



Importance of Eye Health and Vision Care to Healthy Aging

Policy Issue

Canada's rapidly aging population is contributing to an emerging vision crisis. According to the most recent population projections, persons aged 65 years and older will account for 20 per cent of the Canadian population by 2024.ⁱ An aging population means an increase in eye diseaseⁱⁱ, and the need for regular eye examinations for seniors to minimize the burden of eye disease and vision loss. Maintaining eye health, preventing avoidable vision loss, and managing age-related eye disease is key to improving the overall quality of life and economic and social well-being of seniors.

Prevalence of vision loss in seniors

As people age, the normal function of the eye tissue deteriorates, leading to vision loss and eye disease.ⁱⁱⁱ More than 5.5 million Canadians have one of the four major eye diseases and are at serious risk of losing their vision.^{iv} After age 40, the number of cases of vision loss doubles every decade. At age 75, it triples.^v By age 65, 1 in 9 Canadians develop irreversible vision loss and by age 75, this increases to 1 in 4.^{vi} In 2009, it was estimated that by 2015 more than one million people would be living with vision loss and that the number would continue to escalate.^{vii}

The need to manage age-related eye disease

In Canada, the leading causes of age-related vision loss are cataracts (opacity in the lens), glaucoma (optic nerve damage due in part to elevated intraocular pressure), macular degeneration (changes to central vision) and diabetic retinopathy (diabetes-related changes in the eye).^{viii} In all cases, early detection is best achieved through a comprehensive eye examination.

Age-related macular degeneration (AMD) is a leading cause of blindness in seniors. It causes people to lose sharp, straight-ahead vision required for driving, reading, seeing faces and looking at detail.^{ix} It has a strong genetic link, and people who smoke have up to four times the risk of developing it.^x AMD accounts for nearly 90% of new cases of blindness in Canada.^{xi} More Canadians have AMD than have breast cancer, prostate cancer, Alzheimer's disease, and Parkinson's disease combined.^{xii} It is also known to be a risk factor for depression.^{xiii}

Glaucoma is a disease that develops slowly and without obvious symptoms. People often don't know they have glaucoma until they lose some of their eyesight. Loss of vision from glaucoma is not reversible, however, once detected, treatment can delay progression of the disease and may include medication or surgery.^{xiv}

As the leading cause of blindness in Canada, diabetic retinopathy (DR) is largely preventable with early diagnosis and treatment.^{xv} Comprehensive eye examinations at regular intervals can uncover DR at its earliest stages; the earlier treatment is received, the more likely it is to be effective.^{xvi, xvii} An estimated two million Canadians have some form of DR.^{xviii}

Cataracts typically develop slowly and progressively, causing a gradual and painless decrease in vision.^{xix} The best approach is to detect early, monitor progression and consider cataract surgery, which is usually undertaken at the point that the vision loss starts to interfere with the person's visual demands. More than 2.5 million Canadians have cataracts.^{xx}

Impact of vision loss on seniors

Remaining healthy and independent are key factors in healthy aging. The most recent statistics indicate that more than 367,000 Canadian seniors are currently living with vision impairment and vision loss^{xxi}, and the risks to their personal well-being are significant. There are wide-ranging physical and psychological impacts on seniors' quality of life, from issues of depression to a loss of independence or the ability to live at home, limited social interaction, financial hardship, greater burdens on caregivers, including family, and increased risks of other health issues.

