

The Perceived Needs and Availability of Eye Care Services for Older Adults in Long-term Care Facilities



Hélène Kergoat, OD, PhD^{1,2}, Hélène Boisjoly, MD, MPH, FRCPC^{3,4}, Ellen E. Freeman, PhD^{3,4},
Johanne Monette, MD, MSc, FRCPC^{5,6}, Sylvie Roy, BSc², Marie-Jeanne Kergoat, MD, FRCPC^{2,3}

¹School of Optometry, Université de Montréal, Montréal; ²Institut universitaire de gériatrie de Montréal, Montréal;

³Faculty of Medicine, Université de Montréal, Montréal; ⁴Ophthalmology, Hôpital Maisonneuve-Rosemont, Montréal;

⁵Jewish General Hospital, Montréal; ⁶McGill University, Montréal, QC

DOI:<http://dx.doi.org/10.5770/cgj.17.116>

ABSTRACT

Background

The objective was to evaluate the eye care services offered to older residents living in long-term care facilities (LTCFs).

Methods

A questionnaire targeting residents aged ≥ 65 years was sent to all LTCFs in Quebec. Questions related to the institution's characteristics, demographic data related to residents, oculovisual health of residents and barriers to eye care, eye care services offered within and outside the institution, and degree of satisfaction regarding the eye care services offered to residents.

Results

196/428 (45.8%) LTCFs completed the questionnaire. Participating LTCFs had an average of 97.0 ± 5.1 residents with a mean age of 82.8 ± 3.0 yrs and 69% women. Eye care services were mostly offered outside the institution, on a "per request" basis. The main barriers to eye care were the perception that residents could not cooperate and the lack of eye care professionals. Most LTCFs were satisfied with the eye care services offered to residents.

Conclusions

The fact that the LTCFs were satisfied with the eye care services offered to their residents, although it was neither provided on a regular basis nor to all residents, suggests that eye care professionals should take a proactive educational role for improving services to older institutionalized adults.

Key words: long-term care facilities, eye care services, older adults

INTRODUCTION

In 2009, 14% of the Canadian population was aged ≥ 65 years, a proportion that will reach 24% by 2036.⁽¹⁾ There were some 155,000 Canadians in that age range living in long-term care facilities (LTCFs; called CHSLDs in Quebec),⁽²⁾ including about 34,000 in Quebec.⁽³⁾ Older people admitted to LTCFs are now more dependent, have more complex diseases, and have more motor and sensory disorders.⁽⁴⁾ Furthermore, 60%–80% of long-term care residents have some type of cognitive deficit with impaired communication skills.

Visual impairment and correctable blindness are more prevalent with age⁽⁵⁾ and are associated with poorer health-related quality of life.⁽⁶⁾ Studies have reported a high rate of visual problems in older persons living in institutions, due mainly to treatable conditions such as cataract and uncorrected refractive error.⁽⁷⁻⁹⁾ One research group has reported that correcting refractive error and performing cataract surgery improved quality of life in LTCF residents.^(10,11)

One nationwide Canadian epidemiological study published a 21% prevalence of self-reported visual deficits in institutionalized older adults.⁽¹²⁾ In addition, two recent clinical studies reported a high prevalence of visual deficits in older LTCF residents,^(13,14) including a large proportion of individuals with cognitive deficits and communication disorders.⁽¹³⁾

Although it is well documented that older adults in LTCFs suffer from a high prevalence of oculovisual problems, no study, to our knowledge, has evaluated in a systematic fashion the eye care needs and services in LTCFs. This is particularly important considering that older residents are often affected by neurodegenerative diseases leading to severe cognitive deficits and communication disorders.⁽⁴⁾ These

health conditions may make it difficult for residents to express their oculo-visual problems, which may go undetected and even progress with time. Visual deficits can lead to disorientation, distress, disruptive psychobehavioural problems,⁽¹⁵⁾ and increase the risk of delirium.⁽¹⁶⁾ Furthermore, many primary care physicians do not have adequate knowledge to advise patients on oculo-visual health, or feel confident in identifying patients at greater risk for eye disease.⁽¹⁷⁾ The objective of this study was to evaluate the perceived needs and availability of eye care services for older adults in all LTCFs in the province of Quebec, Canada.

