

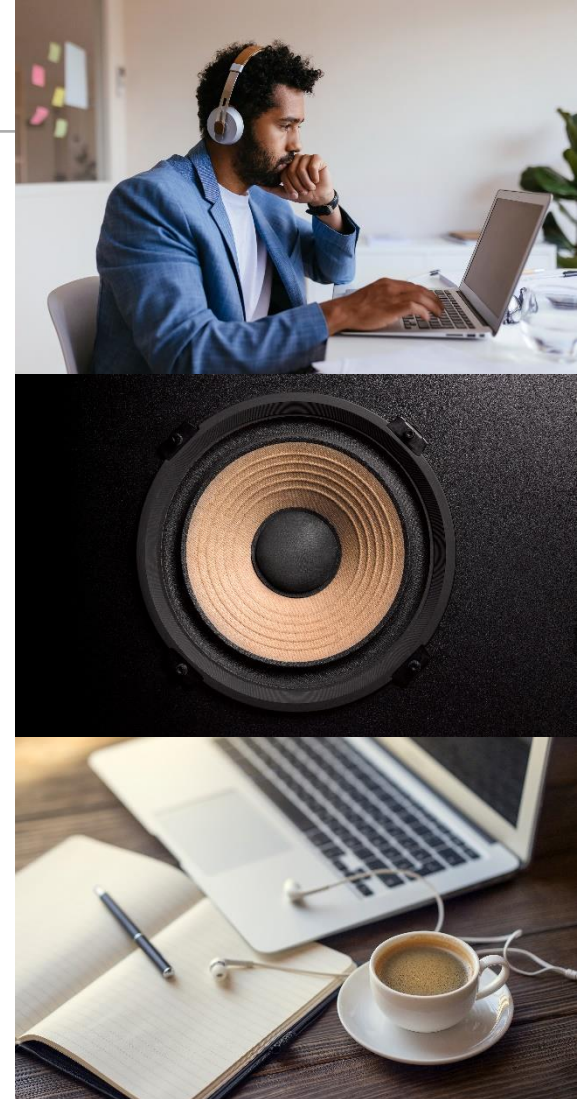
Annual Updates for Excessive Radiation Dose or Inadequate Image Quality for Diagnostic Computed Tomography (CT) in Adults eCQM (for both Inpatient and Outpatient Settings)

Expert to Expert Webinar Series

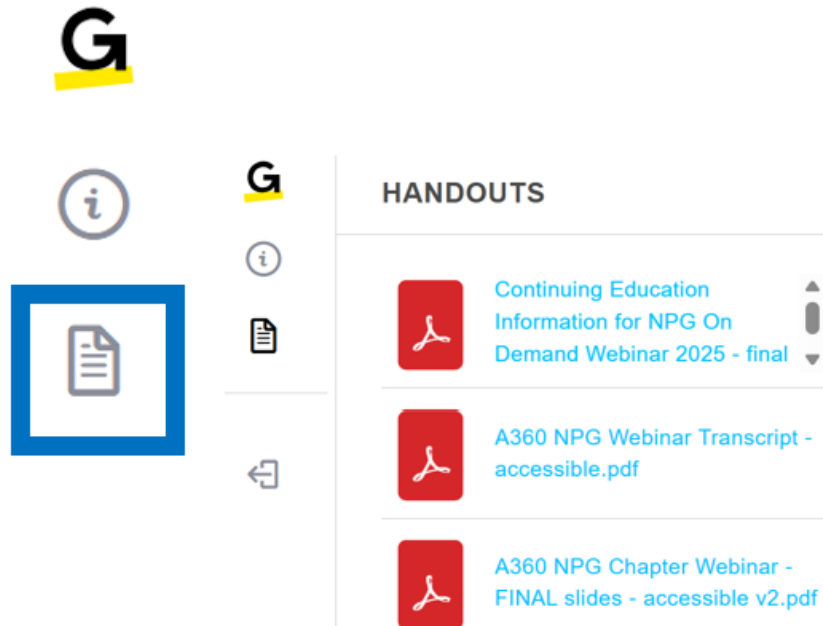
**Broadcast Webinar
April 30, 2026
Continuing Education (CE)
Credit available for live
webinar attendance only**

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- Audio is by VOIP only – Use your computer speakers/headphones to listen. There are no dial-in lines. Participants are connected in listen-only mode. Feedback or dropped audio are common for live streaming events. Refresh your screen/rejoin.
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- The slides are designed to follow Americans with Disabilities Act rules.



Access the Slides



- Click document icon in the navigation pane.
- Select file name.
- Document will open in a new window.
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- Two weeks after this webinar, the slides will be accessible via the eCQI Resource Center and also on Joint Commission's website:
www.jointcommission.org/en-us/knowledge-library/support-center/measurement/quality-measurement-webinars-videos.

Continuing Education Information

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Participant Learning Objectives



- Locate eCQM resources on the eCQI Resource Center.
- Facilitate your organization's implementation of the Excessive Radiation Dose or Inadequate Image Quality eCQM annual updates for the 2026 reporting year.
- Utilize answers to common issues/questions regarding the Excessive Radiation Dose or Inadequate Image Quality eCQM to inform 2026 use/implementation.

Topics Not Covered in this Program



- Basic eCQM concepts
- Topics related to chart abstracted measures
- Process improvement efforts related to this measure
- eCQM validation
 - Ensure your data is validated before submitting
 - Ensure that extreme outlier results are verified

Disclosure Statement

- All staff and subject matter experts have disclosed that they do not have any conflicts of interest. For example, financial arrangements, affiliations with, or ownership of organizations that provide grants, consultancies, honoraria, travel, or other benefits that would impact the presentation of this webinar content.



Webinar Agenda



- Review the Excessive Radiation Dose or Inadequate Image Quality eCQM annual updates for Inpatient settings, then Outpatient settings for Reporting Year 2026
- Overview of the measure flow/algorithm
- Live Q&A segment

eCQM Specifications and Resources

- A PDF handout includes directions to access the eCQM specifications, value sets, measure flow diagrams, and technical release notes on the eCQI Resource Center.
- Please see the [landing page for 2026 resources](#).
- Please see the [landing page for 2026 specifications](#).



