

**REPORT OF THE
CATARACT SURGERY
EXPERT PANEL**

July 2005

**Dr. Phil Hooper
Expert Panel Chair**

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EXECUTIVE SUMMARY

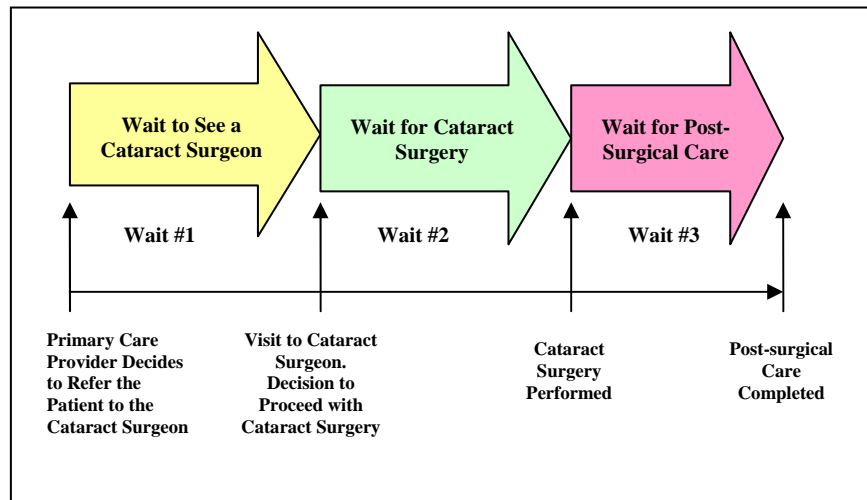
Cataracts are caused when the lens of the eye becomes clouded making it difficult for a person to see. Cataracts are the most common cause of reversible vision loss since they develop as part of the aging process. Cataract surgery decreases the functional impairment that happens because of poor vision, and increases a person’s autonomy and independence. Cataract surgery is a highly successful procedure that costs relatively little compared to major surgeries. Cataract surgery has few complications and excellent functional results, improving visual function in over 95% of cases.

Cataract surgery is one of the five priority services in Ontario’s Wait Time Strategy. In October 2004, the Ministry of Health and Long-Term Care (Ministry) established the Cataract Surgery Expert Panel to recommend a plan that provides Ontarians with equitable access to cataract surgery in a timely manner. Chaired by Dr. Phil Hooper, Chair of Ophthalmology at the University of Western Ontario and Chief of Ophthalmology at Saint Joseph’s Health Care (London), the Panel is providing its advice to the Minister of Health and Long-Term Care, George Smitherman, through Dr. Alan Hudson, Lead of Access to Services and Wait Times, who is charged with leading the implementation of the Strategy.

To inform its deliberations and recommendations, the Panel conducted 12 site visits with facilities that provide cataract surgery, reviewed data from the Ontario Health Insurance Plan, and examined the experiences of other jurisdictions

THE PANEL’S DEFINITION OF WAIT FOR CATARACT SURGERY

Measuring the length of time a patient truly waits for cataract surgery is complex. For the purposes of the Wait Time Strategy and the access management registry, the Panel identified the wait for cataract surgery as being from the day the surgeon and patient decide to proceed with cataract surgery and the patient provides oral or written consent, to the day the cataract surgery is performed (Wait #2).



THE PANEL'S ASSESSMENT OF THE MINISTRY'S SHORT-TERM SOLUTIONS TO REDUCE WAIT TIMES FOR CATARACT SURGERY

The Ministry's short-term solutions to reduce wait times for cataract surgery included funding 2,000 more cataract cases by March 31, 2005, and 16,000 more cases in 2005/06 (using 2003/04 as the base year). The Panel provided advice on the criteria for allocating additional cataract surgeries for 2005/06. Since its initial advice, the Panel notes that there is a need for more robust data upon which to make future allocation decisions. In addition, the 2006/07 allocation should be based on 2004/05 volumes. The Panel is concerned that short-term solutions do not enable facilities to build the capacity needed to improve access over the long term. If the benefits of the Strategy are to be sustained, facilities need to know their long-term role in providing cataract surgery within their Local Health Integration Networks. There is also a concern that the focus on cataract surgery may impact negatively on timely access for services to manage other ocular diseases. Strong consideration should be given to expanding the Strategy to include a broader range of these diseases.

THE PANEL'S DELIBERATIONS AND RECOMMENDATIONS ON A PROVINCIAL PLAN TO PROVIDE EQUITABLE ACCESS TO CATARACT SURGERY SERVICES IN A TIMELY AND APPROPRIATE MANNER

The Panel identified six elements of a provincial cataract surgery plan.

1. Best Practice Targets and Approaches to Support Standardisation

Ontario does not have population-based targets for cataract surgery. The Panel supports the need to develop an Ontario-specific population-based target for the number of cataract surgeries per 100,000 population, but believes that it would be inappropriate to recommend a target at this time due to the lack of data. The Panel recommends that the Ministry, in partnership with providers and researchers, develop a population-based planning target for the number of cataract surgeries per 100,000 population, adjusted for age and sex.

The 12 case study sites have achieved *efficiencies through standardisation*. Based on these cases and a review of process standards elsewhere, the Panel concludes that Ontario facilities appear to have standardised equipment and reduced lengths of surgical cases so that there are few technical efficiency improvements remaining. In some facilities, efficiencies may be found in pre-operative processes, and patient transport and turnover. The major area for efficiency improvements in most centres will be using all available staffed time for surgery.

The Panel identified the need for a *tool to prioritise patients waiting for cataract surgery along with wait time targets*. Generally, hospitals do not know the length of their ophthalmologists' wait lists and, in the majority of cases, how or if their ophthalmologists prioritise patients for cataract surgery. Although some facilities have developed and implemented patient priority tools, Ontario does not have a provincial priority rating tool

for cataract surgery. In its review of patient priority tools, the Panel notes that visual acuity and visual function (or impairment) are two different measures that are poorly correlated. Studies have shown that pre-operative visual acuity is a poor predictor of post-operative functional improvement. Visual function indices appear to correlate more strongly with functional improvement after cataract surgery than visual acuity indices. The Panel concludes that a person's visual function appears to be more important for determining a patient's urgency for cataract surgery, and that basing the decision for cataract surgery on visual acuity alone is not recommended.

The Panel supports a priority rating tool that is simple and easy to use. A tool with four distinct classes of patients waiting for cataract surgery with clearly defined wait time targets for each class is recommended. The Panel deliberated at length whether patients should be on a surgical waiting list if they have cataracts that are producing visual impairment but not enough to impair their ability to function in the workplace or without assistance. Although it is expected that the demand for cataract surgery will continue to increase in person's with low levels of functional impairment – and the incidence of these persons should be captured – the Panel's view is that valuable public health care dollars must be invested where they are most needed. It is appropriate that most cataract surgeries be performed on patients with higher levels of functional impairment.

2. An Organisational Focus on Wait List Management

The Panel believes that funding additional surgeries is a necessary but insufficient condition to achieve the Wait Time Strategy's goal. The Panel recommends that hospital Boards, management and surgeons work together to shorten waits for cataract surgery in their facilities. In addition, LHINs should take a leadership role by getting hospitals and surgeons to work together to shorten waits in the LHIN.

3. Data and Information Management

In February 2005, the Expert Panel recommended that hospitals receiving additional cataract surgery cases in 2005/06 submit data to inform allocation decisions for 2006/07. The Panel has since reassessed its advice about the data to be collected and concludes that visual acuity does not adequately differentiate patients, correlates poorly with functional outcome, and provides little evidence of a patient's level of disability while waiting for surgery. In addition, collecting data on cataract surgery outcomes may be a lower priority than collecting other data, since surgical outcomes are favourable regardless of the level of disability before surgery, and complication rates are low.

Comprehensive and complete data that uses standard definitions is required to make good decisions. The Panel recommends that the Ministry ensure the timely and cost effective collection by facilities of relevant data for cataract surgery, as part of the Wait Time Strategy. Furthermore, the Panel recommends that ideal performance capacity for cataract surgery be developed using a well developed methodology and appropriate data.

4. Human Resources

Ophthalmologists provide medical, elective and emergency ophthalmologic care. The case studies conducted for this review show that the number of cataract surgeries performed by ophthalmologists in a single operating room ranged from 4 to 40 cases per day, with the majority performing an average of 13 cases per day. The range is due to factors such as hospital funding for cataract surgeries, ophthalmologist practice patterns, and the number of surgeries ophthalmologists can perform within their salary caps. (It is noted that salary caps are no longer an issue.) Although removing salary caps for ophthalmologists created additional capacity, it is a short-term solution for improving access to cataract surgery. In the longer-term, the Panel recommends that the Ministry support the expansion of residency training programs for ophthalmologists to replace those who are leaving the profession. As well, hospitals are encouraged to allocate new operating time for cataract surgery to new ophthalmologists.

Optometrists play a valuable role in the pre-operative and post-operative management of cataract patients. At the present time, access to optometric care does not appear to be limiting the ability of patients to access cataract surgery in a timely fashion.

The lack of appropriate *anesthesiology* coverage can impact on a hospital's ability to perform more cataract surgeries. The Panel recommends that hospitals applying to increase their cataract volumes ensure that their ophthalmology operating rooms have appropriate anesthesia support. Hospitals should facilitate the use of anesthesiology extenders in cataract surgery, where appropriate, to complement and expand anesthesia services currently provided by anesthesiologists. These providers should meet specific training requirements and work under the direct supervision of staff anesthesiologists.

The use of dedicated *nursing and support staff* in cataract surgery operating rooms appears to be an effective method of improving process efficiency. The Panel recommends that hospitals support the use of dedicated staff in cataract operating rooms, and that functions be streamlined to reduce turnover times and improve efficiency.

5. Funding

A broad range of items can be factored into the *cost of a cataract surgery case*. The Panel recommends that the Ministry clearly define a cataract surgery case, and develop a methodology that delineates the cost elements of a surgical case and estimates true case costs.

Certain funding arrangements work against *cataract surgery efficiencies*. For example, fee-for-service payments do not support the development of an anesthesiology team, and hospital global budgeting does not encourage facilities and providers to develop efficient processes to maximise throughput. The Panel recommends that the Ministry ensure that funding mechanisms support cataract surgery efficiencies.

The use of *older equipment* can impact on access to care when the equipment's age limits a facility's ability to increase its cataract surgeries. The Panel recommends that hospitals establish a regular upgrade and replacement schedule for capital equipment that is needed in cataract surgery. In addition, facilities in partnership with their LHINs, should pursue group purchasing opportunities for this equipment.

Although additional short-term, one-time funding through the Wait Time Strategy is welcomed, it limits the ability of hospitals to make innovative changes that can be sustained over the long term. The Panel recommends that the Ministry use a *multi-year funding approach* to allocate additional cataract volumes (e.g., three years) to enable facilities to make innovative changes and longer-term investments in cataract surgery. Funding should be adjusted annually to take into account population growth and the growth of "at risk" populations.

6. Allocating Cataract Surgery Volumes in the Future

The Panel identified the need for a staged approach to allocate cataract surgery volumes in the future.

