambulant and/or independently mobile, who has decreased physical and/or mental faculties, and who requires primarily supervision and/or assistance with activities of daily living and provision for meeting psychosocial needs through social and recreational services. The period of time during which care is required is indeterminate and related to the individual condition but is less than 90 minutes in a 24-hour day.

Type II care in Ontario is referred to as extended care, required by a person with a relatively established (physical or mental) chronic disease or functional disability who, having reached the apparent limit of recovery, is not likely to change in the near future, who has relatively little need for the diagnostic and therapeutic services of a hospital, but who requires availability of personal care for a total of 1.5—2.5 hours in a 24-hour day, with medical and professional nursing supervision and provision for meeting psychosocial needs.

Type III Care in Ontario is referred to as chronic care, required by a person who is chronically ill and/or has a functional disability (physical or mental), whose acute phase of illness is over, whose vital processes may or may not be stable, whose potential for rehabilitation may be limited, and who requires a range of therapeutic services, medical management, and skilled nursing care plus provision for meeting psychosocial needs. A minimum of 2.5 hours of individual therapeutic and/or medical care is required in a 24-hour day.

Higher type care is required by those persons who need substantially more nursing and/or medical care than described above. It is assumed that very few residents would be receiving care of this type. Care above Type III is usually provided in a hospital.

Source: Statistics Canada: Residential Care Facilities Survey 1999–2000, ''Instructions and Definitions''

staffing levels. Generally, levels of service provided across different care providers is estimated by total hours of care per resident per day (hrs/res/day), or FTEs per resident day. This measure is referred to as nursing intensity when discussed in light of the acuity needs of residents and is established using accepted average nursing time for each of the 44 RUG-III case mix groups (Mueller, 1999). Here, we are limited somewhat by the RCFS data and rely on a crude measure of *nursing intensity*, computed as the total RN and RNA hours of care per resident per day. We also compute other measures of *staffing levels* – the general formula we use is hours of care (by staff type) per resident per day, or per year. Further, we estimate *staffing intensity* as it is traditionally computed in the nursing intensity literature as the total RN, RNA, and other direct care staff hours provided per resident per day. Finally, in the interests of comparing structural differences relating to staffing across types of ownership, we compute the *ratio of administrative staff hours to total hours of direct care* provided to residents in each ownership category.

A typology for *types of care* was developed by Statistics Canada for use by all RCFS facility respondents across Canada. Textbox 2 summarizes the definitions developed by Statistics Canada and states the care equivalent for Ontario.

We adhere to the *age distribution* categories used in the RCFS. We are interested in those LTC facilities whose principal resident characteristic is *aged*, therefore we include in our summary graphs only the age categories ''less than 65 (a combination of several age categories from the RCFS), 65–69, 70–74, 75–79, 80–84, and over 85 years of age.''

Analysis

The descriptive statistics we present and discuss below are generated using SAS; the figures were developed using Microsoft Excel. Since we are interested in examining the RCFS data for patterns and trends over the study interval, we generally present data summarized year over year, at the provincial level. This approach allows us to compare observed patterns in the RCFS data to patterns or trends reported elsewhere for the Ontario LTC sector over the same time period.

Results

Facility Ownership

Figure 1 shows the distribution of LTC facilities by type of ownership for the entire study interval, while Figure 2 shows the number of LTC beds by type of ownership.

Figures 1 and 2 illustrate the dominance of proprietary for-profit facilities in Ontario's LTC sector. From Figure 1, we see that the annual profile for facility ownership in Ontario has not changed appreciably year over year: on average, in each year 62 per cent of facilities are proprietary (for-profits), 17.4 per cent are government-owned facilities, 14.1 per cent are non-profit lay organizations, and 6.5 per cent are owned by non-profit religious organizations. Figure 2 shows that while the profile for facility ownership is unchanged, the proportion of LTC beds – arguably a finer-grained proxy for market share – operated by for-profits has grown from 56 per cent in 1996/1997 to 59.6 per cent in 2001/2002. The proportion of LTC beds maintained by lay and religious owners has remained the same, while that for government-owned facilities has diminished from 26.3 to 22.6 per cent over the study interval.

