Unpacking the Relationship between Operational Efficiency and Quality of Care in Ontario Long-Term Care Homes*

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RÉSUMÉ

Dans cette étude de cas multiples, nous avons retenu les administrateurs des maisons de soins de longue durée (SLD) dans les entretiens semi-structurés afin d'accroître notre compréhension de l'influence exercée par les facteurs organizationnels et extra-organisationnels sur deux aspects clés de la performance organizationnelle : l'efficacité operationnelle et la qualité des soins. Nous avons aussi examiné l'influence de ces facteurs sur la relation entre l'efficacité et la qualité. Grace à un examen de la littérature de soins de santé et de l'organisation de gestion, quatre grands facteurs ont été identifiés a priori comme influents pour un ou deux résultats de rendement et ont été utilisés pour guider notre collecte de données : les caractér-istiques du personnel, les caractéristiques de l'établissement, les influences extra-organisationnelles, et les fonction de bénévoles.
Nos résultats suggèrent que, alors que tous les deux, haut rendement et haut qualité des soins, sont réalisables, il y a des aspects de la fonctionnement d'une maison et les réalités associés au secteur des soins de longue durée en Ontario qui peut faire atteindre tous les deux à la fois, simultanément, excessivement difficile.

ABSTRACT

In this multiple-case study, we engaged directors of care of Ontario long-term care (LTC) homes in semi-structured interviews designed to increase our understanding of the influence exerted by organizational and extra-organizational factors on two key aspects of organizational performance: operational efficiency and quality of care. We also examined the influence of these factors on the relationship between efficiency and quality. Through a review of the health services and organization and management literatures, four broad factors identified *a priori* as influential for one or both performance outcomes were used to guide our data collection: staff characteristics, facility characteristics, extra-organizational influences, and the function of volunteers. Our findings suggest that while both high efficiency and high quality of care are achievable, there are aspects of a home's operations and realities associated with the LTC sector in Ontario that can make achieving both, simultaneously, exceedingly challenging.

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Introduction

In the long-term care (LTC) sector, and in the health care industry generally (Hebert, 2002), there is a historical tension between the dual imperatives of efficiency and quality of care. In LTC this tension has been heightened over the past several years through concurrent calls for cost containment on the part of government funders, and calls for increased vigilance regarding the

quality of care and life of LTC home residents on the part of government regulators, the public, and consumers. *Operational efficiency* is a measure of a facility's performance that identifies the extent to which a facility maximizes outputs (such as resident days) given resource inputs (such as staffing levels). In the organization and management sciences literature, the operational efficiency of an organization is considered a viable measure of management's performance. A number of studies have sought to measure and compare efficiency among health services organizations, including LTC homes, using econometric techniques (see Hollingsworth, 2003).

Quality of care refers to another aspect of organizational performance in health care organizations. In LTC, quality of care relates to either perceptions of care quality on the part of staff, residents, and/or their families, or more objective measures derived from inspection reports or electronic health records systems (e.g., Aaronson, Zinn, & Rosko, 1994; Harrington, Woolhandler, Mullan, Carrillo, & Himmelstein, 2001; Mukamel, 1997). A great deal of research has focused on developing measures for quality of care and identifying its determinants (Binstock & Spector, 1997).

Over the past decade, cost containment concerns initially expressed in the 1990s have resurfaced with the increasing uncertainty around the true impact of the aging baby boom population; LTC reform has emphasized the need to use resources more efficiently and to standardize care practices. A number of studies have examined the trade-off between quality and efficiency using administrative data (Harrington et al., 2001). This research has provided many useful insights, and some contradictory ones; research has largely been conducted at the macro- or sector level using administrative data collected across a variety of jurisdictions for a variety of purposes. To some extent, reliance on administrative data accounts for the ambiguous findings (see Cohen & Dubay, 1990; Harrington et al., 2001). Administrative data sets are further limited by the extent to which they can provide insights into how precisely LTC facility managers simultaneously achieve acceptable levels of quality and efficiency, and into what factors are taken into consideration and trade-offs made when managers make decisions.

In the interests of enhancing LTC policy decisions, a number of researchers have pointed to the need to achieve a better understanding of the relationship between efficiency and quality of care at the facility level (see Binstock & Spector, 1997; Evans, McGrail, Morgan, Barer, & Hertzman, 2001) through methods that afford a more nuanced understanding than those used to date that have relied upon administrative data. In this study, we aim to build on the existing literature by employing qualitative research methods to investigate in more detail a set of organizational and extra-organizational factors, identified *a priori*, that influence management decision making with regard to the quality of care and the efficiency of care delivery in the LTC sector.

Research Questions and Study Objective

The first aim of our study was to increase our understanding of the influence exerted by a set of organizational and extra-organizational factors on operational efficiency and quality of care. Beyond exploring the distinct effects of these factors on efficiency and quality, we explored the role of these factors in attenuating the relationship between efficiency and quality. Both aims were motivated by a desire to understand better the implications for LTC operators of simultaneously addressing two seemingly opposable imperatives – efficiency and quality. While some empirical work has linked organizational characteristics to organizational performance (Cohen & Dubay, 1990; Harrington et al., 2001), the need to explore, in a more nuanced way, the efficiency-quality relationship at the facility level is better accomplished through exploratory research methods. Here, we used exploratory case study techniques to engage directors of care (DOCs) of LTC homes operating in Ontario in 2008–2009 in discussions regarding relationships between the dual imperatives of efficiency and quality.

Study Context

Studies of performance in the health care industry often focus on variation in service quality or quality of care across organizations serving a particular health sector (e.g., LTC, acute care, chronic care, etc.) because of the publicly funded nature of Canada's health care system. Appreciation is growing, however, for research that examines other aspects of performance like market share, return on investment, service and facility distribution, and cost efficiency, and the relationships between these facets of organizational performance for three related reasons: (a) the uncertainty surrounding the sustainability of Canada's current health care system due to the aging of the country's population; (b) increases in health care utilization by those 65 years of age and older which has prompted overseers to call for increased accountability and focus on cost-efficiency on the part of LTC providers; and (c) growing public concern over the impact that calls for increased efficiency, and the pressures imposed by competitor organizations, might have on quality of care in the LTC sector (Deber & Williams, 2001; Hebert, 2002).