There is existing capacity to perform more cataract surgeries in Ontario's healthcare facilities. The Panel recommends that the Ministry ensure that academic and community facilities *maximise the use of their current capacity to conduct additional cataract surgeries* before more capacity is added to the system. The decision on where to allocate and fund additional volumes using current capacity should be based on an analysis of hospital- and LHIN-level population data, and true wait list data to determine the population's need for cataract surgery.

The Expert Panel believes that the Ministry should invest in additional cataract surgery infrastructure in LHINs only when current capacity cannot meet the population's needs within the wait time targets, or when the volume of surgery needed is best provided using a different model. The Panel recommends that the Ministry use a *planned approach for redeveloping and expanding cataract surgery capacity using various models depending on the needs of the local communities within each LHIN*. These models include:

- High volume, free standing cataract surgery facilities in densely populated areas within LHINs;
- Dedicated suites for cataract surgery within smaller hospitals with sufficient volumes;
- Multipurpose operating room facilities that support cataract surgery; and
- Satellite cataract surgery sites in very small or remote communities.

SECTION A: INTRODUCTION

1. BACKGROUND

Cataracts are caused when the lens of the eye becomes clouded making it difficult for a person to see. Cataracts can impact on a person's vision to the point that they can have problems functioning on a daily basis and difficulty working. Cataract surgery decreases the functional impairment that happens because of poor vision, and increases a person's autonomy and independence. This report presents a plan that provides Ontarians with equitable access to cataract surgery in a timely manner.

The Ministry of Health and Long-Term Care (Ministry) has focused on cataract surgery as part of Ontario's Wait Time Strategy. The Strategy is one of Ontario's top priorities within a broader agenda to transform Ontario's health system. On September 9, 2004, George Smitherman – the Minister of Health and Long-Term Care – established the Health Results Team to lead a number of major healthcare transformation initiatives.¹ Dr. Alan Hudson was appointed as Lead of Access to Services and Wait Times, charged with leading the implementation of the Strategy.

The goal of the Strategy is to achieve a comprehensive, patient-centred care system that monitors and manages wait times, improves how efficiently and effectively care is delivered, and makes wait time information available to the public and providers. The Strategy is designed to improve access to healthcare services by reducing the time that adult Ontarians wait for services in five key areas by December 2006: cataract surgery, cancer surgery, selected cardiac surgery procedures, MRI and CT scans, and total hip and knee joint replacements. The five areas of focus are associated with a high degree of disease and disability, and are the beginning of an ongoing process to improve access to, and reduce wait times for, a broad range of healthcare services.

The Ministry selected cataract surgery for a number of reasons:

- In various opinion polls, the public and healthcare providers in Ontario have expressed concerns about access to cataract surgery.
- Since cataracts are associated with increasing age, the demand for cataract surgery is growing significantly due to the aging population.
- At the 2004 Annual Conference of the Federal-Provincial-Territorial Ministers of Health, the First Ministers agreed to achieve meaningful reductions in wait times in at least five key areas by March 31, 2007: sight restoration, cancer, cardiac, joint replacements, and diagnostic imaging.² Ontario set December 2006 as its target date for results, and specifically earmarked cataract surgery as the sight restoration procedure on which the province would focus.

¹ In addition to the Wait Time Strategy, other initiatives include creating Family Health Teams for primary care, building information systems, developing Local Health Integration Networks (LHINs), and encouraging greater community involvement in planning.

² *National Waiting Times Reduction Strategy*. 2004 Annual Conference of Federal-Provincial-Territorial Ministers of Health.

No one really knows how long the majority of Ontarians wait for cataract surgery since Ontario does not have valid and reliable wait time information. Individual surgeons manage their cataract surgery wait lists. The ability of facilities to meet the growing need for cataract surgery is being impacted by increasing demands from many other priorities on hospital global budgets.

2. THE CATARACT SURGERY EXPERT PANEL

In October 2004, the Ministry established the Cataract Surgery Expert Panel under the leadership of Dr. Phil Hooper, Chair of Ophthalmology at the University of Western Ontario and Chief of Ophthalmology at Saint Joseph's Health Care, London (see Appendix 1 for the list of Panel members). The Panel was asked to recommend a plan to provide Ontarians with equitable access to cataract surgery services in a timely and appropriate manner. The Panel was also asked to make recommendations on the provision of cataract surgery to promote efficient management practices in the healthcare system.

Specifically, the Panel's report was to address the following elements:

- A. Volume capacity including advice on:
 - At what capacity should facilities be performing?
 - Should volumes be increased in facilities? If yes, how and where should volumes be increased, by how much should volumes increase, and in what timeframe?
 - What impact will the increase in volumes have on facilities?

- B. Efficiency management practices in the delivery of quality eye care services including:
 - System reorganisation.
 - Standardisation of processes.
 - Best practices.
 - Human resource requirements (e.g., roles and responsibilities) and utilisation.

- C. The development of a protocol to prioritise patients waiting for cataract surgery, including the establishment of:
 - A standard definition of "wait times" (when the waiting time begins and ends) for cataract surgery.
 - An implementation strategy/plan (including resource requirements, timelines, on-going monitoring mechanisms and operational support) for the prioritisation of patients.
 - A process to test the results of the established protocol to prioritise patients in a clinical setting.

The Panel is advising the Minister of Health and Long-Term Care, through Dr. Hudson.

3. METHODS USED TO GATHER INFORMATION

The Panel used a number of methods to inform its deliberations and recommendations.

In May-June 2005, 12 facilities that provide cataract surgery were contacted for information on their health human resources; care delivery processes; physical plant, equipment and supplies; case costs; wait list and information management; and surgical volumes. Information was obtained either through site visits or by telephone. The sites represented rural and urban facilities, all areas of the province, and three delivery models for cataract surgery: a main operating room, a dedicated surgical suite, and a separate facility. (See Appendix 2 for an overview of the cataract surgery case studies.)

Data from the Ontario Health Insurance Plan (OHIP) was reviewed to determine the number and distribution of cataract surgeries performed in Ontario. This information was examined by hospital and Local Health Integration Network (LHIN).

The experiences of other jurisdictions were examined to identify the methods used for assessing and managing cataract wait times, and the tools used for prioritising cataract patients. These experiences were assessed to determine their applicability to Ontario.

4. OVERVIEW OF THE REPORT

This report of the Cataract Expert Panel begins with a profile of cataract surgery in Ontario (Chapters 5 and 6).

Chapters 7 to 9 present the Panel's deliberations and recommendations on cataract surgery including:

- The Panel's definition of wait for cataract surgery within the Wait Time Strategy;
- An assessment of the Ministry's short-term solutions to reduce waits for cataract surgery; and
- The elements of a provincial plan to provide equitable access to cataract surgery services in a timely and appropriate manner. These elements include best practice targets and approaches to support standardisation, an organisational focus on wait list management, data and information management, human resources, funding, and allocating cataract surgery volumes in the future.

Chapter 10 presents a consolidated list of recommendations.

The Panel believes that its recommendations will improve access and reduce waiting times for treatment, increase patient throughput, and improve clinical outcomes and service delivery.

SECTION B: A PROFILE OF CATARACT SURGERY IN ONTARIO

5. CATARACTS AND CATARACT SURGERY

Cataracts are caused when the lens of the eye becomes clouded making it difficult for a person to see. Cataracts are the most common cause of reversible vision loss since they develop as part of the aging process. Cataracts are commonly associated with other diseases such as glaucoma and diabetes which have a high prevalence in the Ontario population.

Surgery is necessary when the cataract impairs a person's vision to the point that they have problems functioning on a daily basis, have difficulty working or are not able to meet statutory requirements (e.g., cannot have a licence to drive a car). Cataract surgery may also be necessary as part of the treatment of other eye diseases (e.g., glaucoma, diabetic retinopathy).

Cataracts are usually treated by replacing the clouded lens with an intraocular lens implant. Two surgical techniques are used to remove cataracts. Intracapsular extraction – which is seldom used – is when the entire lens is removed including the outer capsule. Extracapsular extraction is when the lens is removed but the back capsule of the lens remains. The predominant method of extracapsular extraction is phacoemulsification where high frequency vibrations are used to break the cataract into small fragments before they are removed.³

In the past, cataract surgery involved a general anesthetic and an in-hospital stay. The introduction of phacoemulsification and foldable intraocular lenses in the 1990s has enabled surgery to be performed faster using smaller incisions. Today, cataract surgery is usually performed on an out-patient basis using local anesthesia and sedation. Post-operative care is generally provided in an ambulatory setting.

Cataract surgery is a highly successful procedure that costs relatively little compared to major surgeries. Cataract surgery has few complications and excellent functional results, improving visual function in over 95% of cases. Advances in surgical technique have resulted in fewer adverse outcomes,⁴ and have made it possible for surgery to occur earlier in the development of the cataract. As a result, patients are able to undergo cataract surgery when their vision becomes impaired rather than having to wait until severe impairment occurs. Earlier surgery is preferred because phacoemulsification is simpler when the cataract is less mature.⁵

³ American Academy of Ophthalmology, www.aao.org.

⁴ McCarty CA. Cataract in the 21st Century: lessons form previous epidemiological research. *Clin Exp Optom* 2002;85(2):91-6.

⁵ Superstein R. Indications for cataract surgery. *Curr Opin Ophthalmol* 2001;12(1):58-62.

The demand for cataract surgery is increasing⁶ due to an aging population, the ability to remove cataracts earlier (known as a decreased clinical threshold for cataract surgery),⁷ and the higher frequency of second eye cataract surgery.

6. THE CURRENT PROFILE OF CATARACT SURGERY ACTIVITY IN ONTARIO

Recently, the Institute for Clinical Evaluative Sciences (ICES) released an analysis of cataract surgery in Ontario.⁸ The analysis indicated that the annual number of cataract surgeries performed on Ontarians 20 years of age and older more than doubled from 1993/94 to 2003/04. In this decade, cataract surgery rates per 100,000 population increased almost 6% from 1,103 procedures in 2001/02 to 1,166 procedures in 2003/04.

Population-based rates for cataract surgery varied across the province by Local Health Integration Network (LHIN). In 2003/04, the rate of surgery per 100,000 population in the LHIN with the highest rate was 1.7 times greater than that of the LHIN with the lowest rate (Champlain and Toronto Central, respectively). Estimated wait times for cataract surgery also varied by LHIN in 2003/04, ranging from a low of eight weeks to a high of 22 weeks (Erie St. Clair and South West, respectively). While the median estimated waiting time for cataract surgery in Ontario was 15 weeks in each year from 2001/02-2003/04, about 48% of patients waited for more than 16 weeks in each of those years.⁹

There does not appear to be a relationship between rates of cataract surgery and the amount of time someone waits for surgery. For example, the Central LHIN had the lowest rate of cataract surgery per 100,000 population, yet its wait time appeared to be

⁶ Lundstrom M, Stenevi U, Thorburn W. The Swedish National Cataract Register: a 9-year review. *Acta Ophthalmol Scand* 2002;80(3):248-57.

⁷ McCarty CA, Keeffe JE, Taylor HR. The need for cataract surgery: projections based on lens opacity, visual acuity and personal concern. *Br J Ophthalmol* 1999;83:62-65.