METHODS

A newly developed questionnaire was used for this study. The initial version of the questionnaire was built by the research team and comprised questions grouped in the following categories: 1) institution's characteristics, 2) demographic data related to the residents, 3) oculo-visual health of the residents and barriers to eye care, 4) eye care services offered within the institution, 5) access to external eye care services, and 6) degree of satisfaction regarding the level of eye care services offered to the residents. The questionnaire was then sent to a second panel of experts to obtain their feedback, and a revised version was developed by the research team. The pretesting of this new questionnaire was done in four LTCFs, and it was finalized thereafter by the research team. The questionnaire was written in French, with back translation to English and French again to ensure that the content was respected in both languages. The final French and English versions were transferred to the Survey Monkey website for easy access by the respondents. Ethics approval was obtained from the Ethics committee at the Institut universitaire de gériatrie de Montréal and this approval was accepted by each participating institution.

A list of all public and private LTCFs in Quebec was created through a detailed search on the Web, taking into account the fact that the province is divided into 18 administrative regions. This list contained the names of each LTCF and its location, as well as the telephone number and email address of one key person within each institution. Each LTCF was given a unique identifying code. The key person in each institution was contacted and the project was explained in detail. The email address of the person best positioned to answer the questionnaire was obtained. An email invitation was then sent to this person with a Web link to enter the Survey Monkey study questionnaire with the unique identifying code. The questionnaire remained open for a one year period to maximize the response rate. The data were analyzed in Survey Monkey and/or in Excel or Stata Version 10 after having been exported. Percentages, means, and standard deviations were calculated. Comparisons were tested using chi-square tests or Wilcoxon rank-sum tests, as appropriate. An alpha level of 0.05 was used to indicate statistical significance.

RESULTS

Out of 428 LTCFs in Quebec, 196 LTCF respondents completed the questionnaire, representing a response rate of 45.8%. LTCFs that completed the questionnaire were more likely to be public and to have more beds than those that did not complete it ($p < .05$).

Data presented in this study were collected only for residents aged ≥ 65 years because they are at the highest risk of eye disease. The average number of beds per LTCF was 97.0 ± 5.1 . The LTCF population comprised 69% female residents. The mean age was 82.8 ± 3.0 years, women being older (84.2 ± 3.1 yrs) than men (79.5 ± 9.3 yrs). The average length of stay of the residents was 2.6 ± 1.5 yrs.

The oculo-visual problems of the residents are presented in Table 1. There were 70.3% of LTCF respondents who indicated that the majority of their residents wore glasses and 45.9% reported that a good portion had some treatment for their eyes (Table 2). Many LTCF respondents indicated that a minority ($< 25\%$) of their residents had nonoperated cataracts (66.3%), glaucoma (73.5%), and age-related macular degeneration (ARMD; 66.3%). On the other hand, many LTCF respondents indicated not knowing if their residents were affected by non-operated cataracts (23.0%), glaucoma (19.9%), and ARMD (26.5%). Additionally, 14 LTCF respondents indicated that some of their residents had partial or total blindness.

When asked about barriers to eye care services, 65.8% of LTCF respondents indicated that there were no barriers. For those where access to eye care was a problem, the principal reasons were: 1) the perception that residents could not cooperate, 2) the fact that there was no professional on-site or close by to provide the services, 3) the lack of awareness of the oculo-visual problems of residents, and 4) the perception that the oculo-visual condition could not be improved.

When a new resident is admitted, in 84% of LTCFs, questions are asked of the resident/family about oculo-visual health, but 72.2% do not offer any formal oculo-visual screening. Only 8.7% of LTCFs have a room equipped for eye exams on-site. Among the LTCFs, 31.8% have an optometrist, 12.4% an ophthalmologist, and 26.9% an optician, delivering services on-site (Table 3). Services are offered mainly per request for 45.7% of the services offered by optometrists, 66.7% of those by ophthalmologists, and 58.1% for opticians. On the other hand, some LTCFs have access to an optometrist (54.3%) or optician (41.9%) on-site on a regular basis. However, the median number of visits for "regular basis" represents only twice a year for the optometrist or optician. Data for ophthalmologists are not presented as only six LTCF respondents answered that question. Overall, 85.9% of LTCF respondents mentioned having access to external services offered by optometrists and ophthalmologists, and 85.3% by opticians. Among those LTCFs, 86.6% coordinate the appointments for the residents and 93.8% offer transportation. Overall, 86.9% of LTCF respondents indicated being satisfied with the eye care services they offer to their residents. For those not satisfied, 56.6% did not take any action