The screenshot displays the eCQI Resource Center website. At the top, the eCQI 10th Anniversary Resource Center logo is visible, along with navigation links for eCQMs, dQMs, Resources, About, and Log. The main heading is 'Hospital - Inpatient eCQMs'. Below this, there is a filter section with 'Select Period' set to 2026 and 'Filter By' set to eCQMs. A green 'Apply Filters' button is present. A message states: 'Find older eCQM specifications in the [eCQM Standards and Tools Version](#) table.' Below this, there are three tabs: 'eCQM Resources', 'eCQMs', and 'About'. At the bottom, a summary line reads: 'The 2026 Reporting Period has 17 Hospital - Inpatient eCQMs based on your filters:'.

Excessive Radiation Dose or Inadequate Image Quality for Diagnostic Computed Tomography (CT) in Adults

Excessive Radiation Dose or Inadequate Image Quality for Diagnostic Computed Tomography (CT) in Adults

- Excessive Radiation Cost or Inadequate Image Quality for Diagnostic Computed Tomography (CT) in Adults – four CMS quality reporting programs
 - **CMS1074v3: For Facility IQR and Medicare Promoting Interoperability Program**
 - **CMS1206v3: For Facility OQR**
 - CMS1056v3: For Clinicians (not featured in this presentation)
- Measure Steward
 - Alara Imaging

Intent and Rationale

- CT scans performed in >1/3 of hospitalizations, and >90 million scans are performed annually in the U.S.
- There is marked variation in the radiation doses used to perform these exams.
- Excess radiation from CT represents a significant modifiable iatrogenic health risk, as excess radiation increases the risk of developing cancer.
- Research suggests that when healthcare organizations are provided with a summary of their CT doses, their subsequent doses can be reduced.

Description

- This measure provides a standardized method for monitoring the performance of CT to discourage unnecessarily high radiation doses and has a balancing component of image quality to ensure CT scan retains image quality of diagnostic value.
- This electronic clinical quality measure (eCQM) is expressed as a percentage of CT exams that are out-of-range based on having either excessive radiation dose or inadequate image quality relative to evidence-based thresholds based on the exam's clinical indication.
- This eCQM requires the use of translation software to translate data into an electronic health record (EHR) compatible format prior to eCQM calculation.

Scoring

- Scoring: As Proportion
- Measure Type: Intermediate Outcome
- Improvement Notation: Decreased score indicates higher quality

Use in CMS Programs

- Hospital IQR: CY 2026 reporting period
- Medicare Promoting Interoperability Program: CY 2026 reporting period
- Hospital OQR: CY 2026 reporting period
- Eligible Clinicians: CY 2026 reporting period

Requirement for Translation Software

- DICOM (or Digital Imaging and Communications in Medicine) image and radiation dose reports are standardized and digitized, but they are not integrated with EHRs and the associated eCQM framework.
- Translation software retrieves data from structured fields within the EHR and radiology digital systems, including the Radiology Information System (RIS) and the Picture Archiving and Communication System (PACS).
- Translation software results in three LOINC-encoded data elements that are stored in EHRs for eCQM calculation.

Alara Translation Software

- The purpose of this translation software is to access and link the primary data elements with minimal site burden, assess each CT exam for eligibility based on specified criteria, and generate the three new data elements mapped to a clinical terminology for eCQM consumption.
 - The translation software will create three variables:
 - CT Dose and Image Quality Category
 - Calculated CT Global Noise
 - Calculated CT Size-Adjusted Dose
 - These transformed data elements can be stored in the EHR used by any vendor to calculate the eCQM.
-

CT Category, Size Adjusted Dose, and Noise

CT Category	Size Adjusted Dose	Noise
• Scans judged using EHR data based on why the study ordered, not what was done • The clinical indication captured from the diagnostic codes of visit when CT scan ordered • CT scans categorized based on anatomical region scanned and clinical indication (Radiology 2022)	• The total dose—DLP—is included as the sum of all series • The dose is scaled to patient size to adjust for population differences across reporting entities • This size adjustment ensures facilities with large patients are not penalized	• Image noise is a standardized method to assess image quality • Balancing component of measure to prevent incentive to reduce radiation doses from being excessive • To be within range each CT exam must have at least one series with image quality above the floor

Working with Alara Translation Software

- Alara's translation software accurately transforms primary data into a format that can be used for eCQM calculations.
- The Alara translation software is CMS-approved and free to use.
- Reporting entities install Alara's software, configure, and Alara translation software integrates with radiology and EHR systems.
- All calculations are performed without the necessary data leaving the reporting entity's network.
- To initiate this process, reporting entities should use the Alara ExRad Form.
- Reporting entities may alternatively choose any software that is able to generate the same standardized data elements necessary to calculate the measure consistent with the measure's specifications.
- In either case reporting entities can use their preferred vendor for eCQM calculation and CMS reporting.

CMS Provided Clarification on January 30, 2025 Regarding Reporting Requirements¹

- Hospitals and clinicians can use any software vendor who can calculate and report on this eCQM if they do so in accordance with the measure's specifications.
- The specifications rely on the CT Dose and Image Quality Category that assigns each CT exam to one of 18 categories based on the diagnosis associated with the exam order (codified using ICD-10-CM codes) and procedure performed (codified using CPT® codes).
- eCQMs use data derived from an electronic health record (EHR), and therefore the information on the clinical indication must come from the EHR.
- As a part of the recent clarification, CMS suggests hospitals and clinicians may seek assurance from their vendor that they are using the correct and required variables. CMS has stated that they will monitor measure results to ensure that reported data are reliable, valid, and calculated correctly. CMS will review vendor results and flag results that are inconsistent with the measure's specifications.

¹ Please reference [Excessive Radiation Dose or Inadequate Image Quality for Diagnostic Computed Tomography in Adults eCQM-Measure Clarification | eCQI Resource Center](#).

