Does regulating private long-term care facilities lead to better care? A study from Quebec, Canada

GINA BRAVO1,2, MARIE-FRANCE DUBOIS1,2, LOUIS DEMERS3,4, NICOLE DUBUC2,5, DANIELLE BLANCHETTE2,6, KAREN PAINTER2, CATHERINE LESTAGE2 AND CINTHIA CORBIN2

1Department of Community Health Sciences, Faculty of Medicine and Health Sciences, Université de Sherbrooke, Sherbrooke, QC, Canada, 2Research Centre on Aging, University Institute of Geriatrics of Sherbrooke, Sherbrooke, QC, Canada, 3École Nationale d’Administration Publique (ENAP), Québec, QC, Canada, 4Centre de Recherche du CHU de Québec, Québec, QC, Canada, 5School of Nursing, Faculty of Medicine and Health Sciences, Université de Sherbrooke, Sherbrooke, QC, Canada, and 6Department of Accounting Sciences, Faculty of Business Administration, Université de Sherbrooke, Sherbrooke, QC, Canada

Address reprint requests to: Gina Bravo, Research Centre on Aging, University Institute of Geriatrics of Sherbrooke, 1036 South Belvedere Street, Sherbrooke, QC, Canada J1H 4C4. Tel: +1-819-780-2220, ext. 45244; Fax: +1-819-829-7141; E-mail: gina.bravo@usherbrooke.ca

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Abstract

Objective. In the province of Quebec, Canada, long-term residential care is provided by two types of facilities: publicly funded accredited facilities and privately owned facilities in which care is privately financed and delivered. Following evidence that private facilities were delivering inadequate care, the provincial government decided to regulate this industry. We assessed the impact of regulation on care quality by comparing quality assessments made before and after regulation. In both periods, public facilities served as a comparison group.


Settings. Random samples of private and public facilities from two regions of Quebec.

Participants. Random samples of disabled residents aged 65 years and over. In total, 451 residents from 145 care settings assessed in 1995–2000 were compared with 329 residents from 102 care settings assessed in 2010–12.

Intervention. Regulation introduced by the province in 2005, effective February 2007.

Main Outcome Measure. Quality of care measured with the QUALCARE Scale.

Results. After regulation, fewer small-size facilities were in operation in the private market. Between the two study periods, the proportion of residents with severe disabilities decreased in private facilities whereas it remained >80% in their public counterparts. Meanwhile, quality of care improved significantly in private facilities, while worsening in their public counterparts, even after controlling for confounding.

Conclusions. The private industry now provides better care to its residents. Improvement in care quality likely results in part from the closure of small homes and change in resident case-mix.

Keywords: long-term care facility, elderly, quality of care, regulation, Canada

Introduction

In the province of Quebec, Canada, private facilities for seniors, elsewhere referred to as residential care facilities or assisted-living residences [1, 2], are mainly for-profit, collective dwellings that provide accommodation, personal care and support services to frail older adults who can no longer live in their own homes [3]. Across Canada, >200 000 seniors are currently living in ∼2500 private settings [4]. Over half of the total bed supply is located in Quebec. Private facilities for
type of services required. In 2012, the average rent for a private room, including at least one daily meal, ranged from $1410 CND for residents requiring <1.5 h of care per day to $2323 CND for those with heavier care needs [7].

Until recently, private facilities for seniors have operated in Quebec without any government oversight. In response to widespread concerns about the quality of care provided, the government regulated this industry by requiring facility operators to obtain a certificate of compliance [8]. The 26 regulatory requirements, which cover residents’ rights, health and safety, came into effect in February 2007. Operators had until February 2009 to initiate the certification process. The Conseil québécois d’agrément (CQA) [9] verifies compliance with certification standards, using information gained from on-site visits and in-depth examination of documents requested from each operator. The CQA reports its findings to the regional Health and Social Services Agency where the facility is located. The agency then decides whether to grant the facility a certificate that would be valid for 2 years [8].