In this study, we focus on LTC facilities operating in Ontario.[1] The institutional LTC sector in Ontario is

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dominated by private, for-profit facilities. As of 2002, 62 per cent of facilities were for-profits, while the remaining facilities were not-for-profits which included public government-owned facilities (17.4%) and lay and religious organizations (20.6%) (Berta, Laporte, & Valdmanis, 2005). Regardless of ownership, all facilities provide a comprehensive range of services including nursing, personal care, and programs designed to enhance a resident's quality of life (Canadian Healthcare Association, 2007). LTC residents are typically 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.[2] Access to LTC facilities is controlled through 42 Community Care Access Centres located across Ontario which provide single-entry suitability assessments for LTC, and arrange for home care services and facility placement for those in need.

Compliance of nursing homes and homes for the aged with provincial standards for quality and operations is overseen by the Ontario Ministry of Health and Long-Term Care (MOHLTC) through annual facility inspections. Inspection visits address adherence to the minimum expectations as defined in the *Long-Term Care Facility Program Manual* and the requirements under legislation or regulation. Inspections can result in deficiency citations, issued when legislation or regulations are unmet, or other "findings" that arise when any of the 37 standards or 426 supporting criteria outlined in the Program Manual are not met. Citations and other findings are listed in Inspection Findings reports. As of 2005, these facility inspection reports have been publicly reported and are made available online.

Overview of Relevant Theory and Research

In earlier work, we analyzed census data available from Statistics Canada that is collected annually through the Residential Care Facilities Survey (RCFS). Access to this secondary data offered us an excellent beginning in terms of understanding the variation in facility characteristics, resident characteristics, and the provision of direct care to residents in Ontario's LTC industry (Berta et al., 2005); it has also led us to acknowledge the importance of ownership as one driver of efficiency (Hsu, Laporte, Berta, & Coyte, 2009; Laporte, Berta, & Valdmanis, 2005). Nonetheless, we have exhausted the possibilities of the administrative data in terms in exploring the nuances of the efficiency-quality relationship. Because our work to date, and that of others, suggested strong contextual influences on both phenomena, we used exploratory case study techniques (Yin, 1994) to gain insights into the concepts of (a) operational efficiency, (b) quality of care, and (c) their relationship within the LTC home context in the research reported in this article.

Extant theory and research in health services, and in the fields of organization and management science and strategic management, suggested to us a number of organizational and extra-organizational factors likely to influence facility-level operational efficiency, quality of care, and the relationship between them. We briefly review the literature here that guided the *a priori* identification of the four broad factors – staff characteristics, facility characteristics, extra-organizational influences, and the function of volunteers – that served as the basis for the structured component of our interview guide (details of qualitative data collection and analysis are provided in a later section). Many, though not all, of the studies cited here were conducted in industries other than health care.

Staff Characteristics

Efficiency gains are realized when individuals enact the same routine or procedure repeatedly, accumulating personal experience and effecting incremental improvements to work routines over time (Argote, 1999). We expect that prior experience, in particular facility-specific experience, in an LTC setting is likely to impact operational efficiency. To the extent that improvements to routines translate into improvement in the services delivered, we expect staff experience to positively impact the quality of resident care.

Staffing levels in LTC facilities have been the focus of a great deal of research relating to quality of care (see McGregor, Cohen, McGrail, Broemeling, Adler, Schulzer et al., 2005). Intensity levels of direct care staff and nursing staff, specifically typically defined as hours of care by staff type per resident day, have been examined extensively in other studies of LTC in settings outside of Canada and linked to health deficiencies (Harrington, Zimmerman, Karon, Robinson, & Beutel, 2000). Although greater staff intensity will contribute to higher quality of care, we anticipated that it would detract from operational efficiency particularly when we examine intensity levels relating to higher cost resources such as registered nurses.

Finally, events like turnover and absenteeism that perturb structural stability are likely to impact both aspects of organizational performance: efficiency and quality of care. Turnover is of particular concern in knowledge industries (Almeida & Kogut, 1999) including health care. When turnover is low, the knowledge, experiences, and skills of workers accumulate and contribute to incremental improvements to clinical processes, routines, and procedures that we suggest will manifest as greater efficiency and quality of care. By contrast, when turnover is high, the tacit knowledge and unique experiences of individuals, all of which contribute to organizational learning capacity

and memory, leaves with them (Argote & Ingram, 2000). This is likely to impact local efficiency and may similarly affect quality of care, if replacement resources of similar calibre are difficult to acquire.

Organizational Characteristics

Characteristics of organizations such as size, age, structure, and mission and strategy can influence operations by making it more or less difficult to make decisions, transfer knowledge, or acquire and allocate vital resources or inputs (Daft, 2004; Greiner, 1972; Quinn & Cameron, 1983).

Small organizations are less likely to benefit from economies of scale and purchasing power that are afforded their larger counterparts. Smaller LTC homes have generally been shown to be constrained in terms of their ability to innovate and adapt to changes in their operating environment (Banaszak-Holl, Zinn, & Mor, 1996).[3] Larger organizations, on the other hand, are thought to benefit from economies of scale and so wield sufficient purchasing power to negotiate and secure inputs under better terms as compared to smaller facilities. Conversely, some research suggests that LTC facility size may negatively impact quality of resident care (Banaszak-Holl et al., 1996). In the United States, small facilities have been shown to have the highest staffing ratios, the highest proportion of specialty services, the lowest restraint usage, low case-adjusted pressure ulcer rates, and the lowest health deficiency frequencies, and these relationships hold regardless of ownership type. According to these studies, the strongest determinant of quality of care appears to be the ability of staff to provide personal care to the residents, and smaller facilities appear better able to do so.