Excessive Radiation Dose or Inadequate Image Quality for Diagnostic Computed Tomography (CT) in Adults Facility – Inpatient Setting

ExRad Measure Inpatient – Reporting Period

- This eCQM is an episode-based measure and should be reported for each eligible CT scan performed in a hospital inpatient setting during reporting period.
- This should only include CT Scans performed during an Encounter that was completed during the measurement period and has a discharge date.
- The 2026 version CMS1074 addresses the known issue ([EKI-36](#)): the measure logic was updated for the Initial Population to include CT scans that occur during encounters that end during the measurement period.

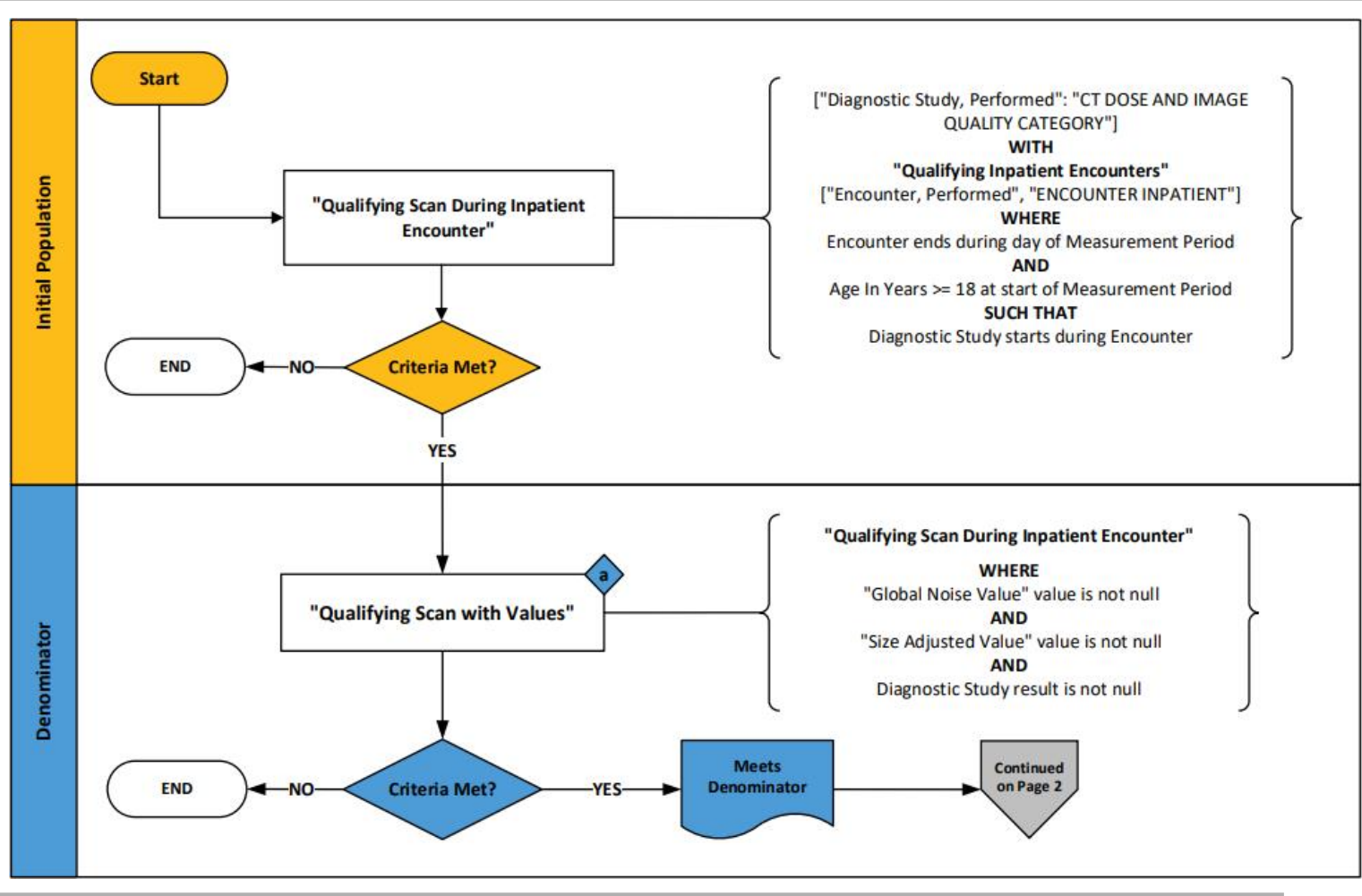
ExRad Measure Inpatient – Measure Calculation

- The measure will evaluate each included CT exam based on allowable thresholds that are specified by the CT Dose and Image Quality Category.
- An exam is considered out of range if either the Calculated CT Global Noise or the Calculated CT Size-Adjusted Dose is out of range for the CT Dose and Image Quality Category.
- Exams will be evaluated against their corresponding thresholds for the Calculated CT Size-Adjusted Dose in dose length product, and Noise for the specific CT Category.

ExRad Measure Inpatient Flow (1/2)

- **Initial Population:** All CT scans in adults aged 18 years and older at the start of the measurement period that have a CT Dose and Image Quality Category and were performed during an inpatient hospitalization that ends during the measurement period are included
- **Denominator:** Equals Initial Population with a CT Dose and Image Quality Category, a Calculated Global Noise value, and a Calculated CT Size-Adjusted Dose value