Little is known about the effectiveness of regulation as a quality assurance mechanism [10–12]. Moreover, empirically determining the effect of regulation on care quality is challenging [10, 12–14]. The few studies available, mostly from Australia, Europe and the USA [15–17], suggest that tighter control of the residential care industry may improve residents’ living conditions, quality of care and quality of life. Most studies, however, suffer from methodological limitations because they rely on data collected by the facilities themselves, fail to include a comparison group or lack resident-level data collected before regulation was introduced.

Between 1995 and 2000, we studied private facilities located in two regions (The Eastern Townships and Montérégie) that are broadly representative of Quebec in regard to the variety of services offered by both the public and private long-term care (LTC) sectors [18]. To facilitate interpretation of the data, we compared private and public settings from the same regions. In total, 451 residents from 145 care settings were assessed with respect to their functional autonomy, cognitive abilities and quality of care. Public facilities are formally linked by contract to the Quebec Ministry of Health and Social Services. They are regulated through an accreditation process and visits to the facility and required by law to provide a standardized set of services that are implicitly tailored to the residents’ needs [6]. Like their private counterparts, they vary in size, from family-type resources to (often younger) adults with developmental disabilities. Settings were stratified by facility type (private versus public) and size: small (1–9 beds), medium (10–39 beds) or large (240 beds). In each stratum, we randomly selected settings, in which we randomly selected residents, aged 65 or over, who had lived in the facility for at least 3 months, were not waiting to be transferred to another setting and had difficulty with two or more activities of daily living. We recruited two, three and five eligible residents from small, medium and large facilities, respectively. Most small facilities, especially for larger facilities, follow from the high within-facility correlation in quality ratings [23]. The stratum-specific numbers of facilities were established based on work by Cochran [24] on multi-stage cluster sampling, and on variability estimates derived from our previous study [21, 22].

Residents were assessed by trained research nurses or social workers during two visits of ~2 h each, 1 week apart. One of the visits took place in the absence of any staff member from the home, thereby allowing residents to speak more freely about their living conditions. The other visit took place partially in the presence of staff working with the resident, in order to assess the quality of their interactions. The visits served to gather socio-demographic information on the residents, measure their functional and cognitive abilities and assess the quality of their care. Functional abilities were assessed using the revised version of the Functional Autonomy Measurement System (SMAF) [25]. The SMAF evaluates a resident’s level of independence in activities of daily living, mobility, communication, mental functions and instrumental activities of daily living. Total scores range from 0 (independent) to 87 (totally dependent), with a score of >40 reflecting great functional dependency. Cognitive abilities were measured with the Modified Mini-Mental State (3MS) examination that assesses orientation to place and time, attention, memory and language abilities [26]. Total scores range from 0 (worst) to 100 (best), with a score of <60 reflecting severe cognitive deficits.

Quality of care was measured with the QUALCARE Scale, a multidimensional instrument comprising 54 items that assess care in six important areas: environmental (14 items), physical (11 items), medical maintenance (four items), psychosocial

Methods

Both studies were restricted to LTC settings in operation for at least the previous 3 months and excluded those catering solely to (often younger) adults with developmental disabilities. Settings were stratified by facility type (private versus public) and size: small (1–9 beds), medium (10–39 beds) or large (240 beds). In each stratum, we randomly selected settings, in which we randomly selected residents, aged 65 or over, who had lived in the facility for at least 3 months, were not waiting to be transferred to another setting and had difficulty with two or more activities of daily living. We recruited two, three and five eligible residents from small, medium and large facilities, respectively. Most small facilities, especially for larger facilities, follow from the high within-facility correlation in quality ratings [23]. The stratum-specific numbers of facilities were established based on work by Cochran [24] on multi-stage cluster sampling, and on variability estimates derived from our previous study [21, 22].

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Quality of care was measured with the QUALCARE Scale, a multidimensional instrument comprising 54 items that assess care in six important areas: environmental (14 items), physical (11 items), medical maintenance (four items), psychosocial
(12 items), human rights (seven items) and financial (six items) [27]. Items are scored on a five-point scale from 1 (best possible care) to 5 (worst possible care) after spending time in the facility, directly observing and interacting with residents and care providers. The QUALCARE Scale generates a global quality-of-care score and six dimension-specific scores, by averaging ratings assigned to all items or to those belonging to a specific subscale. A mean score of >2 reflects inadequate care. The QUALCARE Scale has been shown to be reliable, valid and responsive to between-group differences of 0.25 or more on its five-point rating scale [21, 22, 28, 29].