Facility Size

Figure 3 shows that the dominant facility size in Ontario is "100+" (100 beds and over) beds. In 2001/2002, the mean facility size was 123 beds, up from 112 in 1996/1997. Over the last three observation years, these large facilities have grown from 42 per cent of all facilities operating in Ontario to 44 per cent.

A Tukey's test for differences in mean facility size showed that government-owned facilities were significantly larger than proprietary for-profit facilities and lay non-profits at the 0.05 level of significance. In 2001/2002, government-owned facilities averaged 162 beds, compared to the Ontario average size of 123 beds.

Resident Characteristics

We examined the resident profile of all facility respondents to gain an understanding of any changes in demands for care in the overall resident population over the study interval. Figure 4 shows the number of residents by type of care required, across all LTC facilities each year.

What is notable from Figure 4 is that the resident population tends toward greater homogeneity over the study interval. By the last observation year 2001/2002, 61.2 per cent of residents required extended (Type II) care, compared to 52.7 per cent in 1996/1997. By the same time, the percentage of residents receiving chronic (Type III) care had diminished to approximately 24.2 per cent from 32.4 per cent in 1996/1997, and the percentages of residents receiving room and board, and higher type care remained less than 0.5 per cent. The number of residents requiring residential (Type I) care fluctuated over the study interval; however, by 2001/2002 the proportion appeared to stabilize to original 1996 levels at 13.7 per cent. Our test for differences in the number of residents receiving care of each type, by ownership, showed that government-owned facilities have significantly more residents receiving chronic (Type III) care and higher type care than other types of facilities, at the 0.05 level of significance.

Figure 5 shows the age distribution of residents across all facility respondents for each observation year. The relative proportions of residents in each age category have remained constant over the observation years. On average, 3.8 per cent of residents receiving care in LTC facilities in Ontario are between the ages of 65 and 69, 7.8 per cent are between the ages of 70 and 74, 13.8 per cent are between the ages of 75 and 79, 21.9 per cent are between 80 and 84, and 48.6 per cent are 85 years of age and older. A test for differences in resident age distribution by ownership type showed that significantly fewer residents 85 years of age and older reside in for-profit and government-owned facilities compared to non-profit and religious facilities ($p < 0.05$).

Resident Care

We examined trends in the provision of direct care to residents over the study interval. Based on the RCFS data, the annual average level of direct care (all staff types) in Ontario is 829 hours per resident. In the interests of illustrating changes year over year, we provide levels of care data graphically in Figure 6 – showing the mean total number of hours of direct care provided to residents on annually, by type of care provider (refer to Textbox 1 for definitions of types of direct care providers). We summarize the RCFS levels of care data in tabular form in Table 1 and offer comparative data from other jurisdictions in Table 2; in the tables, the levels of care information are computed in hours of care (by staff type) per resident per day–a format more typical of staffing-level discussions elsewhere (e.g, Price Waterhouse Coopers, 2001; Centers for Medicare & Medicaid Services, 2000).

Figure 6 shows an increase in the overall level of care from 1997/1998 onward. This increase arises predominantly through a rise in the number of hours of care provided by staff in the "other direct care