Organization age and size are generally positively correlated. An organization "grows" in size over time (Quinn & Cameron, 1983). However, an organization's age may have distinct effects on performance. First, over time, organizational procedures or ways-of-doing may become entrenched or formalized, are communicated routinely in the socialization and orientation of new employees, and are reinforced with existing employees through reward systems. The routinization that occurs over time may lead to greater efficiency as procedures are refined or optimized (Argote, 1999). On the other hand, an aging physical facility may detract from an organization's ability to deliver high(er) quality services (e.g., the physical structure of a building in which a good is manufactured or a service such as health care is delivered may prohibit the replacement of older or obsolete technology, the introduction of new equipment, or obstruct the introduction of new care delivery processes).

Organizational structures can profoundly influence workers' abilities to transfer vital information and knowledge that informs decision making (Besanko, Dranove, & Shanley, 2001). To some extent, an organization's structure is reflective of its strategy, and the choices made on the part of management with respect to strategic imperatives and information flow that facilitates achieving strategic objectives (Daft, 2004). Structural mechanisms, such as cross-functional decision-making teams, information management systems that facilitate data capture and sharing, financial reporting systems, and other formalized ways of communicating about operations and resident care are likely to contribute generally to the quality of decision making. Some of these mechanisms may not, however, be positively related to efficiency. Structural mechanisms that require more participative and consultative-care decision making are likely to place higher demands on limited resources such as staff time and so detract from efficiency. A decision arrived at through a less collaborative process can be made more quickly and involve fewer resources, yet be of inferior quality. Similarly, the demands of a quality assurance system on direct care staff may contribute to operational decisions, but may detract from quality of resident care as time is redirected from care to system reporting.

Finally, organization theory suggests an organization's mission may influence strategic imperatives and decision making with respect to quality of care and operations. Studies examining the impact of mission on quality and efficiency are inconclusive and contradictory. Some researchers have found differences in efficiency that relate to mission. Specifically, for profit, multi-unit, or chain organizations are more efficient (Cohen & Dubay, 1990; O'Neill, Harrington, Kitchener, & Saliba, 2003). In some of these studies, however, it appears that efficiency is achieved through the sacrifice of care quality (Harrington et al., 2001), while in others a negative efficiency-quality relationship is not supported (Cohen & Dubay, 1990; Gray, 1991). Recent studies of LTC homes in British Columbia suggest that staffing levels, a popular proxy for quality of care, differ significantly by mission and/or profit status (McGregor et al., 2005). Other studies, including ours, have failed to find support for a mission-efficiency relationship (Gray, 1991; Hsu et al., 2009).

Volunteers

Many facilities, particularly non-profits operated by benevolent societies and LTC homes with religious affiliations, rely upon volunteer workers to provide care in conjunction with regularly paid direct care providers. The operational efficiencies of facilities that rely on volunteer workers[4] might effectively increase since costless volunteer care will augment the care provided by paid staff. On the other hand, if there is an over-reliance on the care offered by volunteer workers to the

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point that it is used as a substitute for care provided by qualified professional caregivers, then quality of care is likely to suffer. Litwak (1985) and his colleagues were among the first to discuss the potential of the "technical capabilities" of formal and informal care groups to complement one another. He presented these ideas in a "complementary roles framework", demonstrating that formal caregivers are best assigned care-related tasks that require technical knowledge and are amenable to routinization while informal caregivers (or volunteers) are assigned non-routinizable tasks or social tasks that do not require technical knowledge (e.g., brushing a resident's hair or helping select clothing for the day). Cherry (1993) discussed the role of family member volunteers in "complementing the capacity of an institutional staff" where volunteers can "attend to the idiosyncratic personal needs and rights" of residents and so enable staff to direct more of their attention to the provision of good care (p. 336). Detractors have noted that "the division of labour between family and staff can be ambiguous and should not be overly dichotomized" and that family and volunteer ability to influence care in nursing homes "can be restricted by incomplete information and lack of choice" (p. 337). More recently, researchers in long-term care and management have sought to understand better how volunteers impact the quality of resident care and life (Damianakis, Wagner, Bernstein, & Marziali, 2007), and how best to prepare and manage volunteers (e.g., through socialization, training, evaluation, and retention programs) in the interests of realizing their potential to impact an organization's performance positively (Shin & Kleiner, 2003).

We thought it reasonable to expect a relationship among volunteers, operational efficiency, and quality of care. It was not entirely clear, however, how volunteers would relate to the organizational performance of LTC homes. Presumably, positive impacts would be felt where volunteers were assigned appropriate non-technical tasks and where volunteer programs exist. On the other hand, the impacts of volunteers would be *negative* on performance in situations where task assignment was inappropriate, overlapped with those of formal caregivers, and/or where adequate orientation and ongoing guidance of volunteers was not provided.

Extra-Organizational Influences

Numerous aspects of an organization's operating environment can affect its efficiency (Ferrier & Valdmanis, 1996; Hollingsworth, 2003). For example, vicarious or direct learning from, and imitation of, similar "organizational others" is a well-documented finding in the management sciences literature (Argote, 1999). Learning about viable work routines from other organizations might enhance the operational efficiency of a focal home if the routines relate to operational decision making or could effectively improve the quality of care, if the routines lead to improvements in current care practices. We explored the influence of other LTC homes on our focal homes through interviews with DOCs.

Further, the micro-environment in which an organization is situated has been shown to influence its operations (e.g., enabling or impeding efforts to secure vital inputs like qualified staff and consumers). Zinn, Mor, Castle, Intrator, and Brannon (1999) observed these effects on nursing homes operating in the U.S. In the Ontario context, where competition for qualified nursing staff in all health care sectors is intense, we anticipated that the efficiencies of LTC facilities operating in predominantly rural environments might be impacted by difficulties related to staff recruitment to rural locations.