⁸ Bell CM, Hatch WV, Slaughter PM, Singer S, Tu JV. Cataract Surgery. In: Tu JV, Pinfold SP, McColgan P, Laupacis A, editors. *Access to Health Services in Ontario: ICES Atlas*. Toronto: Institute for Clinical Evaluative Sciences; 2005.

⁹ The ICES analysis extrapolated OHIP data to determine the wait time from the decision for surgery to the actual surgery. The data used was contact date with the surgeon and the date of the surgery. Thus, the wait times are “inferred” from the data rather than actual reported wait times.

shorter than four other LHINs. Similarly, the North East LHIN had the highest surgical rate per 100,000 population, yet four other LHINs appeared to have shorter wait times.

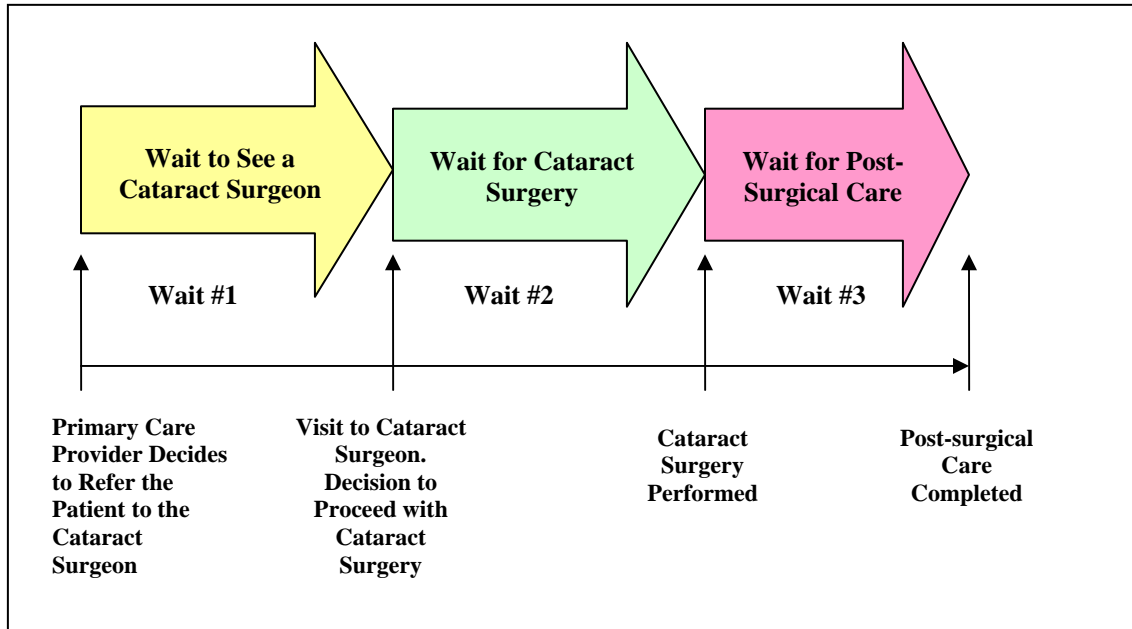
LHINs may have higher rates of cataract surgery due to factors such as an older population, variation in practice patterns for removing cataracts, and better access to surgeons and surgical resources. If all of these factors were equal across LHINs, one would expect that lower rates of cataract surgery would correspond with longer wait times.

SECTION C: THE EXPERT PANEL'S DELIBERATIONS AND RECOMMENDATIONS

7. THE DEFINITION OF WAIT FOR CATARACT SURGERY

The Panel was asked to develop a standard definition of “wait time” for cataract surgery. The Panel identified the following series of waits:

- Wait #1: From the day the primary care provider decides to refer the patient to the cataract surgeon, to the day the patient sees the surgeon.
- Wait #2: From the day the surgeon and patient decide to proceed with cataract surgery and the patient provides oral or written consent, to the day the cataract surgery is performed.
- Wait #3: From the day the cataract surgery is performed, to the day post-surgical care begins.



Measuring the length of time a patient truly waits for cataract surgery is complex. For example, patients may wait to see a primary care provider which lengthens their overall wait time. For some cataract patients, the surgeon who performs the operation may also follow the patient and provide primary ophthalmologic care. Surgeons with waiting lists differ in their approach to accepting patients for cataract surgery. Some surgeons will only add patients to the list once the waiting time is shorter whereas others add patients to the list continuously.

For the purposes of the Wait Time Strategy and the access management registry, the focus on the wait is Wait #2.

8. ASSESSMENT OF THE MINISTRY'S SHORT-TERM SOLUTIONS TO REDUCE WAITS FOR CATARACT SURGERY

In December 2004, the Ministry provided \$1.5 million to 27 hospitals to perform 2,000 additional cataract cases by March 31, 2005. A price per case of \$750 was determined to be appropriate. The Ministry proposed to allocate 8,000 additional cataract cases in 2005/06 (using 2003/04 as the base year). In response to the Panel's concern that this was insufficient to reduce wait times, the Ministry allocated 16,000 cataract surgery cases for 2005/06. The first 7,904 of these cases were allocated to 65 hospitals, and are to be completed between April 1, 2005 and September 30, 2005. The remaining cases will be allocated for October 1, 2005 to March 31, 2006.

In February 2005, the Panel was asked to provide advice on the criteria for allocating additional cataract surgeries for 2005/06. The Panel advised the Ministry that:

1. The allocation criteria and conditions used in 2004/05 should be the same in 2005/06 except that the criterion that hospitals have balanced budgets should be deleted.
2. The allocation of cataract volumes by LHINs should be distributed by the proportion of the Ontario population 65 years of age and older in each LHIN, modified by
 - The ratio of the percentage of patients waiting longer than 12 weeks for surgery in each LHIN over the average percentage of patients waiting longer than 12 weeks across Ontario; and
 - The ratio of the average rate of cataract surgery in Ontario over the rate in the LHIN.
3. The allocation of volumes to hospitals within each LHIN should be based on the proportion of the population over 65 years of age in each LHIN that is in the cataract surgery catchment of the hospital.
4. The distribution of cases to surgeons should be determined by each hospital. When targets for cataract patient categories are established, urgent cases should be treated within the targets.

Since the need for cataract surgery dramatically increases over the age of 65, using this group of older persons to allocate additional volumes supports the concept of funding services based on the actual needs of the population. (The United Kingdom uses the over 65 population as their focus for priority setting.) The Panel recognises that its criteria have their limitations. For example, since the Wait Time Strategy does not yet have real wait time data, the wait times used in the calculations of the first phase of 2005/06 allocations were inferred by ICES retrospectively using OHIP billing data. The Panel supports the Ministry's efforts to collect valid and reliable wait time data as a fundamental component in managing wait times.

The Ministry used three of the Panel's criteria to allocate additional surgical cases in 2005/06. Allocating volumes to hospitals using the proportion of the 65 and over population in each LHIN in the hospital's cataract surgery catchment area was not possible at that time.

As noted above, the Panel identified the need for more robust data upon which to make future allocation decisions. In addition, the Panel is concerned about being able to measure the impact of additional volumes on wait times. The ICES analysis suggests that cataract surgeries increased 3-7% each year, depending on the LHIN, from 2001/02 to 2003/04. This translates into 3,000-7,000 additional cases per year, many of which met the needs of an aging population. If the total number of additional cases is too small compared to the total number of cases already performed, it will be difficult to measure a change in wait times.

The allocation of additional cases in 2005/06 was based on 2003/04 volumes. In the Panel's view, the 2006/07 allocation should be based on 2004/05 volumes. This will ensure that the allocation represents an additional number of surgeries rather than partially supporting surgeries that would have already been completed within existing funding

Hospitals have found it difficult to estimate the additional volume of cataract surgery that they can perform without clearly understanding the funding rate, criteria and conditions for funding. Although hospitals were notified of their additional volumes for the first half of 2005/06 at the beginning of fiscal 2005/06, hospitals need more lead time to implement the requirements to meet the funding conditions (e.g., plan capacity, establish data collection procedures).

To date, the Strategy has focused on short-term solutions as reflected in additional volumes being funded in six-month increments. This practice does not enable facilities to build the capacity needed to improve access over the long term. If the benefits of the Strategy are to be sustained, facilities need to know their role in providing cataract surgery, within the LHIN, in the long term. This will enable facilities to staff appropriately, negotiate beneficial supply arrangements, and develop supporting processes.

The incidence of cataract is associated with aging. Indeed, the incidence of other ocular diseases such as glaucoma and macular degeneration are also associated with aging. The Panel appreciates that the Ministry has acknowledged and is actively working to support appropriate and timely access to cataract surgery in Ontario. There is a concern, however, that the focus on cataract surgery may impact negatively on timely access for services to manage other ocular diseases. Not only does this need to be monitored but strong consideration should be given to expanding the Wait Time Strategy to include a broader range of ocular diseases.

9. A PROVINCIAL PLAN TO PROVIDE EQUITABLE ACCESS TO CATARACT SURGERY SERVICES IN A TIMELY AND APPROPRIATE MANNER

The Panel's deliberations and recommendations on a provincial plan for cataract surgery focus on long-term solutions in six areas.

- Best Practice Targets and Approaches to Support Standardisation
- An Organisational Focus on Wait List Management
- Data and Information Management
- Human Resources
- Funding
- Allocating Cataract Surgery Volumes in the Future

9.1 Best Practice Targets and Approaches to Support Standardisation

The Panel identified the need for cataract surgery best practice targets, and approaches to support standardisation in the following areas:

- Population-Based Planning Targets
- Efficiencies Through Standardisation
- Patient Priority Rating Tool and Wait Time Targets

POPULATION-BASED PLANNING TARGETS

Population-based planning targets for a procedure identify the number of procedures that one would expect to occur in an area, based on certain characteristics of the population. Targets can be used to identify potential inequities in access between LHINs, and to guide funding decisions. A number of jurisdictions have developed population-based planning targets for cataract surgery. For example, the National Health Service in the United Kingdom has a national target of 3,200 cases per 100,000 people 65 years of age and older.¹⁰

Ontario does not have population-based targets for cataract surgery. The Panel supports the need to develop an Ontario-specific population-based target for the number of cataract surgeries per 100,000 population, but believes that it is inappropriate to recommend a target at this time due to the lack of data. Setting a rate prematurely could produce unrealistic expectations in patients and providers, and run the risk of setting a rate that is too high to be sustainable or too low to maintain appropriate access.

¹⁰ National Health Service Executive, *Action on Cataracts: Good Practice Guidance*, January 2000 (www.dh.gov.uk).

Data need to be developed to determine an appropriate population-based target rate. These data include the expected incidence of cataracts in the population adjusted for age and sex, the incidence of diseases known to produce cataracts, and the number of people currently waiting for surgery (derived from a centralised wait list of all patients who have agreed to undergo surgery). These data, along with the experience of other jurisdictions and the expert opinions of clinicians, should be used to develop a consensus-driven population-based planning target for cataract surgery in Ontario. It is noted that a standardised electronic database is needed to obtain accurate information at the time of decision for surgery.

