VISION PROBLEMS AMONG SENIORS

Wayne J. Millar

About half (51%) of the population aged 12 or older had a vision problem in 2003, according to data from the Canadian Community Health Survey (CCHS). Some of the more serious vision problems, which may diminish quality of life and increase the risk of social isolation, depression and injury, can be especially problematic for seniors.[1-3] Seniors make up just 14% of the population aged 12 or older, yet they accounted for 23% of all people with vision problems, and nearly 20% of all consultations with eye doctors in 2003.

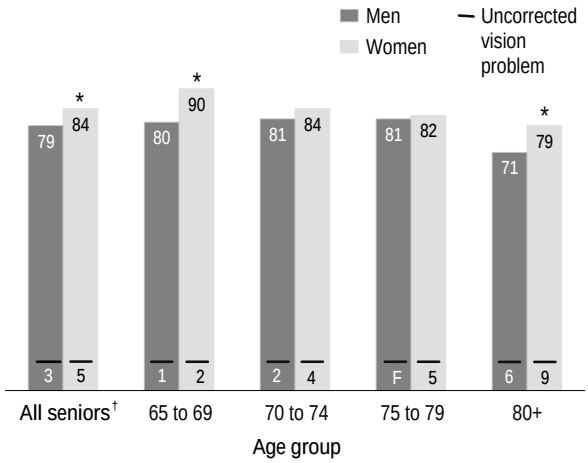
Aging and vision problems

Many older people experience problems with their vision, ranging from difficulty reading or watching television to more serious impairments such as being unable to drive or read. About 3 million Canadian seniors—82% of the population aged 65 or older—reported having a vision problem in 2003 (Table A). Newfoundland and Labrador (79%) and Alberta (79%) were the only provinces where the proportion of seniors with vision problems differed from the national figure.

Overall, the proportion of senior women with vision problems was higher than that for their male counterparts.

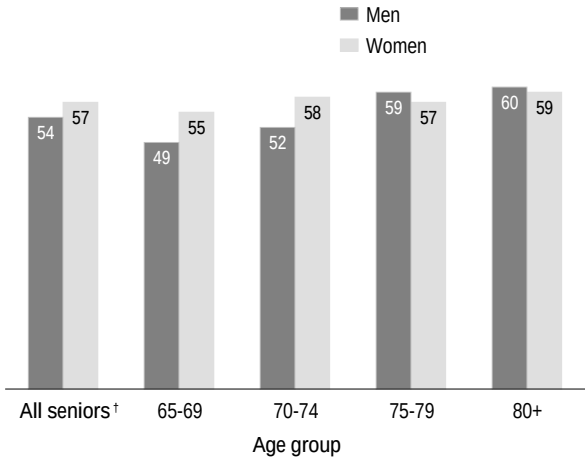
Although most seniors with vision problems reported that their difficulties had been corrected (78%), 4% had "uncorrected" problems, which include those not amenable to correction. The proportion of uncorrected vision problems was highest (8%) at age 80 or older.

Percentage of seniors with vision problems



Data source: 2003 Canadian Community Health Survey
† Age-adjusted
** Significantly higher than estimate for men ($p < 0.05$)*
F Coefficient of variation greater than 33.3%

Percentage of seniors who consulted opthalmologist/ optometrist in past year



Data source: 2003 Canadian Community Health Survey
† Age-adjusted

Consultations with eye doctors

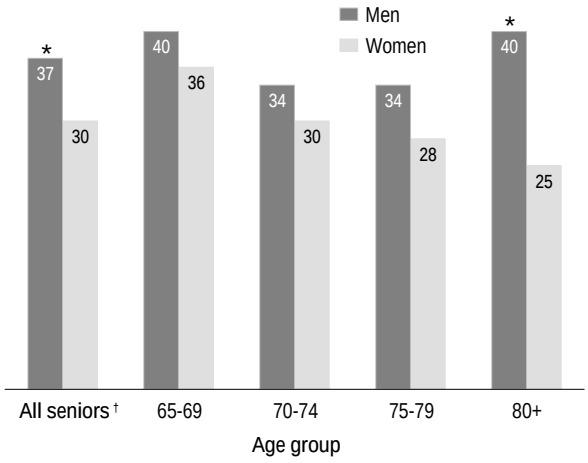
In 2003, over half (56%) of seniors had consulted an ophthalmologist or optometrist in the past year. Among the most elderly, proportions were similar: about 6 in 10 had had consultations with eye care specialists. Regardless of age group, there was no difference in consultation rates of men and women. "Consultation," however, does not necessarily imply that an examination was conducted.

Insurance

One-third of seniors stated that they had insurance to cover all or part of the costs of eye glasses or contact lenses. In the 65-to-69 age group, the proportion with vision care insurance (38%) was higher than the national rate; and at age 80 or older the rate (30%) was lower than the national average. Men (37%) were more likely than women (30%) to state that they had vision care insurance.

