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A Study of Vision Care Services in Long Term Care Facilities

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Vision impairment is one of the leading causes of lost independence in older people. Globally there is a lack of policy direction and an over focus on the medical model, which appears to be directed to expanding medical services, rather than on health promotion or prevention for an aging population at a local level. Indeed the high prevalence of vision impairment in older adults, the detrimental effects of it on the independence of the individual, and the lack of detection and treatment of easily detectable and treatable visual disorders provides alarming evidence of a major gap in health services for older adults. This paper will describe a survey to identify the current state of vision care services in long term care facilities in Winnipeg, Manitoba.

The Lack of Vision Care Services in Long Term Care Facilities

Vision impairment is one of the leading causes of lost independence among older adults. The ability to participate in the normal activities of daily living is hampered by visual deficits, thus affecting the elderly person's quality of life (Parrish *et al*., 1997; Evans and Rowlands, 2004; Harwood *et al*., 2005). Depression, behavioral issues, increased cognitive impairment, falls and associated fractures may occur as a result of visual deficits (Brannan *et al*., 2003; Scuffham *et al*., 2003; Harwood et al., 2005). Visual deficits include cataracts, macular degeneration, glaucoma, diabetic retinopathy and refractive errors (Harwood, 2001). Estimates indicate that 20-50% of older people have undetected reduced vision, with the majority suffering from treatable visual problems, such as refractive errors and cataracts (Jack et al, 1995; Reidy *et al*, 1998; Tielsch *et al*, 1990).

Indeed falls are a major source of death and injury in the elderly and vision impairment has been identified as an independent risk factor for falls (Harwood *et al*., 2005). Approximately 70% of fall-induced injuries sustained by older adults are bone fractures. Hip fractures are the most common, contributing up to 40% of all fall-related hospitalizations and admissions to long term care facilities for older adults (Peel *et al*., 2002) and causing the greatest number of deaths and serious morbidity (Kannus and Khan, 2001; Plouffe, 2003). More than 90% of all hip fractures in older adults result from falls and 20% die within a year of the fracture (Zuckerman, 1996). Research supports the adverse effects of cataracts on visual acuity and the functioning of older adults (Evans *et al*., 2002; Owsley *et al*., 2002; Harwood *et al*., 2005). Research indicates that in developed countries between 7% and 34% of older adults have vision impairment that could be treated by corrective lenses. As well, residents who reside in the long term care (LTC) setting have 3.3 times greater amounts of visual deficits than the same age group residing in the community setting (Evans & Rowlands, 2004).

Whilst, there is a plethora of specific medical information relating to eye diseases such as cataracts, glaucoma, senile macular degeneration, there is little research on vision care services in Canada. The lack of interest in eye health issues is particularly surprising given that sight is the sense people most fear losing (Omnimas Survey, 2005). A number of studies indicate that there will be a significant increase in vision impairment and that unless decisive action is taken; this problem will grow exponentially in the next 25 years (Evans and Rowlands, 2004; Thornton *et al.,* 2005). The high prevalence of vision impairment in *older* adults, the detrimental effects of it on the independence of the individual, and the lack of detection and treatment of easily detectable and treatable visual disorders provides alarming evidence of a major global gap in health services for older adults (Ivers *et al*., 2002; Milne, 2006).

Definition of Vision Care Services: Vision screening/ testing conducted by the facility for their residents, followed by assessment or referral to an ophthalmologist, optician, general practitioner or an institute for blindness for further interventions and follow-up as well as the maintenance of eye care equipment.

The Context for Vision Care Services in Canada and Manitoba

The provincial health department regulates health care services for LTC facilities. There is a mixture of privately and publicly owned and for-profit and not-for-profit long-term care homes. All receive a certain amount of public funds. In 1999, 49% of the residents were 85 years and older (Centre on Aging, 2005). The average age at admission is 83 years. Residents range in their level of functional ability from Level 1 (require half an hour of nursing time per 24-hour period) to Level 4 (require at least 3 and half hours of nursing time per 24-hour period). In 1999, 12% of the residents were at Level 4. Since 1985, an increasingly greater number of more dependent individuals, who require more, nursing care, have been admitted to care homes (Menec *et al*., 2002). Residents pay a daily residential rate based upon their income.