The Panel recommends that:

R1 The Ministry of Health and Long-Term Care, in partnership with providers and researchers, develop a population-based planning target for the number of cataract surgeries per 100,000 population, adjusted for age and sex. This work should use valid and reliable data, take into account the experience of other jurisdictions and use the expert opinion of clinicians.

EFFICIENCIES THROUGH STANDARDISATION

All of the case study sites have achieved efficiencies through standardisation: all sites have standardised some or all of the equipment used for cataract surgery, and most sites have standardised the lenses used by ophthalmologists resulting in a better cost per case.

The case study facilities appear to have achieved process efficiencies in cataract surgery using a number of strategies.

- Some hospitals ensure that the number of cataract trays in circulation equals the total number of cataract surgeries performed in a single OR day. This helps eliminate potential surgical delays since the central processing department does not need to sterilise and prepare trays throughout the day.
- Some facilities have eliminated pre-admission clinics to avoid duplication. Assessment and education are completed in the initial visit to the ophthalmologist or during same day surgery admission.
- Hospitals have improved patient admission processes by eliminating or limiting diagnostic testing requirements, streamlining paperwork, and having patients remove clothing only from the waist up.
- Some sites have minimised cleaning of the operating theatre between cataract surgeries.
- Some hospitals use stretchers or chairs specifically designed for cataract surgeries which has improved turnover.

All of the case study sites use phacoemulsification to remove cataracts. The average length of surgery at sites was 20-30 minutes, including operating room turnover. The length of cataract surgery operating room blocks at all the facilities are the same as

standard operating room blocks, even though many ophthalmologists appear to complete their scheduled surgeries well in advance of the end of their operating room block.

Based on the case studies and a review of process standards elsewhere, the Panel concludes that equipment has been standardised and lengths of surgical cases reduced sufficiently such that there are few technical efficiency improvements in these areas. In some facilities, efficiencies may be found in pre-operative processes, and patient transport and turnover. The major area for efficiency improvements in most centres appear to be using all available staffed time for surgery. The Wait Time Strategy's Surgical Process Analysis and Improvement Expert Panel has identified best practices for peri-operative and supply chain processes that will assist hospitals to improve efficiencies through standardisation.¹¹

PATIENT PRIORITY RATING TOOL AND WAIT TIME TARGETS

The Panel identified the need for a tool to prioritise patients waiting for cataract surgery. Such a tool would help ensure that patients who need surgery are treated according to the urgency of their condition.

Currently in Ontario, wait lists for cataract surgery – similar to wait lists for most other surgeries – are managed and monitored by individual surgeons in their offices. Generally, hospitals do not know the length of their ophthalmologists' wait lists and, in the majority of cases, how or if their ophthalmologists prioritise patients for cataract surgery. Some facilities, such as The Ottawa Hospital's Ottawa Eye Institute and the Kingston General Hospital, have developed and implemented patient priority tools. Ontario does not have a provincial priority rating tool for cataract surgery.

The Panel reviewed the priority tools used in Ontario and those developed by others in Canada (see Appendix 3 for an overview of these tools). These tools include the:

- Manitoba Cataract Waiting List Project Prioritisation Scoring System;
- Western Canada Waiting List Project Priority Criteria Tool;
- Saskatchewan Surgical Care Network Cataract Surgery Priority Criteria; and
- Ontario Wait List Project Cataract Surgery Priority Rating Criteria.

All of these tools use some measure of visual function with factors that measure the functional capabilities of cataract surgery patients (e.g., capacity for independent living, work impairment, impaired ability to drive, difficulty with glare). The tools differ in how they score visual acuity and the impact of ocular co-morbidities on a patient's priority and visual function. The Panel identified some concerns with the patient priority tools that exist.

First, visual acuity and visual function (or impairment) are two different measures that are poorly correlated. Studies have shown that pre-operative visual acuity is a poor

¹¹ *Report of the Surgical Process Analysis and Improvement Expert Panel* (Valerie Zellermeier, Chair). Prepared for the Wait Time Strategy, June 2005.

predictor of post-operative functional improvement. Visual function indices – such as the VF-14 which is a 14 item visual functioning index¹² – appear to correlate more strongly with functional improvement after cataract surgery than visual acuity indices (e.g., Snellen visual acuity chart). The Panel concluded that a person's visual function appears to be more important for determining a patient's urgency for cataract surgery. Basing the decision for cataract surgery on visual acuity alone is not recommended.¹³ The Panel's reluctance to adopt, for example, the Western Canada tool was due to the fact that it emphasises visual acuity rather than visual function.

Second, certain priority rating tools are resource intensive. A representative of the Manitoba Cataract Waiting List Project noted that the key to success is to ensure that surgeons support the prioritisation tool. Making the tool simple and easy to use is critical. In the Panel's opinion, the Manitoba tool – which is completed by two independent staff – would be a costly model to administer in Ontario especially with its higher volume of cataract surgeries and operating sites. In addition, the Panel did not support incorporating the VF-14 because of its resource intensity. There appears to be a strong correlation between the VF-14 and a simpler impairment scale completed by surgeons used in the Western Canada tool.¹⁴ Based on this finding, the Panel concluded that the VF-14 would add significant cost and complexity in exchange for little benefit.

The Panel sought a quick and easy to use tool with distinct functional categories to identify high and low priority patients, and reduce the percentage of patients in each functional category who do not meet target wait times. A more detailed tool such as the VF-14 could be added – at additional cost – in the future, if there is a need to subdivide patients in each functional category.

The Panel concluded that the most appropriate patient priority rating tool for cataract surgery in Ontario was a combination of elements from the Western Canada tool (questions 4-7) and the Kingston and Ottawa tools. The proposed tool identifies high and low priority patients, and strategically differentiates the patients that fall between these two classes.

When assessing the wait time targets associated with each of the priority ratings, the Panel noted that the length of time a patient waits for cataract surgery usually does not impact negatively on the outcome of the surgery. The main consequence of poor visual function is a negative impact on a person's daily function and their risk of morbidity

¹² The VF-14 includes: 1) Reading small print such as labels on medicine bottles or a telephone book; 2) Reading a newspaper or book; 3) Reading a large print book or large print newspaper or numbers on a telephone; 4) Recognising people when they are close to you; 5) Seeing steps, stairs or curbs; 6) Reading traffic, street or store signs; 7) Doing fine handwork like sewing, knitting, crocheting or carpentry; 8) Writing cheques or filling out forms; 9) Playing games such as bingo, dominoes, card games or mahjong; 10) Taking part in sports like bowling, handball, tennis or golf; 11) Cooking; 12) Watching television; 13) Daytime driving; 14) Night time driving.

¹³ American Academy of Ophthalmology, www.aao.org.

¹⁴ Romanchuk KG, Sanmugasunderam S, Hadorn DC. Developing cataract surgery priority criteria: results from the Western Canada Waiting List Project. *Can J Ophthalmol* 2002;37(3):145-54.

(e.g., patients on cataract waiting lists have an increased risk of falling¹⁵ and a higher risk of motor vehicle accidents).

The Panel examined wait times for cataract surgery proposed by others:

- A survey of Canadian ophthalmologists conducted by the Fraser Institute in 2004 estimated that a reasonable median wait time for cataract surgery in Ontario was eight weeks (range of 8-12 weeks).¹⁶
- Recently, a subcommittee of the Canadian Ophthalmological Society came to a consensus that a reasonable medically acceptable wait time for visually significant cataract surgery was four months.¹⁷
- Italy's cataract surgery target is 50% of patients receiving cataract surgery within 90 days (13 weeks) and 90% within 180 days (26 weeks).
- The Western Canada Wait List Project identified maximum waiting times for each priority criteria score ranging from four to 12 weeks depending on the patient's urgency.
- Saskatchewan's target time frame for cataract surgery – not including priority 1 emergencies – ranges from three weeks to 18 months.

The recent ICES study indicated that median wait times for cataract surgery in Ontario ranged from eight weeks to 22 weeks across LHINs.

The Panel developed a four class patient priority rating tool and wait time targets for cataract surgery, as presented in the table below. These targets should be assessed on a routine basis to determine if they continue to be appropriate.

¹⁵ Brannan S et al. A prospective study of the rate of falls before and after cataract surgery. *Br J Ophthalmol* 2003;87:560-562.

¹⁶ As cited in Bell CM, Hatch WV, Slaughter PM, Singer S, Tu JV. *Ibid.*

¹⁷ Wait Time Alliance for Timely Access to Health Care, 2005.

Patient Priority Rating Tool and Wait Time Targets for Cataract Surgery

	Description	Definition	Target
Class 1 (Urgent)	Cataract (monocular or binocular) that is producing secondary ocular disease or that impairs ability to treat other ocular disease.	This category includes patients whose cataracts are causing corneal decompensation, inflammation or glaucoma. It also includes patients whose cataract impairs the ability to treat posterior segment diseases such as diabetic retinopathy, epiretinal membrane and retinal detachment or tear.	100% of patients should receive surgery within 6 weeks, depending on urgency of underlying condition.
Class 2	Cataract (monocular or binocular) that significantly impairs ability to function without assistance.	The functional disability caused by the cataract must result in the patient's inability to continue living independently such that they would have to be assisted by relatives or community caregivers in their daily activities, or moved to a care facility immediately or within the next three months.	90% of patients should receive surgery within 3 months.
Class 3	Cataract (monocular or binocular) that results in significant impairment in the ability to function in the work place or avocationally with acceptable speed and confidence, or which results in failure to meet statutory requirements for driving.	Patients will not be able to continue to work, care for dependants, or continue driving. The expectation is that cataract surgery will allow a return to acceptable speed and confidence in vocational and avocational activities, facilitate rehabilitation, or resume driving.	60% of patients should receive surgery within 19 weeks.
Class 4	Second eye of an elective patient with good functional vision and no occupational or avocational need for binocularity.	Patients are able to complete vocational and avocational tasks with some loss of speed and facility related to the loss of binocularity. Patients who continue to have significant impairment despite having had surgery on one eye should be placed in a more urgent category.	67% of patients should receive surgery within 6 months of initial surgery.

In the Panel's view, the majority of patients who are waiting will likely fall into Class 3. It is difficult to subdivide this class using functional measures that are not resource intensive. Classes 1 and 2 are functionally distinct and will form a high proportion of outliers in a well-managed wait system. Facilities and LHINs should monitor the classes for variation and changes in wait times by provider, facility and LHIN. As well, periodic audits should be conducted locally to ensure that patients are being classified accurately.

The Panel deliberated at length whether patients should be put on a surgical waiting list if they have cataracts – monocular or binocular – that are producing visual impairment but not significantly enough to impair their ability to function in the workplace or without assistance. Generally, these patients can continue to work, care for dependents, live independently, and are not at risk of losing their licence. Due to long waits for surgery, some surgeons put these individuals on a waiting list even though their level of functional

impairment is low. Given that cataract surgery is highly predictable and a-traumatic with complication rates well under 5%, and that Ontarians have high expectations that they will continue to function well into old age, it is likely that the demand for cataract surgery will continue to increase at these low levels of functional impairment. Since valuable public health care dollars must be invested where they are most needed, it is appropriate that most cataract surgeries be performed on patients with higher levels of functional impairment. Additional study is needed on how to capture the incidence of persons with cataracts who have low levels of functional impairment.

