Quality-Based Procedures
Clinical Handbook for
Cataract Day Surgery

Ministry of Health and Long-Term Care

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Quality-Based Procedures Clinical Handbook: Cataract Day Surgery

1.0 Purpose

This Clinical Handbook has been created to serve as a compendium of the evidence-based rationale and clinical consensus driving the development of the policy framework and implementation approach for Cataract Surgery QBP.

Cataract surgery was one of the first QBPs introduced as part of Ontario’s Health System Funding Reform in April 2012. A Cataract Surgery QBP Clinical Handbook was issued in January 2013. Further, feedback from clinicians and hospitals was received. Resource utilization analytics using National Ambulatory Care Reporting System (NACRS) and Comprehensive Ambulatory Care Classification System (CACs) data and Ontario Case Costing Initiative (OCCI) methodology was undertaken and in October 2013, the Cataract Surgery Clinical Handbook was updated to focus on routine cataract day surgery only. Complex cataract surgery, bilateral cataract surgery and surgeries under general anesthetic were exclusions in the Cataract QBP. Challenges to maintaining access to these ‘non-routine’ cataract cases outside the QBP cohort were identified by clinicians.

For this reason, the Clinical Expert Advisory Group was reconvened in January 2015. This 2015 updated Cataract Surgery QBP Clinical Handbook includes new inclusion criteria related to non-routine cataracts. In addition, the clinical pathways have been revised and new performance indicators identified.

This document has been prepared for informational purposes only. This document does not mandate health care providers to provide services in accordance with the recommendations included herein. The recommendations included in this document are not intended to take the place of the professional skill and judgment of health care providers.
2.0 Introduction

The Ministry of Health and Long-Term Care (Ministry) established Health System Funding Reform (HSFR) in Ontario in 2012 with a goal to develop and implement a strategic funding system that promotes the delivery of quality health care services across the continuum of care, and is driven by evidence and efficiency. HSFR is based on the key principles of quality, sustainability, access, and integration, and aligns with the four core principles of the Excellent Care for All Act (ECFAA):

- Care is organized around the person to support their health;
- Quality and its continuous improvement is a critical goal across the health system;
- Quality of care is supported by the best evidence and standards of care; and
- Payment, policy, and planning support quality and efficient use of resources.

Since its inception in April 2012, the Ministry has shifted much of Ontario’s health care system funding away from the current global funding allocation (currently representing a large portion of funding) towards a funding model that is founded on payments for health care based on best clinical evidence-informed practices.

Principles of ECFAA have been further reinforced first by Ontario’s Action Plan for Healthcare in January 2012, and recently with Patients First: Action Plan for Healthcare in February 2015, which signals positive transformational activity which will require adaptive responses across sectors and organizational levels at a time of accelerated change. The Ministry’s commitment is to make Ontario the best healthcare system in the world.

The 2012 Action Plan identified HSFR as a lever to advance quality and ensure that the right care gets provided at the right place and at the right time. HSFR focuses on delivering better quality care and maintaining the sustainability of Ontario’s universal public health care system. Ontario is shifting the focus of its health care system away from one that has primarily been health care provider-focused, to one that is patient-centred. The 2015 Action Plan continues to put patients at the heart of the health care system by being more transparent and more accountable to provide health care in a way that maximizes both quality and value.

HSFR comprises of 2 key components:

1. Organizational-level funding, which will be allocated as base funding using the Health-Based Allocation Model (HBAM); and
2. Quality-Based Procedure (QBP) funding, which will be allocated for targeted activities based on a “(price x volume) + quality” approach premised on evidence-based practices and clinical and administrative data.

2.1 ‘Money follows the patient’

Prior to the introduction of HSFR, a significant proportion of hospital funding was allocated through a global funding approach, with specific funding for select provincial programs, wait times services and other
targeted activities. However, a global funding approach may not account for complexity of patients, service levels and costs, and may reduce incentives to adopt clinical best practices that result in improved patient outcomes in a cost-effective manner. These variations in patient care evident in the global funding approach warranted the move towards a system where ‘money follows the patient’.

Under HSFR, provider funding is based on: the types and quantities of patients providers treat, the services they deliver, the quality of care delivered, and patient experience/outcomes. Specifically, QBPs incent to health care providers to become more efficient and effective in their patient management by accepting and adopting clinical best practices that ensure Ontarians get the right care, at the right time and in the right place.

QBPs were initially implemented in the acute care sector, but as implementation evolves, they are being expanded across the continuum of care, including into the community home care sector, in order to address the varying needs of different patient populations.

Internationally, similar models have been implemented since 1983. While Ontario is one of the last leading jurisdictions to move down this path, this positions the province uniquely to learn from international best practices and pitfalls, in order to create a sustainable, efficient and effective funding model that is best suited for the province and the people of Ontario.

2.2 What are Quality-Based Procedures?

QBPs are clusters of patients with clinically related diagnoses or treatments that have been identified using an evidence-based framework as providing opportunity for process improvements, clinical re-design, improved patient outcomes, enhanced patient experience, and potential health system cost savings.

Initially developed in the acute (hospital) sector, QBPs were defined as “procedures.” However, as implementation evolved since the introduction of QBPs in 2012, so too has the approach. Currently, the expanded focus is on care provided in other parts of the health care sector with a focus on a more functional/programmatic/population-based approach. As a result, the definition of QBPs is expanding to include Quality-Based Procedures, Programs and Populations.

QBPs have been selected using an evidence-based framework. The framework uses data from various sources such as, but not limited to: the Discharge Abstract Database (DAD) and National Ambulatory Care Reporting System (NACRS) adapted by the ministry for its HBAM repository. The HBAM Inpatient Grouper (HIG) groups inpatients based on the diagnosis or treatment responsible for the majority of their patient stay. Additional data has been used from the Ontario Case Costing Initiative (OCCI), and Ontario Cost Distribution Methodology (OCDM). Evidence published in literature from Canada and international jurisdictions, as well as World Health Organization reports, have also assisted with the definition of patient clusters and the assessment of potential opportunities (e.g. reducing variation, improving patient outcomes, sustainability).

The evidence-based framework assesses patients using five perspectives, as presented in Figure 2.1. It is this evidence-based framework that has identified QBPs that have the potential to improve quality of care, standardize care delivery across the province and show increased cost efficiency.
2.2.1 Practice Variation

Practice variation is the cornerstone of the QBP evidence-based framework. A demonstrated large practice or outcome variance across providers or regions in clinical areas, where a best practice or standard exists, represents a significant opportunity to improve patient outcomes through focusing on the delivery of standardized, evidence-informed practices. A large number of ‘Beyond Expected Length of Stay’ and a large standard deviation for length of stay and costs were flags to such variation.

2.2.2 Availability of Evidence

A significant amount of research has been conducted and collected, both nationally and internationally, to help develop and guide clinical practice. Working with clinical experts, best practice guidelines and clinical pathways can be developed for QBPs and establish appropriate evidence-informed indicators. These indicators can be used to measure the quality of care and help identify areas for improvement at the provider level, and to monitor and evaluate the impact of QBP implementation.

2.2.3 Feasibility/ Infrastructure for Change

Clinical leaders play an integral role in this process. Their knowledge of the identified patient populations, and the care currently provided and/or required for these patients, represents an invaluable element in the assessment of much needed clinical delivery and clinical process improvements. Many groups of clinicians have already developed care pathways to create evidence-informed practice. There is now an opportunity for this knowledge to be transferred provincially.
2.2.4 Cost Impact

The provincial footprint from a financial perspective also impacts the selection of the QBP. This may include QBPs that are high volume and low-cost, as well as those that are low-volume and high costs (i.e. specialized procedures that demonstrate opportunity for improvement).