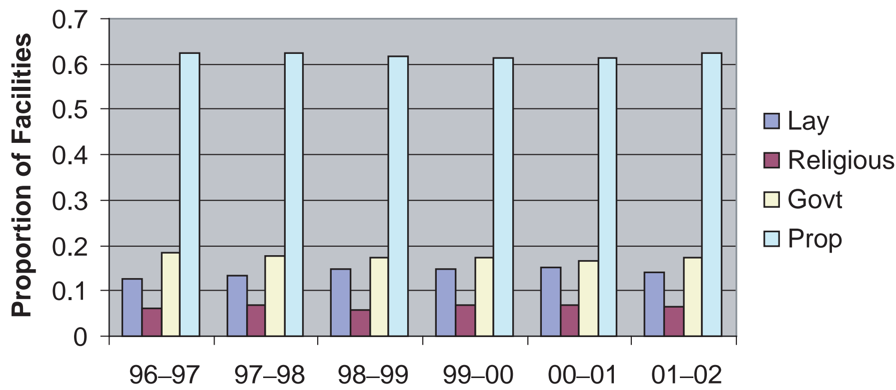

Figure 1: Ontario Long-Term Care Facilities by Type of Ownership 1996–2002

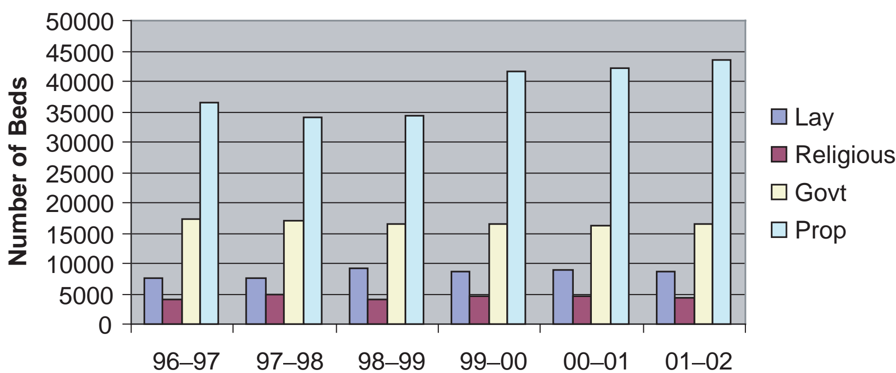

Figure 2: Ontario Long-Term Care Beds by Type of Ownership 1996–2002

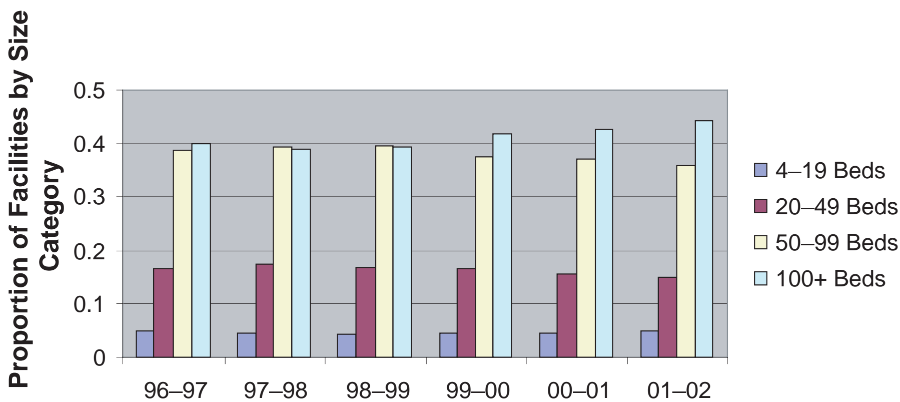

Figure 3: Ontario Long-Term Care Facilities by Facility Size 1996–2002

staff'' category (from 52.9% of total direct care hours in 1996/1997 to 61.3% in 2001/2002), with concomitant decreases in the proportion of direct care hours provided by registered staff–proportions dropped from 15.6 per cent in 1996/1997 to 13.9 per cent in 2001/2002 for care provided by RNs, and from 21.6 per cent (1996/1996) to 17.4 per cent (2001/2002) for care provided by RNAs.

Table 1 summarizes the RCFS staffing level data, computed as total hours of care per resident per day (hrs/res/day), for all observation years. These data confirm the overall increase in total hours of care per resident over the study interval from 1.71 hrs/res/day in 1996/1997 to 2.17 hrs/res/day in 2001/2002. The data also support the attribution for this increase that we made above – to an increase in

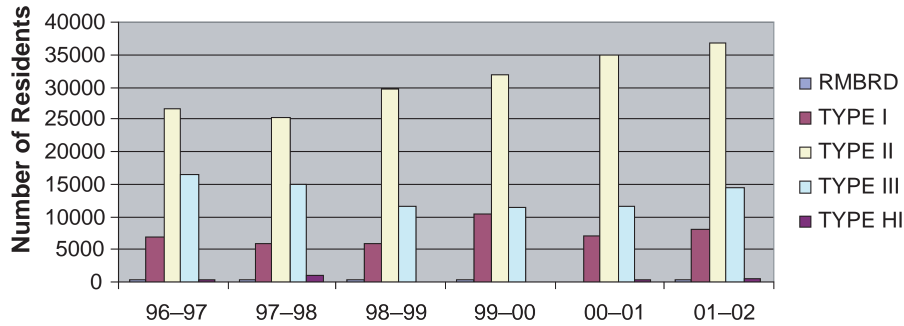

Figure 4: Ontario Long-Term Care Facilities Number of Residents by Type of Care 1996–2002