The Panel recommends that:

- R2 The Ministry of Health and Long-Term Care adopt a patient priority rating tool for cataract surgery that includes four distinct classes of patients waiting for cataract surgery, and clearly defined wait time targets for each class. In addition, further study is needed on how to capture the incidence of persons with cataracts who have low levels of functional impairment.**

9.2 An Organisational Focus on Wait List Management

The goal of the Wait Time Strategy is to reduce the time that adult Ontarians wait for five key services. The Ministry has created incentives to improve performance by providing incremental volume funding and collecting data on access and quality. In the Panel's view, funding additional surgeries is a necessary but insufficient condition to achieve the Strategy's goal. An organisational focus on wait list management is needed that includes greater attention on wait time issues by hospital Boards, management and surgeons. Hospitals and surgeons need to work together to shorten waits for cataract surgery in their facilities. In addition, LHINs need to take a leadership role by getting hospitals and surgeons to work together to shorten waits in the LHIN.

The Panel recommends that:

- R3 Hospital Boards, management and surgeons work together to shorten waits for cataract surgery in their facilities. In addition, Local Health Integration Networks (LHINs) should take a leadership role by getting hospitals and surgeons to work together to shorten waits in the LHIN.**

9.3 Data and Information Management

In February 2005, the Expert Panel recommended that hospitals receiving additional cataract surgery cases in 2005/06 submit data to inform allocation decisions for 2006/07. The data included patient demographics, the date of decision for surgery, functional classification and visual acuity. The Panel has since reassessed its advice about the data

to be collected and concludes that visual acuity does not adequately differentiate patients, correlates poorly with functional outcome, and provides little evidence of a patient's level of disability while waiting for surgery. For these reasons, the Panel de-emphasised acuity when categorising patients for surgery. In addition, collecting data on cataract surgery outcomes may be a lower priority than collecting other data. ICES reported that the rate of complications within two weeks of cataract surgery (i.e., vitrectomy and vitreous injections or aspirations), was less than 1% in 2001/02 and further decreased in 2003/04. Given that outcomes are favourable following cataract surgery – regardless of the level of disability before surgery – and that complication rates are low, resources may best be used collecting information other than outcomes data.

Comprehensive and complete data that uses standard definitions is required to make good decisions. The Panel strongly supports facilities collecting relevant data – in a timely and cost effective manner – that helps categorise patients waiting for cataract surgery, and is used to improve performance.

The Panel recommends that:

R4 The Ministry of Health and Long-Term Care ensure that facilities collect relevant data for cataract surgery in a timely and cost effective manner, as part of the Wait Time Strategy.

The Panel identified the need for a method to calculate ideal performance capacity for cataract surgery. The method should include the following steps:

- Determine the median wait time by defined disability grouping across the province (this data is currently being collected).
- Determine target wait times for each group.
- Determine the growth of wait lists over time to determine an annual “inflation factor” in each region.
- Determine the population demographics within each facility's catchment area. Using this data, estimate the number of ophthalmologists necessary to provide medical and surgical eye care, and emergency response capability to this population using accepted nomograms.
- Develop additional capacity within each LHIN, where needed, as determined by population demographics, wait times and other eye care needs. Consider dedicated facilities within existing institutions or free standing facilities, where volumes warrant.

The Panel recommends that:

R5 The ideal performance capacity for cataract surgery be developed using a well developed methodology and appropriate data.

9.4 Human Resources

The Panel examined the professionals who play a critical role in cataract surgery: ophthalmologists, optometrists, anesthesiologists, and nursing and support staff.

OPHTHALMOLOGISTS

Ophthalmologists provide medical, elective and emergency ophthalmologic care. The extent to which cataract surgery is part of an ophthalmologist's practice varies. Some ophthalmologists have medical or surgical sub-specialty training and focus on a particular area of expertise. As well, some provide non-insured services such as refractive laser eye treatments and cosmetic surgery.

In 2003/04, 274 of the 439 ophthalmologists in Ontario performed cataract surgery.¹⁸ Half of these providers were "high volume" cataract surgeons who performed over 400 procedures per year.

Number of Ophthalmologists and Volume of Cataract Surgery in Ontario, 2003/04

Number of Cases/Year	Number of Surgeons
< 50 cataract surgeries/year	34
51 – 250 cataract surgeries/year	61
251 – 500 cataract surgeries/year	111
501 – 1000 cataract surgeries/year	61
1000 + cataract surgeries/year	7

Bell CM, Hatch WV, Slaughter PM, Singer S, Tu JV. *Ibid.*

Data source: Ministry of Health and Long-Term Care, Ontario Health Insurance Plan

The case studies conducted for this review show that the number of cataract surgeries performed by ophthalmologists in a single operating room ranged from 4 to 40 cases per day, with the majority performing an average of 13 cases per day. The range in volume is due to factors such as hospital funding for cataract surgeries, ophthalmologist practice patterns, and the number of surgeries ophthalmologists can perform within their salary caps. With regard to this last issue, in the fall of 2004, the Panel advised Dr. Hudson that salary caps were a disincentive for surgeons to perform additional cataract surgeries. The Panel recommended eliminating caps for ophthalmologists as a short-term solution to the human resource shortage. In February 2005, hospitals were notified that physicians providing additional volumes for the Wait Time Strategy could apply to the Ministry's Service Retention Initiative for a threshold exemption. This effectively removed the issue of caps.

Although eliminating thresholds created additional ophthalmologist capacity, it is only a

¹⁸ Bell CM, Hatch WV, Slaughter PM, Singer S, Tu JV. *Ibid.*

short-term solution for improving access to cataract surgery. In the longer-term, more ophthalmology training positions need to be created. There is a national shortage of ophthalmologists due, in part, to a reduction over the last 20 years of the number of new graduates.¹⁹ Since there are not enough graduating ophthalmologists to replace those who are leaving the profession, shortages are anticipated.

With regard to new ophthalmology graduates, surveys conducted by the Canadian Ophthalmological Society indicate that new graduates are finding it difficult to obtain operating room time and, thereby, set up their practices. The Panel noted that even when new graduates have been willing to go to under-supplied areas to establish their ophthalmology practices, they are often unable to get operating room time. Facilities have fixed operating room hours for ophthalmology, all of which are allocated to ophthalmologists with current privileges. The Panel believes that training and practice positions need to be better aligned, and that additional operating room time needs to be created in underserved regions and allocated to new ophthalmologists.

The Panel recommends that:

R6 The Ministry of Health and Long-Term Care support the expansion of residency training programs for ophthalmologists, and encourage hospitals to allocate new operating time for cataract surgery to new ophthalmologists.

OPTOMETRISTS

Optometrists play a valuable role in the pre-operative and post-operative management of cataract patients. At the present time, access to optometric care does not appear to be limiting the ability of patients to access cataract surgery in a timely manner.

ANESTHESIOLOGISTS

Cataract surgery is performed using general and local anesthesia. Sedation may be used with local or topical anesthesia to minimize pain, anxiety or discomfort. The different anesthesia techniques do not affect the outcome of cataract surgery.²⁰ Two components of anesthesia care are key to the delivery of cataract surgery: monitoring and conscious sedation.

The lack of appropriate anesthesiology coverage can impact on a hospital's ability to perform more cataract surgeries. An additional 16,000 cataract surgeries per year, spread across the province, should have a minimal impact on anesthesiology. However, there are increasing demands on anesthesiology from other areas within the Wait Time Strategy (i.e., cancer, cardiac, and hip and knee replacement surgeries). The Panel is concerned that facilities may volunteer to do more cataract surgeries without sufficient anesthesiology coverage in the operating rooms.

¹⁹ Canadian Ophthalmological Society, *Wait Time Alliance for Timely Access to Health Care*, 2005.

²⁰ American Academy of Ophthalmology, www.aao.org.

There is a province-wide shortage of anesthesiologists. It has been estimated that Canada is short 200-250 anesthesiologists; about 80-100 of these shortages are in Ontario.²¹ One option to address this shortage is to train more anesthesiologists. Another option is to expand anesthesiology resources using “anesthesia extenders.” These include GP anesthetists, anesthesia assistants and advanced practice nurses with additional anesthesia training. These options are explored in detail in the *Report of the Surgical Process Analysis and Improvement Expert Panel*.²² This report recommends that the Ministry support the implementation of advanced practice roles to complement and expand anesthesiology resources provided by the specialty of anesthesiology, and that the type of hospital will influence the anesthesia model that is adopted.

Anesthesia extenders can both monitor and provide conscious sedation, the two components of anesthesia care that are necessary for cataract surgery. For this reason, ophthalmologists are well positioned to work with anesthesia extenders. A number of hospitals already use anesthesia extenders in cataract surgery, whereas others are exploring this option. The Panel notes that models for extending anesthesiology coverage must be appropriate to the hospital, maintain patient safety and quality care, and be introduced with sufficient education and support. Furthermore, anesthesiology extenders must be appropriately trained and work under the direct supervision of staff anesthesiologists.

The Panel recommends that:

R7 Hospitals applying to increase their cataract volumes ensure that their ophthalmology operating rooms have appropriate anesthesiology support. Hospitals should facilitate the use of anesthesiology extenders in cataract surgery, where appropriate, to complement and expand the anesthesia services currently provided by anesthesiologists. These providers should meet specific training requirements and work under the direct supervision of staff anesthesiologists.

One of the key issues with using anesthesia extenders is appropriate payment. The lack of appropriate funding is a challenge to implementing alternative anesthesiology models. This issue is addressed in greater detail in Section 9.5, *Funding*

NURSING AND SUPPORT STAFF

There appears to be a high degree of commonality in the number and roles of nursing personnel and support staff in the case study facilities. Most case study sites use three support persons in the ophthalmology operating room: some facilities only use registered nurses (RNs) whereas others use two RNs and one registered practical nurse (RPN).

²¹ *Report of the Surgical Process Analysis and Improvement Expert Panel* (Valerie Zellermeier, Chair), June 2005.

²² *Ibid.*

The use of dedicated nursing and support staff in cataract surgery operating rooms appears to be an effective method of improving process efficiency. Dedicated staff are familiar with cataract surgery-specific processes, and their roles and responsibilities in the care delivery process.

The turnover time in the case study sites ranges from 5-10 minutes. Although all case study sites believed that the roles of their nurses and support staff were streamlined and their productivity was efficient, this range suggests a potential opportunity to streamline the tasks that nurses are expected to perform and improve the efficiency of current tasks.

The Panel recommends that:

R8 Hospitals support the use of dedicated staff in cataract operating rooms as an efficient way to provide cataract surgery, and that functions be streamlined to reduce turnover times and improve efficiency.

9.5 Funding

The Panel addressed four funding issues:

- Cost per cataract case
- Funding to support surgical efficiencies
- Capital costs
- Multi-year funding

COST PER CATARACT CASE

In the fall of 2004, hospitals submitted to the Ministry requests to perform additional cataract surgeries along with an associated cost per case. The cost per case varied significantly from a low of \$380 to a high of \$980. Facilities included different elements in their calculations. For example, some hospitals included modest capital investment costs whereas others included significant capital costs. The lack of a consistent case cost definition was also evident in the case studies. The major cost differences appeared to be whether non-consumables were included when calculating costs.