Methods

Study Design

We used a multiple-case study design, a recognized methodology for the study of complex phenomena that are highly influenced by their specific contexts (Yin, 2003), such as the complex interactions between factors and behaviours that impact the organizational performance of LTC homes that we discussed earlier. We defined our case as a discrete LTC home; in the case of a chain-owned home, the case still resolves to the individual unit or home (not the chain organization). While we used exploratory case study techniques to examine the impact of organizational and extra-organizational factors on organizational performance, our selection of the factors to examine and the performance parameters they might influence was purposeful, and was made prior to formulating our interview guide and collecting our data. We were certainly open to the emergence of sub-themes across the four factors selected *a priori* (and several did emerge). In sum, our approach includes both inductive and deductive elements (Thorne, 2000).

Case Selection

We used a stratified purposeful sampling strategy (Miles & Huberman, 1994) to select a total of 16 cases. Stratification was made based on small and large home size (under 60 beds or 60 beds and over respectively), structure (chain or non-chain), and strategy (for-profit or not-for-profit), and the nature of the micro-environment (urban or rural). These subgroups were suggested to us by our review of the aforementioned literature which, while not conclusive, suggested that these

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organizational and environmental characteristics might exert (important and different) influences on management decisions and actions relating to operations and resident care quality. We wanted to ensure, therefore, that we included DOCs from homes with these characteristics in our sample.

All facility-level and micro-environmental characteristics were available to us from our prior work examining LTC homes (see Berta, Laporte, Zarnett, Valdmanis, & Anderson, 2006; Berta et al., 2005). More specifically, organizational characteristics including size, structure, and strategy are available through publicly accessible compendia prepared annually by the Canadian Healthcare Association (CHA), the *Guide to Canadian HealthCare Facilities*. We used the 2007 CHA Guide. Rurality was determined using the postal code of the LTC home (addresses were also available through the CHA Directory), where the second character of the *forward sortation area* (FSA), which is the first three characters of a Canadian postal code, distinguishes urban (character ranges from 1 to 9) from rural (second character is 0) FSAs.

Data Collection

All data were collected via one-hour semi-structured interviews with the DOC employed at the time (fall 2008 to winter 2009). DOCs were engaged in a discussion of factors influencing their home's ability to operate efficiently and effectively (i.e., to ensure acceptable levels of care).[5] Our study budget limited our ability to engage more than one representative per home. Our rationale for choosing to interview DOCs was that the DOC of an LTC home is responsible for organizing resources, and directing the administration of direct care, for residents in that home, and is therefore ideally equipped to offer observations relating to factors that impact the quality of resident care. DOCs report to nursing home administrators, and confer with them regarding the acquisition and assignment of strategic resources. DOCs are therefore ideally positioned to provide observations about the relationship between operational efficiency and quality of care, and decision-making considerations that involve both aspects of performance.

In the interviews, DOCs were first oriented to definitions of operational efficiency and quality of care (a definition of the former, potentially less familiar term was embedded in the interview guide). They were then asked questions about the impacts of individual, organization, and extra-organizational factors on the ability of the facility to operate efficiently and maintain acceptable levels of quality of care. Finally, they were prompted to identify any additional factors that they believed impacted operational efficiency, quality of care, and the ability to achieve satisfactory levels of both outcomes. Interviewees were asked to discuss the relative importance of the factors they identified in influencing efficiency and quality. The interviews were tape recorded and transcribed verbatim by a professional transcriptionist who was contracted by the principal investigator.

Data Analysis

Each interview was audiotaped and transcribed verbatim. We used *template analysis* to code the interview transcripts. Template analysis is an appropriate analytic technique for studies like ours engaging in conceptualization and theory building. It accommodates existing or known theory while allowing the emergence of new themes and the modification of *a priori* themes using an iterative data management and analysis strategy (Knafl & Webster, 1988).

Beyond the first three transcripts, the transcript for each of the remaining interviews was coded independently by one of three investigators using the technique of quality checking referred to as constant comparative analysis (Strauss & Corbin, 1998). An initial coding template was developed after the first three interview transcripts were reviewed. Two interim meetings – one held after five transcripts (including the first three already noted), and the second after 10 transcripts, had been reviewed and coded – were occasion for discussing the adequacy and accuracy of the coding template. Passages illustrative of particular themes and sub-themes were discussed during these meetings among the investigators, and minor changes to the coding template were effected at the first meeting (none were made as a consequence of the second meeting). QSR NVivo software (2000) was used to organize and code the interview data. Upon completion of all interviews and transcript analysis, the coders met once more to discuss the key themes that emerged across all interviews in the context of the coding template. In this meeting, quotations that best represented the key themes were identified and discussed among the investigators-coders, and are offered next.

Results

Four main themes identified *a priori* (staff characteristics, facility characteristics, external communications, and volunteers) were explored with DOCs in the interests of understanding their role(s) in achieving operational efficiency and acceptable levels of care quality.

Staff Characteristics

Within this theme, several sub-themes emerged as being integral to either facilitating or hindering operational efficiency. These sub-themes were (a) staff turnover,

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(b) resource shortage, (c) level of experience of new staff, (d) staffing ratios, and (e) institutional communication. Approximately half of the respondents reported their current staff turnover as low, with the remaining reporting high staff turnover. DOCs reporting high turnover noted that their nursing and registered staff tend to be the most stable groups, while the personal support workers are typically subject to higher turnover rates. The turnover in the personal support worker (PSW) area has proved particularly disruptive, according to those interviewed, as the PSWs are the frontline workers who spend the most time with residents, and thus are depended upon by the residents to be a stable part of their care:

> *Interviewer: How does it affect the residents when there is that turnover [of PSWs]?*
>
> *DOC #3: Oh my god, they can't stand it. They love their own staff here and they'd love to see their regular people coming and doing for them because they don't understand anything that's going on in the "real" world. They just want to see their caregiver that they like and know, and they get very cranky [when they can't].*

Regardless of whether or not their staff is currently stable, all participants were able to speak of a time when they experienced a high turnover across staff types. DOCs reported high turnover as being problematic for two main reasons: first, retraining new staff represents a drain on available resources; and second, the shortage of qualified staff means that, once trained, new staff often leave for better positions and leave facilities dependent on transient agency staff. High turnover was identified as a major barrier to operational efficiency by the majority of respondents.