In Manitoba, there are no specific guidelines for vision care services in LTC facilities. Manitoba Health has no standards for physicians to follow with respect to vision care services in these homes. Indeed, vision care has not been deemed, "a medically necessary health service". Almost 67% of ophthalmic services are dispensed to patients 65 and older. A patient in the 80+ age group has a per capita fee (service payment) of $108.00, while a patient in the 10-49 age group has a per capita fee of $ 4.20 (The Canadian Ophthalmologic Society, 2002).

The Canadian National Institute for the Blind (CNIB) indicates that by 2015, the number of clients registered with them will be more than 190,000. This estimation only captures 50% of Canadians with vision loss (National Advisory Council on Aging, 1995). By 2021, Manitoba will have the second highest rate of visual impairment and blindness in Canada (The Canadian Association of Optometrists, 2001).

(Margrain *et al*., 2005) suggest that visual impairment is reaching epidemic proportions and paint a picture of patchy provision, fragmentation, complex referral systems and long waiting lists. However, eye health and the needs of people with sight loss appear to be low on the political agenda suggesting that unless action is taken this problem will reach epidemic proportions (Thornton *et al*., 2005).

Research Design

This study examined the extent and quality of vision care services in long term care facilities in Winnipeg. The study occurred over a three-month period using a questionnaire survey and telephone interviews. The 38 facilities were sent a letter informing them of the study and requesting their participation. Four follow-up telephone interviews were conducted with those who indicated in the survey that they provided some form of vision screening and treatment services. The study received approval from the Research Ethics Board and the Regional Health Authority.

Open and close-ended questions were included in the survey. The main areas covered in the questionnaire were: the number of beds in each home; ownership and funding source of each home; demographic characteristics of the residents (age, gender, level of care); presence or absence of a vision care policy; the nature of the vision care services offered; role of the family and staff in obtaining treatment; prevalence of falls; documentation of vision care services; quality of service provided; and whether the facility is interested in obtaining information on instituting vision care services in their facility.

A follow-up telephone call was conducted to those facilities that indicated they provided some form of vision screening and treatment services to their newly admitted residents. This telephone interview provided the researchers with more detailed information on the nature of the services that are provided.

Results

Twenty-eight (N=28) long term care facilities (LTC) participated in the study. They ranged in size from 60 to 420 beds. Table 1 illustrates the types of programs offered by the facilities. Most of the facilities provided respite beds. The other services included such formal programs as, special needs units, a community service program, palliative care unit, a day hospital, and a personal care program.

Table 1: Types of Services Provided by the LTC facilities (N=28)

Services Offered	Number of programs offered
Respite	17
Adult Day	11
Rehabilitation	9
Other	13

In 18 of the facilities, at least 96% of the residents were over 65 years of age. In 22 of the 26 facilities that indicated the proportion of female residents, 70% or more of the residents were female. There were 19 facilities that had at least 25 % of their resident population assessed at a Level 4, level of care.

Vision decline, which is directly related to aging, is an independent risk factor for falls and fractures in this population group. Respondents were thus asked to identify the number of falls per annum and fractures due to falls. The findings identified substantial variation between facilities. The facilities reported a range from less than 1% to 8% of fractures were due to falls. Twelve facilities did not have the information available.

In Winnipeg some facilities reported the number of falls per 1000 resident days (required method of recording such data), while others reported the total number of falls in a one-year period. The number of falls per 1000 resident days ranged from 5 to 30, and the number of falls for one year, ranged from 132 to 983. The benchmark for falls per 1000 resident days is 10. Twelve care homes did not have the information available. There is no specific notification indicator on the occurrence form to indicate that vision may have been a contributing factor to a fall/fracture and therefore no information is available to detect an association between vision and falls.

The facilities were asked whether they provide vision care services upon admission to the facility. Only 6 of the 28 facilities indicated that they do provide such services. Each facility identified one action that was different for each home, for example, one facility stated they refer to an ophthalmologist; another facility indicated they provide on-site optometry assessment upon family/friend request; another stated they conduct these services as part of a research study. These facilities were followed-up by the telephone call to obtain further details on their services. Only one of them was providing screening and treatment services to all of its residents on a consistent basis.

Only six facilities indicated they had a policy on vision care services. When asked why there is no policy, the most frequent reason (provided by 10 facilities) was that they did not have the resources or staff to provide these services. Nine of the facilities indicated their facility had never discussed the issue.