In Prince Edward Island, Nova Scotia, New Brunswick, Ontario and Alberta, the percentage of seniors with vision care insurance was higher than the national rate of 33%. Québec's rate was 18%. Most provinces have some provision for vision care for seniors.

Percentage of seniors with vision care insurance



Data source: 2003 Canadian Community Health Survey
† Age-adjusted
** Significantly higher than estimate for women (p < 0.05)*

Cataracts

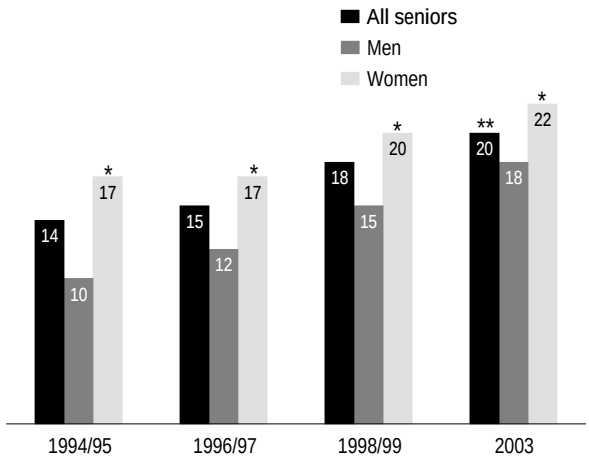
Cataracts, a clouding of the eye's lens, are a leading cause of vision impairment among seniors. Left untreated, cataracts can result in a progressive, painless loss of vision,[4] so surgery may eventually be necessary. Cataract surgery is generally successful at restoring vision.[5,6]

Between 1994/95 and 2003, the proportion of seniors with cataracts rose from 14% to 20%. The proportion of men with cataracts rose from 10% to 18%; for women, the corresponding figures were 17% and 22%. The increase occurred in all senior age groups.

In 2003, at ages 65 to 69, the proportion reporting cataracts was just 12%, but by age 80 or older, 28% were affected. The overall proportion of women was higher than that for men because of a higher prevalence of cataracts among women aged 70 to 74. There was no difference by sex in the other age groups.

Greater awareness of treatment possibilities among seniors, resulting in a higher demand for surgery, may be a factor in increased reporting of cataracts. In the past, cataract removal was mainly an inpatient procedure, but is now generally performed as day surgery. Surgical technique has also improved.[7]

Percentage of seniors with cataracts



Data sources: 1994/95-1998/99 National Population Health Survey; 2003 Canadian Community Health Survey
** Significantly different than estimate for men (p < 0.05)*
*** Significantly different than estimate for all seniors in 1994/95 (p < 0.05)*

Glaucoma

Glaucoma encompasses a number of conditions associated with pressure in the eye. Changes in eye pressure may cause irreversible damage to the optic nerve, with consequent vision loss or blindness. Symptoms may not be apparent until late in the disease, but with detection and treatment, vision can be preserved.[8,9]

In 2003, 241,000 seniors (6%) had glaucoma. Prevalence increased with age, peaking in the oldest age group. The overall prevalence of glaucoma was

Percentage of seniors with cataracts or glaucoma

	Both sexes	Men	Women
	%	%	%
Cataracts			
All seniors	20	18	22
65 to 69	12*	11*	13*
70 to 74	19	16	22
75 to 79	26*	25*	27*
80+	28*	25*	30*
Glaucoma			
All seniors	6	6	7
65 to 69	4*	4*[E1]	4*[E1]
70 to 74	6	6[E1]	6
75 to 79	7	6[E1]	8
80+	10*	9*	10*

Data source: 2003 Canadian Community Health Survey
** Significantly different from estimate for all seniors ($p < 0.05$)*
E1 Coefficient of variation between 16.6% and 25.0%

higher among women than men, but the difference reflected higher rates among women in the 75-to-79 and 80-or-older age groups.

Between 1994/95 and 2003, the prevalence of glaucoma increased from 5% to 6%—a change attributable to an increase among women. In 2003, 7% of women had been diagnosed with glaucoma, compared with 5% in 1994/95. The rate for men did not change during the period.

Diabetes

Diabetes is an important cause of blindness and other vision problems. In 2003, about 13% of seniors had been diagnosed with diabetes (data not shown). For corrected vision problems, the proportions of diabetics and non-diabetic seniors did not differ substantively from the national figures. However, 6% of seniors with diabetes reported an uncorrected vision problem, compared with 4% of non-diabetics (Table A). Since diabetics are more likely (63%) than non-diabetics (55%) to have consulted an eye doctor in the past year, they were more likely to have any vision problems diagnosed. A problem may be uncorrected because a diabetic might be waiting for surgery, as in the case of cataracts, or the problem might be one that is not amenable to correction.

