# Quality ID #389: Cataract Surgery: Difference Between Planned and Final Refraction

2026 COLLECTION TYPE:
MERIT-BASED INCENTIVE PAYMENT SYSTEM (MIPS) CLINICAL QUALITY MEASURE (CQM)

MEASURE TYPE:
Outcome – High Priority

DESCRIPTION:
Percentage of patients aged 18 years and older who had cataract surgery performed and who achieved a final refraction within +/- 1.0 diopters of their planned (target) refraction.

INSTRUCTIONS:

Reporting Frequency:
This measure is to be submitted each time for denominator eligible cases as defined in the denominator criteria.

Intent and Clinician Applicability:
This measure is intended to reflect the quality of services provided for the patient receiving cataract surgery. This measure may be submitted by Merit-based Incentive Payment System (MIPS) eligible clinicians who perform the quality actions as defined by the numerator based on the services provided and the measure-specific denominator coding.

Measure Strata and Performance Rates:
This measure contains one strata defined by a single submission criteria.
This measure produces a single performance rate.

Implementation Considerations:
For the purposes of MIPS implementation, this procedure measure is submitted each time a procedure is performed.

This is an outcome measure and will be calculated solely using Merit-based Incentive Payment System (MIPS) eligible clinician, group, or third-party intermediary submitted data.

- For patients who receive the surgical procedures specified in the denominator coding, it should be reported whether or not the patient had a difference between planned and final refraction.
- Include only procedures performed between January 1st and September 30th of the performance period. This will allow the post-operative period to occur before third-party intermediaries must submit data to CMS.

Telehealth:
NOT TELEHEALTH ELIGIBLE: This measure is not appropriate for nor applicable to the telehealth setting. This measure is procedure based and therefore doesn't allow for the denominator criteria to be conducted via telehealth. It would be appropriate to remove these patients from the denominator eligible patient population. Telehealth eligibility is at the measure level for inclusion within the denominator eligible patient population and based on the measure specification definitions which are independent of changes to coding and/or billing practices.

Measure Submission:
The quality data codes listed do not need to be submitted by MIPS eligible clinicians, groups, or third party intermediaries that utilize this collection type for submissions; however, these codes may be submitted for those third party intermediaries that utilize Medicare Part B claims data. The coding provided to identify the measure criteria: Denominator or Numerator, may be an example of coding that could be used to identify patients that meet the intent of this clinical topic. When implementing this measure, please refer to the 'Reference Coding' section to determine if other codes or code languages that meet the intent of the criteria may also be used within the medical record to identify and/or assess patients. For more information regarding Application Programming Interface (API), please refer to the Quality Payment Program (QPP) website.




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DENOMINATOR:
All patients aged 18 years and older who had cataract surgery.

Denominator Criteria (Eligible Cases):
Patients aged ≥ 18 years on date of encounter
AND
Patient procedure during the performance period (CPT): 66840, 66850, 66852, 66920, 66930, 66940, 66982, 66983, 66984, 66987, 66988, 66989, 66991
WITHOUT
Modifier: 55 or 56

NUMERATOR:
Patients who achieved a final refraction (spherical equivalent) of +/- 1.0 diopters of their planned (target) refraction (spherical equivalent) within 90 days following cataract surgery. The refraction planned and final refraction values should correspond to the eye that underwent the cataract procedure.

*NUMERATOR NOTE:*
*It would be expected that the planned (target) refraction be assessed and documented within 90 days prior to the denominator eligible procedure.*

Numerator Options:

| | |
|---|---|
| *Performance Met:* | Patient achieves final refraction (spherical equivalent) +/- 1.0 diopters of their planned refraction within 90 days of surgery (G9519) |
| OR | |
| *Performance Not Met:* | Patient does not achieve final refraction (spherical equivalent) +/- 1.0 diopters of their planned refraction within 90 days of surgery (G9520) |

RATIONALE:
Refractive outcome is important to the patient and to the surgeon. Planned refraction is something the surgeon and patient discuss at the time of assessment for cataract surgery and is a way to align patient and surgeon expectations of the outcome. The surgeon should consider the patient's desires and needs when selecting a postoperative refractive target outcome. Comparing actual outcome to predicted outcome is a valuable measure of success.
Results of multiple large studies of cataract surgery have repeatedly demonstrated positive outcomes. The ASCRS National Cataract Database reported that at 3 months postoperatively 74.6% of patients were within ±1.0 D of target spherical equivalent. The American Academy of Ophthalmology National Eyecare Outcomes Network (NEON) database (n=7626) also found similar rates of success, with 78% of patients within ± 1.0 D of target spherical equivalent. Kugelberg and Lundstrom published outcomes data from the Swedish registry and found in routine cataract surgeries 75% to 90% of patients ended up with refraction within 1 diopter of the target refraction. The study describes factors that influenced refractive outcome as older age and use of a clear corneal incision. Another 2009 study by Gale and colleagues reported outcomes improving from 79.7% to 87% within 3 measurement cycles and the authors suggested that a benchmark standard of 85% be established. The European Society of Cataract and Refractive Surgeons femtosecond laser-assisted cataract surgery (FLACS) study compared 2814 consecutive cases from high-volume surgeons with 4987 control patients matched by characteristics such as age, preoperative CDVA, ocular comorbidities, and surgical comorbidities from the 2014 European Registry of Quality Outcomes for Cataract and Refractive Surgery. The mean refractive error was 0.40 D versus 0.43 D for FLACS, $P < 0.05$, with 74.3% of control eyes being within 0.5 D and 94.1% being within 1 D of target.