Finally, respondents were asked to indicate whether they provided education sessions on visual deficits and interventions to their staff. Only five indicated they did this, however it is not on any consistent basis. Two of the facilities had conducted such a session over six months ago.

Discussion

This survey confirms the general lack of understanding and application of vision care services in long term care homes in Winnipeg. In particular the results reveal significant differences between facilities. In Manitoba, vision care services have been deemed a medically necessary intervention and yet people aged 65 and over are only entitled to a free eye examination every two years. A lack of guidelines and standards for physicians and facilities exists. Further, only 25% of the facilities that responded to the survey, provided any kind of vision care services.

As well as ongoing investment in the continuing professional development of registered nurses working in this sector, there must also be commitment to the education and training of unqualified members of the workforce. Education is instrumental in staff identifying whether visual loss is affecting the person's functioning and then being knowledgeable about the treatment options. The ageing person themselves does not always recognize the insidious and gradual loss in their vision. It is only upon the appropriate assessment of their vision that a deficit may be uncovered and an analysis of their health care record indicates changes in their behaviour, number of falls, socialization, or cognition. Regular assessment of vision and timely intervention can prevent costly surgery, loss of independence, depression and the other sequelae that are critical factors influencing the older adult's quality of life.

When one considers, that by not providing vision care services to residents who reside in the institutional setting, the risk of a fall with a fracture can become a reality. This fracture, impacts on the independence of the resident and on wait times in the emergency department, for diagnostic imaging and surgery. Further, the provision of vision care services will impact on the need for more thorough vision examination and possible surgical interventions by ophthalmologists, who are already experiencing significant waiting lists for their attention. The increased use of these other services may lead to increased health department costs in one arena, but the lack of services may lead to overall, greater expenditures in the long term, in other areas, such as early institutionalization, increased number of fractures, increased number of surgical interventions, depression, and stress on caregivers.

Summary

Despite the importance of vision in an individual's ability to

function and their quality of life there is a lack of both policy and consistent service delivery for the prevention and treatment of visual deficits experienced by older adults in long term care facilities. Additionally, the survey revealed minimal educational opportunities for staff on vision care. Education is critical to the detection of visual loss. More research needs to include the introduction of a vision screening and treatment program with evaluation of the effects on the prevalence of falls and the quality of life of the residents.

A Vision Screening Program

A program entitled "Eyes on the Elderly: A Falls Prevention Initiative", is currently being implemented at Misericordia Health Centre in Winnipeg, Manitoba by the first author. All residents receive vision screening by registered nurses who have received training on the use of the Vision Screening Kit (Carnicelli, 2001). It is anticipated that from 500 to 550 residents will be eligible for screening. This includes those who reside in the personal care home areas and those who will be admitted and discharged from the interim beds over the duration of the project.

All screened residents will be referred to an on-site optometrist(s). The optometrists will conduct an eye examination. Residents tested and found to have one or more vision disorders may receive the appropriate treatment by the optometrist (such as corrective lens) or may be referred to ophthalmology. Assessment will be conducted and necessary treatment implemented or arranged. The time frame for the project, which includes the period of time from initial screening to intervention, is estimated to extend over 14 months (February 15, 2006 to March 31, 2007).

The Vision Screening Kit is based on the World Health Organization Low Vision Kit and the test used to screen older people in aged care centres (Nottle, et al, 2000; Keeffe, et al, 1996). The Kit was used in a joint initiative between the Royal Victorian Eye and Ear Hospital and the Centre for Eye Research Australia to facilitate access to regular vision screening for people 65 years and older. Seniors who lived in aged care facilities and in the community participated in the initiative. In the aged care facilities, vision screening was attempted on all residents. Thirty-two percent of the 201 residents were unable to be tested due to communication problems caused by cognitive impairment, such as dementia. The decision to screen the resident with cognitive impairment was made at the time of the screening, since there were residents with cognitive impairment who were able to be screened reliably. Of those who were screened, vision impairment was detected in 77% of the residents.

The kit consists of a distance vision test, a near vision test, a pinhole mask, and a matching card. The purpose of the Kit is to detect the presence of vision loss that may affect the person's day to day activities. It does not identify specific visual disorders. People identified with vision impairment upon screening were referred to the appropriate eye care practitioners. No reliability or validity data is available on the Kit.

For more information on the project, contact Ms. Sandy Bell, at sbell@miseri.winnipeg.mb.ca

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More references available upon request

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