TABLE 1.
Frequency (%) of various oculovisual problems thought by LTCF respondents to be experienced by LTCF residents

	<i>Frequent</i>	<i>Not Frequent</i>	<i>Non Existent</i>	<i>Don't Know</i>
Loss of glasses	26.2	66.7	5.1	2.1
Broken glasses	23.0	71.9	3.1	2.0
Loss of vision, blurred vision	23.8	56.5	8.3	11.4
Eye redness, infection	25.4	66.3	2.6	5.7
Eyes tearing	12.3	69.2	12.3	6.2
Dry, irritated eyes	33.0	52.6	7.2	7.2
Eye pain	4.1	66.7	19.0	10.3
Average	21.1	64.3	8.2	6.4

TABLE 2.
Percentage (%) of LTCF respondents indicating that a condition was thought to be experienced by their residents, by frequency of the condition

	<i>The Majority (> 50%)</i>	<i>A Good Portion (25% to 50%)</i>	<i>A Minority (< 25%)</i>	<i>Don't Know; N/A</i>
Wear glasses	70.3	24.6	4.6	0.5
Use eye drops, vitamins, other treatment for their eyes	15.8	45.9	36.2	2.0
Non-operated cataracts	1.0	9.7	66.3	23.0
Glaucoma	0.0	6.6	73.5	19.9
ARMED	0.0	7.1	66.3	26.5

N/A = not applicable.

TABLE 3.
Proportion (%) of LTCF with eye care services offered to residents by type and frequency of services

	<i>Optometrist</i>	<i>Ophthalmologist</i>	<i>Optician</i>
On-site services	31.8	12.4	26.9
Per request	45.7	66.7	58.1
Regular basis	54.3	N/A	41.9
Median-regular basis	2x/yr	N/A	2x/yr
External services	85.9	85.9	85.3

to improve their services, whereas 14.5% did—most trying to have access to an optometrist or ophthalmologist on-site with mitigated success.

Factors associated with having an optometrist available on-site included a greater number of beds and region ($p < .05$) (Table 4). There were large regional differences in whether participating LTCFs had an optometrist on-site, with Montreal and the Laurentides reporting that 50% or more LTCFs had such a service.

DISCUSSION

Our study questionnaire received an overall 45.8% response rate and a median response rate of 47.1% across all 18 Quebec administrative regions. Participating LTCFs were more likely

to be public than private and to have a greater number of beds than non-participating LTCFs. Since a greater bed number was associated with being more likely to have an optometrist providing services on-site, our results probably over-estimate the amount of eye care services being provided in LTCFs and can be thought of as a best-case scenario.

The ratio of males to females residing in LTCFs and their average age reflect current trends in the older adult institutionalized Canadian population.⁽⁴⁾ Our results effectively show that women are more represented and that institutionalized persons are usually the oldest seniors. Our study provides important data on the length of stay of residents once admitted to LTCFs, a statistic not always easy to find, even on official governmental sites. Therefore, the average of 2.6 ± 1.5 yrs presented here likely represents a good estimate for Quebec.

It is reassuring that the majority of LTCFs question their new residents about their eyes/vision at the time of admission, although only a minority screen for oculovisual problems. Although our data demonstrate that LTCFs are aware of significant oculovisual problems in their residents, they do not take into account problems that might be present, but that are not being identified. The prevalence of the oculovisual problems identified certainly underlines the importance of providing regular eye exams for LTCF residents. All residents who are wearing glasses should be evaluated regularly to ensure that their correction is up-to-date, and to advise the residents and personnel as to when (constantly vs. when

TABLE 4.
Factors associated with having an optometrist provide services at the LTCF