CLINICAL RECOMMENDATION STATEMENTS:
This is an outcome measure. As such, no clinical recommendations are included.

REFERENCES:




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Gale, RP, Johnston, RL, Zuberbuhler, B, McKibbin, M. Benchmark standards for refractive Outcomes After Cataract Surgery, Eye (London) 2009 Jan; 23 (1):149-52

Kugelberg M, Lundstrom M. Factors related to the degree of success in achieving target refraction in cataract surgery. J Cat Refr Surg 2008; 34(11):1935-39

Lum F, Schein O, Schachat AP, Abbott RL, Hoskins HD, Steinberg EP. Initial two years of experience with the AAO Nation Eyecare Outcomes Network (NEON) cataract surgery database. Ophthalmology 2000; 107:691-97

Manning S, Barry P, Henry Y, et al. Femtosecond laser-assisted cataract surgery versus standard phacoemulsification cataract surgery: Study from the European Registry of Quality Outcomes for Cataract and Refractive Surgery. *J Cataract Refract Surg.* 2016;42:1779-1790

Miller KM, Oetting TA, Tweeten JP et al; American Academy of Ophthalmology Preferred Practice Pattern Cataract/Anterior Segment Panel. Cataract in the Adult Eye Preferred Practice Pattern. Ophthalmology. 2022;129:P1-P126.




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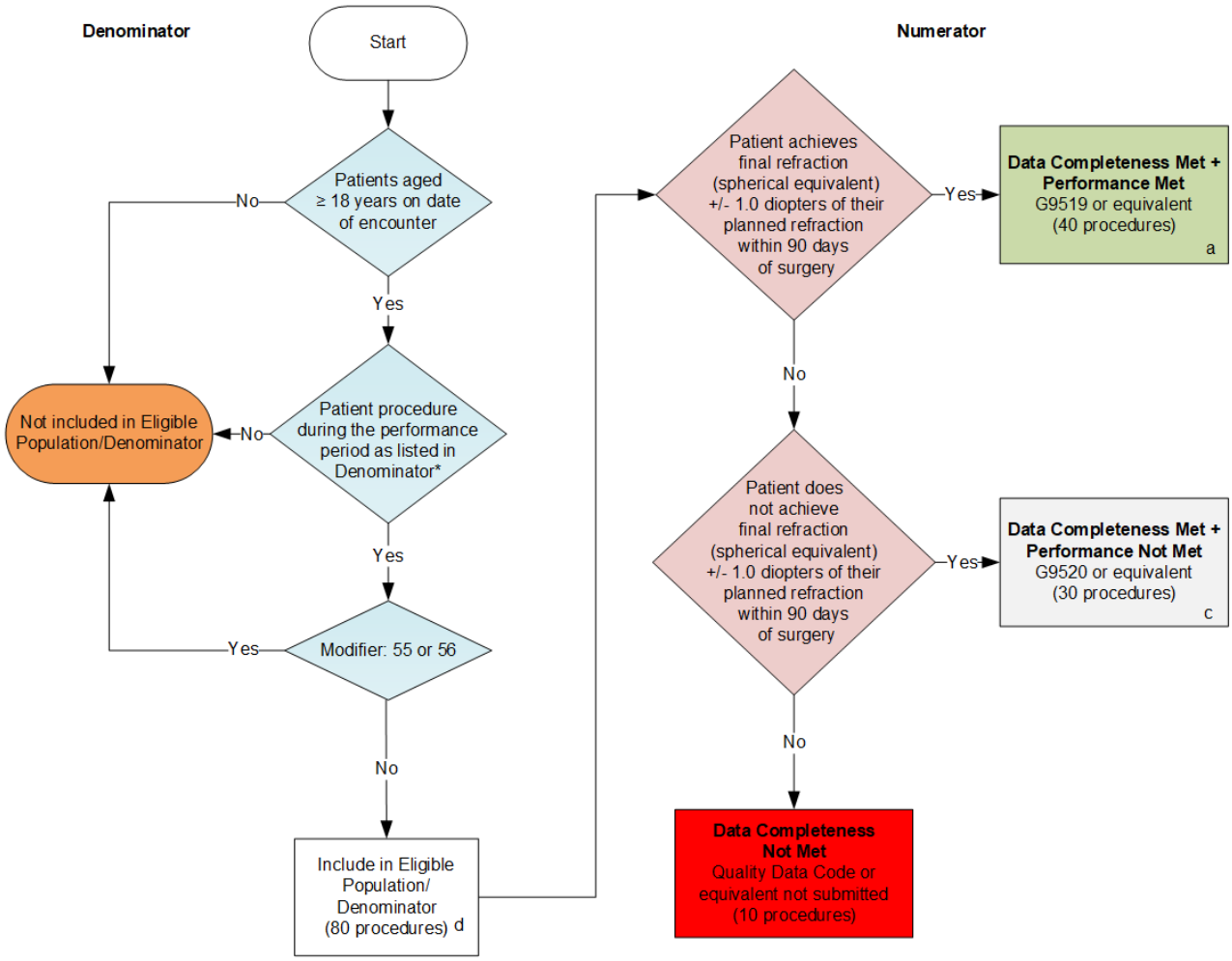
## 2026 Clinical Quality Measure Flow for Quality ID #389: Cataract Surgery: Difference Between Planned and Final Refraction