A selected QBP should have, as a guide, no less than 1,000 cases per year in Ontario and represent at least one percent of the provincial direct cost budget. For patient cohorts that fall below these thresholds, the resource requirements to implement a QBP can be restrictive. Even where the patient cohorts represent an opportunity for improvement, it may not be feasible, even if there are some cost efficiencies, to create a QBP.

2.2.5 Impact on Transformation

The Action Plan for Health Care was launched in January 2012 and is already making a difference to Ontarians and our health care system:

- We’ve bent the cost curve since 2011/12
- We’re improving the health of Ontarians
- We’re enhancing the experience of Ontarians when they use the health system
- We’re working with our health sector partners to improve the quality of health care

The next phase of Transformation will build on and deepen implementation of the Action Plan. HSFR is a key element of the Health System Transformation Agenda by ensuring sustainability and quality.

Selected QBPs should, where possible, align with the government’s transformational priorities. In addition, the impact on transformation of certain patient populations hitherto not prioritized by the framework can be included as QBPs. This will ensure that QBPs are wide ranging in their scope e.g. paediatric patient populations or patients requiring community care. QBPs with a lesser cost impact but a large impact on the provincial health care system may still be a high priority for creation and implementation.

2.3 How will QBPs encourage the delivery of high quality, evidence-based care and innovation in health care delivery?

The QBP methodology is driven by clinical evidence and best practice recommendations from the Clinical Expert Advisory Groups (Advisory Groups). Advisory Groups are comprised of cross-sectoral, multi-geographic and multi-disciplinary membership, including representation from patients. Members leverage their clinical experience and knowledge to define the patient populations and recommend best practices.

Once defined, these best practice recommendations are used to understand required resource utilization for QBPs and will further assist in the development of evidence-informed prices. The development of evidence-informed pricing for the QBPs is intended to incent health care providers to adopt best practices.
in their care delivery models, maximize their efficiency and effectiveness, and engage in process improvements and/or clinical re-design to improve patient outcomes.

Best practice development for QBPs is intended to promote standardization of care by reducing inappropriate or unexplained variation and ensuring that patients get the right care, at the right place and at the right time. Best practice standards will encourage health service providers to ensure that appropriate resources are focused on the most clinically and cost-effective approaches.

QBPs create opportunities for health system transformation where evidence-informed prices can be used as a financial lever to incent providers to:

- Adopt best practice standards;
- Re-engineer their clinical processes to improve patient outcomes;
- Improve coding and costing practices; and
- Develop innovative care delivery models to enhance the experience of patients.

An integral part of the enhanced focus on quality patient care is the development of indicators to allow for the evaluation and monitoring of actual practice and support on-going quality improvement.

In addition, the introduction of additional QBPs such as outpatient and community-based QBPs will further help integrate care across sectors and encourage evidence-based care across the continuum.
3.0 Description of Cataract Day Surgery QBP

In the previous iteration of the Cataract Surgery Clinical Handbook (released October 2013) the focus was placed on routine cataract day surgery. Complex cataract surgery, bilateral cataract surgery and surgeries under general anesthetic were exclusions in the 2013 Cataract QBP definition. Challenges to maintaining access to these ‘non-routine’ cataract cases outside the QBP cohort were identified by clinicians. The revised Cataract Surgery QBP definition, presented in this section, reflects the inclusion of ‘non-routine’ cataracts.

3.1 Patient Groups having Cataract Surgery

This QBP includes day surgery cases only. Inpatient cataract surgery is excluded from all groups below.

The Clinical Expert Advisory Group (Advisory Group) reviewed the various types of the patients who require cataract surgery and their characteristics. This section defines those patient groups in a designated clinical care pathway for routine and non-routine cataract surgery. Details on the general inclusion and exclusion criteria can be found in Section 3.2.

Group A (Routine Cataract Day Surgery): The group encompasses patients who have visual impairment, placing the patient at imminent risk of losing the ability to drive (Highway Traffic Act) or maintaining current employment or who have functional impairment secondary to cataracts (e.g. ambulation, quality of life).

Group B 1 (Non-Routine Cataract Day Surgery): This group includes patients who require cataract surgery for the reasons outlined in Group A and also require one of the following interventions below:
   i. General anesthesia to perform cataract surgery
   ii. Special devices, instrumention, and/or techniques to perform cataract surgery
   iii. Corneal procedure which does not meet the criteria for inclusion in the Integrated Corneal Transplant Care QBP and is not a limbal relaxing incision, pterygium surgery, artificial cornea implantation (Keratoprosthesis), or limbal stem cell transplant procedure.
   iv. Anterior vitrectomy and/or retinal laser/cryotherapy and does not meet criteria for inclusion in the Integrated Retinal Care QBP (excludes cataract surgery performed with pars plana vitrectomy which is included in the Integrated Retinal Care QBP)

Group B 2 (Non-Routine Cataract Day Surgery): This group of patients require cataract surgery for the reasons outlined in Group A and also require:
   i. Glaucoma filtering / drainage procedure
   ii. Ophthalmic surgery which meets more than one of the criteria outlined in Group B 1 or B 2

Group C (Cataract Day Surgery – Bilateral Simultaneous): This group encompasses patients receiving immediate sequential bilateral cataract day surgery in both eyes during the same surgical episode.

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1 The Integrated Corneal Transplant Care QBP has been developed and is expected to be released in January 2016.
3.2 Cataract QBP Inclusion and Exclusion Criteria

The Cataract Surgery QBP relates only to day surgery cases. The QBP does not include inpatient cataract surgery.

Further refinement of the patient definitions in NACRS for inclusion and exclusion in the Cataract QBP reflects the need to maintain access to routine and non-routine cataract day surgery procedures in Ontario.

The Cataract QBP applies National Ambulatory Care Reporting System (NACRS) methodology as follows:

- main intervention is a lens extraction for cataract i.e. main intervention starts with "1CL89"
- functional centre is Operating Room or Day Surgery i.e. the MIS Visit Functional Centre code begins with "7126" or "7136"
- Ontario funded cases i.e. province issuing hcn= "ON" and responsibility for payment = ‘01’
- main intervention is neither cancelled nor performed Out-of-Hospital i.e., the main intervention status attribute is not = “A” (abandoned), the main intervention out of hospital indicator is not = “Y”