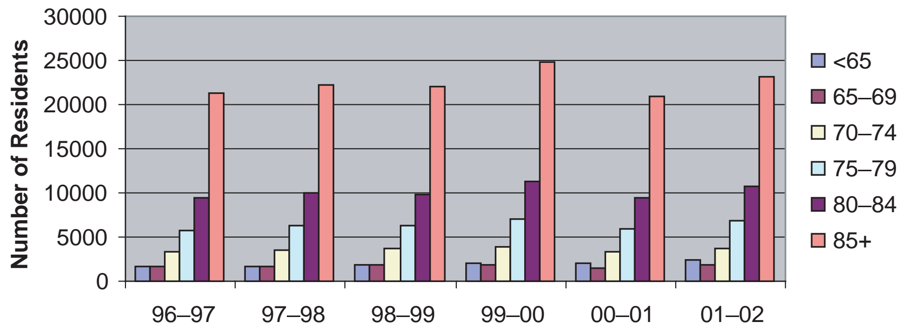

Figure 5: Ontario Long-Term Care Facilities Age Distribution of Residents 1996–2002

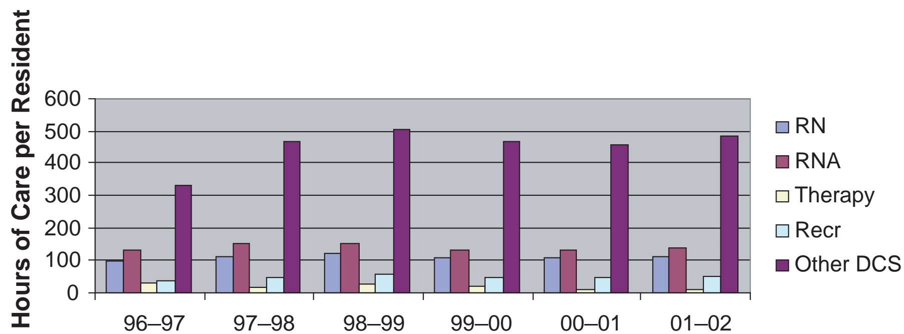

Figure 6: Ontario Long-Term Care Facilities Hours of Care per Resident by Type of Staff per Year 1996–2002

Table 1: Total hours of care per resident per day

Year	RN	RNA	Therapy Staff	Recreational Staff	Other Direct Care Staff	Total Direct Care Staff
96/97	0.27	0.37	0.08	0.09	0.90	1.71
97/98	0.31	0.42	0.04	0.12	1.28	2.17
98/99	0.34	0.42	0.06	0.15	1.38	2.36
99/00	0.30	0.36	0.06	0.13	1.28	2.13
00/01	0.29	0.36	0.03	0.13	1.26	2.06
01/02	0.30	0.38	0.02	0.13	1.33	2.17

Table 2: Comparison of staffing intensity: Total RN, RNA, and other DCS hours per resident per day

Year	Ontario RCFS	Ontario PWC*	U.S. OSCAR**
96/97	1.54	–	3.17
97/98	2.00	–	3.25
98/99	2.14	–	3.26
99/00	1.95	2.04	3.23
00/01	1.90	–	–
01/02	2.01	–	–

* from Price Waterhouse Coopers, 2001
** from Centers for Medicare & Medicaid Services, 2000
– data not available.

the hours of care provided by ''other direct care staff'' including nursing aides, health care aides, and social workers.

Table 2 offers comparative data from the Price Waterhouse Coopers report (2001) and from a recent U.S. Report to Congress (Smith, 2004) on minimum nurse staffing ratios in nursing homes. In Table 2 the comparator is the total hours of care per resident per day provided by RNs, RNAs, and other direct care staff/aides. Table 2 shows that the estimates based on the RCFS data represent more conservative staffing intensity levels than those provided in the Price Waterhouse Coopers report (2001). The table also shows that staffing intensity in Ontario is consistently lower than staffing intensity in U.S. nursing facilities, as reported using the OSCAR (On-line Survey Certification and Reporting System) data.