- **Socio-economic impacts of vision loss:** include high unemployment rates, social isolation, poverty, increased use of health and social services, and emotional distress.^{xxii}
- **Falls and fractures:** Falls remain the leading cause of injury-related hospitalizations among Canadian seniors. Between 20% and 30% of seniors fall each year.^{xxiii} Falls can have a devastating physical and psychological impact resulting in disability, chronic pain, loss of independence, reduced quality of life, and even death.^{xxiv} Compared to people who are sighted, people with vision loss experience double the incidence of falls and quadruple the incidence of hip fractures.^{xxv}
- **Institutionalization:**
 1. Compared to people of the same age without vision problems, people with vision loss are admitted to nursing homes three years earlier^{xxvi} and have double the mortality rate.^{xxvii}
 2. People with vision loss tend to stay in hospital two-and-a-half days longer than patients with normal vision and have higher hospital costs.^{xxviii}
- **Mental health and wellness:** Seniors with vision loss are more restricted in their activities, have less social interaction, feel lonelier and are at risk of developing depressive symptoms.^{xxix, xxx} They are three times more likely to experience clinical depression.^{xxxi} Seniors with vision loss who are also depressed may have lower quality of life,^{xxxii, xxxiii} and depression is positively associated with four times more risk of activities of daily living disability.^{xxxiv}
- **Activities of daily living:** Compared to people who are sighted, people with vision loss experience double the incidence of difficulties with daily living and social independence.^{xxxv}
- **Support systems:** Vision loss has a "snowball effect" on the health and well-being of older people, families, caregivers and society at large.^{xxxvi}
- **Employment:** Vision loss is also associated with lost productivity in the workforce. Higher absenteeism, premature retirement, and premature death are all more common outcomes among those with vision loss.^{xxxvii}

Cost of vision loss

Vision loss represents a large proportion of the economic burden of illness in Canada. The cost is staggering. It has the highest direct care costs of any other disease in Canada – more than diabetes, cancer, mental disorders, respiratory diseases, arthritis, or cardiovascular disease.^{xxxviii}

In 2007, indirect costs were estimated to add an additional \$7.2 billion to the overall costs of vision loss each year.^{xxxix} The largest indirect cost of vision loss is lost productivity.^{xl} However, the major cost for family and friends comes from lost earnings associated with care giving.^{xli}

The financial costs of vision loss will rise significantly in the coming years, in parallel with increases in the prevalence of eye disease among Canada's aging population. By 2032, it is estimated that the total cost of vision loss could be more than \$30 billion.^{xliii}

- **Prevention:** Research shows the importance of comprehensive eye exams in the early detection of common vision problems and major eye diseases, many of which have no early warning signs, and for early signs of other major health conditions such as diabetes, high cholesterol, high blood pressure, and even cancer.^{xliii}
- **Detecting chronic disease:** Timely access to primary eye care, including a regular comprehensive eye exam, is important not only for seniors' eye health, but also for identifying other chronic conditions that develop with age. The eyes are the only part of the human body that provide a non-invasive view of blood vessels and nerve tissue, providing valuable information about overall health. Changes in the eye often precede or occur concurrently with various system conditions and can represent important prognostic indications of disease progression.^{xliii}

A comprehensive eye examination provides a unique opportunity to detect and monitor the impact and progression of chronic diseases, including diabetes, high cholesterol, vascular disease and hypertension.^{xliii} It is an important component in the evaluation of an individual's overall health status, and a cost-effective strategy for maintaining eye health and supporting healthy aging and independent living for seniors, who are especially vulnerable to poor health and age-related disease.

Policy position

Primary eye care for seniors must become a public health priority. As primary eye care experts, optometrists believe that eye health and vision care are essential to healthy aging and to facilitating the contributions seniors make to their families, communities, workplaces and societies. Canada needs a comprehensive eye health and vision care strategy that maximizes the health, independence and economic participation of our seniors, who are at greater risk of vision loss and blindness.

Primary eye care and preventive services are key to helping Canadian seniors maintain their eye health and vision. This includes an annual comprehensive eye exam for all those over 65 years of age. Those with ocular or systemic disease should be seen as recommended by an optometrist.

Enhanced interprofessional collaboration and collaborative care teams will be a key success factor in managing and treating seniors' eye health and vision in the future.

For those seniors living with vision loss, affordable access to corrective treatments, adaptive devices and rehabilitation services in the community are required. Access to vision rehabilitation services in the community can allow people with low vision, or those who are blind, to continue to live independently and maintain their accustomed quality of life. Optometrists can provide low vision assessment and rehabilitation and create a low vision rehabilitation plan. This includes the optimization of vision with correct spectacles, provision of low vision devices, training in the use of those devices, provision of other information, vision training and strategies. The optometrist would refer to other professionals (e.g. low vision therapists or vision rehabilitation therapists) for further rehabilitation training, as required, for completion of the rehabilitation plan. These providers can offer further training in the most efficient use of vision and/or non-optical devices, assistive

technologies to help with activities of daily living, orientation and mobility training, and can help to determine suitable environmental modifications at home or work.^{xlvi}

Research into preserving and restoring vision and managing the progression of disease is also essential.