3.2.1 Included Groups

### Cataract Groups

<table>
<thead>
<tr>
<th>Cataract Groups</th>
<th>CCI Coding</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group A</strong> (Routine)</td>
<td>Previously included in 2013 Cataract Surgery QBP</td>
<td>Principle procedure starts with 1.CL.89 and does NOT fulfil criteria defined below in Group B 1, Group B 2, or Group C nor fulfil criteria for inclusion in the Integrated Corneal Transplant Care QBP or Integrated Retinal Care QBP. For instance cataract surgery performed with Limbal Relaxing Incision using a laser [1.CC.84.RT-AG; 1.CC.84.LW.AG.K] or using a scalpel or diamond blade [1.CC.84.RT; 1.CC.84.WK] are captured within Group A.</td>
</tr>
<tr>
<td><strong>Group B1</strong> (New)</td>
<td>Non-routine cataract day surgery combined with any one of the following:</td>
<td></td>
</tr>
<tr>
<td>i. Under general anesthsetia</td>
<td>Principle procedure starts with 1.CL.89 with Anaesthetic technique is equal to “1” General</td>
<td></td>
</tr>
<tr>
<td>ii. Using special devices, instruments or techniques</td>
<td>Principle procedure starts with 1.CL.89 combined with the following CCI codes:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Endoscopic cyclophotocoagulation [1.CG.59.LA-AG ]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Capsular tension rings or ring segments [1.CL.53.LA-FE]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Note: Malyugin rings are a mechanical pupil expansion device that a surgeon can use to gain a wide and unobstructed view of the lens during cataract surgery. These are NOT capsular tension rings as defined here. Hospitals should NOT code Malyugin rings as a capsular tension ring or ring segment (defined as CCI code 1.CL.53.LA-FE.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Immediate removal of a damaged/defective intraocular lens [1.CL.55.LA-L^]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Repair of sclera [1.CD.80.^^]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Iris fixation / Iris reconstruction [1.CH.80.^^]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Goniosynchilolysis [1.CH.72.^^]</td>
<td></td>
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<tr>
<td></td>
<td>- Iris iridectomy [1.CH.87.^^]</td>
<td></td>
</tr>
</tbody>
</table>
### iii. With corneal procedures that do not meet definition of Integrated Corneal Transplant Care QBP

Principle procedure starts with 1.CL.89 combined with cornea CCI codes that start with 1.CC*

**EXCEPT FOR:**
- Cases with Limbal Relaxing Incision using a laser [1.CC.84.RT-AG; 1.CC.84.LW.AG.K] or using a scalpel or diamond blade [1.CC.84.RT; 1.CC.84.WK] are captured within Group A.
- Any cases that meet the definition of Integrated Corneal Transplant Care QBP are EXCLUDED from this QBP.
- Cases with Limbal Stem Cell Transplant defined as Transplant, Cornea using donor limbal stem cells (1.CC.85.HA-U7-K) or Transfer Cornea including limbal stem cell transplantation from contralateral eye (1.CC.83.LA-XX-A) are EXCLUDED from this QBP.
- Cases with Keratoprosthesi (KPro) defined as construction/ reconstruction of cornea using alloplastic corneal implant using a laser (1.CC.84.LA-AH-) or using a scalpel or diamond blade (1.CC.84.LA-LC) are EXCLUDED from this QBP.
- Cases with pterygium removal defined as the presence of both a pterygium diagnosis [H11.0] and an excision partial cornea intervention (1.CC.87 [^]) are EXCLUDED from this QBP.

### iv. With anterior vitrectomy procedures that do not meet the definition of the Integrated Retinal Care QBP.

Principle procedure starts with 1.CL.89 combined with the following CCI codes:
- Excision total, vitreous using anterior approach with mechanical vitrectomy [1.CJ.52.LL]

**EXCEPT FOR:**
- Any cases (including Pars Plana Vitrectomy) that meet the definition of Integrated Retinal Care QBP are EXCLUDED from this QBP.

### Group B 2 (New) Non-routine cataract day surgery combined with one of the following:

<table>
<thead>
<tr>
<th>i. Performed with glaucoma filtering/drainage procedure</th>
<th>Principle procedure starts with 1.CL.89 combined with the following CCI codes:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>▪ Drainage, Sclera[1.CD.52.^[^]]</td>
</tr>
<tr>
<td></td>
<td>▪ Drainage, anterior chamber (of eye) [1.CJ.52.^[^]]</td>
</tr>
<tr>
<td></td>
<td>▪ Management of internal device, anterior chamber (of eye) [1.CJ.54.^[^]]</td>
</tr>
<tr>
<td></td>
<td>▪ Removal of device, anterior chamber (of eye) [1.CJ.55.^[^]]</td>
</tr>
</tbody>
</table>

| ii. Multiple ophthalmology procedures                   | Have cataract day surgery which meets more than one of the criteria outlined in Group B 1 or B 2 |

### Group C (New) Cataract day surgery performed as a bilateral sequential cataract procedure

| Bilateral Sequential Cataract Procedure                  | Principle procedure starts with 1.CL.89 with Location Attribute is “B” Bilateral |
3.2.2. Exclusion Criteria

Exclusion criteria are identified as follows:

- Inpatient cataract surgery
- Pediatric cases (patients under 18 years of age) and procedures performed in children’s hospitals
- Cataract surgery with insertion of an intraocular telescope defined as ‘1.CL.89.NP-LO’ or ‘1.CL.89.VR-LO’ or ‘1.CL.89.VO-LO’.
- Cataract surgery that meets the definition of the Integrated Retinal Care QBP (*NEW)
- Cataract surgery that meet the definition of the Integrated Corneal Transplant Care QBP (*NEW)
- Cataract surgery with limbal stem cell transplant, Keratoprosthesis (KPro) or pterygium surgery (*NEW)
  - Limbal stem cell transplant defined as ‘1.CC.85.HA-U7-K’ or ‘1.CC.83.LA-XX-A’
  - Keratoprosthesis (KPro) defined as ‘1.CC.84.LA-AH’ or ‘1.CC.84.LA-LC codes’
  - Pterygium surgery defined as presence of both a pterygium diagnosis ‘H11.0’ and an excision partial cornea intervention ‘1.CC.87 ^^’

3.3 The Cataract QBP: Encouraging Best Practice

The revised 2015 Cataract Surgery QBP Clinical Handbook demonstrates a significant opportunity to reduce practice variation, attain cost efficiencies and catalyze alignment of quality with funding.

The Advisory Group was reconvened in 2015 to guide the development of evidence-informed practices for non-routine cataract surgery in Ontario. The role of the Advisory Group was to:

- Review and validate the composition of the adult patient groups for cataract day surgery
- Reach consensus on evidence-informed best practices to ensure that Ontarians receive the right care, at the right time, in the right place
- Determine potential process improvement opportunities across the continuum of care
- Provide recommendations on evaluation metrics including quality indicators.

To foster partnership and strengthen clinician engagement, the Advisory Group was reconvened with additional members including clinical ophthalmology leaders in non-routine cataract surgery, and coding, costing and health analytic experts. The membership of the 2015 Advisory Group is outlined in Section 11.0.

The best practices and pathways recommended by the Advisory Group have been used to define the cataract surgery patient groups, best practice standards, and performance measures for both routine and non-routine cataract procedures.

The Ministry is responsible for development of evidence-based pricing of the Cataract Surgery QBP to encourage health service providers to:

- Adopt best practice standards;
- Re-engineer clinical processes to improve patient outcomes; and
- Develop innovative care delivery models to enhance the experience of patients.

These practice changes, together with adoption of evidence-based practices, will improve the overall patient experience and clinical outcomes and help create a sustainable model for health care delivery.
4.0 Best practices guiding the implementation of Cataract Day Surgery

Best practice recommendations in the form of Cataract Clinical Pathways have been revised from those in the previous 2013 Clinical Handbook.

The Advisory Group determined that the processes of care for both routine and non-routine cataract surgery follow the same clinical pathways, namely assessment and referral, decision to treat, surgical treatment, and follow-up care.

The pathways outline key clinical processes of care determined through Advisory Group consensus and clinical evidence, where available. The Advisory Group recommends that hospitals or independent health facilities must be accredited and meet appropriate surgical standards.