Research completed in other jurisdictions shows that there are structural differences relating to staffing across ownership types (e.g., Smith, 2004). Here, we too are interested in any detectable differences in staffing levels by ownership. A pairwise means comparisons test of the RCFS-derived staffing level data for the last observation year, 2001/2002, by ownership type showed significant differences between nursing intensity levels (computed as the sum of hours of direct care provided by RNs and RNAs per resident per day) by facility ownership. Mean nursing intensity levels in government-owned facilities were significantly higher than for all other facility ownership types ($p < 0.05$), and nursing intensity levels for for-profit proprietary facilities were significantly lower than the mean levels for all other facility ownership types ($p < 0.05$). A comparison of means test of the direct care staffing levels (total direct care hours provided by all staff types per resident per day) across ownership types showed the same pattern: government-owned facilities had significantly higher overall direct care staffing levels than all other facility ownership types ($p < 0.05$) while proprietary for-profits had significantly lower direct care staffing levels than all other facility ownership types ($p < 0.05$). Comparisons of the ratios of administrative staff to direct care staff showed that lay non-profit operators have a higher ratio of administrative staff to care staff, at the 0.05 level of significance, than do proprietary for-profits *and* a significantly higher ratio compared to government-owned facilities.

Discussion and Questions for Future Research

A number of the patterns and findings we report above are worthy of further discussion in the contexts of the policy environment in which they have arisen, and prior research in other jurisdictions. In addition, our observations suggest to us a series of future research questions that stand to further our understanding of the dynamics of the LTC sector in Ontario.

Our first key observation relates to facility ownership. As reflected in the RCFS data, LTC facilities are predominantly proprietary in Ontario. For-profit operators have long dominated the Ontario institutional LTC sector. In his review of the industry spanning 1971–1996, Baum (1999) suggested that stringent regulatory conditions in Ontario have favoured for-profit operators – particularly multi-unit chain operators – for their abilities to realize economies of scale over independent non-profit organizations. While we are unable to ascertain chain ownership at this stage of working with the RCFS data (we have requested chain ownership data from Statistics Canada to augment the current data set), the RCFS data depicts the Ontario institutional LTC market exactly as we expect to see it–dominated by for-profit organizations, and increasingly so since 1999/2000 with the onset of the early impacts of the Ontario Health Services Restructuring Commission and the subsequent Long Term Care Redevelopment Project.

The implications of ownership in the institutional LTC sector have been the focus of numerous studies, reports, and debates that have spanned the last two decades. Empirical research, to date, does not conclusively support any relationship between the profit status of facility owners and the quality of resident care. In jurisdictions outside of Canada, some research shows that for-profit facilities provide fewer types of services, maintain lower staff ratios than non-profits, and realize higher rates of adverse outcomes, such as pressure sore rates and restraint use rates

(Harrington et al., 2001; Lemke & Moos, 1989; Mitchell, Venkatraman, Banaszak-Holl, Baum, & Berta, 2003). Other research, however, demonstrates that for-profit status is related significantly to lower rates of adverse outcomes, such as mortality rates (Zinn, Aaronson, & Rosko, 1993).