	<i>Have an Optometrist</i> N=61 (32%)	<i>Do Not Have an Optometrist</i> N=131 (68%)	<i>P Value</i>
Number of beds, mean (SD)	121 (81)	86 (64)	0.001
Public (%)	33	67	0.678
Private	29	71	
No university affiliation (%)	28	72	0.128
University affiliation	39	61	
Length of stay, mean (SD)	2.8 (1.4)	2.6 (1.6)	0.226
Region: (%)			
Bas St Laurent	27	73	<0.001
Capitale Nationale	8	92	
Mauricie et centre-du-Québec	0	100	
Montréal	63	37	
Outaouais	0	100	
Laurentides	50	50	
Montréal	19	81	
Other*	31	69	

*Includes regions with fewer than 10 LTCFs including Saguenay-Lac-Saint-Jean, Estrie, Abitibi-Témiscamingue, Côte-Nord, Nord-du-Québec, Gaspésie-Îles-de-la-Madeleine, Chaudière-Appalaches, Lanaudière, Nunavik.

needed) those glasses should be worn and for what condition (far vs. near distance). All those who are on ocular therapy, who have an active ocular disease, or are partially/totally blind should have regular follow-ups to evaluate the stability of their condition and to optimize therapy. For residents not considered as having an oculovisual problem, preventative eye exams should be provided to ensure adequate oculovisual health. Furthermore, considering that a good percentage of LTCF residents have cognitive deficits that may prevent them from expressing their needs and knowing that many ocular diseases progress slowly and without obvious signs or symptoms, it is important to provide residents with regular eye care.

A good proportion of LTCF respondents indicated that there were no barriers to eye care services in their institution. Yet, when looking at the number of residents in the institution and the frequency of services offered either within or outside the institution, it is clear that most residents don't receive an eye exam on a regular basis. Current practice guidelines in Quebec and Canada indicate that a person ≥ 65 years should receive an eye exam every one to two years.^(18,19) These guidelines should be implemented even more rigorously in LTCFs, knowing that the prevalence of visual impairment and correctable blindness is more common in institutionalized vs. community-dwelling older seniors.⁽²⁰⁾ However, our results indicate that most institutions offer eye care services mainly on a per request, not on a routine, basis. For those experiencing barriers to eye care, a perception that residents could not cooperate for an eye exam and a lack of professionals to offer the services were most frequently cited. Many institutions commented that a lot of their residents had significant cognitive deficits, making it difficult for them to collaborate to an

eye exam. Although it might be more difficult to examine patients with significant cognitive deficits or dementia, recent data indicate that it is possible to examine them, independent of their age, cognitive level or communication ability.⁽¹³⁾

The prevalence of visual and cognitive deficits increases with age and these deficits can be present separately or in combination in older institutionalized individuals. Importantly, both deficits may present signs and symptoms that are similar in nature, such as being lost in time and space, irritability while doing some tasks, isolating oneself, and not socializing with others.⁽¹⁵⁾ These may easily be interpreted as a consequence of cognitive rather than visual deficits. The person might, therefore, not be offered an eye exam even if the visual deficit could potentially be corrected, which in turn could decrease symptoms thought to be caused exclusively by cognitive deficits. There is also evidence suggesting that individuals with visual deficits are more at risk of developing cognitive deficits later on in life.^(21,22) This further stresses the importance of providing regular eye care to all LTCF residents as soon as they are admitted to the institution, to verify if a visual deficit is present. This, of course, has to be done with the agreement of the resident and/or family. The sooner a visual deficit or an active ocular pathology is identified, the easier it is to correct or treat the condition. Once the person ages further or develops dementia, it is often more difficult to intervene, as the person/family judges that it is no longer necessary to do so at such an advanced age or in view of increased disabilities from multiple co-morbidities. This is particularly true when a surgery is required, as is the case with cataracts, where family members, guardians, and residents are often not willing to consent to surgery.⁽²³⁾

Most LTCFs responding to our survey offered eye care to their residents outside of their institution. The principal reason for doing so is that they do not have the equipment and professionals available on-site. Going outside of the institution for eye care is not ideal, even less so for residents affected by dementia since they are at higher risk of delirium.⁽²⁴⁾ Individuals with dementia should preferably remain in a familiar environment for their health care, which should also be offered by professionals familiar with caring for this vulnerable population. Ideally, LTCF residents should not be transported out of their residence into unknown environments, unless urgently required by their health status. It is important to improve communication between LTCF administrators and eye care professionals as well, in order to improve on-site services offered to institutionalized older individuals. This would serve the dual purpose of increasing access to eye care, while at the same time avoiding the unnecessary level of stress/anxiety linked with transportation outside of the LTCF.