> *DOC #11: I will hire people who live from out of town, but once they get experience then they go, they get a job closer to home … they can go back to their hometown and say, okay, now I've got experience, you can hire me.*
>
> *Interviewer: How does that impact your ability to operate efficiently?*
>
> *DOC #11: Oh, it's really bad but there's nothing I can do. We often have to use agencies to send us staff, and they're kind of stable, they come regularly and then they might drop off and don't come any more. Then I've got to orient a new person, a few new people, and they might stay for a while and then leave, so it's kind of a rotating, but it's not a quick rotate—they don't come for one shift and then never come back. They come for a few [weeks] and just when it looks like they're getting the hang of it, they leave! It's very disruptive.*

Conversely, low staff turnover was most often seen as a facilitator to achieving good operational efficiency:

> *DOC #4: When turnover is low, we can concentrate on managing our resources, versus having to continually adjust to accommodate training new staff.*

One notable exception to the widely held view that low staff turnover equals better operational efficiency (and ultimately better quality of care) is the notion that low turnover can sometimes result in an aging work force that is physically unable to keep up with the demands of working in LTC, and that may not be conversant with new developments in the field:

> *DOC #11: Well, and that's where the union becomes an issue, because of our turnover. It means that people are more likely to stay longer, and we have an aging work force, and an aging work force has its own issues with injury and sick days and such. Plus, we're not getting the same influx of new staff with the latest training along with that.*

The next sub-theme was resource shortage. DOCs interviewed stated that, often, they do not have a great deal of choice when hiring new staff due to nursing shortages and a general shortage of new graduates choosing to work in LTC:

> *Interviewer: When you're hiring new staff or thinking about hiring new staff, what do you focus on in terms of the candidates?*
>
> *DOC #4: I don't have any choice. I just take who I can get. Those old options aren't around. If the situation was different, where I had more nurses than I did jobs, then I could be picky. Right now, anyone who sends me a resume, as long as it's the College of Nurses where they have a license – I check references because I have to, but I don't care: I need a body.*

One potential reason that many facilities are unable to attract the number or quality of experienced people is due to intense competition between health services facilities across health sectors, including LTC, acute care, and rehabilitation sectors, for trained, experienced staff. Many respondents referred to the fact that acute-care facilities pay higher wages for more experienced staff, leading to a much smaller pool of well-trained staff for their facilities to choose from:

> *DOC #6: It's extremely difficult to attract staff because there are ads in the paper all the time wanting health care staff. We're a small facility in a small town and we have three or four nursing homes in our vicinity [that] have always got ads in the paper, looking for registered staff and health care aides. The hospital's always looking for people. The mental health hospital is looking for people. So we're just like one little drop in the bucket.*

Not surprisingly, given that there is a shortage of qualified staff, another sub-theme that emerged across the

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data set was the notion of the level of experience of a facility's staff. Participants unanimously agreed that previous experience in an LTC setting is an asset in any potential employee, and that it results in greater efficiency and quality of care. A lack or paucity of experience on the part of new staff impacts both efficiency and quality of care as it requires that experienced staff attend to the orientation and training of new staff, thereby distracting experienced staff from their efficient conduct of tasks and/or disrupting the continuity of resident care:

> *DOC #6: Anybody who does have previous experience, [and is familiar with] most of the mechanics of caring for the elderly, with using the various lifts and doing the various different client care that you need to do when you're working with somebody elderly, if they've already got that basic knowledge then the transition into working in the facility is a lot smoother for them and therefore a lot less frustrating. I also think it's easier on the people who are trying to orientate them as well, as they already have those basics under their belt, so it takes less of their time and energy to train them, which is less of a drain on our resources. Whereas if you get somebody new who doesn't have the hands-on experience with that kind of stuff, then you're basically kind of starting from scratch, teaching them everything.*
>
> *Interviewer: Does that impact operational efficiency?*
>
> *DOC #6: Oh for sure. You're then diverting a lot of the attention of the experienced staff into training new staff, so that can also impact care.*
>
> *Interviewer: In what way?*
>
> *DOC #6: Oh, things might not get done exactly how we or the resident would like them to, so care suffers – not in any big way, but it suffers.*
>
> *DOC #13: It takes a good year to learn this job, it's just, people come here and think that long-term care is easy and they quickly find out it's not. You know, they really think that it's going to be easy – "how hard can it be?" – and when they get here they realize [that with] all the documentation, computer work [involved], they can barely get their work done. They're always asking for overtime, which I can't give them. It's really hard, but they think it would be quite easy and then they quickly learn that it's not. It takes about a good year to learn the job fully. And you're utilizing a lot of resources in that year to train them that might be better used in another way …*

Another important sub-theme was staffing ratios. All of the DOCs we spoke with reported their homes as operating at or above the staffing ratios mandated by the Ontario Ministry of Health and Long-Term Care. Most reported that these ratios are satisfactory, and that they are able to operate efficiently with the number of staff they have without compromising quality of care:

> *Interviewer: Do you think that maintaining this ratio is a factor in your overall operational efficiency?*
>
> *DOC #10: Yeah, well it's put a strain on our budget certainly in the recent past, and we've had to deal with it in regards to cutting back hours, but still with having a good ratio and not affecting patient care in any way.*

The final sub-theme within staff relates to institutional communication. Those interviewed were all in agreement that good communication, both staff-management and staff-staff, results in better quality of care as well as improved operational efficiency:

> *DOC #9: So my communication with the staff – I try and keep it tight. I have little group meetings, and memos, and so people are aware of what's going on, too. … And, so that, being aware, that all adds to the residents' quality of life too. 'Cause as I said, even if the maintenance man knows what should be going on in the dietary department, I mean they all are pretty well aware of each other's department, they can speak up or help out. If there's something affecting one area or one staff member, chances are it will eventually affect everyone and the residents if we don't have good communication about it.*

Conversely, when institutional communication fails, breakdowns can occur that can potentially affect resident care and/or operational efficiency. Several DOCs gave multiple examples illustrating the way in which communication breakdowns can have serious and far-reaching effects on operational efficiency within a facility:

> *DOC #7: I'm finding it [communication] is much more important because [previously] there was a gap between management staff and the directors of care, and there's a lot of information that wasn't passed on to the staff, or they were unclear about information. So we do our best to fix that. Interviewer: And what sort of impact did that gap have on operational efficiency?*
>
> *DOC #7: Oh, well, one thing that was very obvious was, just in a simple thing of ordering supplies, like drugs and supplies and other kinds of supplies for the residents. We are being asked to order things and they were finding out later that a lot of those things are available … all that time and energy was put into that when there actually was a supply in the building, so it was a waste of time, plus it's money spent that wasn't really necessary at the time.*
>
> *Interviewer: And so again, just relating this back to operational efficiency, how do you think communication and information exchange impacts operational efficiency?*

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DOC #9: Oh, I think for the most part, a lack of communication means a lack of a whole lot of staff work being done, twice over, three times over that really doesn't need doing. And part of that is then you're looking at time factors – I have to pay this person overtime now because they stayed late to do this, which shouldn't have happened if they had communicated to each other. So that's what makes it hard.

Facility Characteristics

While our sample purposefully included DOCs employed by multi-unit chain organizations and stand-alone homes, and with homes having for-profit and not-for-profit missions, these characteristics did not emerge as important to achieving acceptable levels of care quality and operational efficiency in our study.

On the other hand, the sub-themes of facility age and size were identified by DOCs as important to both quality of care and operational efficiency. Some participants felt that the fact that their facility was older and more established translated into improved operational efficiency because their policies and procedures have been honed over time:

DOC #4: I've worked for some very established [facilities] like this one and I think that does mean a lot. I think the company has had time to iron out any bugs that a new company might endure with its policies when it's first opening so that they know how to keep the staff by supporting them and making sure that they're acknowledged for their efforts. I think that means something. I think it is the fact that they're well established and they've been around a long time.

The consensus on older facilities, beyond the administration and staffing aspect, however, was that physically these facilities tended to be outdated and inadequate, making the delivery of good quality care a challenge for staff and perhaps compromising quality of life for residents:

DOC #10: For instance, this particular home, because it is an older home, only has one dining room so you're looking at longer transportation times in getting residents from their home area to the dining room area and then dining area back. Because it is an older building, you run into problems like equipment breakdown. That certainly impacts your home. I think the age of your facility definitely plays a factor.

Interviewer: How so?

DOC #10: In a newer facility, you're less likely to have system breakdowns, but if you do, you might have other equipment within your home in order to compensate … whereas in an older home your equipment is minimal and you're less likely to have [an alternative].

The relationship between facility size and operational efficiency was another sub-theme that emerged. Participants agreed that there are both advantages and disadvantages associated with the size of a facility and how it impacts operational efficiency. For example, according to participants, in addition to being perceived as being more manageable administratively, small to medium-sized homes reportedly provide a more intimate setting that allows staff and residents to get to know each other well which affects continuity of care and the quality of resident life:

Interviewer: Maybe you can tell me what are some pros and some cons about managing a medium-size facility, in terms of operational efficiency?

DOC #12: One of the pros is, over time, you usually get to know your staff better. … If staff sees us and sees that we're approachable and are there to answer questions, they are going to feel supported and so, in turn, they would be doing a better job, a good job, an excellent job. Basically, I think when people are acknowledged in what they do, then it kind of spurs them on to do a good job and to do better … I think they feel like you've invested time in them and shown an interest so then I think they want to show you that they can do a good job. And, I think, your staff is happy and they are going to, in turn, provide excellent care – then everybody wins. Certainly the residents win, which is the most important.

Though they generally have more access to resources and bigger budgets, large homes were universally perceived as being more difficult to manage. However, comments made by directors of larger homes indicate that they are more mindful of the operational efficiency imperative than smaller facilities:

Interviewer: Do you think [large] size had an impact on your ability to operate efficiently?

DOC #9: [in a larger home] there are a lot of balls in the air and a lot of staff you need to communicate with to keep operating well. You need to constantly keep your eye on your budget, manage staff turnover, keep supplies in stock. It's a lot to keep track of.

Challenges to running small to medium-sized facilities were reported to be that they do not have access to the extent and types of resources that larger facilities have:

Interviewer: Are there any challenges to operating efficiently when you're a small facility?

DOC #14: Well, we need to access other things, like I would like to have a social worker, but because we're so small, we can't get that. The director works two to three days a weekend – he's the manager of resident care. I only work four days a week because of Ministry standards. We don't

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have the funding for certain things – the Ministry says, well, you don't need a full[-time] manager of resident care or a social worker or whatever because you're too small. We're three managers and none of us are full time. We're on call 24 hours a day, seven days a week!

External Communication

At least half of our participants reported relying routinely upon external communication for their market information, administrative and operational insights, and emerging innovations in care. Administrators in these facilities belong to formal or informal networks that afford them opportunities to communicate with each other in order to "find out how things are done" in other facilities at low to no cost. Successful processes from network members are sometimes imported into focal facilities. All respondents who reported belonging to a group said that it is extremely helpful to have insight into the policies and procedures of other facilities:

DOC #5: It's all very informal. Some of the homes are participating in a pilot project. So because they've been doing it and we're new at it, we call them up and say, hey, how did you handle this? We find it incredibly useful to be able to ask these other facilities, you know, what they tried and what's worked … We need to find ourselves a coordinator to run the program and they were helpful making suggestions about what kind of a person that coordinator should be and what kind of things we should really be focusing on.

DOC #7: I find that they [informal meetings with other homes] are helpful in knowing that other homes are meeting with the same challenges or what's worked at their home, what hasn't worked, so that we can learn from each other.

Interviewer: Does that impact operational efficiency?

DOC #7: Yes, it does in a couple of ways – first, it's kind of like free advice that we might have to otherwise pay for, about what to try, what not to try. And also, if someone has a blueprint for a better way of doing things, that's more efficient, we can model our system after that. So it does help us operationally.