4.1 Cataract Day Surgery Assessment and Referral Pathway

Figure 4.1 outlines processes to assess and refer any cataract surgery patient defined in Section 3.1.

Clinical findings that warrant referral to a treating ophthalmologist for further diagnostic evaluation and treatment are highlighted in red.

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**Box 1: Education to Family Doctor and the Public**

- Risk factors for cataracts
- Need for annual eye exams:
  - For all over 65 years*
  - Diabetes
  - Glaucoma
  - Other eye diseases

**Box 2: Regular Eye Exam by Optometrist or Ophthalmologist:**

- Vision and best corrected visual acuity
- Intraocular Pressure
- Dilated Fundus exam

**Box 3: Regular eye exam findings suggestive of symptomatic cataracts:**

- Significant nuclear sclerosis
- Cortical opacities
- Posterior subcapsular changes

**Box 4: Ongoing Monitoring**

If symptoms have not progressed to point of treatment or if patient preference is not to have surgery, continue ongoing monitoring and assessment for new signs and symptoms or disease progression.

**Box 5: Surgical Management Required**

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Figure 4.1 Note: *Regular eye examinations are recommended for those between 18 to 65 years of age.
Education of the public and general practitioners is required with respect to key risk factors for cataracts and the need for annual eye exams for those over 65 years, or those under 65 years with diabetes, glaucoma or other eye diseases.

Key risk factors for cataracts include:
- Age and family history of cataracts
- Diabetes, high blood pressure, obesity
- Excessive alcohol consumption, smoking
- Excessive exposure to sunlight, exposure to ionizing radiation (e.g. cancer radiation therapy)
- Previous eye injury or inflammation
- Previous eye surgery
- Prolonged use of corticosteroid medications

Annual eye exams should be performed in those individuals over 65 years of age or anyone with diabetes, glaucoma or other eye diseases. Exams should be performed by an optometrist or ophthalmologist or by a family physician with the training and tools to carry out a comprehensive eye examination.

Although everyone should receive regular comprehensive eye exams, it is important to note that OHIP only insures an annual eye exam in patients:
- If they are younger than 20 years or over 65 years,
- If they have one or more specific ocular/medical conditions that require regular monitoring, or
- If their primary care provider identifies the patient as needing regular monitoring.

Comprehensive eye examinations should include:
- Vision and best corrected visual acuity measurement
- Intraocular pressure
- Dilated fundus exam

Patients should be referred an ophthalmologist if eye examination findings are suggestive of symptomatic cataracts or show visually significant nuclear sclerosis, cortical opacities, or posterior subcapsular changes.

Ongoing monitoring and assessment for new signs and symptoms or disease progression should continue if cataract symptoms have not progressed to point of requiring surgery.

4.2 Surgical Decision to Treat Pathway

All patient groups who move into the cataract surgical pathway should undergo the diagnostic exams and clinical and decision-making processes outlined in Figure 4.2.
Prior to surgery, the treating ophthalmologist should undertake a complete history that includes history of visual change, and medical and family history.

As part of the work up for surgery, the treating ophthalmologist should conduct a thorough eye examination to ensure that the cataract is responsible for the visual symptoms in patients and to identify other problems that may impact surgery.

The complete eye exam should include, at a minimum:

- Slit lamp exam
- Tonometry
- Dilated eye exam

Additional testing (e.g. optical coherence tomography, pachymetry) may be required based on the patient’s unique presentation.

Discussion of treatment options should consider patient preferences for surgical management, disease progression, and patient’s perceptions of visual impairment. The decision for surgery should include obtaining informed patient consent for surgical treatment and recording the patient’s chief complaint necessitating intervention.

Patients should be educated about their treatment options.

Cataract surgery is an insured service in Ontario. OHIP covers the following cataract surgery services: dilated fundus exam, ultrasound test – to measure the length and curvature of the front of the eye, standard mono-focal lens implant, and all surgical costs associated with cataract surgery including equipment, supplies, staffing, and follow-up visit(s).

Patients can pay for optional services (such as specialized diagnostic procedures and special-feature intraocular lenses) that are not covered by OHIP. It is important for the ophthalmologist to discuss these non-insured services with patients in a transparent fashion outlining the reasons these services are recommended and that they are not a required part of surgery.
The Eye Physician and Surgeons of Ontario (EPSO) has endorsed a patient information handout on cataract surgery options in Ontario that describes:

- What is covered by OHIP?
- What are non-insured options?
- How much should cataract surgery cost?

This patient education material should be provided to all patients who are considering cataract surgery.


### 4.3 Cataract Surgery Pathway

All routine and non-routine day cataract patient groups that move into the surgical pathway should undergo the diagnostic exams and clinical and decision-making processes outlined in Figure 4.3.

#### Figure 4.3 Cataract Day Surgery Clinical Pathway

### Treatment

1. **Box 13.** Patient to be NPO depending on the degree of anesthesia provided. 
   - Pupil dilation
   - IOL calculations available

2. **Box 14.** Surgical site marked on patient. 
   - Surgical checklist completed
   - Povidone prep or chlorhexidine

3. **Box 15.** Day Surgery Procedure performed

4. **Box 16.** Post-Operative Patient observation and monitoring until stable. 
   - Written instructions to patient on: 
     - Potential early complications/expectations
     - Emergency contact
     - Follow-up time and place
   - Operative report prepared and ideally sent to referring eye care professional and/or family physician

### Follow-up

1. **Box 17.** Short-Term follow-up 
   - Immediate follow-up visit ideally <48 hours of procedure with operating surgeon or delegate: 
     - Check status of healing and intraocular pressure
     - Follow resolution of post operative inflammation
   - A second follow-up visit 1-2 weeks post procedure with operating surgeon or delegate

2. **Box 18.** Longer-Term Follow-up 
   - A follow-up visit ideally within 4-6 weeks of surgery with operating surgeon or delegate to determine final improvement in vision and absence of pathology Annual eye exams by operating surgeon or referring eye care professional thereafter

3. **Box 19.** Communication 
   - Proper communication between any delegate eye care provider and surgeon on ongoing treatment plan
   - Note to referring eye care practitioner and primary care provider outlining: 
     - Patient’s clinical course during and following procedure
     - Status at the time of last visit

**Figure 4.3 Notes**

1. Use of adjuvant medications or devices may be required to complete procedure.
2. May be delegated to qualified eye care practitioner under exceptional circumstances only. If delegated, the results and findings must be communicated to the treating surgeon
3. May be delegated to a qualified eye care practitioner. It is encouraged that the second follow up visit be with the surgeon if at all possible. If delegated the results and findings must be communicated to the treating surgeon.
Non-Routine Cataract Day Surgery – Additional Considerations

The following section outlines additional considerations to the cataract day surgery clinical pathway outlined in Figure 4.3 for non-routine patients as defined in Groups B 1, B 2, or C.

4.4. Group B 1

4.4.1 Cataract day surgery performed with general anesthesia (GA)

Cataract day surgery under GA may be indicated for patients with:

- Extreme patient anxiety
- Inability of the patient to cooperate with the surgical team
- Inability to provide satisfactory local or topical anesthesia
- The presence of disorders that may be better managed under general anesthesia, i.e. severe back pain, postural problems, movement disorders

Cataract day surgery under GA is usually not indicated for:

- Surgeon preference in the absence of other indications

Pre-operative processes should include documentation for reason and clinical indications for general anesthesia use. Post-operative follow-up care processes should include documentation of outcomes.