In the Ontario context, some argue against the utility of examining the ''artificial divide'' between for-profit and non-profit operators, since the same level of government funding is offered to all operators and ''directly determines the staff levels, programs and other services provided, not the type of operator'' (Sullivan, 2002, p. 1). Advocates of this view might attribute the lower operating costs realized by for-profit operators to inherent structural differences that afford ''realized economies.'' Others hold a more cynical view, suggesting that the profit imperative of for-profit operators tempts them to ''cut corners'' in order to realize profits and to enable them to afford corporate and property taxes that their non-profit counterparts are not confronted with, while receiving identical per diem funding for residents (Lorinc, 2003). Research in other jurisdictions that has examined the efficiency of operations in fact favours the first view, showing that the focus of for-profits on efficiency does *not* significantly lower resident welfare, while it might (Cohen & Dubay, 1990) or might not (Gray, 1991) manifest as lower routine operating costs, compared to non-profits. We cannot comment here on which depiction–that of ''realized economies'' or of ''cutting corners''–is the more apt for Ontario, if indeed either is. We do find significant differences in staffing levels across ownership types: nursing staff intensity and direct care staff levels are significantly higher in government-owned facilities, compared to all other facility ownership types, while proprietary for-profit operators have significantly lower intensity and staffing levels than all other ownership types. Our findings are consistent with those reported recently in the United States (Smith, 2000). However, none of these findings say anything about the quality of care in these facilities: the nature of the relationships between ownership, operating costs (of which staff is a large part in LTC), and quality of care remains obscure. What these findings do suggest to us is the need for a rigorous empirical investigation into these relationships in the Ontario context. Indeed, we echo others (e.g., Deber & Williams, 2001; Hébert, 2002, Ontario Long Term Care Association, 2002) in urging the study of *any* factors that might mediate or moderate the costs–quality relationship–given that so little is known about it, and particularly given the growing emphasis on the part of policy-makers on optimising care delivery in the LTC sector.

Our second key observation relates to facility size. As of 2001/2002, the average size of a facility in Ontario is large, at 123 beds. Historically, the institutional LTC sector in Ontario comprised small independently operated homes (Baum, 1999). The work of policy analysts and researchers suggest that the low subsidy levels,[9] coupled with the increasing stringency of regulations,[10] have resulted in an operating environment that may discriminate against very small facilities. That is, very small facilities – availed of fewer resources – are unable to exploit the economies of scale in some aspects of their operations that their larger counterparts can, and so may be disadvantaged when it comes to meeting costly provincial standards (e.g., general operations, including financial reporting requirements and upgrades to the physical facility) and/or new stipulations on staffing (e.g., stipulations about the qualifications and experience of staff, or minimum staffing requirements). This phenomenon has been observed in LTC in other jurisdictions, and across several other industries (Banaszak-Holl et al., 1996; Baum, 1996; Pfeffer & Salancik, 1978). Further, small facilities are generally managed by a lone administrator and/or a few management staff, and these individuals may spend most of their time ''fire-fighting''– handling immediate operational or clinical problems with little opportunity (or even expertise) to engage in strategic planning or the expansion of services. While a policy emphasis on operational efficiency makes large facilities more attractive than small facilities, there is evidence from other jurisdictions that size can negatively affect quality of care (Banaszak-Holl et al., 2004). Research questions that are worthy of future exploration, then, include whether and how extensively facility size affects ability of staff to respond effectively to their residents, to offer specialty services, and to implement quality improvement initiatives like clinical practice guidelines. Further, efforts must be made to disentangle the effects of size and ownership on performance outcomes: here we find that government-owned facilities are significantly larger than facilities of other ownership types.

A third key observation relates to the overall increasing homogeneity of the type of care required by residents of LTC facilities in Ontario. As of 2001/2002, over 61 per cent of residents required extended (Type II) care–up from 52.7 per cent in 1996/1997. Research in the field of strategic management and organizational theory on standardization suggests that organizations that offer a single or restricted range of products or services, or restrict their markets to a particular type of consumer, can benefit from developing expertise and from economies of scale (Daft, 2004). Theoretically, then, this increasing homogeneity

of care needs across Ontario facilities will afford economies of scale and operating efficiencies, particularly if at the facility level management is free to target residents with specific care needs. These potential system efficiencies were among the motivations for the Health Services Restructuring Commission's 1997 recommendations that ultimately effected a redistribution of patients and residents across Ontario. Now, in 2004, empirical testing is warranted to determine whether the operational cost savings have indeed been realized since the convergence toward greater homogeneity of types of care provided in LTC facilities. It is interesting that we see some evidence of ''specialization'' by ownership within the more general extended-care environment: government-owned facilities provide care for significantly more residents with higher care needs–chronic (Type III) care and higher type care–than do other types of facilities. The implications of this specialization for (Ontario) system efficiency, and for the quality of resident care, merits further study.