-January 14, 2019

References

- i Statistics Canada. 2015. Canada's Population Estimates: Age and sex, July 1, 2015. Accessed November 7, 2016 at: <http://www.statcan.gc.ca/daily-quotidien/150929/dq150929b-eng.htm>
- ii The National Coalition for Vision Health. 2011. Vision Loss in Canada. http://www.cos-sco.ca/wp-content/uploads/2012/09/VisionLossinCanada_e.pdf
- iii National Eye Health Education Program. 2006. Eye Health Needs of Older Adults Literature Review.
- iv CNIB. Blindness spectrum fact sheet. Toronto: CNIB Ontario.
- v CNIB & Canadian Ophthalmological Society. 2009. The Cost of Vision Loss in Canada: Summary Report. vi The National Coalition for Vision Health. 2011. Vision Loss in Canada. http://www.cos-sco.ca/wp-content/uploads/2012/09/VisionLossinCanada_e.pdf
- vii CNIB & Canadian Ophthalmological Society. 2009. The Cost of Vision Loss in Canada: Summary Report.
- viii CNIB Foundation. Blindness in Canada. Accessed December 7, 2018 at: <https://cnib.ca/en/sight-loss-info/blindness/blindness-canada?region=on>
- ix CNIB & Canadian Ophthalmological Society. 2009. The Cost of Vision Loss in Canada: Summary Report.
- x Ibid.
- xi CNIB Foundation. Blindness in Canada. Accessed December 7, 2018 at: <https://cnib.ca/en/sight-loss-info/blindness/blindness-canada?region=on>
- xii CNIB. AMD Fact Sheet.
- xiii Casten, R. & Rovner, B. (2008). Depression in Age-Related Macular Degeneration. Journal of Visual Impairment and Blindness 102(10), 591-599.
- xiv National Eye Institute. Facts about Glaucoma. Accessed December 7, 2018 at: https://nei.nih.gov/health/glaucoma/glaucoma_facts
- xv National Eye Institute. Facts about Diabetic Eye Disease. Accessed April 19, 2017 at: <https://nei.nih.gov/health/diabetic/retinopathy>
- xvi Access Economics Pty Limited. The cost of vision loss in Canada [full report]. CNIB and COS; 2009. Available from: http://www.cnib.ca/eng/cnib%20document%20library/research/covl_full_report.pdf
- xvii Patel, M. & Chen, H. (2009). The socioeconomics of diabetic retinopathy. Retinal Physician, 6(7), 41-42,44-47.
- xviii St. Joseph's health Care London. February 6, 2017. Diabetes is a leading cause of blindness in Canada. Accessed December 7, 2018 at: <https://www.sjhc.london.on.ca/your-st-josephs/newsroom/diabetes-leading-cause-blindness-Canada>.
- xix Canadian Ophthalmological Society. Cataract. Accessed December 7, 2018 at: <http://www.cos-sco.ca/vision-health-information/conditions-disorders-treatments/cataract>

xx CNIB. Blindness in Canada. Accessed December 2018 at: <https://cnib.ca/en/sight-loss-info/blindness/blindness-canada?region=on>

xxi Statistics Canada, Participation and Activity Limitation Survey, 2006. Seeing limitation rates by age, 2006. Accessed December 2018 at: <https://www150.statcan.gc.ca/n1/pub/89-628-x/2009013/tab/tab1-eng.htm>

xxii Jin, Y. & Wong, D. (2008). Self-reported visual impairment in elderly Canadians and its impact on healthy living. Canadian Journal of Ophthalmology 43(4), 407-413.