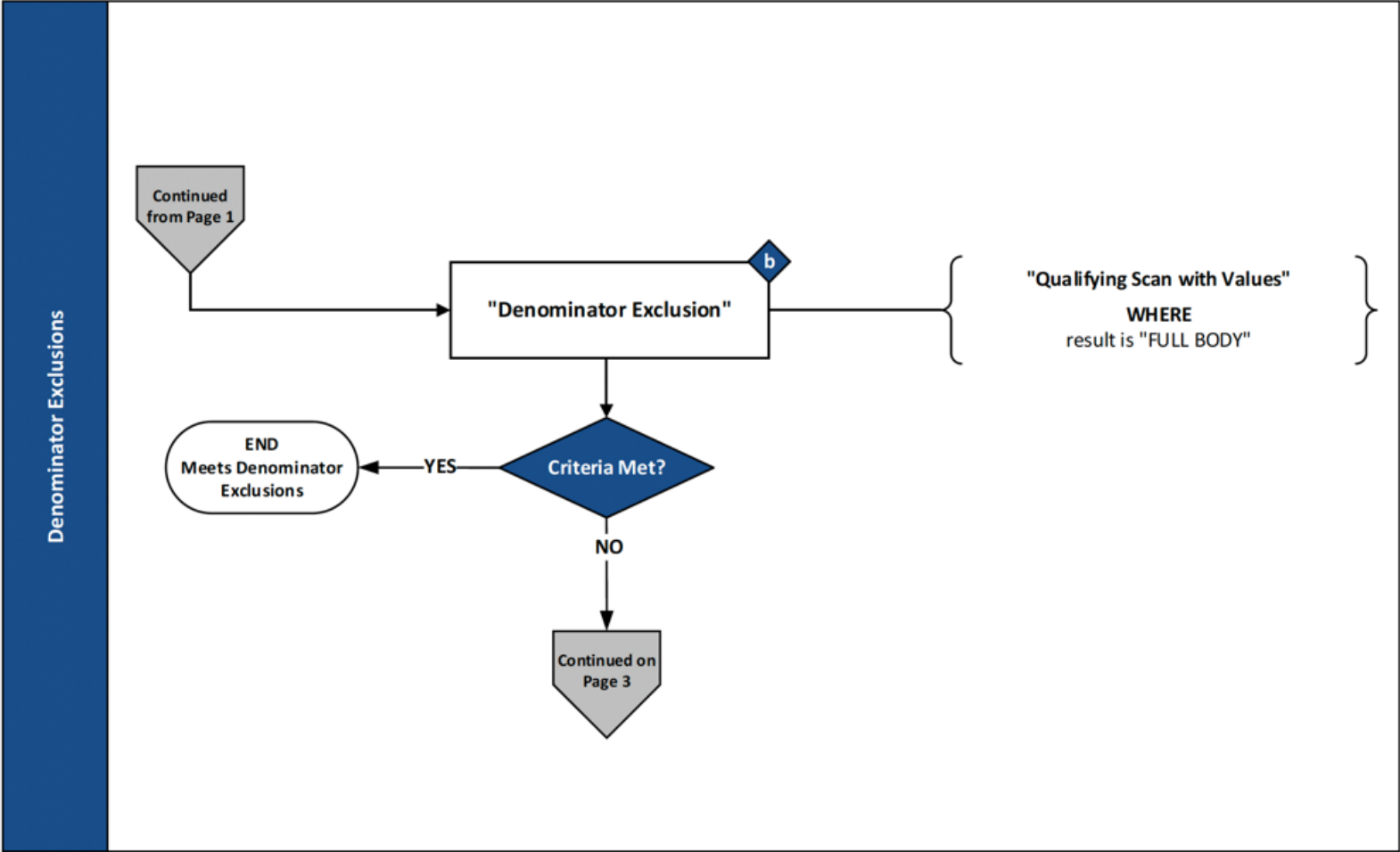
ExRad Measure Inpatient Flow (2/2)



ExRad Measure Inpatient Flow – Denominator Exclusions (1/2)

- CT scans with missing patient age or missing CT Dose and Image Quality Category are excluded from the initial population.
- CT scans with a missing Calculated Global Noise value or a missing Calculated CT Size-Adjusted Dose value are excluded from the denominator.
- CT scans assigned a CT Dose and Image Quality Category (LOINC(R) 96914-7) value using the LOINC(R) answer list (LL5824-9) of full body (LA31771-1) are excluded from the denominator.

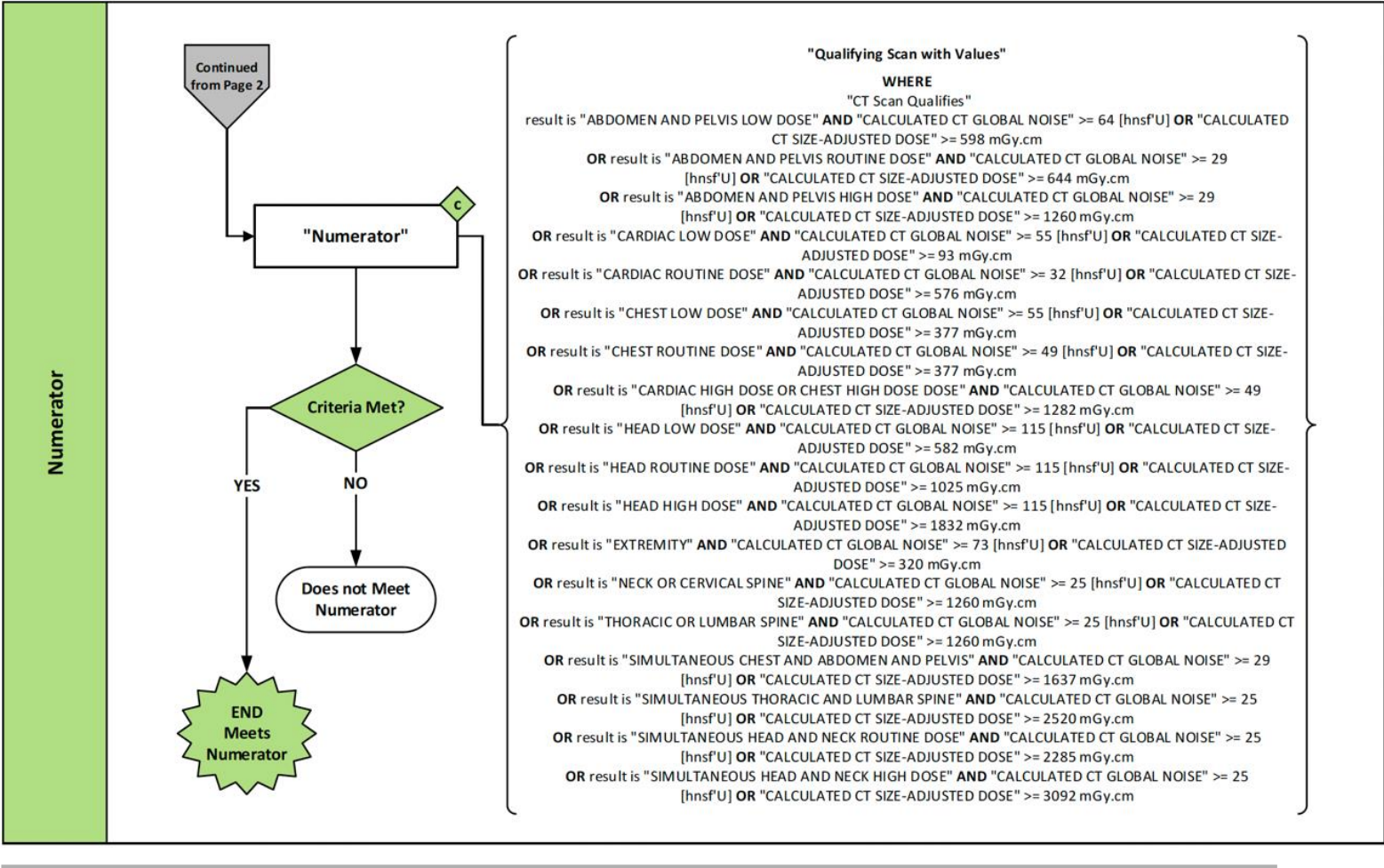
ExRad Measure Inpatient Flow – Denominator Exclusions (2/2)