A broad range of items can be factored into the cost of a cataract surgery case including the use of providers such as anesthesia extenders, teaching and research costs, and depreciation or capital cost allowances for upgrading equipment. There is a need to clearly define a “cataract surgery” case and develop a methodology that identifies the cost elements of the case and estimates true case costs. This case cost definition and methodology should be used to allocate cataract surgeries in the future.

The Panel recommends that:

- R9 The Ministry of Health and Long-Term Care clearly define a *cataract surgery case*, and develop a methodology that delineates the cost elements of the surgical case and estimates true case costs. This definition should then be used to allocate funding for cataract surgeries in the future.**

FUNDING TO SUPPORT SURGICAL EFFICIENCIES

Certain funding arrangements work against cataract surgery efficiencies. For example, fee-for-service payments do not support the development of an anesthesiology team. Except for anesthesiologists in an alternate funding plan, typically these providers are paid fee-for-service through the OHIP Schedule of Benefits. They do not get reimbursed for monitoring anesthesiology extenders who would be paid through the hospitals' global budget. Given the financial resource limitations experienced by many Ontario hospitals, the lack of appropriate funding is a challenge to implementing alternative anesthesiology models. Another example is hospital global budgeting which does not encourage facilities and providers to develop efficient processes to maximise throughput. Per case funding provides an incentive to work more efficiently. The Panel believes that funding arrangements need be assessed and altered, where necessary, to support cataract surgery efficiencies.

The Panel recommends that:

- R10 The Ministry of Health and Long-Term Care ensure that funding mechanisms support cataract surgery efficiencies. This includes providing appropriate funding to support anesthesiology teams (e.g., funding for anesthesiology extenders, reimbursing anesthesiologists to monitor anesthesiology extenders), and developing volume-based funding for all cataract surgery.**

CAPITAL COSTS

Although many of the case study sites noted that their phacoemulsification machines were state-of-the-art pieces of equipment, a number of facilities have aging equipment that needs to be replaced in the not too distant future. The use of older equipment can impact on access to care when the age of the equipment limits a facility's ability to increase the number of cataract surgeries.

The Panel noted that hospitals use different approaches to upgrade or replace outdated equipment, and to acquire new technologies. Generally, standardised processes do not exist to depreciate, acquire new technologies and replace outdated equipment. Furthermore, typically hospitals purchase capital equipment individually rather than pursuing the possibility of savings through group purchasing.

The Panel recommends that:

- R11 Hospitals establish a regular upgrade and replacement schedule for capital equipment needed in cataract surgery. In addition, facilities in partnership with their Local Health Integration Networks, should pursue group purchasing opportunities for this equipment.**

MULTI-YEAR FUNDING SUPPORT

The Wait Time Strategy allocates additional cataract volumes for short periods of time (about six months). Although this additional short-term, one-time funding is welcomed, it limits the ability of facilities to make innovative changes that can be sustained over the long term. A longer-term commitment of ongoing cataract surgery funding would enable facilities to develop capacity, hire the appropriate number and mix of staff, and make process efficiency changes. This funding would need to be adjusted annually to take into account population growth and growth of the “at risk” populations.

The Panel recommends that:

- R12 The Ministry of Health and Long-Term Care use a multi-year funding approach to allocate additional cataract volumes (e.g., three years) to enable facilities to make innovative changes and longer-term investments in cataract surgery. Funding should be adjusted annually to take into account population growth and the growth of the “at risk” populations.**

9.6 Allocating Cataract Surgery Volumes in the Future

The Panel identified the need for a staged approach to allocate cataract surgery volumes in the future. This approach includes:

- Maximising current capacity for cataract surgery; and
- Adding more capacity using models that meet the needs of the local population.

MAXIMISING CURRENT CAPACITY FOR CATARACT SURGERY

Over the course of its review, the Panel discovered that there is existing capacity to perform more cataract surgeries in Ontario's healthcare facilities. This conclusion was based on the following findings.

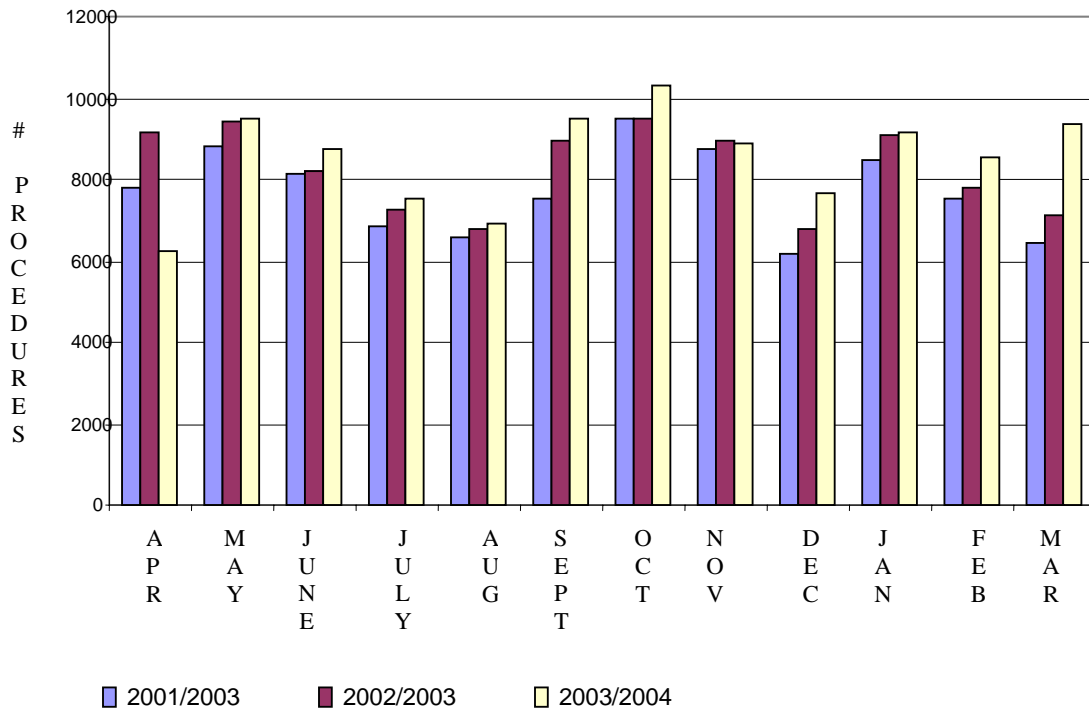
- In the fall of 2004, hospitals reported that they could do about 50,000 more cataract surgeries each year as part of the Wait Time Strategy without significant capital investments. Many hospitals noted that they would need additional resources – either

more health human resources or funding for operating room renovations and equipment – if they were to do significantly more surgeries beyond 50,000.

- After additional cataract surgery cases were allocated in 2005/06 throughout Ontario, 12 out of 14 LHINs continued to have the capacity to perform more surgeries without additional capital costs. Only two LHINs – Central West and the Northwest – could not perform more cases without additional capital investments.
- All but one hospital has agreed to deliver the cataract surgery volumes allocated to them in the first six months of 2005/06.
- All case study participants indicated an interest and ability to do more cataract surgeries with appropriate case funding.
- Using OHIP billing data, an analysis of the monthly variation in the number of cataract surgeries performed across Ontario from 2001/02 to 2003/04 indicated potential unused OR and surgeon capacity within the system (see figure below).²³ This observation was reinforced by the case study sites where the majority of cataract surgeons regularly complete their scheduled cases prior to the end of their OR block.

Number of Cataract Surgeries by Month in Ontario Hospitals, 2001/02-2003/04

(Source of Data: Ontario Health Insurance Plan. Developed by Chaim Bell and Wendy Hatch)



²³ Source: *Rates and Waits for Cataract Surgery in Ontario*. Presented by Chaim Bell and Wendy Hatch to the Cataract Surgery Expert Panel, January 2005.

The Panel believes that the Ministry must maximise the current capacity for cataract surgery as a first step to improving access to this procedure in Ontario. This includes determining the number of base volumes to fund and allocate to each LHIN, and monitoring the impact of these additional volumes over time. The decision on where to allocate and fund additional volumes should be based on an analysis of hospital- and LHIN-level population data, and true wait list data to determine the population's need for cataract surgery.

The Panel recommends that:

R13 The Ministry of Health and Long-Term Care ensure that academic and community facilities maximise the use of their current capacity to conduct additional cataract surgeries before more capacity is added to the system. The decision on where to allocate and fund additional volumes using current capacity should be based on an analysis of hospital- and Local Health Integration Network-level population data, and true wait list data to determine the population's need for cataract surgery.

ADDING MORE CAPACITY USING MODELS THAT MEET THE NEEDS OF THE LOCAL POPULATION

The Expert Panel believes that the Ministry should invest in additional cataract surgery infrastructure in LHINs only when current capacity cannot meet the population's needs within the wait time targets, or when the volume of surgery that is needed is best provided using a different model (e.g., in an alternative setting so that operating resources can be freed up for other types of surgery or to achieve greater process efficiencies).

The Panel identified four potential models for cataract surgery depending on the needs of the local communities within each LHIN:

- Concentrate cataract surgery in high volume, free standing facilities.
- Conduct cataract surgery in dedicated suites within an existing hospital.
- Conduct cataract surgery within a multipurpose operating room facility.
- Provide cataract surgery in very small or remote hospital communities using satellite surgery sites.

The Panel assessed these models in terms of patient safety, access, and human and fiscal efficiencies. The Panel believes that no one model can adequately serve the needs of Ontario's population. A planned approach for adding more capacity and maximising existing capacity should consider all the models depending on the needs of the local community. It is recognised that the model chosen may result in different case costs. For example, a higher case cost may be needed to maintain access to services in smaller communities, retain ophthalmic expertise so that medical and emergent eye care is available locally, and retain anesthesiologists and nurses in local hospitals so that other surgeries and obstetrics can continue to be provide locally. The Panel considered four models.

Model 1: Concentrate Cataract Surgery in High Volume, Free Standing Facilities

This model may be an efficient way to increase access in densely populated areas – within LHINs – that have a high volume of procedures. Focused capacity building may result in less duplication of staff and equipment, better use of dedicated space, and operating and capital savings. In the Panel's view, the development of high volume, free standing cataract surgery centres is not appropriate for many communities.

Ophthalmologists treat a wide range of eye diseases including the management of cataracts. Smaller communities may be at risk of losing their local ophthalmologists and anesthesiologists if cataract management is no longer part of comprehensive services provided locally. This could influence the range of medical services available in the community. Furthermore, unless a dedicated facility has sufficient volume to offset the costs of central supply, instrument cleaning and sterilisation, medical records, patient registration and anesthesiology extenders, the real costs of providing care will be higher.

Model 2: Conduct Cataract Surgery in Dedicated Suites Within an Existing Hospital

This model provides a number of benefits. Dedicated suites could use the parent facility's central processing and ancillary staff at a lower cost than if cataract surgeries were in a free standing facility. Patient care, transport and operating room processes could be optimised, and the use of anesthesiology extenders supported. This would result in a higher volume of patients at a lower cost and greater efficiency than if cataract surgeries were performed in central operating rooms. It would also free up central operating rooms for other surgeries. The number of procedures needed to support this model is less than a free standing suite. This model should be considered in centres with a local catchment of about 200,000 people or more.