4.4.2 Cataract day surgery performed with special devices, instrumentation, and/or techniques

Pre-operative processes should include:

- Documentation on the nature of disease requiring additional devices, instrumentation and/or techniques

Post-operative follow-up care processes should include:

- Assessment of outcomes post surgery
- Documentation of outcomes with use of additional devices, instrumentation and/or techniques

4.4.3. Cataract day surgery performed with corneal procedures

Pre-operative processes should include:

- Nature of corneal disease should be documented
- Appropriate measures should be taken to stabilize disease as necessary
- Pachymetry and specular microscopy, if indicated

Post-operative follow-up care processes should include:

- Follow-up with treating surgeon dependent on clinical course
- Ocular and functional status documented (e.g. vision, corneal clarity)
Note: Group 4.4.3 excludes patients who meet the Integrated Corneal Transplant Care QBP definition. Best practices for patients receiving a corneal transplant procedure will be available in the Corneal Transplant QBP Clinical Handbook. This handbook is expected to be released in January 2016.

Provincial analysis identified unusual practice of a higher volume of cataract surgery performed in combination with pterygium surgery at some hospitals in the province. Best practices suggest that these procedures usually should not be performed at the same time.

- Best practice defined by the Corneal Transplant QBP Advisory Group states that *if cataract surgery is also required, pterygium surgery should ideally be performed initially. Sufficient time should be allowed to ensure accurate K readings are obtained for IOL calculations prior to cataract surgery booked at another visit.*

4.4.4. Cataract day surgery performed with anterior vitrectomy procedures

Pre-operative processes should include:
- Documentation of need for anterior vitrectomy
- Evaluation of retinal status

Post-operative follow-up care processes should include:
- Follow-up with surgeon dependent on clinical course
- Dilated fundus examination to ensure retina is stable.

Note: Group 4.4.4 excludes patients who receive a cataract surgery with pars plana vitrectomy. Best practices for patients receiving a pars plana vitrectomy procedure with cataract surgery are available in the Integrated Retinal Care QBP Clinical Handbook.

4.5. Group B 2

4.5.1 Cataract day surgery performed with glaucoma filtering/drainage procedures

Pre-operative processes should:
- Selection of procedure to reach intraocular pressure target following cataract and glaucoma surgery
- Include complete eye examination (including gonioscopy), automated perimetry and optic disc/RNFL assessment to establish etiology and stage of glaucoma to guide surgical decision making

Post-operative processes should include:
- In eyes at risk of permanent vision loss due to intraocular pressure spike (e.g. advanced glaucomatous optic nerve damage), it is advisable to monitor intraocular pressure on the day of surgery.
- Frequency of follow-up with surgeon dependent on clinical course. Best practice for follow up care after glaucoma surgery requires more frequent visits than following routine cataract surgery.
- Ocular and functional status documented (e.g. intraocular pressure, optic nerve).

4.5.2 Cataract day surgery performed with multiple ophthalmology procedures

Pre-operative processes should:
- Documentation for reason and clinical indications for multiple ophthalmology procedures

Post-operative follow-up care processes should include:
- Frequency of follow-up with surgeon dependent on clinical course
- Documentation of outcomes

4.6. Group C - Cataract day surgery performed as a simultaneous bilateral cataract surgery

Simultaneous bilateral cataract surgery may be indicated for patients when:
- Both eyes meet criteria for surgery and patient elects to have simultaneous bilateral cataract surgery. (For patients with severe disabilities, meeting criteria for surgery for second eye may not be required if there is an expectation that surgery on the second eye will be required in the near future)
- Health issues are present that increase the risks associated with multiple surgeries and anesthesia.

Simultaneous bilateral cataract surgery may not be indicated in patients with:
- Minimal cataract in the second eye (except in cases above)
- Significantly increased risk of infection;
- Significant corneal, lenticular or retinal abnormalities, which increase risk of later complications.

Safe practice for simultaneous bilateral cataract day surgery requires the following:
- Complete sterile separation of the two procedures is critical, with re-prepping and re-draping between eyes, the use of different sets of instruments and different lots of balanced salt solution, disposables, and ophthalmic viscosurgical devices.
- Where possible. Operating room nurses involved in bilateral cataract day surgery should be specifically trained.
- If any complication occurs with the first eye, the second eye should be deferred.
- Processes should be established to ensure surgical planning information (e.g. astigmatism magnitude and axis and IOL power and type) is clearly linked to the right versus left eye and communicated to and understood by all members of the surgical team.

Pre-operative processes should include documentation for reason and clinical indications for simultaneous bilateral cataract surgery. Post-operative follow-up care processes should include documentation of outcomes.
5.0 Implementation of Best Practices

Implementation of best practices outlined in this Cataract Surgery QBP Clinical Handbook will be supported by:

- Members of this QBP Advisory Group
- The Provincial Vision Strategy Task Force
- Eye Physicians and Surgeons of Ontario

The Advisory Group has identified key considerations to support effective implementation of this QBP:

1. QBP implementation should consider four separate pricing streams given the higher resource utilization associated with performing cataract surgery in Groups B 1, B 2, and C, compared to routine cataract surgery (Group A). Special attention should be given to bilateral cataract surgery procedures due to limited provincial costing data currently available.

Table 5.1: Cataract Day Surgery QBP volumes, LOS, and RIW (2013/2014)

<table>
<thead>
<tr>
<th>Cataract Group</th>
<th>Type of Case</th>
<th>N</th>
<th>Avg LOS (Hrs)</th>
<th>Avg. RIW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group A</strong></td>
<td>Routine Cataract Surgery</td>
<td>118845</td>
<td>0.14</td>
<td>3.47</td>
</tr>
<tr>
<td><strong>Group B 1</strong></td>
<td>General Anaesthesia</td>
<td>439</td>
<td>0.15</td>
<td>4.25</td>
</tr>
<tr>
<td></td>
<td>Special devices, techniques, instruments</td>
<td>828</td>
<td>0.17</td>
<td>3.39</td>
</tr>
<tr>
<td></td>
<td>Corneal procedures</td>
<td>35</td>
<td>0.17</td>
<td>3.77</td>
</tr>
<tr>
<td></td>
<td>Anterior Vitrectomy</td>
<td>273</td>
<td>0.3</td>
<td>4.48</td>
</tr>
<tr>
<td><strong>Group B 2</strong></td>
<td>Glaucoma filtering/drainage procedure</td>
<td>594</td>
<td>0.27</td>
<td>3.89</td>
</tr>
<tr>
<td></td>
<td>Multiple ophthalmology procedures</td>
<td>167</td>
<td>0.27</td>
<td>3.88</td>
</tr>
<tr>
<td><strong>Group C</strong></td>
<td>Bilateral surgery procedures</td>
<td>1179</td>
<td>0.14</td>
<td>3.51</td>
</tr>
</tbody>
</table>

Note: Cost data are only available for 141 of the bilateral cases

Bilateral cataract surgeries are a small part of the hospital practice, which left in global hospital budget have been shown to negatively impact patient access to these procedures. The Advisory Group recommends that bilateral cataract day surgery procedures be included in this QBP.

Given the limitations in costing data available, Ministry must continue to communicate with hospitals to prevent any further impact on patient access for bilateral cataract surgery.

Additional costing data in 2014/2015 is required for bilateral surgery (Group C) in order to determine appropriate funding for these procedures. Costing data was limited to n=141 bilateral cataract day surgery cases, representing only 12% of cases provincially for 2013/2014.
2. LHIN and provincial level reporting mechanisms are required to identify Toxic Anterior Segment Syndrome (TASS) after cataract surgery.

