ESCALATING rates of low vision are creating a rapidly growing demand for services and strategies to help people with significant vision loss. In order to deal with the problem, Canadian ophthalmologists and other vision health specialists are working to define just how many people have low vision, what their needs are, what services are available, and what is needed.

Some of their efforts were highlighted at the annual meeting of the Canadian Ophthalmological Society (COS). In addition, in an unusual move, the entire June 2006 issue of the Canadian Journal of Ophthalmology (CJO) was dedicated to the topic, with numerous papers describing the scope of the problem and efforts to solve it.

One aspect brought up by Canadian ophthalmologists is a shift in the concept of low vision rehabilitation. “New research in low vision has redefined as the rehabilitation stage of ophthalmology, all those efforts aimed at helping people with visual impairment, which have exhausted medical and surgical options. This conceptual change in definition identifies all care for the visually impaired as a rehabilitation process, following all principles of rehabilitation medicine, and hence the new term ‘low vision rehabilitation,’” according to the editorial Samuel Markowitz, MD FRCS(C), wrote in the June 2006 CJO.

At the same time, Dr Markowitz, who is an assistant professor of ophthalmology at the University of Toronto, pointed out that ophthalmology’s interest in low vision rehabilitation has always been there.

“Involvement in low vision rehabilitation may have come late to ophthalmology, perhaps because concern for the medical and surgical care of patients has preoccupied much of our time and attention in the past, however, low vision care was always present in our minds and the occasional visual aid was commonly found in many offices for demonstration to patients,” he wrote in the CJO.

Another important issue is who works with the patients? Very few ophthalmologists practise low vision rehabilitation, and only have some academic centres teach low vision rehabilitation. Speaking at the COS conference, Dr Markowitz said that low vision rehabilitation is a multidisciplinary effort where ophthalmologists can play a leadership role along with optometrists, opticians, occupational therapists, social workers, vision rehabilitation teachers and orientation and mobility specialists.

In Canada, most ophthalmologists and optometrists refer their low vision patients to services. While many perform low vision assessments and prescribe devices, only about 10 ophthalmologists and 60 optometrists in the country are known to be actual low vision rehabilitation specialist practitioners. Various organisations, including the Canadian National Institute for the Blind (CNIB), which has 53 offices across Canada, also provide rehabilitation, counselling, technical aids, and more.

Public coverage of low vision assessments varies across the country with some provinces providing limited funding. Based on new demographic data, Canada needs to expand coverage for all low vision assessments, cover vision rehabilitation therapy, and increase the number of ophthalmologists practising low vision rehabilitation, Dr Markowitz said.

The high cost of low vision

Hugh Taylor, MD from the University of Melbourne, Australia, provided insights into the impact of low vision on society. Studies in Australia show that 13 per cent of costs for low vision aids are out-of-pocket costs carried by individuals and their families – adding up to about $1.2bn (AUS) per year. He reminded the audience that many low vision patients have low income and low employment rates, meaning many don’t get the devices they need.

This is true in Canada too, according to a study presented at the COS by Deborah Gold PhD, and William Hodge MD, from the University of Ottawa. Their study found that 19 per cent of all adults with low vision had a gross annual income of $10,000 (CAD) or less and only 28 per cent of low vision adults are employed.

The study was based on interviews with 352 people with significant visual loss.

Several speakers at the COS conference said ophthalmologists will tell certain patients with vision loss that nothing else can be done medically, but unfortunately don’t clarify the message by saying that other services, such as vision rehabilitation, are available. “Ophthalmologists should say ‘while I can’t offer more treatments, there are services and other options that can help’,” Dr Taylor said.

A study in the CJO by Dr Gold et al, looked at barriers people with low vision had to face in attaining services, as well as the barriers practitioners experience in providing those services. This national survey found that optometrists provide more low vision services than the other professional groups. When defining low vision, the specialties differed: optometrists stated visual acuity was most important, while most ophthalmologists and opticians rated functional visual ability highest.

Barriers to treatment included the fact that most patients wait to get their eyes examined after vision loss affects their ability to pursue regular activities. Waiting to see an ophthalmologist typically takes about three months, but waiting time to see an optometrist is much shorter.

The researchers noted that older people often assume that decreased sight is a natural part of ageing. This lack of awareness and understanding of vision loss was mentioned by participants as an important barrier to the use of low vision services.

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The authors argue that ophthalmologists and optometrists are not adequately compensated for the costs of providing low vision services since equipment is expensive and the services are time consuming. More training is needed to help eye care specialists provide low vision services, plus existing services aren’t sufficient for increasing numbers of patients.

The researchers also pointed out that a 2001 Statistics Canada study identified 300,000 seniors with seeing disabilities, “while the number of CNIB clients aged 60 or older is 24,123. This suggests that there may be a significant population of seniors with vision impairments either not receiving referrals or choosing not to seek vision rehabilitation services.”

Start planning for the future

One thing needed in order to plan for the future is good epidemiological data, said Michael Fielden MD from the University of Ottawa. Unfortunately, “except for one clinic-based regional study, there are no direct population-based Canadian estimates for age-related eye diseases,” he said.

In order to estimate and project the number of people with common age-related eye diseases (eg, glaucoma, AMD, diabetic retinopathy, cataract), a study was performed using disease prevalence estimates from large population-based surveys from around the world. Age and sex-specific prevalence rates from these studies were applied to Canadian population estimates and projections.

Data was used to create a model that would predict trends across the country from the years 2001 to 2026.

To create the model, international studies such as the Blue Mountain Eye Study, the Beaver Dam Eye Study, and more, were utilised. Age and sex-specific prevalence rates from these studies were applied to Canadian population estimates and projections.

Results suggest Canada will see dramatic increases in the number of people with blinding age-related eye diseases. For instance, people with AMD will increase 88 per cent over 25 years (219,000 to 412,000 cases); open-angle glaucoma cases will increase 70 per cent (205,000 to 349,000 cases); cataracts will jump 83 per cent (2,379,000 to 4,343,000 cases); and diabetic retinopathy cases will increase 64 per cent (415,000 to 681 cases).

Data suggest the burden will vary across the country, in part because of different population demographics and projections between the provinces. Alberta, British Columbia and the Territories will face the biggest rates of increase with Alberta expected to be in the lead of the provinces. “Innovation, vigorous advocacy, policy development and healthcare planning are urgently required in Canada to address this epidemic of age-related eye diseases,” he said.

At the COS, Jeffrey Jutal, PhD, associate professor of physical medicine and rehabilitation at the University of Western Ontario, pointed out that epidemiologic information is also badly needed to determine what services are needed, which ones work the best, and where the opportunities are to make improvements.

He described initial findings from a vision rehabilitation evidence-based review (VREBR).

The purpose of aVREBR is to summarise the best evidence related to the effectiveness of low vision rehabilitation in a way that is accessible and understandable to practitioners and policy makers, he said. The review included various studies related to low vision. Studies were sorted according to the type (randomised controlled trials, cohort studies, etc.) and ranked according to the quality of evidence they provided. A VREBR helps define where the evidence is strongest and what should be put into practice, versus areas that are weaker and need more research.

The researchers found very little high-quality evidence proving the effectiveness of many low vision interventions. They found a large body of non-randomised trials and only a small number of the higher quality

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