Finally, our results showed that most LTCFs were satisfied with the eye care services offered to their residents. This high level of satisfaction may be linked to the fact that access to eye care was being made available in one way or another when the residents or their families ask for such services. In this situation, the LTCFs are able to offer a response to a need that has been expressed, which likely leads to satisfaction for all concerned. However, looking at the epidemiology of oculo-visual problems with age and particularly at the vision literature dealing with oculo-visual problems and eye care services in LTCFs, this situation is far from optimal. The present study clearly shows that eye care services are, at best, offered on a per request basis, which does not meet the standards of care, more so when considering that the mission of LTCFs is to offer the best possible care to the most vulnerable segment of the older population. These residents are often not able to express their needs, and vision certainly plays an important role in their overall quality of life. Preventative eye care and follow-up exams should be part of the services offered to these residents on a regular and permanent basis.

There are ways by which eye care services to LTCF residents could be improved. First, an educational program targeted at LTCF administrative and clinical personnel could be provided, to raise their level of awareness on the importance of regular eye care for their residents. Second, eye care specialists should be informed regarding the lack of oculo-visual services for LTCF residents and asked about their willingness to offer those services in LTCFs from the various administrative regions of the province. The respective college and association boards of each eye care profession should also be informed in order to disseminate these results and reflect on the situation. The results of the present study can certainly serve as a starting point for informing all concerned, so that LTCF residents receive appropriate eye care.

A limitation of the study is that these data are self-reported by the personnel of the LTCF and were not confirmed by

our team since this was beyond the scope of this project. The LTCF respondents were aware that their data would remain anonymous, so there is no reason to suspect misclassification due to a tendency to give more desirable answers.

CONCLUSION

Although LTCFs are generally satisfied with the eye care services they offer to their older residents, these services are not ideal. A concerted effort should be made by LTCF administrators and eye care professionals to optimize the eye care services offered to this important and underserved segment of the older population.

ACKNOWLEDGEMENTS

This work was supported by a grant from the Canadian National Institute for the Blind [to: HK, HB, EEF, JM and MJK] and the Foundation Caroline-Durand [to: HK and MJK]. We thank all professionals who helped with the questionnaire and its pretesting, as well as all those from the CHSLDs who took the time to complete it.

CONFLICT OF INTEREST DISCLOSURES

The authors declare that no conflicts of interest exist.

REFERENCES

1. Statistics Canada. Canada Year Book 2010: Population and demography. Catalogue no. 11-402-X. Ottawa: Statistics Canada; 2010. p.315.
2. Statistics Canada. Residential Care Facilities 2008/2009. Catalogue no. 83-237-X. Ottawa: Statistics Canada; 2011. p.50, p.55.
3. Santé et services sociaux Québec. Info-Hébergement. Quebec: 2010. Available from: <http://www.informa.msss.gouv.qc.ca/Details.aspx?Id=zsmAukXA15g=&Source=jgS/Os4ab2w=>. Accessed on Aug 20, 2013.
4. Un milieu de vie de qualité pour les personnes hébergées en CHSLD. Orientations ministérielles. Quebec: 2003. Available from: <http://mssa4.msss.gouv.qc.ca/fr/document/publication.nsf/fb143c75e0c27b69852566aa0064b01c/f565828df331125285256dc90065c6e1?OpenDocument>. Accessed Feb 4, 2013.
5. Congdon N, O'Colmain B, Klaver CC, *et al.* Causes and prevalence of visual impairment among adults in the United States. *Arch Ophthalmol.* 2004;122(4):477–75.
6. Li Y, Crews JE, Elam-Evans LD, *et al.* Visual impairment and health-related quality of life among elderly adults with age-related eye diseases. *Qual Life Res.* 2011;20:845–52.
7. Tielsch JM, Javitt JC, Coleman A, *et al.* The prevalence of blindness and visual impairment among nursing home residents in Baltimore. *N Engl J Med.* 1995;332:1205–09.
8. Mitchell P, Hayes P, Wang JJ. Visual impairment in nursing home residents: the Blue Mountains Eye Study. *Med J Aust.* 1997;166(2):73–76.