TASS is an acute postoperative inflammatory reaction that typically develops within 24 hours after surgery and is characterized by corneal edema and accumulation of white cells in the anterior chamber of the eye. TASS can cause serious damage to intraocular tissues, resulting in vision loss. Causes of TASS include contaminants introduced into the eye during surgery usually from surgical equipment or supplies.

Currently if there is an outbreak of TASS or postoperative infection, the issue is managed at a facility level. A provincial reporting system is needed to identify outbreak clusters and work with treating ophthalmologists and hospitals to prevent additional cases from developing. Prevention of TASS requires careful attention to solutions, surgical devices and sterilization of surgical equipment.

The monitoring system should be set up in each LHIN with one lead hospital responsible for collecting information on the cases occurring within the LHIN and coordinating notification of outbreak incidents to all ophthalmology programs within the LHIN and across the Province.

3. Cataract surgery procedures excluded from the QBP will continue to remain in hospital global funding. Access to these procedures should be maintained and managed by hospitals.

Hospitals should manage and maintain access to cataract surgery procedures not included in this QBP or other ophthalmology QBPs. These procedures will remain in hospital global funding and include:

- Inpatient cataract surgery
- Cataract surgery with insertion of an intraocular telescope ['1CL89NPLO' or '1CL89VRLO' codes]
- Cataract surgery performed with limbal stem cell transplant [1.CC.85.HA-U7-K; OR 1.CC.83.LA-XX-A codes]
- Cataract surgery performed with keratoprosthesis (KPro) [(1.CC.85*) PLUS 1.CC.84.LA-AH / 1.CC.84.LA-LC codes]
- Cataract surgery performed with pterygium surgery [presence of both a pterygium diagnosis [H11.0] and an excision partial cornea intervention (1.CC.87 ^\wedge)]

4. The Ontario Hospital Association has developed a Toolkit to support implementation of QBPs that is available online.

The Toolkit provides:

- Organizational structure overview required to support successful implementation of QBPs
- Patient engagement approaches to identify improvements that positively impact patient experience
- Change management considerations, including senior leadership support, clinical engagement and high quality clinical, financial and statistical data.
- Approaches to monitoring and measuring process and outcomes related to QBP implementation

Toolkit Link:
6.0 What does it mean for multi-disciplinary teams?

Role in measuring functional outcomes and satisfaction in patients receiving cataract day surgery
Coordination between the treating ophthalmologist, and/or delegated qualified eye care provider (general ophthalmologist, optometrist) is required to support assessment and reporting of functional outcomes and satisfaction in patients who received cataract day surgery.

- A multidisciplinary approach will be required for reporting of functional vision in patients. Optometrists and ophthalmologists will have to work together to obtain and report functional vision acuity measurement before and after cataract surgery. This is an important part of the performance indicators for this QBP.
- Patient satisfaction is a key performance metric for this QBP and provincial efforts (via the Provincial Vision Strategy Task Force and LHINs) are currently underway to develop a standardized patient satisfaction survey specific to cataract surgery. Collection and communication of patient satisfaction measures will help to ensure delivery of high quality cataract surgery care.

Role in maintaining access to non-QBP ophthalmology procedures
Hospital administrators, ophthalmologists, LHINs, and the Ministry must work together to preserve access to non-QBP ophthalmology procedures. Three major practice areas in ophthalmology are under a QBP funding model or currently being developed into a QBP (See Figure 6.1).

- There is concern that access to glaucoma procedures may be impacted given that these procedures are currently not part of an existing QBP and are typically performed in the same location as cataract surgery, and compete for the same resources.
- Ophthalmology teams should work together to preserve access to glaucoma procedures and other non-QBP ophthalmology procedures. Funding for non-QBP procedures remains in the hospital global budgets.

Figure 6.1: Quality Based Procedures in Ophthalmology
7.0 Service Capacity Planning

Service capacity planning for the Cataract Surgery QBP will require that hospitals maintain their cataract surgery volumes. Table 7.1 shows the number of cataract surgeries that meet the criteria for the new QBP definition for 2013/2014 and 2014/2015.

Table 7.1: Cataract Surgery QBP volumes over 2 Years

<table>
<thead>
<tr>
<th>Cataract QBP Cases (New QBP Definition)</th>
<th>2013/14</th>
<th>2014/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A. Routine Cataract Day Surgery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group B₁. Non-Routine Cataract Day Surgery with:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General anesthesia</td>
<td>439</td>
<td>489</td>
</tr>
<tr>
<td>Special devices, techniques, and instruments</td>
<td>828</td>
<td>548</td>
</tr>
<tr>
<td>Corneal procedures</td>
<td>35</td>
<td>50</td>
</tr>
<tr>
<td>Anterior vitrectomy procedures</td>
<td>273</td>
<td>296</td>
</tr>
<tr>
<td>Group B₂. Non-Routine Cataract Day Surgery with:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glaucoma filtering/drainage procedures</td>
<td>594</td>
<td>755</td>
</tr>
<tr>
<td>Multiple ophthalmology procedures</td>
<td>167</td>
<td>141</td>
</tr>
<tr>
<td>C. Bilateral Sequential Day Surgery</td>
<td>1179</td>
<td>1109</td>
</tr>
<tr>
<td>TOTAL CASES</td>
<td>122360</td>
<td>120554</td>
</tr>
</tbody>
</table>

Source: Ministry of Health and Long Term Care (NACRS)

Cataract day surgeries are also performed in Independent Health Facilities (IHF). These cases are not part of the QBP. The following cataract surgical volumes were performed over 2 years at the Kensington Eye Institute.

Table 7.2: Kensington Eye Institute Cataract Day Surgery Volumes over 2 Years

<table>
<thead>
<tr>
<th>Cataract Surgery at Kensington Eye Institute</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9328</td>
<td>9639</td>
</tr>
</tbody>
</table>

Source: Kensington Eye Institute
Hospital program growth in cataract volumes is needed to address increasing wait times and queues.

Wait times for cataract surgery are growing in Ontario. The provincial Wait 2 for cataract surgery has increased from 159 days in August 2014 to now averaging 179 days as of July 2015.

Figure 7.1 Ontario Wait 2 for Cataract Surgery (August 2014–July 2015)

Source: Ministry of Health and Long Term Care - Ontario Wait Times Strategy

Wait 2 remains variable across LHINs with 7 of 14 LHINs exceeding the Ontario Wait 2 Target of 182 days for Cataract Surgery.

Figure 7.2 Ontario Wait 2 for Cataract Surgery (March–May 2015)

Source: Ministry of Health and Long Term Care - Ontario Wait Times Strategy
8.0 Performance evaluation and feedback

In order to monitor the implementation of the Cataract Day Surgery QBP and support ongoing quality improvement, the Clinical Advisory Group developed cataract day surgery indicators. The table below defines the indicators recommended by the Advisory Group to support the monitoring and evaluation of the Cataract Surgery QBP.

In introducing the QBPs the ministry has a strong interest in:

1. Supporting monitoring and evaluation of the impact of the introduction of QBPs
2. Providing benchmark information for clinicians and administrators that will enable mutual learning and promote on-going quality improvement
3. Providing performance-based information back to Expert Panels to evaluate the impact of their work and update as required in real time

There was recognition that reporting on a few system-level indicators alone would not be sufficient to meet the ministry’s aim of informing and enabling quality improvement initiatives at the provider-level. Therefore measures meaningful to hospitals and clinicians that are interpretable and have demonstrable value in improving the quality of care provided to patients are also of utmost importance.