ExRad Measure Inpatient Flow – Numerator (1/2)

- Each CT scan is assigned to a CT Dose and Image Quality Category.
- The Calculated CT Global Noise Value and Calculated CT Size Adjusted Dose Value are compared with allowable values specific to the CT Dose and Image Quality Category.
- If either the Calculated CT Global Noise Value or the Calculated CT Size Adjusted Dose Value are higher than the thresholds, than the exam is considered out of range.

ExRad Measure Inpatient Flow – Numerator (2/2)

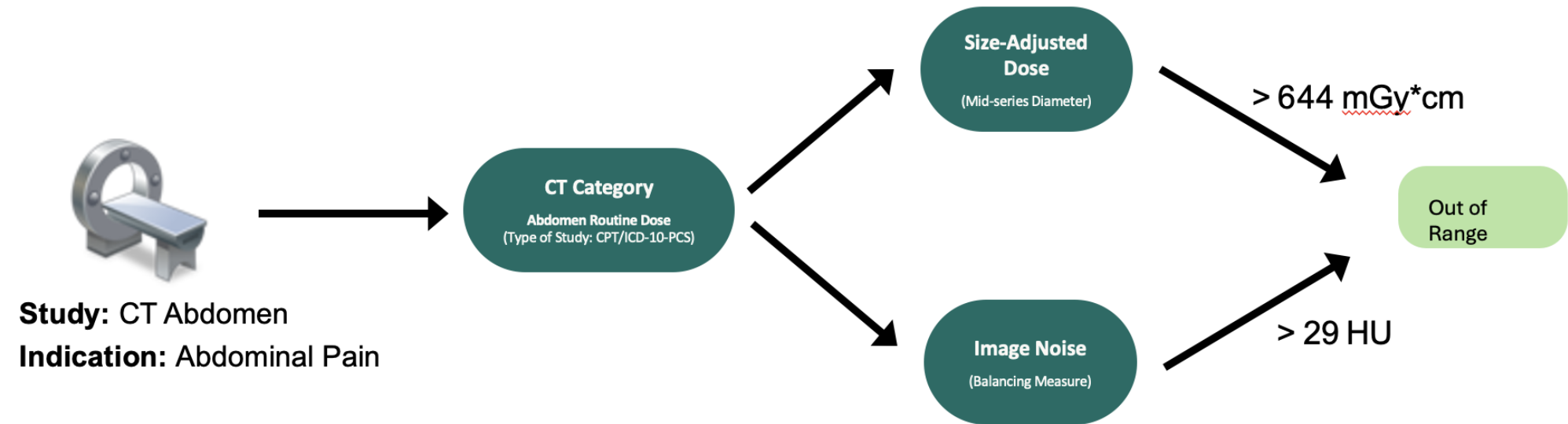


ExRad Measure Inpatient - Thresholds

- **[LOINC # (=CT Category), noise threshold, size adjusted dose threshold]**
- [LA31752-1 (=Abdomen and Pelvis, Low Dose), 64, 598]
- [LA31753-9 (=Abdomen and Pelvis, Routine Dose), 29, 644]*
- [LA31754-7 (=Abdomen and Pelvis, High Dose), 29, 1260]
- [LA31755-4 (=Cardiac Low Dose), 55, 93]
- [LA31756-2 (=Cardiac Routine Dose), 32, 576]
- [LA31758-8 (=Chest Low Dose), 55, 377]
- [LA31759-6 (=Chest Routine Dose), 49, 377]
- [LA31761-2 (=Chest High Dose or Cardiac High Dose), 49, 1282]
- [LA31762-0 (=Head Low Dose), 115, 582]
- [LA31763-8 (=Head Routine Dose), 115, 1025]
- [LA31764-6 (=Head High Dose), 115, 1832]
- [LA31765-3 (=Upper or Lower Extremity), 73, 320]
- [LA31766-1 (=Neck or Cervical Spine), 25, 1260]
- [LA31767-9 (=Thoracic or Lumbar Spine), 25, 1260]
- [LA31768-7 (=Combined Chest, Abdomen and Pelvis), 29, 1637]
- [LA31851-1 (=Combined Thoracic and Lumbar Spine), 25, 2520]
- [LA31769-5 (=Combined Head and Neck, Routine Dose), 25, 2285]
- [LA31770-3 (=Combined Head and Neck, High Dose), 25, 3092]

* This code is used as an example in the live presentation.