Lastly, acknowledging the importance of residents’ perspective in assessing care quality, all those without cognitive impairment were asked to rate various aspects of the quality of their care on a scale from 1 (best) to 5 (worst). For comparison purposes, facility managers were also asked for quality ratings, using the same response scale.

**Analyses**

Student’s t-test and the $\chi^2$ statistic were first used to compare quality ratings between facility types and over time. These analyses were conducted using SUDAAN (version 10, Research Triangle Institute, 2008), which takes the sampling design into account. Second, we conducted two-level hierarchical regression analyses with HLM for Windows (version 6.08, Scientific Software International, 2009) in order to simultaneously control for resident- and facility-level covariates that may undermine the causal interpretation of the previous analyses. Six covariates were included in the regression models, two at the first level that capture a resident’s degree of functional and cognitive impairment (measured with the SMAF and the 3MS, respectively) and four at the second level: whether the facility manager had nursing training, and the average age, SMAF score and 3MS score of the sampled residents. These covariates were previously identified as significant correlates of the quality of care delivered to a resident [23, 30]. In both softwares, sample weights reflecting the probability of selection into the sample were assigned to each resident and used in all analyses.

The study protocol, measurement instruments and consent forms were approved by the authors’ Institutional Review Boards.

**Results**

Resident socio-demographic and clinical characteristics have been described in detail elsewhere [6]. Briefly, few differences were observed in resident socio-demographic characteristics between facility types. Residents were aged 86 years on average; 71% were women and 69% were widowed. Predictably, in both study periods, residents from private facilities were less disabled, both functionally and cognitively, than those living in public LTC facilities. Over-time comparisons revealed that the proportion of residents with severe cognitive (3MS < 60) or functional (SMAF > 40) disabilities decreased in private facilities (45–20%) whereas remaining >80% in their public counterparts. Hence, the private residential care industry now serves residents with less demanding care needs than 15 years ago, whereas public institutions have continued to care for the heaviest cases.

Quality assessments are summarized in Table 1 and compared over time and between facility types with both unadjusted and adjusted analyses. In private facilities, the global quality score and all six sub-scores derived from the QUALCARE Scale decreased significantly on average between the two study periods, implying improvement in all quality domains. In contrast, all mean quality scores increased in public facilities, although some differences were not statistically significant. However, as a result of the reverse pattern of change observed in the two types of facilities, P-values from testing whether changes over time in quality-of-care scores differed across facility types were all highly significant. This is true whether based on unadjusted or adjusted analyses (last two columns of Table 1).

Quality ratings given by cognitively able residents show the same patterns of change, i.e. a tendency for post-regulation scores to be lower in private facilities (implying perceptions of better quality care) but higher in their public counterparts, although many comparisons were not statistically significant due to the reduced sample sizes. Between the two study periods, the proportion of residents who would recommend their private facility to others rose from 88 to 98.6% ($P = 0.007$), whereas it remained ~90% among residents from public facilities ($P = 0.383$). In 2010–12, 91.5% of private facility managers felt they were offering the best possible care, compared with 64.4% among their public counterparts ($P = 0.017$).

Between the two study periods, the proportions of residents whose QUALCARE scores were >2, reflecting inadequate care, decreased from 20.3 to 7.9% in private settings ($P = 0.051$) while rising from 4.2 to 33.2% in public facilities ($P = 0.010$). As shown in Fig. 1, the proportion of residents receiving inadequate care decreased in small, medium and large private facilities. Nonetheless, in 2010–12, from 5.2 to 25.8% of seniors housed by the private sector were receiving inadequate care, depending on the size category. Extrapolating these percentages to the whole of Quebec would suggest that 9000 seniors are now receiving suboptimal care, despite living in a facility that was recently granted a certificate of compliance. The situation is even worse in the public sector, where the prevalence of inadequate care currently varies between 21.9 and 34.1%, depending on the size category. We estimate that this situation is now affecting >15,000 elderly residents.