The Questions

The estimates of seniors with *vision problems* were based on responses to the following questions:

- Are you usually able to see well enough to read ordinary newsprint without glasses or contact lenses?
- Are you usually able to see well enough to read ordinary newsprint with glasses or contact lenses?
- Are you able to see at all?
- Are you able to see well enough to recognize a friend on the other side of the street without glasses or contact lenses?
- Are you able to see well enough to recognize a friend on the other side of the street with glasses or contact lenses?

For this analysis, responses were grouped into three, possibly overlapping, categories: vision problems, corrected vision problems, and uncorrected vision problems.

The prevalence of *cataracts* or *glaucoma* was based on self-reported information from a series of questions about diagnosed chronic conditions.

Consultation with an eye specialist was based on responses to: "In the past 12 months, how many times have you seen or talked on the telephone with an eye specialist (such as an ophthalmologist or optometrist)?"

Insurance for vision care was based on responses to: "Do you have insurance that covers all or part of the costs of eye glasses or contact lenses."

Vision disabilities

Statistics Canada's Participation and Activity Limitation Survey (PALS) collected information about people whose everyday activities were limited because of a health-related condition or problem. PALS defined a vision disability as "difficulty in seeing ordinary newsprint or clearly seeing the face of someone from four metres" with glasses or contact lenses. Therefore, PALS estimates of "vision disabilities" differ from estimates of "vision problems" based on data from the CCHS. According to PALS, 8.5% of the population aged 55 or older had a disability related to vision in 2001. More information about vision disability in PALS is available in a recent publication.[10]

Data sources

Data from the 2003 Canadian Community Health Survey (CCHS) and the 1994/95, 1996/97 and 1998/99 National Population Health Survey were used to produce the estimates of vision problems, including cataracts and glaucoma.

The CCHS is a general health survey that covers the household population aged 12 or older.[11] It does not include residents of Indian reserves, Canadian Forces bases, and some remote areas. Data for cycle 2.1 were collected between January and December 2003. The overall response rate was 80.6%, and the sample size was 135,573. The sample for the population analyzed in this article—65 or older—was 13,820, representing 3.8 million seniors. To account for the multi-stage sample design of the survey, the bootstrap technique was used to calculate confidence intervals and coefficients of variation, and to test the statistical significance of differences. A significance level of $p < 0.05$ was applied in all cases.[12-15] Summary measures were age-adjusted to the 2003 population aged 65 or older.

Although diabetic retinopathy and age-related macular degeneration are important causes of vision loss, information on these two conditions is not available in the CCHS.

Wayne J. Millar (613-951-1631; Wayne.Millar@statcan.ca) is with the Health Statistics Division at Statistics Canada, Ottawa, Ontario, K1A 0T6

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Table A

Age-adjusted rates, selected indicators of vision problems and vision care for seniors

	Sample	Population	Vision problems			Consulted eye specialist in past year
			Total	Corrected	Uncorrected	
		'000	%	%	%	%
Age group						
All seniors	13,820	3,780	82	78	4	56
65-69	4,026	1,214	85*	83*	2*E1	52*
70-74	3,611	988	82	79	3*E1	55
75-79	2,925	791	82	78	4	58
80+	3,258	787	76*	68*	8*	59*
Men	5,390	1,657	79	76*	3*	54
65-69	1,797	579	80	79	1*E1	49*
70-74	1,478	466	81	79	2E1	52
75-79	1,113	346	81	78	F	59*
80+	1,002	266	71*	65*	6*E1	60*
Women	8,430	2,123	84	80*	5*	57
65-69	2,229	635	90*	87*	2*E1	55
70-74	2,133	522	84	80*	4E1	58
75-79	1,812	445	82	78	5E1	57
80+	2,256	521	79*	70*	9*	59
Diabetic status						
Diabetic	1,949	503	81	74*	6*	63*
Not diabetic	11,850	3,272	82	78*	4*	55*
Missing	21	5	F	F	F	F
Province						
Newfoundland and Labrador	702	61	79	74	5E1	43*
Prince Edward Island	496	18	85	80	5E2	61
Nova Scotia	1,228	120	85*	82	3E1	55
New Brunswick	1,142	93	85*	81	4E1	51
Québec	5,631	927	82	78	4	54
Ontario	1,698	1,458	82	78	3	61*
Manitoba	698	143	80	76	4E1	48*
Saskatchewan	492	134	81	74	7*E1	51
Alberta	755	302	79	75	4E1	54
British Columbia	978	525	83	78	5E1	51*

Data source: 2003 Canadian Community Health Survey
Notes: For age comparisons, the total estimate for Canada was used as the reference category. Because of rounding, detail may not add to totals.
** Significantly different from reference category ($p < 0.05$)*
E1 Coefficient of variation between 16.6% and 25.0%
E2 Coefficient of variation between 25.1% and 33.3%
F Coefficient of variation greater than 33.3%