Our fourth key observation relates to staffing levels. Certainly the direction of the relationships we observe here make intuitive sense: facilities caring for residents with higher care needs (government-owned) and facilities caring for older residents (religious and non-profits) generally have higher nursing intensity and direct care staffing levels. A critical question that remains, however, and one whose importance is underscored by comparisons we make here with U.S. data on staffing levels, is whether or not current staffing levels are *adequate*. As it stands, whether we adhere to the staffing levels provided in the report generated by Price Waterhouse Coopers (2001), those computed here, or the more recent figures cited in a report prepared for the Ministry of Health and Long-Term Care (Smith, 2004), the average direct care staffing levels in Ontario LTC facilities in 2001/2002 are lower than the U.S. national average and lower than the lowest levels reported in Oklahoma, which offers 2.5 hrs/res/day. In Ontario, we are unable to answer the question of adequacy until researchers achieve a far better understanding of the implications of staffing levels for the quality of resident care in context, in light of other facility-level factors including ownership and profit status, size, and resident profile.

Our final point relates to the critical importance of understanding – and evaluating – the impact of oversight. While we do not address this point directly here, it seems likely that some of the changes we observe are likely related to the recent actions of overseers. Over the time interval we study, two key regulatory events occurred that affected LTC in Ontario: the MOHLTC's creation of Community Care Access Centres (CCACs) in 1996, and the creation, in April 1996, of the Health Services Restructuring Commission (HSRC).[11] The purpose of the CCACs was to provide a single point of access for long-term and community care services. The integration of these services was intended to enhance resource efficiency across care providers and to sustain seniors in their homes longer, prior to transitioning to a higher-cost institutional LTC.[12] In April 1996, the HSRC was established with the mandate to restructure Ontario hospitals, and to make recommendations on other sectors in Ontario's health care system including home care, long-term care, mental health, rehabilitation, and sub-acute care. The HSRC operated at arm's length from the Ontario government. A significant component of the HSRC work entailed revisiting the *need* for hospitals to provide long-term care and, subsequently, redefining the role of chronic care in hospitals. Chronic care beds were to be used to provide complex continuing care, since the use of these beds for short-stay programs was deemed by the commission an inefficient use of resources. The HSRC identified as a critical component of the health system reform agenda ''clarifying (in terms of capacity and range of services) the role of the long term care sector'' in the full continuum of care (HSRC, 1997, p. 18). The commission recommended that long-term care facilities–including all nursing homes and homes for the aged–in Ontario focus on providing care to elderly residents deemed incapable of being supported at home through home care services and categorized–using the MDS/RUGS III System[13]– as having specific levels of dependence and care requirements including physical function reduced, behaviour problems, impaired cognition, and rehabilitation (special). Individuals with higher levels of dependence and greater care requirements – RUGS III categories of special care, extensive services, and some of those classified as clinically complex – were to receive care predominantly in chronic hospitals or units within a hospital.[14] The adoption of MDS by the acute care sector, coupled with HSRC determinations, likely facilitated the efforts of the CCACs by clarifying the different levels of care to be provided through each sector. The RCFS data we summarize here illustrate the effects of these actions, albeit at a superficial level; since 1998/1999, residents admitted to LTC facilities in Ontario have been predominantly those requiring extended (Type II) care, and we observe a marked decrease in the proportion of residents who required chronic (Type III) care over the same period. We interpret this as tentative evidence that the efforts of oversight have led to the intended effect: the creation of a more sophisticated and widely accepted means of identifying the care needs of elderly patients and residents,

and the more judicious assignment of that care across LTC, acute, and chronic care institutions. What now needs to be investigated empirically are the effects these actions of oversight have had on the efficiency of facility and system-level operations, on the morale and job satisfaction of LTC staff, and on the quality of resident care with due consideration to the attenuating effects of ownership, structure, and funding inequities.

Limitations

This study is subject to some limitations. First, all of the data provided in the RCFS are self-reported by facility administrators, or chain headquarters, and are therefore subject to the respondent biases inherent in this form of data collection (Jackson, 2003). Second, while this is not the first time that the RCFS data have been analysed (see Hicks, Fortin, & Button, 2002), the data have yet to be fully validated against other sources. Third, completion of the RCFS is mandatory, and so is intended to provide what is essentially a census of LTC facilities receiving government subsidies. However, we note that a small proportion of facilities fail to respond each year, representing up to 10 per cent of all possible respondents.