Complementing these data, Fig. 1 also shows (in the center of each bar) the proportion of facilities found to provide inadequate care (QUALCARE >2) to one or more residents. For example, the 25% of seniors in small private facilities who were receiving inadequate care in 2010–12 were housed in 27.2% of the facilities in this size category. Similarly, the 34% of residents in large-sized public facilities who were assigned a score of >2 on the QUALCARE Scale were spread over 38.5% of large facilities. Overall, the proportion of private facilities providing inadequate care to one or more residents decreased from 39.9% in 1995–2000 to 18.1% in 2010–12 ($P = 0.038$), while increasing from 11.4 to 34.1% in public settings ($P = 0.058$).
<table>
<thead>
<tr>
<th></th>
<th>Private LTC facilities</th>
<th>Public LTC facilities</th>
<th></th>
<th></th>
<th>P-value&lt;sup&gt;b&lt;/sup&gt;</th>
<th>P-value&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>According to research staff&lt;sup&gt;d&lt;/sup&gt; (n)</td>
<td>252</td>
<td>190</td>
<td>0.001</td>
<td>199</td>
<td>139</td>
<td>0.089</td>
</tr>
<tr>
<td>Global score</td>
<td>1.67 ± 0.06</td>
<td>1.29 ± 0.06</td>
<td>0.001</td>
<td>1.43 ± 0.04</td>
<td>1.64 ± 0.11</td>
<td>0.089</td>
</tr>
<tr>
<td>By dimension:</td>
<td></td>
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</tr>
<tr>
<td>Environmental</td>
<td>1.68 ± 0.10</td>
<td>1.25 ± 0.05</td>
<td>0.001</td>
<td>1.35 ± 0.07</td>
<td>1.64 ± 0.10</td>
<td>0.031</td>
</tr>
<tr>
<td>Physical</td>
<td>1.88 ± 0.08</td>
<td>1.42 ± 0.09</td>
<td>0.001</td>
<td>1.54 ± 0.05</td>
<td>1.63 ± 0.13</td>
<td>0.520</td>
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<tr>
<td>Medical maintenance</td>
<td>1.43 ± 0.06</td>
<td>1.19 ± 0.06</td>
<td>0.004</td>
<td>1.23 ± 0.05</td>
<td>1.44 ± 0.11</td>
<td>0.077</td>
</tr>
<tr>
<td>Psychosocial</td>
<td>1.93 ± 0.09</td>
<td>1.39 ± 0.08</td>
<td>0.001</td>
<td>1.75 ± 0.09</td>
<td>1.89 ± 0.16</td>
<td>0.441</td>
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<tr>
<td>Human rights</td>
<td>1.33 ± 0.05</td>
<td>1.15 ± 0.04</td>
<td>0.005</td>
<td>1.30 ± 0.07</td>
<td>1.54 ± 0.11</td>
<td>0.061</td>
</tr>
<tr>
<td>Financial</td>
<td>1.25 ± 0.05</td>
<td>1.12 ± 0.03</td>
<td>0.033</td>
<td>1.05 ± 0.02</td>
<td>1.39 ± 0.09</td>
<td>0.001</td>
</tr>
<tr>
<td>According to residents&lt;sup&gt;e&lt;/sup&gt; (n)</td>
<td>142</td>
<td>149</td>
<td>0.076</td>
<td>76</td>
<td>41</td>
<td>0.242</td>
</tr>
<tr>
<td>Global score</td>
<td>1.50 ± 0.07</td>
<td>1.29 ± 0.09</td>
<td>0.076</td>
<td>1.51 ± 0.14</td>
<td>1.78 ± 0.18</td>
<td>0.242</td>
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<tr>
<td>By dimension:</td>
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<tr>
<td>Meals</td>
<td>1.91 ± 0.13</td>
<td>1.51 ± 0.13</td>
<td>0.036</td>
<td>1.74 ± 0.14</td>
<td>2.18 ± 0.21</td>
<td>0.095</td>
</tr>
<tr>
<td>Personal care</td>
<td>1.35 ± 0.08</td>
<td>1.30 ± 0.10</td>
<td>0.702</td>
<td>1.39 ± 0.09</td>
<td>1.77 ± 0.21</td>
<td>0.104</td>
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<tr>
<td>Physical environment</td>
<td>1.52 ± 0.09</td>
<td>1.31 ± 0.09</td>
<td>0.115</td>
<td>1.42 ± 0.09</td>
<td>1.91 ± 0.27</td>
<td>0.093</td>
</tr>
<tr>
<td>Interactions with staff</td>
<td>1.33 ± 0.07</td>
<td>1.13 ± 0.05</td>
<td>0.016</td>
<td>1.47 ± 0.11</td>
<td>1.45 ± 0.15</td>
<td>0.909</td>
</tr>
<tr>
<td>Freedom in ADLs</td>
<td>1.27 ± 0.07</td>
<td>1.17 ± 0.06</td>
<td>0.285</td>
<td>1.34 ± 0.10</td>
<td>1.67 ± 0.23</td>
<td>0.204</td>
</tr>
<tr>
<td>Would recommend the facility to others (%)</td>
<td>88.0</td>
<td>98.6</td>
<td>0.007</td>
<td>93.4</td>
<td>86.6</td>
<td>0.383</td>
</tr>
<tr>
<td>According to facility managers (n)</td>
<td>80</td>
<td>66</td>
<td></td>
<td>65</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>Offer best possible care (%)</td>
<td>82.6</td>
<td>91.5</td>
<td>0.160</td>
<td>63.3</td>
<td>64.4</td>
<td>0.920</td>
</tr>
</tbody>
</table>