xxiii Public Health Agency of Canada. Seniors' Falls in Canada: Second Report. 2014. Executive Summary. Accessed November 23, 2018 at: https://www.canada.ca/content/dam/phac-aspc/migration/phac-aspc/seniors-aines/publications/public/injury-blessure/seniors_falls-chutes_aines/assets/pdf/seniors_falls-chutes_aines-eng.pdf

xxiv Accreditation Canada, Patient Safety Institute, Canadian Institute for Health Information "Preventing Falls: From Evidence to Improvement in Canadian Healthcare" 2014. Accessed March 2017: http://www.patientsafetyinstitute.ca/en/toolsResources/Documents/Interventions/Reducing%20Falls%20and%20Injury%20from%20Falls/FallsJointReport_2014_EN.pdf page 5

xxv CNIB & Canadian Ophthalmological Society. 2009. The Cost of Vision Loss in Canada: Summary Report.

xxvi Ibid.

xxvii National Coalition for Vision Health. 2010. Vision Loss in Canada 2011. Accessed March 2017 at: http://www.cos-sco.ca/wp-content/uploads/2012/09/VisionLossinCanada_e.pdf

xxviii The High Cost of Low Vision: The Evidence on Ageing and the Loss of Sight. International Federation of Aging. Accessed December 11, 2018 at: <https://www.ifa-fiv.org/wp-content/uploads/2013/02/The-High-Cost-of-Low-Vision-The-Evidence-on-Ageing-and-the-Loss-of-Sight.pdf>

xxix Renaud, J. & Bedard, E. (2013). Depression in the elderly with visual impairment and its association with quality of life. Clinical Interventions in Aging 8, 931-943.

xxx Burmedi, D., Becker, S., Heyl, V., Wahl, H., & Himmelsbach, I. (2002). Emotional and social consequences of age-related low vision. Visual Impairment Research 4, 47-71.

xxxi CNIB Fast Facts about Vision Loss. Retrieved at <http://www.cnib.ca/en/about/media/vision-loss/pages/default.aspx>

xxxii Renaud, J. & Bedard, E. (2013). Depression in the elderly with visual impairment and its association with quality of life. Clinical Interventions in Aging 8, 931-943.

xxxiii IsHak, W., Greenberg, J., Balayan, K., Kapitanski, N., Jeffrey, J, et al. (2011). Quality of life: The ultimate outcomes measure of interventions in major depressive disorder. Harv Rev Psychiatry 19(5), 229-239.

xxxiv Dunlop, D., Manheim, L., Song, J., Lyons, J., & Chang, R. (2005). Incidence of disability among preretirement adults: The impact of depression. Am J Public Health 95(11), 2003-2008.

xxxv National Coalition for Vision Health. 2010. Vision Loss in Canada 2011. Accessed March 2017 at: http://www.cos-sco.ca/wp-content/uploads/2012/09/VisionLossinCanada_e.pdf

xxxvi International Federation on Ageing “The High Cost of Low Vision” 2013. Page 4. Accessed March 2017: <https://www.ifa-fiv.org/wp-content/uploads/2013/02/The-High-Cost-of-Low-Vision-The-Evidence-on-Ageing-and-the-Loss-of-Sight.pdf>

xxxvii Ibid. Page 5.

xxxviii CNIB & Canadian Ophthalmological Society. 2009. The Cost of Vision Loss in Canada: Summary Report.

xxxix Ibid.

xl Ibid. xli Ibid. xlii Ibid.

xliii All About Vision. 2016. Why are Eye Exams Important? Accessed April 19, 2017 at: <http://www.allaboutvision.com/eye-exam/importance.htm>

xliv Hazin, R. Lum, F., Daoud, YJ. (2012). Ophthalmic features of systemic diseases. Ann Med 44(3), 242-52.

xlv United Healthcare. (2014). Impact of Eye Exams in Identifying Chronic Conditions. Page 2. Retrieved on May 15, 2017 at <https://www.uhc.com/content/dam/uhc-dot-com/en/Employers/PDF/EyeExamsChronicConditions.pdf>

xlvi VisionAware. 2018. Vision Rehabilitation Services. Accessed December 7, 2018 at: <http://www.visionaware.org/info/everyday-living/essential-skills/vision-rehabilitation-services/123>