ExRad Measure Inpatient – Sample Calculation



Sample Calculation		
.		
Performance Rate =	Numerator (c = 2)	= 22%
	Denominator (a = 10) – Denominator Exclusions (b = 1)	

Excessive Radiation Dose or Inadequate Image Quality for Diagnostic Computed Tomography (CT) in Adults Facility – Outpatient

Population Criteria: IQR versus OQR

Population	Hospital IQR Program	Hospital OQR Program
Initial Population	All CT scans in adults aged 18 years and older at the start of the measurement period that have a CT Dose and Image Quality Category and were performed during an inpatient hospitalization ¹ that ends during the measurement period.	All CT scans in adults aged 18 years and older at the start of the measurement period that have a CT Dose and Image Quality Category and were not ¹ performed in a hospital inpatient setting , ¹ that ends during the measurement period, and not part of an inpatient hospitalization . ¹
Denominator	Equals Initial population with a CT Dose and Image Quality Category, a Calculated Global Noise value, and a Calculated CT Size-Adjusted Dose value	Same as Hospital IQR Program
Denominator Exclusions	Denominator, where a CT scan with a CT Dose and Image Quality Category = full body	Same as Hospital IQR Program
Numerator	Calculated CT Size-Adjusted Dose greater than or equal to a threshold specific to the CT Dose and Image Quality Category, or Calculated CT Global Noise value greater than or equal to a threshold specific to the CT Dose and Image Quality Category	Same as Hospital IQR Program

¹ Phrases in green indicate differences between the inpatient and outpatient initial populations.

ExRad Measure OQR – Reporting Period

- This eCQM is an episode-based measure and should be reported for each eligible CT scan performed in a hospital outpatient setting during reporting period

ExRad Measure OQR – Measure Calculation

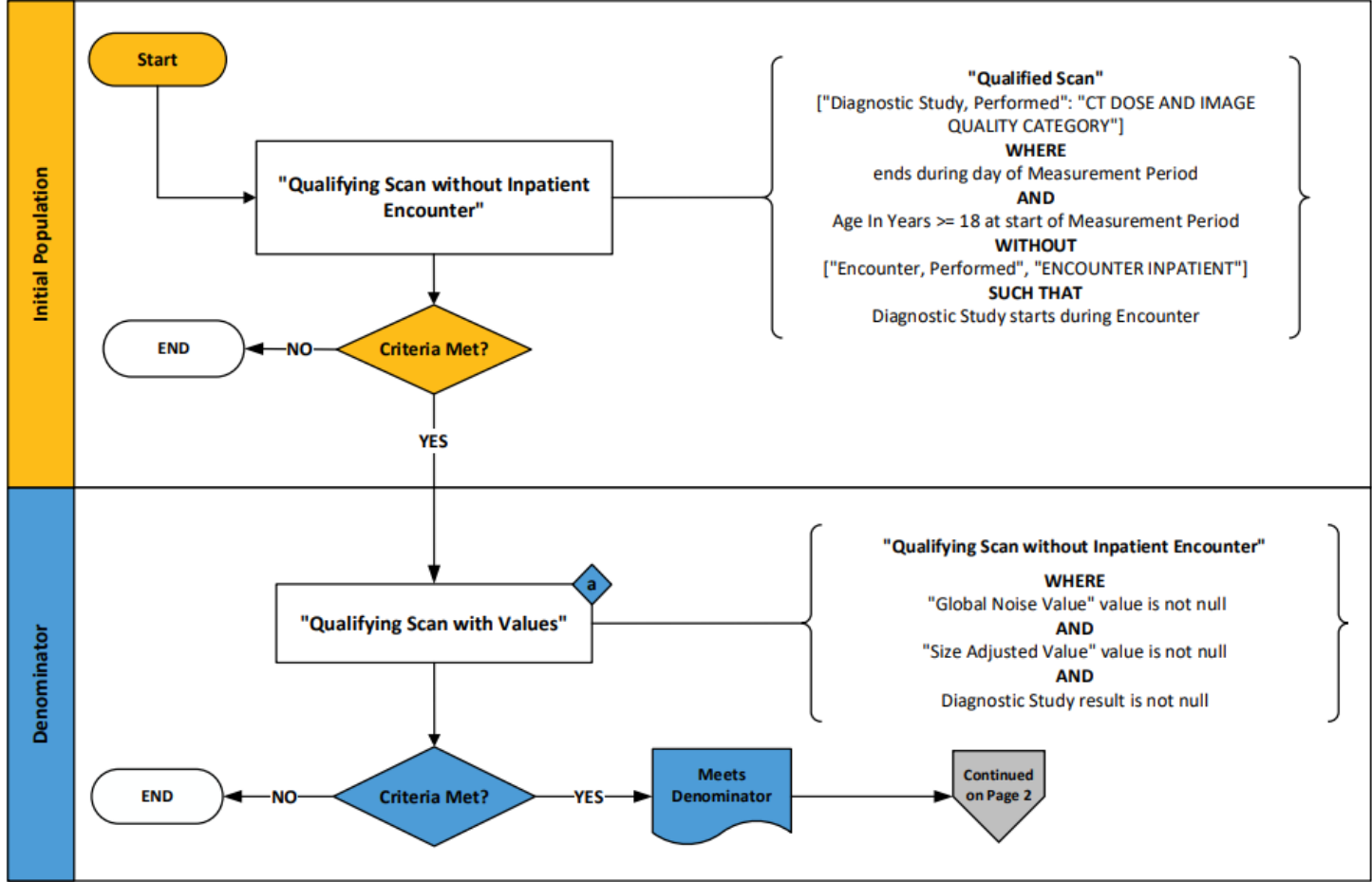
- The measure will evaluate each included CT exam based on allowable thresholds that are specified by the CT Dose and Image Quality Category.
- An exam is considered out of range if either the Calculated CT Global Noise or the Calculated CT Size-Adjusted Dose is out of range for the CT Dose and Image Quality Category.
- Exams will be evaluated against their corresponding thresholds for the Calculated CT Size-Adjusted Dose in dose length product, and Noise for the specific CT Category.