<sup>d</sup>Data reported as mean ± standard error unless otherwise indicated.<br><sup>b</sup>From unadjusted analyses of the period by facility type interaction.<br><sup>c</sup>From two-level hierarchical regression analyses of the period by facility type interaction, adjusting for resident case-mix and whether the facility manager was trained in nursing (except for the last outcome, ‘Offer best possible care’, for which a single-level adjusted analysis was conducted).<br><sup>e</sup>Using the QUALCARE Scale with ratings from 1 (best) to 5 (worst).<br><sup>f</sup>Ratings from 1 (best) to 5 (worst).
A first unintended effect is change in resident case-mix. The care needs of the population served by private facilities are less demanding now than they were 15 years ago [6]. Interviews with facility owners revealed that many, regretfully, chose to no longer admit elderly persons with mobility, cognitive or behavioral problems because they made it difficult to meet some certification requirements (e.g. fire safety and building compliance), without major financial investment. Resident case-mix is a major determinant of a provider’s ability to deliver high-quality care [30]. The increased ability of private settings to deliver good care thus results in part from caring for less demanding clients. This impact of certification on the clientele served has important consequences. It leaves no housing options for many elderly persons who are not disabled enough to be admitted to public institutions yet too disabled to be attractive for the private sector. These persons remain at home despite their disabilities. Future studies should examine whether their care needs are met, and by whom.

A second unintended effect of the certification process is withdrawal of the smallest homes from the private residential care market. Such homes made up 72% of private settings in 1995–2000, but only 33% in 2010–12. Regulation weighs more heavily upon small settings, which typically have one live-in staff member, who can hardly take leave to be trained as required by regulation. Small homes lack resources to call policy-makers’ attention to their special needs and cannot benefit from economies of scale [33]. The loss of a single resident due to new regulations can have significant financial impact on these settings [34, 35]. Anecdotal evidence indicates that some facilities, unable financially or unwilling to meet new standards, cease operation completely or turn to other populations, particularly to younger adults with developmental disabilities or mental health problems, who are not currently covered by provincial regulation. We do not know whether these facilities were deficient in their provision of care. While removing under-performing homes is desirable, the reduced availability of small facilities has implications for those who prefer smaller, homely environments and value the personal nature of the care provided there [35]. The closure of small facilities particularly affects elderly persons in rural areas where establishing a large institution would not be viable.