Model 3: Conduct Cataract Surgery Within a Multipurpose Operating Room Facility

This model maximises the use of existing infrastructure. Based on the case studies conducted for this review, this model also appears to support a level of surgical throughput and efficiency that is very close to that achieved by the other models. This model would work well in smaller centers that need to retain local ophthalmic expertise and where competition for available operating room facilities is less intense.

Model 4: Provide Cataract Surgery in Very Small or Remote Hospital Communities Using Satellite Surgery Sites

In this model, ophthalmologists would need to travel to these communities to perform cataract surgery. Surgeons may find that travelling may not be an efficient use of their time and skills especially if they are paid on a fee-for-service basis. It may also be difficult to justify the capital expenses required to establish a cataract surgery operating room with a low surgical volume. However, this model would improve access to local ophthalmologic care in remote regions and may also help a smaller hospital retain anesthesiologists to support general surgery and obstetrics.

The Panel recommends that:

- R14 The Ministry of Health and Long-Term Care use a planned approach for redeveloping and expanding cataract surgery capacity using various models depending on the needs of the local communities within each Local Health Integration Network (LHIN). These models include: i) high volume, free standing facilities in densely populated areas within LHINs; ii) dedicated suites within an existing hospital in smaller centres with sufficient volumes; iii) multipurpose operating room facilities; and iv) satellite surgery sites in very small or remote communities.**

SECTION D: CONSOLIDATED LIST OF RECOMMENDATIONS

10. CONSOLIDATED LIST OF RECOMMENDATIONS

Best Practice Targets and Approaches to Support Standardisation

The Panel recommends that:

- R1 The Ministry of Health and Long-Term Care, in partnership with providers and researchers, develop a population-based planning target for the number of cataract surgeries per 100,000 population, adjusted for age and sex. This work should use valid and reliable data, take into account the experience of other jurisdictions and use the expert opinion of clinicians.
- R2 The Ministry of Health and Long-Term Care adopt a patient priority rating tool for cataract surgery that includes four distinct classes of patients waiting for cataract surgery, and clearly defined wait time targets for each class. In addition, further study is needed on how to capture the incidence of persons with cataracts who have low levels of functional impairment.

An Organisational Focus on Wait List Management

The Panel recommends that:

- R3 Hospital Boards, management and surgeons work together to shorten waits for cataract surgery in their facilities. In addition, Local Health Integration Networks (LHINs) should take a leadership role by getting hospitals and surgeons to work together to shorten waits in the LHIN.

Data and Information Management The Panel recommends that:

The Panel recommends that:

- R4 The Ministry of Health and Long-Term Care ensure that facilities collect relevant data for cataract surgery in a timely and cost effective manner, as part of the Wait Time Strategy.
- R5 The ideal performance capacity for cataract surgery be developed using a well developed methodology and appropriate data.

Human Resources

The Panel recommends that:

- R6 The Ministry of Health and Long-Term Care support the expansion of residency training programs for ophthalmologists, and encourage hospitals to allocate new operating time for cataract surgery to new ophthalmologists.
- R7 Hospitals applying to increase their cataract volumes ensure that their ophthalmology operating rooms have appropriate anesthesiology support. Hospitals should facilitate the use of anesthesiology extenders in cataract surgery, where appropriate, to complement and expand the anesthesia services currently provided by anesthesiologists. These providers should meet specific training requirements and work under the direct supervision of staff anesthesiologists.
- R8 Hospitals support the use of dedicated staff in cataract operating rooms as an efficient way to provide cataract surgery, and that functions be streamlined to reduce turnover times and improve efficiency.

Funding

The Panel recommends that:

- R9 The Ministry of Health and Long-Term Care clearly define a *cataract surgery case*, and develop a methodology that delineates the cost elements of the surgical case and estimates true case costs. This definition should then be used to allocate funding for cataract surgeries in the future.
- R10 The Ministry of Health and Long-Term Care ensure that funding mechanisms support cataract surgery efficiencies. This includes providing appropriate funding to support anesthesiology teams (e.g., funding for anesthesiology extenders, reimbursing anesthesiologists to monitor anesthesiology extenders), and developing volume-based funding for all cataract surgery.
- R11 Hospitals establish a regular upgrade and replacement schedule for capital equipment needed in cataract surgery. In addition, facilities in partnership with their Local Health Integration Networks, should pursue group purchasing opportunities for this equipment.
- R12 The Ministry of Health and Long-Term Care use a multi-year funding approach to allocate additional cataract volumes (e.g., three years) to enable facilities to make innovative changes and longer-term investments in cataract surgery. Funding should be adjusted annually to take into account population growth and the growth of the “at risk” populations.

Allocating Cataract Surgery Volumes in the Future

The Panel recommends that:

- R13 The Ministry of Health and Long-Term Care ensure that academic and community facilities maximise the use of their current capacity to conduct additional cataract surgeries before more capacity is added to the system. The decision on where to allocate and fund additional volumes using current capacity should be based on an analysis of hospital- and Local Health Integration Network-level population data, and true wait list data to determine the population's need for cataract surgery.

- R14 The Ministry of Health and Long-Term Care use a planned approach for redeveloping and expanding cataract surgery capacity using various models depending on the needs of the local communities within each Local Health Integration Network (LHIN). These models include: i) high volume, free standing facilities in densely populated areas within LHINs; ii) dedicated suites within an existing hospital in smaller centres with sufficient volumes; iii) multipurpose operating room facilities; and iv) satellite surgery sites in very small or remote communities.

APPENDIX 1: MEMBERS OF THE EXPERT PANEL ON CATARACTS

Phil Hooper, MD, FRCSC, Chair	Chair, Ophthalmology, University of Western Ontario. Chief, Ophthalmology, Saint Joseph's Health Care, London
Chaim M. Bell, MD, PhD, FRCPC	Adjunct Scientist, Institute for Clinical Evaluative Sciences Staff Physician, St Michael's Hospital. Assistant Professor Medicine and Health Policy, Management and Evaluation, University of Toronto
Kyle W. Brydon, MD, FRCSC	Ophthalmologist, St. Thomas-Elgin General Hospital. Ontario Medical Association
John R. Cripps, MD, FRCSC	Active Staff Consulting Ophthalmologist, Huntsville and District Memorial Hospital & South Muskoka Memorial Hospital, Bracebridge. Courtesy consulting staff, Orillia Soldier's Memorial Hospital and Royal Victoria Hospital
Sherif El-Defrawy, MD, FRCSC	Associate Professor and Chair, Department of Ophthalmology, Queen's University. President, Canadian Ophthalmological Society
Wendy Hatch, OD, MSc	Clinical Instructor, Dept of Ophthalmology, University of Toronto. Research Associate, Department of Ophthalmology, Toronto Western Hospital (University Health Network)
Jeffrey Hurwitz, MD, FRCSC	Professor and Chair, Department of Ophthalmology and Vision Sciences, University of Toronto. Ophthalmologist-in-Chief, Mount Sinai Hospital.
Brent MacInnis MD, FRCSC	Head, Department of Ophthalmology, The Ottawa Hospital
Martyn J. Roberts, MD, FRCPC	Staff Anesthesiologist, Toronto Western Hospital (University Health Network). Assistant Professor University of Toronto
Blair Schoales, MD, FRCSC	Chief of Staff, Thunder Bay Regional Health Sciences Centre
Shaun Singer, MD, FRCSC	Director of Cataract Surgery and Comprehensive Ophthalmology, University Health Network. Medical Director, Kensington Eye Institute. Assistant Professor Ophthalmology, University of Toronto
Patricia Somers	Vice President, Clinical Programs/Chief Nursing Officer, Hotel-Dieu Grace Hospital, Windsor
Laura Visser	Policy Analyst, Wait Time Strategy, Ministry of Health and Long-Term Care

The Panel wishes to thank Joann Trypuc, Ph.D. for working with the members to develop this report.

APPENDIX 2: OVERVIEW OF THE CATARACT SURGERY CASE STUDIES

In May-June 2005, 12 Ontario facilities that provide cataract surgery were contacted for information on their health human resources; care delivery processes; physical plant, equipment and supplies; case costs; wait list and information management; and surgical volumes. Information was obtained either through site visits or by telephone.

The case study sites represent rural and urban facilities, all areas of the province, and three delivery models for cataract surgery: a main operating room, a dedicated surgical suite, and a separate facility. The 12 sites were:

1. Don Mills Surgical Unit, Toronto (Private)
2. Hotel-Dieu Grace Hospital, Windsor
3. Huntsville District Memorial Hospital
4. Lakeridge Health Centre, Bowmanville
5. St. Joseph's Healthcare Hamilton Ambulatory Care Centre
6. St. Mary's General Hospital, Kitchener
7. St. Thomas-Elgin General Hospital, St. Thomas
8. The Kensington Eye Institute, Toronto
9. The Ottawa Hospital Riverside Eye Care Clinic
10. The Royal Victoria Hospital, Barrie
11. The Toronto East General Hospital
12. Thunder Bay Regional Health Sciences Centre

A summary overview of the findings is presented below.

Health Human Resources

The daily and annual volumes of the ophthalmologists range across the sites. The volume per day in a single operating room ranges from 4-40 cases. Only one site indicated that new graduate ophthalmologists would be able to secure operating room hours at their facility. Currently, two sites are using anesthesia extenders in their cataract surgery operating rooms. Both sites adopted this model at a time when their anesthesia shortage was severe. Most sites have three nursing resources in their operating rooms. Some only use registered nurses (RNs), whereas others use two RNs and a registered practical nurse (RPN).

Care Delivery Processes

Some sites provide very comprehensive pre-admission assessments and patient education whereas others have completely eliminated their pre-admission clinics. A number of sites have streamlined their patient admission and patient preparation processes by eliminating or limiting diagnostic testing, streamlining paperwork, and having patients remove their clothing from the waist up only.

Both dedicated and rotating staffing models are used. In all sites, cataract surgery operating room blocks are the same length as the standard operating room block in each respective facility. Facilities range in how extensively they clean their operating rooms between cases. Some clean completely, others partially and yet others not at all. At least one site no longer scrubs between cases.

Physical Plant, Equipment and Supplies

Sites that perform cataract surgery in a main operating room have set up one operating room with the required equipment. Dedicated suites and separate facilities have established 1-4 operating rooms for cataract surgery.

Some facilities purchase equipment whereas others negotiate the acquisition of new technology as part of their supply contract. All sites reported that ophthalmologists use standardised lenses, and all sites have standardised some or all of their equipment. However, policies and processes for providing enhanced products range considerably.

Case Costs

The reported costs per case vary widely across sites due to different ways of defining the cost of a surgical case. The lens and salary costs were identified as the key factors driving the cost per case for cataract surgery.

Wait List and Information Management

All sites reported that wait lists are managed and monitored in individual surgeon's offices. Facilities do not know the length of their ophthalmologists' waiting lists. Except for one site, facilities do not know if or how their ophthalmologists prioritise patients for cataract surgery.