Volunteers

Volunteers appear to be a very important factor in all the facilities involved in our study. Most respondents described the volunteers as a "free resource", and stated that without them and the duties they perform, the efficiency of their operations, and/or the quality of resident care, would be greatly (and negatively) affected:

DOC #6: We probably have a group of maybe 20 to 25 very devoted volunteers and we have another group – our auxiliary or fundraising body is a volunteer group as well. They probably have maybe 50 members but they're not all active. So the auxiliary does our – they haven't taken on a campaign yet for fundraising but for the two previous years, they raised thirty-some thousand dollars for a new van, for resident transportation. And the prior year they raised thirty-some thousand dollars for new wheelchairs here. So they have certainly improved our efficiency!

DOC #2: They [volunteers] help with feeding and so when they're not available to help with that we really feel it because there's just no more hands, because everybody is pretty much helping with the feeding and then, the residents would suffer because, you know, they'd have to wait or they might leave the dining room frustrated because they didn't get their meal yet.

Participants reported that beyond the free services they perform, volunteers also have a huge impact on patients' general quality of life. Staff are often so busy administering physical care to residents that they do not have time to attend to residents' emotional care, thus this role often falls to the volunteers:

Interviewer: Do the volunteers impact your ability to operate efficiently?

DOC #3: Definitely. Because they know the residents and they talk to them about things that are going on in their lives. Or they play a game with them … all the things staff can't do because they're too busy.

Interviewer: Why is that important?

DOC #3: Well, I think it's easier for residents to get depressed or ill when they feel lonely or isolated, so if the volunteers spend time with them, it probably contributes to their overall health … which in the long run makes our job easier.

While the responses regarding volunteer staff were largely positive and reflected volunteer staff as a facilitator of operational efficiency, a few respondents stated that in their already busy, burdened day, the volunteers are just one more thing to manage and that volunteers might detract from efficiency:

DOC #1: Of course we're happy to have volunteers, but sometimes it feels like they need a lot of supervision, especially around caring for the patients. There is a lot they can't be involved in with patient care, and sometimes it's difficult to get them to understand that, and understand that it's for everyone's good for them to not be involved in patient care.

Discussion

Our findings offer insights into the relationship between the concepts of operational efficiency and quality of care, as perceived by DOCs in LTC facilities

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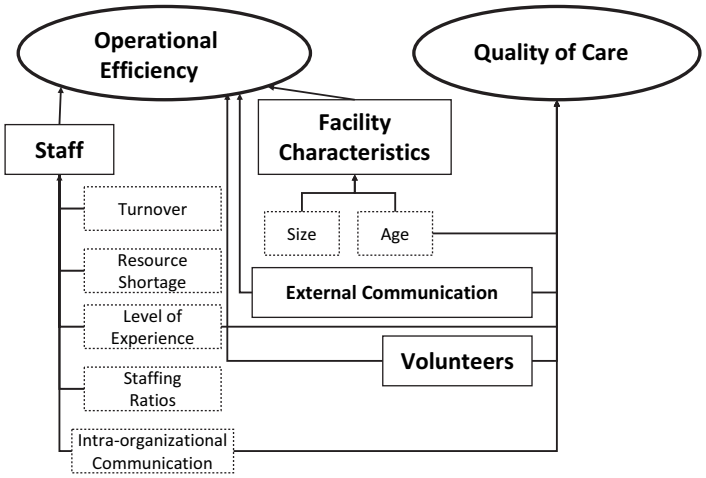

Figure 1: Relational "map" for operational efficiency and quality of care in institutional long-term care.

in Ontario. A number of factors were identified by participants that influence this relationship, as we have described. The nature of our approach does not support definitively drawing relationships among themes, sub-themes, and the two main performance parameters. We do offer, however, a nascent relational model in Figure 1 by way of summarizing our findings.

The staff theme consisted of four sub-themes that participants largely associated with operational efficiency. High staff turnover was identified as a major barrier to operational efficiency by the majority of respondents. High turnover was perceived as problematic because training new replacement staff represents a drain on available resources. The shortage of qualified staff and the high demand in this sector leads to cyclic employment where newly trained staff members frequently leave for better positions, which in turn depletes the focal facilities of trained staff. These resources may even exit the LTC sector and move to more lucrative positions in other sectors.

A staff sub-theme related to resource shortage was level of experience. Previous experience in an LTC setting is an asset in any potential employee, and it results in greater efficiency and better quality of care. A lack of experience on the part of new staff affects both efficiency and quality of care: because experienced staff must attend to the orientation and training of new staff, it can distract them from their efficient conduct of tasks and/or disrupt the continuity of resident care. Current staff ratios were reported as being adequate for achieving an acceptable level of care quality.

The final staff sub-theme that emerged relates to intra-organizational communication, in which participants agreed that good communication among staff, and between staff and management, directly affected both operational efficiency and quality of care. Clearly, staff characteristics were felt to be critical to both quality and efficiency imperatives confronted in our participant homes. In response to the last interview question, which asked respondents to offer any new or omitted factors, no new factors were mentioned; however, a number of interviewees re-emphasized the importance of staff characteristics to both efficiency and quality of care.

Facility characteristics considered important to both quality of care and operational efficiency included facility age and size. Some participants felt that the fact that their facility was older and more established translated into improved operational efficiency because their policies and procedures have been honed over time. However, beyond the positive effects on administrative and staff routines, the consensus on older facilities was that they were outdated and inadequate, making the delivery of good quality of care a challenge for staff, and compromising quality of life for residents.

Participants agreed that there are both advantages and disadvantages associated with facility size. Smaller (small to medium sized) facilities were perceived as being more manageable administratively. In addition, they were believed to provide settings conducive to relationships between staff and residents that extended beyond care giving to the provision of emotional care and support. On the other hand, larger facilities were perceived as being more difficult to manage, despite access to more resources and bigger budgets than their smaller counterparts. Comments made by DOCs of larger facilities indicated that they were more mindful of the operational efficiency imperative than their smaller facility colleagues.