***Disclaimer:*** *Refer to the measure specification for specific coding and instructions to submit this measure.*




**SAMPLE CALCULATIONS**

**Data Completeness=**

Performance Met (a=40 procedures) + Performance Not Met (c=30 procedures) = 70 procedures = **87.50%**

Eligible Population / Denominator (d=80 procedures) = 80 procedures

**Performance Rate=**

Performance Met (a=40 procedures) = 40 procedures = **57.14%**

Data Completeness Numerator (70 procedures) = 70 procedures

*See the posted measure specification for specific coding and instructions to submit this measure

NOTE: Submission Frequency: Procedure



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## 2026 Clinical Quality Measure Flow Narrative for Quality ID #389: Cataract Surgery: Difference Between Planned and Final Refraction

*Disclaimer: Refer to the measure specification for specific coding and instructions to submit this measure.*

1. Start with Denominator
2. Check *Patients aged greater than or equal to 18 years on date of encounter*:
    a. If *Patients aged greater than or equal to 18 years on date of encounter* equals No, do not include in *Eligible Population/Denominator*. Stop processing.
    b. If *Patients aged greater than or equal to 18 years on date of encounter* equals Yes, proceed to check *Patient procedure during the performance period as listed in Denominator**.
3. Check *Patient procedure during the performance period as listed in Denominator**:
    a. If *Patient procedure during the performance period as listed in Denominator** equals No, do not include in *Eligible Population/Denominator*. Stop processing.
    b. If *Patient procedure during the performance period as listed in Denominator** equals Yes, proceed to check *Modifier*.
4. Check *Modifier*:
    a. If *Modifier: 55 or 56* equals Yes, do not include in *Eligible Population/Denominator*. Stop processing.
    b. If *Modifier: 55 or 56* equals No, include in *Eligible Population/Denominator*.
5. Denominator Population:
    - Denominator Population is all Eligible Procedures in the Denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 80 procedures in the Sample Calculation.
6. Start Numerator
7. Check *Patient achieves final refraction (spherical equivalent) plus or minus 1.0 diopters of their planned refraction within 90 days of surgery*:
    a. If *Patient achieves final refraction (spherical equivalent) plus or minus 1.0 diopters of their planned refraction within 90 days of surgery* equals Yes, include in *Data Completeness Met and Performance Met*.
        - *Data Completeness Met and Performance Met* letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 40 procedures in the Sample Calculation.




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b. If *Patient achieves final refraction (spherical equivalent) plus or minus 1.0 diopters of their planned refraction within 90 days of surgery* equals No, proceed to check *Patient does not achieve final refraction (spherical equivalent) plus or minus 1.0 diopters of their planned refraction within 90 days of surgery*.

8. Check *Patient does not achieve final refraction (spherical equivalent) plus or minus 1.0 diopters of their planned refraction within 90 days of surgery*:

   a. If *Patient does not achieve final refraction (spherical equivalent) plus or minus 1.0 diopters of their planned refraction within 90 days of surgery* equals Yes, include in *Data Completeness Met and Performance Not Met*.

      - *Data Completeness Met and Performance Not Met* letter is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c equals 30 procedures in the Sample Calculation.

   b. If *Patient does not achieve final refraction (spherical equivalent) plus or minus 1.0 diopters of their planned refraction within 90 days of surgery* equals No, proceed to check *Data Completeness Not Met*.

9. Check *Data Completeness Not Met*:

   - If *Data Completeness Not Met*, the Quality Data Code or equivalent was not submitted. 10 procedures have been subtracted from the Data Completeness Numerator in the Sample Calculation.

## Sample Calculations

Data Completeness equals Performance Met (a equals 40 procedures) plus Performance Not Met (c equals 30 procedures) divided by Eligible Population / Denominator (d equals 80 procedures). All equals 70 procedures divided by 80 procedures. All equals 87.50 percent.

Performance Rate equals Performance Met (a equals 40 procedures) divided by Data Completeness Numerator (70 procedures). All equals 40 procedures divided by 70 procedures. All equals 57.14 percent.

*See the posted measure specification for specific coding and instructions to submit this measure.

NOTE: Submission Frequency: Procedure

The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.