Surgical Volumes

All sites indicated an interest in doing more cataract surgery cases if funded appropriately. Limiting factors included the need for a second operating room, more staff and new equipment.

APPENDIX 3: PRIORITY RATING TOOLS AND WAIT TIME TARGETS IN OTHER CANADIAN JURISDICTIONS

Manitoba Cataract Waiting List Project (MCWLP) Prioritization Scoring System*

The MCWLP uses the VF-14, a 14-item Visual Functioning Index.	
<ul style="list-style-type: none"> • Reading small print • Reading a newspaper • Reading large print • Recognizing people • Seeing steps, stairs • Reading traffic signs 	<ul style="list-style-type: none"> • Writing cheques • Playing games • Taking part in activities • Preparing meals • Watching TV • Driving during the day
<p>0 = “unable to do” 4 = “no difficulty” : VF –14 Score = average x 25 A lower VF-14 score implies higher impairment. Since the score is being added to other factors, however, the MCWLP felt it necessary to convert the score so that a higher score is associated with higher impairment.</p>	
Factor	Factor Score
Functional impairment	100 – VF-14 score*
Length of wait	No. of mo waiting for surgery × 5
Work impairment	None = 0, mild = 10, severe = 25
Work driving impairment	No = 0, yes = 20
Potential loss of driver’s licence	No = 0, yes = 15
Prioritization score is the sum of the scores for 5 factors identified above.	
Inter-rater Reliability	<ul style="list-style-type: none"> • VF-14 considered to have high degree of reliability and consistency • Considered to provide an objective and reliable measure of wait time • VF-14 considered to have high degree of reliability and consistency
Face Validity	<ul style="list-style-type: none"> • Surgeons feel that the criteria are not appropriately weighted. Specifically, that too much emphasis was placed on driving, not enough emphasis was placed on those with dependents and too many points were given for waiting.
Ease of Use	<ul style="list-style-type: none"> • Not indicated
Ease of Data Collection	<ul style="list-style-type: none"> • Surgeon submits request for surgery • Hospital contacts patient, administers survey • Surgeons is given priority list and books patient • Surgeon can override list
Ease of Implementation	<ul style="list-style-type: none"> • Some resistance from surgeons during implementation, perceived that it was a lot more paperwork • Surgeon frustration with inability to provide patients with a concrete surgery date
Perceived Value to Date	<ul style="list-style-type: none"> • allows equitable treatment of patients on the waiting list • provides a uniform method of prioritization • allows long-term tracking of the average length of wait for patients with comparable functional impairment • has exposed considerable variation in wait times between surgeons

*For further information, see Bellan L, Mathen M. The Manitoba Cataract Waiting List Program. *CMAJ* 2001;164(8):1177-80.

Western Canada Waiting List Project (WCWLP) Priority Criteria Tool*

Prioritization score is the sum of scores for 6 specifically defined factors:		
Factor	Factor Score	
Best Corrected Visual Acuity	Operated Eye: Ranges from 0 to 11 with increases due to decreased acuity Non-operated Eye: Ranges from 0 to 17 with increases due to decreased acuity	
Glare	Ranges from 0 to 18 depending on degree of impact	
Ocular Comorbidity	Macular Degeneration: Ranges from 0 to -15 depending on degree of severity Other Comorbidities: Ranges from 0 to 2 depending on degree of severity	
Extent of impairment in visual function	Ranges from 0 to 23 depending on degree of impairment	
Other substantial disabilities	Ranges from 0 to 10 depending on degree of disability	
Ability to work or live independently or care for dependents	Ranges from 0 to 19 depending on degree and immediacy of threat	
Inter-rater Reliability	<ul style="list-style-type: none"> Initially, reliability of scores for criteria ranged from poor to excellent Results from first phase of inter-rater reliability testing indicate that the cataract tool has good reliability Descriptor guide has been developed for the cataract surgery tool to increase the tools reliability 	
Face Validity	<ul style="list-style-type: none"> Evidence of criterion validity is lacking Face or construct validity of the criteria (extent to which the criteria reflect the bases of doctors' best judgements of urgency) is adequate Participating clinicians felt criteria and weights had demonstrated good face validity and were practical and usable in clinical settings 	
Ease of Use	<ul style="list-style-type: none"> Considered easy to use Tools are still in process of being refined and adjusted. 	
Ease of Data Collection	<ul style="list-style-type: none"> descriptor guide has been developed for the cataract surgery tool to increase the tools reliability 	
Ease of Implementation	<ul style="list-style-type: none"> a lot of debate regarding the score weighting of items and ability to exaggerate conditions in order to receive a higher score. 	
Perceived Value	<ul style="list-style-type: none"> perceived to provide transparency, standardization, fairness, timely access, prioritization perceived to allow for minimal influence by doctor, to be fair and non-judgmental, and to allow equitable treatment of patients Visual function is the most powerful predictor of urgency 	
	Cataract Surgery Priority Criteria Score	Proposed Maximum Acceptable Waiting Time
Urgency I (least urgent)	0-20	12 weeks
Urgency II	21-60	8 weeks
Urgency III (most urgent)	61-100	4 weeks
<ul style="list-style-type: none"> Maximum Recommended Wait Times for Cataract Surgery were created through comprehensive process for integrating five perspectives: evidence from relevant literature, lessons from the first phase of WCWL research, clinicians, patients and the general public. Government ability to meet standards with resources was not part of the decision-making process Disagreement on maximum acceptable waiting times may be related to uncertainty about clinical indications for surgery. Some clinicians did not provide MAWT for least severe cases because they might not be candidates for surgery 		

*For further information, see www.wcwl.org.

Saskatchewan Surgical Care Network (SSCN) Cataract Surgery Priority Criteria*

<p>Saskatchewan is the only jurisdiction that has implemented a slightly modified WCWL cataract tool as part of an evaluation process. The modifications of WCWL were derived as follows:</p> <ul style="list-style-type: none"> • Consultants used methodology developed by working group of experts to develop clinical tools • Tools were reviewed through consultation process with surgeons and were circulated to all specialists in the province for feedback and comments • Currently being evaluated for validity, reliability, acceptability, utility and feasibility of priority criteria scores <p>The only change made to date to the WCWLP tool has been the modification of the scoring for macular degeneration</p>		
Factor	Factor Score	
Best Corrected Visual Acuity	Operated Eye: Ranges from 0 to 11 with increases due to decreased acuity Non-operated Eye: Ranges from 0 to 17 with increases due to decreased acuity	
Glare	Ranges from 0 to 18 depending on degree of impact	
Ocular Comorbidity	Macular Degeneration: Ranges from 2 to -15 depending on degree of severity Other Comorbidities: Ranges from 0 to 2 depending on degree of severity	
Extent of impairment in visual function	Ranges from 0 to 23 depending on degree of impairment	
Other substantial disabilities	Ranges from 0 to 10 depending on degree of disability	
Ability to work or live independently or care for dependents	Ranges from 0 to 19 depending on degree and immediacy of threat	
Inter-rater Reliability	<p>SSCN is working with the WCWLP to analyze the assessment tool and scoring process. Assessment will include:</p> <ul style="list-style-type: none"> • reliability and validity of the patient assessment tools in real world settings • how well the priority criteria scores work <p>Analysis is behind scheduled. Results expected Summer 2005.</p>	
Face Validity		
Ease of Use	Intending to produce guidelines for the interpretation of scores and make recommendations for the appropriate use of the priority tools.	
Ease of Data Collection	<ul style="list-style-type: none"> • Not indicated 	
Ease of Implementation	<ul style="list-style-type: none"> • Not indicated 	
Priority Level	Scoring Range	Target Time Frame
Priority I	95-100	95% within 24 hours
Priority II	80-94	95% within 3 weeks
Priority III	65-79	90% within 6 weeks
Priority IV	50-64	80% within 3 months
Priority V	30-49	80% within 6 months
Priority VI	1-29	80% within 12 months
All Cases		Within 18 months
<ul style="list-style-type: none"> • The Score Range for Cataract Surgery is from 1 to 95, Therefore, target time frame range from 3 wks - 18 mos. • Target time frames are performance goals for the surgical care system, allow for better monitoring and tracking and will not interfere with surgeons' decisions about who will receive their surgeries and when. 		

*For further information, see www.sasksurgery.ca.

Ontario Wait List Cataract Surgery Priority Rating Criteria*

<ul style="list-style-type: none"> Reviewed WCWL Cataract Surgery Priority Rating Criteria for applicability in Ontario Hospitals OWL panel revised tool to include priority criteria that captures functional impairment, quality of life and expected benefit Tested using paper cases based on hypothetical scenarios to determine the extent to which raters agreed on the severity assigned to each criteria, the overall urgency and the acceptable maximum waiting time for each case 	
<p>Prioritization score is the sum of scores for 6 specifically defined factors:</p>	
Criteria	Score
1. Best Corrected Visual Acuity	Operated Eye: Ranges from 0 to 11 with increases due to decreased acuity Non-operated Eye: Ranges from 0 to 17 with increases due to decreased acuity
2. a) Glare b) Cataract likely to progress rapidly	Ranges from 0 to 18 depending on degree of impact
3. Impact of Ocular Comorbidity	Ranges from 0 to 2 depending on degree of severity
4. From the <u>patient</u> perspective how much does the cataract affect their daily living	Ranges from 0 to 23 depending on degree of impairment
5. Other substantial disability	Ranges from 0 to 10 depending on degree of disability
6. From the physician perspective how much does the cataract affect their daily living	Ranges from 0 to 19 depending on degree and immediacy of threat
7. Visual Analogue Scale	Ranges from 0 to 10 depending on degree of disability
8. In your clinical judgement, what should be the maximum waiting time of this patient?	
Inter-rater Reliability	<ul style="list-style-type: none"> Overall results of reliability testing demonstrated that the majority of the criteria may be considered appropriate for ascertaining urgency within the cataract surgery setting Results of OWL reliability testing were comparable to the results of the WCWL project. Both resulted in low inter-rater agreement for glare and impact on ADLs.
Face Validity	<ul style="list-style-type: none"> Not indicated.
Ease of Use	<ul style="list-style-type: none"> Ophthalmologists rating the cases felt the instrument was clear overall and that the main elements of assessment were included.
Ease of Data Collection	<ul style="list-style-type: none"> Has not been used in clinical setting.
Ease of Implementation	<ul style="list-style-type: none"> Has not been used in clinical setting.
OWL Conclusions & Recommendations	<p>Recommendations:</p> <ul style="list-style-type: none"> further develop question on glare further evaluate best method for capturing impact on ADL develop and test weighted severity scores <p>Recommended Evaluation:</p> <ul style="list-style-type: none"> Phase 1 testing and validation based on standardized cases Phase 2 testing and validation based on actual patients <p>Other Recommendations</p> <ul style="list-style-type: none"> develop data elements to quantify “waiting” for cataract surgery develop acceptable waiting times for cataract surgery develop minimum data set to monitor cataract surgery waiting lists

*For further information, see Markel F, Rafferty C. *Ontario Wait List Project: Final Report* (Ontario Joint Policy and Planning Committee), 2002.