9. Waked N, Saad A, Mehanna C, *et al.* Prévalence, causes et facteurs de risque de la cécité et de la malvoyance chez les personnes âgées des maisons de retraite libanaises. *J Fr Ophthalmol.* 2007;30(5 pt.1):497–502.
10. Owsley C, McGwin G Jr, Scilley K, *et al.* Effect of refractive error correction on health-related quality of life and depression in older nursing home residents. *Arch Ophthalmol.* 2007;125(11):1471–77.
11. Owsley C, McGwin G Jr, Scilley K, *et al.* Impact of cataract surgery on health-related quality of life in nursing home residents. *Br J Ophthalmol.* 2007;91:1359–63.
12. Jin YP, Wong DT. Self-reported visual impairment in elderly Canadians and its impact on healthy living. *Can J Ophthalmol.* 2008;43(4):407–13.
13. Carcenac G, Hérard ME, Kergoat MJ, *et al.* Assessment of visual function in institutionalized elderly patients. *J Am Med Dir Assoc.* 2009;10(1):45–49.
14. Labreche T, Stolee P, McLeod J. An optometrist-led eye care program for older residents of retirement homes and long-term care facilities. *Can Geriatr J.* 2011;14(1):8–11.
15. Lawrence V, Murray J, Fytche D, *et al.* “Out of sight, out of mind”: a qualitative study of visual impairment and dementia from three perspectives. *Int Psychogeriatr.* 2009;21(3):511–18.
16. Inouye SK, Viscoli CM, Horwitz RI, *et al.* A predictive model for delirium in hospitalized elderly medical patients based on admission characteristics. *Ann Intern Med.* 1993;119(6):474–81.
17. National Eye Institute. Primary Care Physicians and Eye Health: results of a national web-based survey. Bethesda, MD: NEI; 2009. Available from: <http://www.nei.nih.gov/nehep/research/Manuscript.pdf>. Accessed on Sept 1, 2013.
18. Ordre des optométristes du Québec. Guide d’exercice. Montreal: [n.d.]. Available from: <https://www.ooq.org/optometristes/guide-d-exercice-loi-reglementation-normes-cliniques-etc>. Accessed on June 30, 2013.
19. Clinical Practice Guideline Expert Committee. Canadian Ophthalmological Society evidence-based clinical practice guidelines for the periodic eye examination in adults in Canada. *Can J Ophthalmol.* 2007;42(1):39–45,158–63.
20. Owsley C, McGwin G, Scilley K, *et al.* The visual status of older persons residing in nursing homes. *Arch Ophthalmol.* 2007;125(7):925–30.
21. Lin MY, Gutierrez PR, Stone KL, *et al.* Vision impairment and combined vision and hearing impairment predict cognitive and functional decline in older women. *J Am Geriatr Soc.* 2004;52(12):1996–2002.
22. Reyes-Ortiz CA, Kuo Y-F, DiNuzzo AR, *et al.* Near vision impairment predicts cognitive decline: data from the Hispanic established populations for epidemiologic studies of the elderly. *J Am Geriatr Soc.* 2005;53(4):681–86.
23. Friedman DS, Munoz B, Roche KB, *et al.* Poor uptake of cataract surgery in nursing home residents: the Salisbury Eye Evaluation in Nursing Home Groups Study. *Arch Ophthalmol.* 2005;123(11):1581–87.
24. National Institute for Health and Care Excellence. Delirium. Diagnosis, prevention and management. NICE clinical guideline 103. London, UK: NICE; 2010. Available from: <http://www.nice.org.uk/CG103>. Accessed on Sept 8, 2013.

Correspondence to: Hélène Kergoat OD, PhD,
 École d’optométrie, Université de Montréal, C.P. 6128,
 Succursale Centre-Ville, Montréal, QC H3C 3J7, Canada
E-mail: helene.kergoat@umontreal.ca