Despite some evidence of improvement in the quality of care delivered by the private sector, significant problems persist. Currently, 8% of elderly residents are receiving inadequate care and 18% of settings are unable to deliver proper care to all of their residents. These findings suggest that the initial set of certification requirements was not sufficient to ensure quality care. Requirements were modified in March 2013 [36]. The new regulatory framework defines two categories of homes (for autonomous and semi-autonomous persons) and adjusts certification requirements to facility size and category. The ‘one-size fits all’ approach that applied initially has thus been replaced by one more sensitive to the particularities of individual settings. The new regulations also set minimum staffing levels and raise training requirements. The impact of these new requirements on care quality should be studied in the future.

Discussion

We investigated whether the care provided to disabled older adults improved in private LTC facilities that are now certified. Results clearly show that it did. This conclusion holds, whether based on quality ratings made by our independent assessors, the residents themselves or facility managers. Concluding that the observed improvements result from the certification process is more challenging. Our study cannot determine when quality actually improved. Randomized trials, usually considered best for judging effectiveness, are not an option for assessing public policies that apply to all, as is the case here [31]. While acknowledging that results from natural experiments such as ours must be interpreted cautiously [32], we believe certification was the main driver of improvement, through both desired and (likely) unintended effects.

The claim that regulation led to better care is supported in part by the choice of certification standards, many of which are known to impact care quality in LTC settings. These include ensuring a clean, safe environment; providing quality food and leisure activities; treating residents with courtesy and respect and calling upon public services when a resident’s health condition deteriorates. As shown in Fig. 1, greater improvement occurred in facilities housing of <40 residents. At the time the certification process was introduced, services in most large settings already met regulatory requirements, making further improvement challenging. Improvements were thus more likely to occur in small- and medium-sized homes, especially in those of medium size financially better equipped to bear the cost entailed by improving the quality of their services. This interpretation, however, must be weighed against two unintended effects of the certification process.

Figure 1 Prevalence of inadequate care in LTC facilities, by study period, facility type and size category. The height of each bar indicates the proportion of residents in a given time period, facility type and size category whose QUALCARE score was >2. The percentages at the center of each bar indicate the proportion of facilities in a given time period, facility type and size category found to deliver inadequate care (QUALCARE score >2) to one or more residents.

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Public LTC facilities were included in our study for comparison purposes, but their inclusion allowed us to confirm that significant quality problems exist in this sector as well [37, 38]. One-third of elderly persons living in large public institutions are receiving suboptimal care. This statistic is all the more alarming, given that these are the settings where the most demanding cases are found [6, 33, 37]. Moreover, 70% of residents have severe cognitive deficits and cannot advocate on their own behalf. Many factors are likely at play in public facilities’ inability to deliver high-quality care, despite government oversight. These include decay of buildings; increases in the number of residents with complex care needs, many of which are admitted at end of life; understaffing, high workload and poor working conditions; increased paperwork that limits staff time for resident care; delays in fully implementing the Ministry of Health and Social Services’ guidelines and action plans; regulations that are not outcome-oriented; and funding mechanisms that do not sufficiently take into account the needs of the residents and the services they required [1, 11, 37–41]. Hence, while the Quebec government must pursue its efforts to ensure that all private facility residents receive high-quality care, it should be concerned with the situation that prevails in public institutions. Proposed solutions include quality problems include legislated minimum staffing levels, as well as improved regulatory, monitoring and funding mechanisms [37, 38, 41, 42].

In conclusion, this study shows that the quality of care provided by private LTC facilities has improved over the last 15 years. Improvements likely result from the certification requirements they themselves, but also from changes in resident case-mix and closure of smaller facilities. However, quality problems persist. It remains to be seen whether the new regulations will eliminate the remaining quality problems, without causing the closure of smaller homes or rendering disabled older adults even less attractive for the private sector. Meanwhile, the Quebec government must turn its attention to public institutions that are struggling to meet their heavy responsibility of caring for our society’s frailest, most vulnerable members.

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