To guide the selection and development of relevant indicators for each QBP, the ministry, in consultation with experts in evaluation and performance measurement, developed an approach based on the policy objectives of the QBPs and a set of guiding principles. This resulted in the creation of an integrated scorecard with the following six quality domains:

- Effectiveness (including safety)
- Appropriateness
- Integration
- Efficiency
- Access
- Patient-centeredness

The scorecard is based on the following guiding principles:

- **Relevance** – the scorecard should accurately measure the response of the system to introducing QBPs
- **Importance** – to facilitate improvement, the indicators should be meaningful for all potential stakeholders (patients, clinicians, administrators, LHINs and the ministry)
- **Alignment** – the scorecard should align with other indicator-related initiatives where appropriate
- **Evidence** – the indicators in the integrated scorecard need to be scientifically sound or at least measure what is intended and accepted by the respective community (clinicians, administrators and/or policy-decision makers)
A set of evaluation questions was identified for each of the QBP policy objectives outlining what the ministry would need to know in order to understand the intended and unintended impact of the introduction of QBPs. These questions were translated into key provincial indicators resulting in a QBP scorecard (see table below).

The following cataract day surgery indicators have been developed by the Advisory group. In total, these indicators reflect the quality of cataract day surgery performed in Ontario.

Table 8.1 Cataract Surgery QBP Indicators

<table>
<thead>
<tr>
<th>Quality Domain</th>
<th>What is being measured?</th>
<th>Key provincial indicators</th>
<th>Recommended Cataract Surgery QBP Indicators</th>
</tr>
</thead>
</table>
| **Effectiveness** | What are the outcomes of care received by patients? Do results vary across providers? Can any variance be explained by population characteristics? Is care provided without causing harm? | 1. Proportion of QBP patients with improved outcomes 2. Proportion of QBPs that reduced variation in outcome 3. Proportion of QBP patients who avoided adverse events and infections | 1. Proportion of patients 18 years of age and older who underwent cataract day surgery in Ontario and subsequently developed complications: ‡  
- Severe uveitis,  
- Infectious endophthalmitis,  
- Retinal detachment or  
- Capsule rupture  
2. Proportion of 18 years of age and older who underwent cataract day surgery in Ontario and subsequently:  
- Received capsulotomy †  
- Achieved equal or improved visual function (developmental indicator)  
* **Note:** The Advisory Group recommends that the indicator should capture capsulotomy rate over a 3-year period by surgeon, hospital and LHIN |
| **Appropriateness** | Is patient care being provided according to scientific knowledge and in a way that avoids overuse, underuse or misuse? | 4. Proportion of patients who received care aligned with standard QBP pathway 5. Proportion of QBP patients that saw a substitution from inpatient to outpatient/day surgery (where appropriate) 6. Proportion of QBP patients who received less invasive procedures (where appropriate) 7. Proportion of QBP patients that saw an increase in discharge dispositions into the community (where appropriate) 8. Proportion of QBP patients with reduced lengths of stay | 3. Proportion of patients 18 years of age and older in Ontario who received pre- and post-operative visual acuity assessment  
4. Volume of surgeries performed in Ontario among cataract QBP patients 18 years and older as well as the proportion of total cataract day surgeries represented by the following age categories: less than 35 years of age (<35), 35-49, 50-64, 65-74, 75-84 and 85 years and older (85+) by LHIN and by hospital or independent health facility ‡  
5. Proportion of patients 18 years of age and older in Ontario receiving cataract day surgery under general anesthesia by hospital  
6. Proportion of patients 18 years of age and older in Ontario who reported improved visual function after receiving cataract day surgery |
<table>
<thead>
<tr>
<th>Quality Domain</th>
<th>What is being measured?</th>
<th>Key provincial indicators</th>
<th>Recommended Cataract Surgery QBP Indicators</th>
</tr>
</thead>
</table>
| Integration    | Are all parts of the health system organized, connected and working with one another to provide high quality care? | 9. Reduction in 30-day readmissions rate (if relevant)  
10. Improved access to appropriate primary and community care (e.g. psychosocial support) following discharge if deemed appropriate  
11. Improved access to appropriate primary and community care including for example psychosocial support (e.g. personal, family, financial, employment and/or social needs)  
12. Coordination of care (TBD)  
13. Involvement of family (TBD) |
| Efficiency     | Does the system make best use of available resources to yield maximum benefit ensuring that the system is sustainable for the long term? | 14. Actual costs vs. QBP price  
15. Increase in wait times for QBPs / for specific QBP populations  
16. Increase in wait times for other procedures  
17. Increase in distance patients have to travel to receive the appropriate care related to the QBP  
18. Proportion of providers with a significant change in resource intensity weights (RIW) |
| Access         | Are those in need of care able to access services when needed? | 11. Wait time for referral to specialist (Wait 1)  
12. Wait time for cataract day surgery (Wait 2)  
13. Wait time by Priority Level (II-IV) by LHIN.  
14. Catchment-share of non-routine cataracts and routine cataracts by Institution and by LHIN.  
15. Distance traveled by Priority 1 patients from their homes to the hospital where cataract day surgery was performed. |

7. Proportion of patients 18 years of age and older who underwent cataract day surgery in Ontario and subsequently required emergent care following surgery  
8. Proportion of patients 18 years of age and older in Ontario who underwent cataract day surgery and were satisfied with knowing how to access after-hours assistance or emergent care

9. Proportion of cataract day surgeries completed within QBP funding  
10. Proportion of patients 18 years of age and older who:  
- Receive standard intraocular lens  
- Pay additional fees for optional services (by hospital or independent health facility)
<table>
<thead>
<tr>
<th>Quality Domain</th>
<th>What is being measured?</th>
<th>Key provincial indicators</th>
<th>Recommended Cataract Surgery QBP Indicators</th>
</tr>
</thead>
</table>
| Patient-Centeredness   | Is the patient/user at the center of the care delivery and is there respect for and involvement of patients’ values, preferences and expressed needs in the care they receive?                                                                                                                                                                                                 | 19. Increased rate of patients being involved in treatment decision  
20. Coordination of care  
21. Involvement of family                                                                 | 16. Proportion of patients 18 years of age and older in Ontario who underwent cataract day surgery and were satisfied with:  
• The explanation received about their eye condition and the treatment that was proposed  
• Their experience on the day of surgery  
• Being able to understand the instructions for their care of eye including the use of eye medications  
• The surgeon’s explanation of the benefit of the additional lens features  
• That the extra cost to purchase the lens with the additional features was worthwhile |

Note: Indicators marked with “UTF” have been operationalized in the first Cataract QBP Provincial Scorecard released in 2014. The report can be retrieved from the Ministry Health Data Branch Web Portal at https://hsimi.on.ca/hdbportal/  

It should be noted that although not explicitly mentioned as a separate domain, the equity component of quality of care is reflected across the six domains of the scorecard and will be assessed by stratifying indicator results by key demographic variables and assessing comparability of findings across sub-groups. Where appropriate, the indicators will be risk-adjusted for important markers of patient complexity so that they will provide an accurate representation of the quality of care being provided to patients.  