In our interviews, we specifically queried participants regarding their facilities' strategic orientation with the aim of eliciting any differences that might exist

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between for-profit and not-for-profit facilities in terms of their emphases on quality of care and operational efficiency (e.g., one question asked participants whether there was a concern for quality of care over cost reduction, or "quality at any cost"). We detected no differences across our interviewees in response to questions around strategy. All interviewees, regardless of their facilities' missions, indicated an interest in balancing operational efficiency and quality of care.

At least half of our participants reported relying routinely upon external communication for their market information, administrative and operational insights, and emerging innovations in care. Administrators in these facilities belong to formal or informal networks that afford them opportunities to communicate with each other in order to "find out how things are done" in other facilities at low to no cost. Successful processes from network members are sometimes imported into focal facilities.

The fourth main theme explored in our study was that of volunteers. Volunteers were identified as a very important factor among all the DOCs interviewed for this study. Most respondents described the volunteers as a "free resource", and stated that without them and the duties they perform, the efficiency of their operations, and/or the quality of resident care, would be greatly (and negatively) affected. Participants reported that beyond the free services they perform, volunteers also have a huge impact on residents' general quality of life. Staff are often so busy administering physical care to residents that they do not have time to attend to their residents' emotional care, thus this role can and often does fall to volunteers.

Conclusions

This was a study in which exploratory case study techniques were applied to discover whether and how a pre-determined set of organizational and extra-organizational factors influence operational efficiency and quality of care in LTC homes, and to explore the relationships between those factors. The aim was to offer insights into the quality-efficiency dynamic at the LTC facility level. The importance of considering this dynamic when setting LTC policy has been highlighted by other health services researchers and is underscored by our findings. Specifically, our findings suggest that while both high efficiency and high quality of care are achievable, there are aspects of facilities' operations and realities associated with the sector that make achieving both exceedingly challenging in some situations.

In this study, we focussed on a modest set of organizational and extra-organizational factors that have been shown (separately) to influence the two aspects of organizational performance in which we were interested. We have omitted from our study additional factors that may relate to efficiency and quality (and influence their relationship) including leadership style, organizational structure, rural and urban influences, and complementary or competing external policies. Our rationale for focusing upon staffing characteristics, facility characteristics, volunteers, and extra-organizational influences was that they were seemingly the most directly related to the conceptual definitions of operational efficiency and the output of service quality and, in some instances, had been shown to relate to other segments of the health care sector and other industries.

Although these factors were suggested to us by our literature review, precisely *how* they related to the two aspects of organizational performance, at the facility level, was what we sought to learn more about. We accomplished this aim, demonstrating, for example, that (a) intra-organizational communication and level of experience were the only two staff characteristic sub-themes that were discussed as affecting both operational efficiency and quality of care; (b) facility age is the only facility-level characteristic that respondents related to quality of care while both age and size related to efficiency; and (c) volunteers can impact both quality of care and efficiency, but realizing this impact, as others have suggested (Cherry, 1993; Litwak, 1985) is not an easy feat.

These insights, to our knowledge, have not emerged in prior studies; however, they strike us as important to understanding situations where the dual imperatives of efficiency and quality exist. Some researchers (see Harrington et al., 2000, 2001) have suggested that LTC facilities experience tensions when confronted with the dual imperatives of care quality and operational efficiency that can lead to a trade-off of quality for efficiency or vice versa. Possible solutions to eliminate the necessity of trading off one for the other might be (a) to invest formally in the development of programs that recruit and retain competent, experienced volunteers; (b) to establish and support networks that facilitate the exchange of knowledge around routines that improve efficiency or enhance quality of care (like those involving intra-organizational communication among staff); and (c) establish networks that foster information exchange around innovations in care delivery that circumvent the obstacles to quality and efficiency associated with facility age.

In part, understanding the dynamic hinges upon more fully exploring the implications of the extensive variation within Ontario's institutional LTC sector. Some are new, some old and established, some are internationally

renowned for their contributions to research in aging while others are less well known, with differences in staffing intensity (Berta et al., 2005), and in other jurisdictions and so quite likely in Ontario also, there are detectable differences in quality of care (McGregor et al., 2005). A more nuanced understanding of the relationship between the two dominant imperatives of quality of care and operational efficiency can only enhance policy decision making in this sector such that we are mindful of the feasibilities, tensions, and trade-offs when setting policy. There is utility, we think, in future research that empirically explores the relationships that emerged in this exploratory study, and which incorporates consideration of some additional facility and environmental characteristics shown to impact operational decision making in health care and in other industries. Such characteristics include affiliations to hospitals and research institutes; market conditions including market mix and competition; consumer mix; and aspects of oversight including strategic imperatives relating to the LTC sector and funding levels.

Notes

1 LTC programs and services in Ontario are delivered via two distinct channels, communities and facilities. Three types of LTC facilities exist in Ontario: nursing homes, municipal homes for the aged, and charitable homes for the aged. Each facility type has different historical origins that have contributed to sustained differences in organization and governance, and each type continues to be governed under different legislation. While they operate under separate Acts, nursing homes and homes for the aged adhere to the same funding arrangements, care standards, and eligibility requirements for residents.

2 By contrast, 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.

3 While some evidence exists in the Canadian context to suggest that smaller LTC facilities enjoy lower per diem rates (Hollander, 1994), this observation appears to be related to the case mix of residents in these homes. In 1994, Hollander's study showed that smaller proprietary homes had the lowest per diem rates; however, the higher per diem rates observed among larger not-for-profit homes and government-owned facilities were attributed "at least partially, … to the care level mix of clients in small and large facilities" (1994, p. 108). In the Hollander study, "it was found that the case mix was lightest (i.e., a higher proportion of Level 1 clients) in small proprietary facilities while it was heaviest in large government facilities" (1994; p. 108).

4 At this point, we are considering volunteer workers to be any individuals that are not employed by the facility but who are providing care. Situations vary across facilities: in some facilities, volunteers are relied upon to provide care that may include feeding, exercise, and basic hygiene while in other facilities, families engage "sitters" to provide some of these services. In both situations, some of the care for residents is provided at no cost to the facility.

5 For a copy of the interview guide, contact the corresponding author.

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