ExRad Measure OQR Flow (1/2)

- **Initial Population:** All CT scans in adults aged 18 years and older at the start of the measurement period that have a CT Dose and Image Quality Category and were not performed in a hospital inpatient setting, that ends during the measurement period, and not part of an inpatient hospitalization
- **Denominator:** Equals Initial Population with a CT Dose and Image Quality Category, a Calculated Global Noise value, and a Calculated CT Size-Adjusted Dose value

ExRad Measure OQR Flow (2/2)

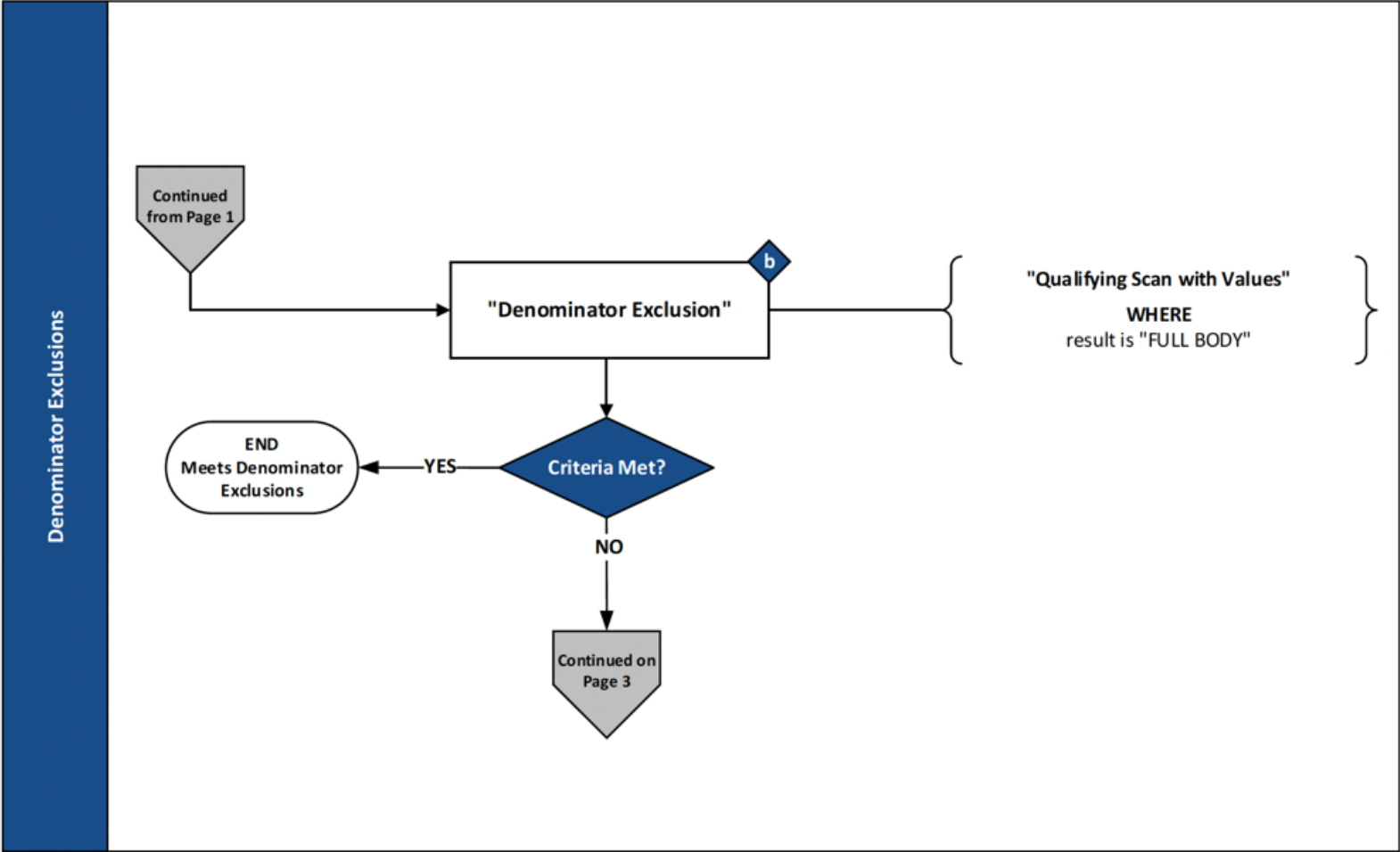
Measure Flow Diagram



ExRad Measure OQR Flow – Denominator Exclusions (1/2)

- CT scans with missing patient age or missing CT Dose and Image Quality Category are excluded from the initial population.
 - CT scans with a missing Calculated Global Noise value or a missing Calculated CT Size-Adjusted Dose value are not included in the denominator.
 - CT scans assigned a CT Dose and Image Quality Category (LOINC(R) 96914-7) value using the LOINC(R) answer list (LL5824-9) of full body (LA31771-1) are excluded from the denominator.
 - These exams are included in the initial population because they have a non-missing CT Dose and Image Quality Category but are then removed as a Denominator Exclusion because the value is full body, which reflects CT exams that cannot be categorized by anatomical area or by clinical indication, either because they are simultaneous exams of multiple body regions outside of four commonly encountered multiple region groupings, or because there is insufficient data for their classification based on the given diagnosis and procedure codes.
-

ExRad Measure OQR Flow – Denominator Exclusions (2/2)