The ministry and experts recognized that to be meaningful for clinicians and administrators, it is important to tie indicators to clinical guidelines and care standards. Hence, advisory groups that developed the best practices were asked to translate the provincial-level indicators into QBP-specific indicators. In consulting the advisory groups for this purpose, the ministry was interested in identifying indicators both for which provincial data is readily available to calculate and those for which new information would be required. Measures in the latter category are intended to guide future discussion with ministry partners regarding how identified data gaps might be addressed.  

In developing the integrated scorecard approach, the ministry recognized the different users of the indicators and envisioned each distinct set of measures as an inter-related cascade of information. That is, the sets of indicators each contain a number of system or provincial level measures that are impacted by other indicators or driving factors that are most relevant at the Local Health Integration Networks (LHIHs), hospital or individual clinician level. The indicators will enable the province and its partners to monitor and evaluate the quality of care and allow for benchmarking across organizations and clinicians. This will in turn support quality improvement and enable target setting for each QBP to ensure that the focus is on providing high quality care, as opposed to solely reducing costs.  

It is important to note that process-related indicators selected by the expert panels will be most relevant at the provider level. The full list of these measures is intended to function as a ‘menu’ of information that can assist administrators and clinicians in identifying areas for quality improvement. For example, individual providers can review patient-level results in conjunction with supplementary demographic, financial and other statistical information to help target care processes that might be re-engineered to help ensure that high-quality care is provided to patients.
Baseline reports and regular updates on QBP specific indicators will be included as appendices to each QBP Clinical Handbook. Reports will be supplemented with technical information outlining how results were calculated along with LHIN and provincial-level results that contextualize relative performance. Baseline reports will also be accompanied by facility-level information that will facilitate sharing of best practices and target setting at the provider-level.

The ministry recognizes that the evaluation process will be on-going and will require extensive collaboration with researchers, clinicians, administrators and other relevant stakeholders to develop, measure, report, evaluate and, if required, revise and/or include additional indicators to ensure that the information needs of its users are met.
9.0 Support for Change

The ministry, in collaboration with its partners, will deploy a number of field supports to support adoption of the funding policy. These supports include:

• **Committed clinical engagement** with representation from cross-sectoral health sector leadership and clinicians to champion change through the development of standards of care and the development of evidence-informed patient clinical pathways for the QBPs.

• **Dedicated multidisciplinary clinical expert group** that seek clearly defined purposes, structures, processes and tools which are fundamental for helping to navigate the course of change.

• **Strengthened relationships with ministry partners and supporting agencies** to seek input on the development and implementation of QBP policy, disseminate quality improvement tools, and support service capacity planning.

• **Alignment with quality levers such as the Quality Improvement Plans (QIPs)**. QIPs strengthen the linkage between quality and funding and facilitate communication between the hospital board, administration, providers and public on the hospitals' plans for quality improvement and enhancement of patient-centered care.

• **Deployment of a Provincial Scale Applied Learning Strategy known as IDEAS** (Improving the Delivery of Excellence Across Sectors). IDEAS is Ontario’s investment in field-driven capacity building for improvement. Its mission is to help build a high-performing health system by training a cadre of health system change agents that can support an approach to improvement of quality and value in Ontario.

We hope that these supports, including this Clinical Handbook, will help facilitate a sustainable dialogue between hospital administration, clinicians, and staff on the underlying evidence guiding QBP implementation. The field supports are intended to complement the quality improvement processes currently underway in your organization.
10.0 Frequently Asked Questions

The Ministry released a Health System Funding Reform Memorandum (#19) on Cataract Quality-Based Procedure (QBP) update on December 19, 2014.

The memo offers answers to frequently asked questions related to the implementation of the cataract surgery QBP since 2012.

See Appendix A.
## 11.0 Membership

The cataract surgery QBP panel was reconvened to address both routine and non-routine cataract surgery procedures in the 2015 clinical handbook with membership as follows:

<table>
<thead>
<tr>
<th>Member Name</th>
<th>Affiliation</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dr. Phil Hooper, Chair</td>
<td>Clinical Provincial Lead, Ophthalmology, Access to Care; Associate Professor, Ophthalmology, Western University</td>
<td>London</td>
</tr>
<tr>
<td>2. Dr. Ike Ahmed</td>
<td>Ophthalmologist, Trillium Health Partners</td>
<td>Toronto</td>
</tr>
<tr>
<td>3. Dr. Steve Arshinoff</td>
<td>Ophthalmologist, Humber River Hospital</td>
<td>Toronto</td>
</tr>
<tr>
<td>4. Dr. Mark Bariciak</td>
<td>Ophthalmologist, Sault Area Hospital</td>
<td>Sault Ste. Marie</td>
</tr>
<tr>
<td>5. Dr. Kashif Baig</td>
<td>Ophthalmologist, The Ottawa Hospital</td>
<td>Ottawa</td>
</tr>
<tr>
<td>6. Dr. Chaim Bell</td>
<td>Physician, Scientist, University of Toronto, Institute for Clinical and Evaluative Sciences</td>
<td>Toronto</td>
</tr>
<tr>
<td>7. Dr. Robin Bruen</td>
<td>Ophthalmologist, Norfolk General Hospital</td>
<td>Simcoe</td>
</tr>
<tr>
<td>8. Dr. Kyle Brydon</td>
<td>Ophthalmologist, St. Thomas-Elgin General Hospital</td>
<td>St. Thomas</td>
</tr>
<tr>
<td>9. Dr. Robert Campbell</td>
<td>Ophthalmologist, Queen's University, Hotel Dieu Hospital, Kingston</td>
<td>Kingston</td>
</tr>
<tr>
<td>10. Elizabeth Chiu</td>
<td>Manager of Coding and Abstracting, Decision Support, University Health Network</td>
<td>Toronto</td>
</tr>
<tr>
<td>11. Dr. Walter Delpero</td>
<td>Ophthalmologist, The Ottawa Hospital</td>
<td>Ottawa</td>
</tr>
<tr>
<td>12. Dr. Sherif El-Defrawy</td>
<td>Ophthalmologist, Kensington Eye Institute</td>
<td>Toronto</td>
</tr>
<tr>
<td>13. Dr. Kevin Leonard</td>
<td>Ophthalmologist, Brockville General Hospital</td>
<td>Brockville</td>
</tr>
<tr>
<td>14. Joanna Li</td>
<td>Health Coding Analyst, Decision Support, University Health Network</td>
<td>Toronto</td>
</tr>
<tr>
<td>15. Dr. Kylen McReelis</td>
<td>Ophthalmologist, Peterborough; Chair - Eye Physicians and Surgeons of Ontario</td>
<td>Peterborough</td>
</tr>
<tr>
<td>16. Samra Mian</td>
<td>Corporate Planner, University Health Network</td>
<td>Toronto</td>
</tr>
<tr>
<td>(Project Lead)</td>
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<tr>
<td>17. Audrey Pereira</td>
<td>Health Analyst, Health Analytics Branch, MOHLTC</td>
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<td>18. Michael Stewart</td>
<td>Director, Quality Based Procedures, MOHLTC</td>
<td>Provincial</td>
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<td>19. Dr. Todd Urton</td>
<td>Ophthalmologist, Queens University</td>
<td>Kingston</td>
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<td>20. Marnie Weber</td>
<td>Executive Director, Strategic Developments, University Health Network</td>
<td>Toronto</td>
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Appendix A:

Health System Funding Reform Memorandum#19, December 19, 2014: Update on Cataract Quality-Based Procedure.