Conclusion

In this paper we set out to develop a contemporary profile of the Ontario institutional LTC sector that can serve as a backdrop to future empirical studies. We also use this paper to introduce the RCFS data set to other researchers and to initiate discussion on the dynamics of the LTC sector.

We highlight a number of interesting observations on LTC organizational characteristics here, and use our observations to develop future research questions that will contribute to our understanding of the dynamics of this sector and to the essential, and timely, unravelling of the efficiency–effectiveness conundrum in an era of increasing concerns for optimizing the delivery of health care in Canada.

Notes

1 Operational Efficiencies in Long-term Care Facilities in Ontario (Social Sciences and Humanities Research Council of Canada). A. Laporte & W. Berta, co-principal investigators, V. Valdmanis, co-investigator, 2003–2006.

2 Operational Efficiencies in Long-term Care Facilities in Canada (Canadian Institutes of Health Research). W. Berta & A. Laporte, co-principal investigators, V. Valdmanis & G. Anderson, co-investigators, 2004–2007.

3 We exclude *rest homes* and *retirement homes* from consideration here, since they are privately owned and operated, generally offer very limited supervision or individual care, and are not funded or regulated by the Ontario Ministry of Health and Long-term Care. We also exclude *supportive housing*, since the services and facilities are generally domiciliary or custodial.

4 The RCFS data are available for all provinces with the exception of Quebec, and of Nunavut, the Northwest Territories, and Yukon Territory. Administrative data files compiled for private and public facilities operating in Quebec are submitted annually to Statistics Canada.

5 For further details on data sources and methodology, see the Statistics Canada Web site at http://stcwww.statcan.ca/english/sdds/3210.htm

6 Among the facilities included under the term *residential care facilities* are facilities offering services to ''persons with physical disabilities, persons who are developmentally delayed, persons with psychiatric disabilities, persons with alcohol and drug problems, emotionally disturbed children, transients, young offenders and others'' (Statistics Canada, 2004).

7 Refer to the Canadian Healthcare Association Web site http://www.cha.ca/publishing.htm for information about the annual *Guide to Canadian Healthcare Facilities*.

8 In adherence to the reporting policies of Statistics Canada, we combine these categories and report them as government-operated facilities. They are reported separately in the RCFS.

9 For example, a report prepared by the Long Term Care Facility Funding Review Committee in October 2000 cites the per diem approved through Ontario's level of care funding model as the lowest of all Canadian provinces, at $104 (Long Term Care Facility Funding Review Committee, 2000, p. 14).

10 The implementation of the *Long Term Care Facility Manual* in 1993 is cited as the source of the most profound effects related to regulatory stringency (John Lohrenz, personal communication, July 2003). However, the long-term care sector has been the focus of reform for the past two decades.

11 *The Long-Term Care Act*, drafted in 1994 and proclaimed in 1995, sought to integrate long-term care services by centralizing home-care programs and placement-coordination services that affect recipients of acute care, chronic care, and home care. *The Long-Term Care Act* established multi-service agencies (MSAs) designed to provide a single point of access for all long-term care services. Service integration was intended to optimize resource efficiency by providing community services that would sustain seniors in their homes longer, prior to their entry into higher-cost long-term care institutions.

12 Specifically, the CCACs provided the following services (Ministry of Health and Long Term Care, ''Ontario Moves Forward with New Community Care Access Centres'', news release, February 14, 2002): (1) arranging for visiting health and personal support services in people's homes; (2) authorizing services for

special needs children in schools; (3) managing admissions to long-term care facilities; and (4) providing information and referrals to the public about other community agencies and services.

13 Resource Utilization Groups (RUGs) use a system of diagnostic assessments relating to 44 diagnostic groups, including the Minimum Data Set (MDS) and time-labour studies, to classify the cost-related medical needs of long-term care patients. The current version, RUGs III, was developed in 1992 as part of the Centers for Medicare & Medicaid Services (then the Health Care Financing Administration's) Multi-state Nursing Home Case Mix New Quality Demonstration.

14 Industry acceptance and understanding of the redefinition of chronic care/complex continuing care pursued by the HSRC was likely facilitated by the simultaneous adoption of the MDS System for use in acute care institutions, and its application in these settings to patients receiving both acute and chronic care (Krista Robinson, personal communication, July 2003).

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