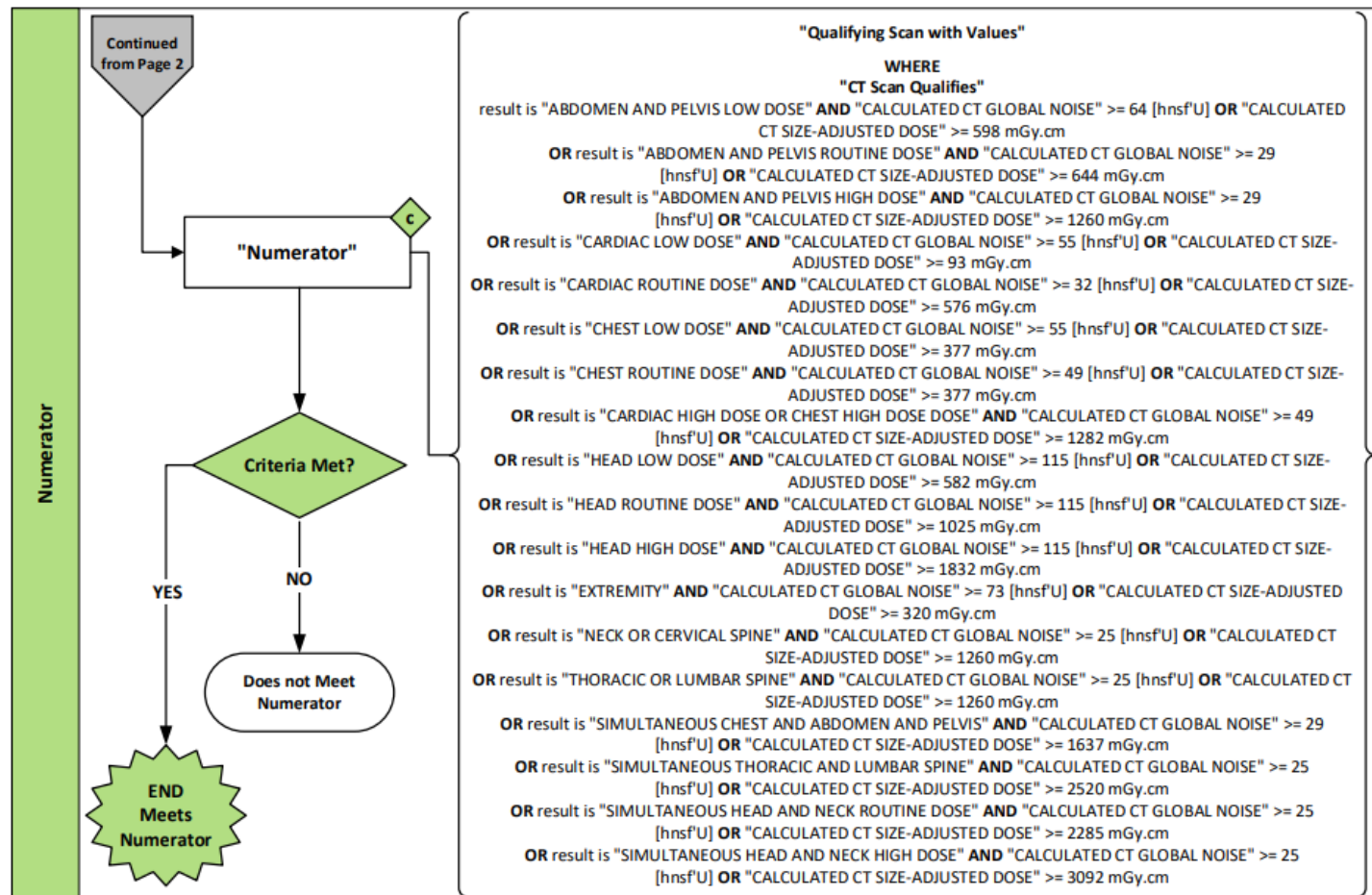


ExRad Measure OQR Flow – Numerator (1/2)

- Each CT scan is assigned to a CT Dose and Image Quality Category.
- The Calculated CT Global Noise Value and Calculated CT Size Adjusted Dose Value are compared with allowable values specific to the CT Dose and Image Quality Category.
- If either the Calculated CT Global Noise Value or the Calculated CT Size Adjusted Dose Value are higher than the thresholds, than the exam is considered out of range.

ExRad Measure OQR Flow – Numerator (2/2)

Measure Flow Diagram (Continued)



ExRad Measure OQR – Thresholds

- **[LOINC # (=CT Category), noise threshold, size adjusted dose threshold]**
 - [LA31752-1 (=Abdomen and Pelvis, Low Dose), 64, 598]
 - [LA31753-9 (=Abdomen and Pelvis, Routine Dose), 29, 644]
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 - [LA31770-3 (=Combined Head and Neck, High Dose), 25, 3092]
-

Resources

- **eCQI Resource Center – CMS EH Measures –**
https://ecqi.healthit.gov/eh-cah/ecqms?global_measure_group=eCQMs
- **Get Started with eCQMs –** https://ecqi.healthit.gov/ecqms?qt-tabs_ecqm=education
- **Teach Me Clinical Quality Language (CQL) Video Series –**
<https://ecqi.healthit.gov/cql/education>
- **Hospitalization with Observation –**
https://www.youtube.com/watch?v=3yqwOU2XcZM&ab_channel=CMSSHSGov
- **What is a Value Set? –**
<https://register.gotowebinar.com/recording/4766956164118938369>



Additional Resources

- **Value Set Authority Center (VSAC) Support** – <https://www.nlm.nih.gov/vsac/support/index.html>
- **Expert to Expert Webinar Series** – <https://www.jointcommission.org/en-us/knowledge-library/support-center/measurement/quality-measurement-webinars-videos>
- **ASTP/ONC Issue Tracking System** – <https://oncprojecttracking.healthit.gov/>

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Webinar Series



Pioneers in Quality General Sessions

Pioneers in Quality General Sessions provide information such as measurement requirements, changes in reporting, opportunities for engagement and/or recognition, and insights regarding data analysis of national clinical quality measurement data received. This generalized content is meant as education for hospitals and health systems to assist them in meeting current and future requirements.



eCQM Expert to Expert Series

Expert to Expert Webinar Series provides a deep-dive into measure intent, logic, and other clinical/technical aspects of electronic clinical quality measures (eCQMs) to assist hospitals and health systems in their efforts to improve eCQM data use for quality improvement. This series incorporates expertise from Joint Commission and other key stakeholders.



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