Hospital Outpatient Quality Reporting Specifications Manual
Release Notes Version: 13.0

Release Notes Completed: June 1, 2019

Guidelines for Using Release Notes

Release Notes provide modifications to the Hospital Outpatient Quality Reporting (OQR) Specifications Manual. They are provided as a reference tool and are not intended to be used as program abstraction tools. Please refer to the Hospital OQR Specifications Manual for the complete and current technical specifications and abstraction information.

The notes are organized to follow the order of the Table of Contents. Within each topic section, a row represents a change that begins with general changes and is followed by data elements in alphabetical order. The **implementation date is 01/01/2020** unless otherwise specified. The row headings are described below:

- **Impacts** – used to identify which portion(s) of the Manual Section is impacted by the changes listed. Examples are Alphabetical Data Element List, Alphabetical Data Dictionary, Measure Information Form (MIF), and Flowchart (Algorithm). If any changes are made to a data element, the measure(s) affected are identified also.

- **Rationale** – provided for the change being made.

- **Description of Changes** – used to identify the section within the document where the change occurs (e.g., Definition, Data Collection Question, Allowable Value, and Denominator Data elements).

Data elements that cross multiple measures and contain the same changes will be consolidated into one row. If those changes do not apply to all of the measures listed in the Impacts row, the Description of Changes row will identify what measures are applicable.

Release Notes version 13.0 – The notes in the tables below are organized to follow the Table of Contents in the Specifications Manual. The **implementation date is 01/01/2020** unless otherwise specified.

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Impacts: Table of Contents

Rationale: As a result of the 2019 OPPS/ASC Final Rule, OP-5 has been removed beginning with CY 2021 payment determination. Removal of this measure, which is also the Chest Pain Measure Set, also impacts section numbering to the Specifications Manual.

Description of Change(s):

Table of Contents

Remove:

All references to OP-5

Remove:

Section 1.2 Chest Pain (CP)

Change:

Section numbering to reflect removal of Chest Pain Measure Set

Outpatient Delivery Settings

Impacts: AMI and Chest Pain Measure Sets

Rationale: As a result of the 2019 OPPS/ASC Final Rule, OP-5 has been removed beginning with CY 2021 payment determination.

Description of Change(s):

Outpatient Delivery Settings

Remove:

OP-5 from the AMI Measure Set

Remove:

Chest Pain (CP) Measure Set

Section 1.1: Acute Myocardial Infarction (AMI)

Impacts: OP-5 Median Time to ECG

Rationale: In the 2019 OPPS/ASC Final Rule it was finalized to remove OP-5 from the OQR program beginning with CY 2021 payment determination and subsequent years.

Description of Change(s):

Measure Short Name

Remove: OP-5 Median Time to ECG

Measure Information Form

Remove: OP-5 Median Time to ECG

Section 2: Data Dictionary

Impacts: OP-5 Median Time to ECG

Rationale: In the 2019 OPPS/ASC Final Rule it was finalized to remove OP-5 from the OQR program beginning with CY 2021 payment determination and subsequent years. There are five data elements collected for OP-5 exclusively that are to be removed.

Description of Change(s):

Alphabetical Data Element List

Remove: ECG, ECG Date, ECG Time, Probable Cardiac Chest Pain, and ICD-10-CM Other Diagnosis Codes from list.

Remove: All references to OP-5

Section 4: Population and Sampling Specifications

Impacts: OP-5 Median Time to ECG

Rationale:

Description of Change(s):

Table 1: HOP Measure Sets and Measure Populations

Remove: OP-5 and Chest Pain

Sample Size Examples

Remove: OP-5 and Chest Pain

Hospital Outpatient Quality Reporting Specifications Manual

Version 13.0

Encounter Dates: 01-01-20 (1Q20) through 12-31-20 (4Q20)

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Acknowledgement

The *Hospital Outpatient Quality Reporting (OQR) Specifications Manual* was developed by the Centers for Medicare & Medicaid Services (CMS) to provide a uniform set of quality measures to be implemented in hospital outpatient settings. The primary purpose of these measures is to promote high quality care for patients receiving services in hospital outpatient settings.

IMPORTANT SUBMISSION ALERT!!

At this time, for submission of the Hospital Outpatient measures to CMS under the Hospital Outpatient Quality Reporting Program (Hospital OQR Program), files must meet the specifications in this CMS manual only. Otherwise, the files will be rejected as not meeting CMS quality data submission requirements for receiving the full payment update.

Providers who are planning to also submit data for the Hospital Outpatient measures to The Joint Commission must refer to the transmission section separately issued by The Joint Commission. This is important because, at this time, CMS can only accept files which meet the CMS transmission manual specifications, and such files cannot contain the additional Joint Commission transmission data elements (e.g., vendor tracking ID, measure category assignment, measurement value).

Program Background

CMS Quality Initiatives

Background

In November 2001, Health & Human Services' (HHS) Secretary Tommy G. Thompson announced The Quality Initiative, his commitment to assure quality healthcare for all Americans through published consumer information coupled with healthcare quality improvement support through Medicare's Quality Improvement Organizations (QIOs). The Quality Initiative was launched nationally in 2002 as the Nursing Home Quality Initiative (NHQI) and expanded in 2003 with the Home Health Quality Initiative (HHQI) and the Hospital Quality Initiative (HQI). These initiatives are part of a comprehensive look at quality of care that includes hospitals, nursing homes, home health agencies, and physician offices. These efforts have continued to expand under subsequent Secretaries through support and expansion of activities to support healthcare transparency and value-driven healthcare.

The Medicare Improvements and Extension Act under Division B of title I of the Tax Relief and Health Care Act (MIEA-TRHCA) of 2006 (Pub. L. 109-432), enacted on December 20, 2006, made changes in the Outpatient Prospective Payment System (OPPS). The Centers for Medicare & Medicaid Services (CMS) is now statutorily required to have a program under which hospitals will report data on the quality of hospital outpatient care using standardized measures to receive the full annual update to the OPPS payment rate, effective for payment beginning in calendar year (CY) 2009. The OPPS Final Rule (42 CFR Parts 410, 411, 412, 413, 416, 419, and 489) is accessible at http://www.ecfr.gov. The program established under the OPPS Final Rule and supported by this manual is the Hospital Outpatient Quality Reporting Program (Hospital OQR Program) formally known as the Hospital Outpatient Quality Data Reporting Program (HOP QDRP). The measures described in this manual will expand as additional priority areas for quality improvement in hospital outpatient settings are identified and will be designed to evaluate the diversity of services and clinical topics provided to adult patients in hospital outpatient settings.

Objective

The Hospital OQR Program uses a variety of tools to stimulate and support a significant improvement in the quality of hospital outpatient care. This initiative aims to refine and standardize hospital outpatient data collection, data transmission, and performance measures in order to construct one robust, prioritized, and standard quality outpatient measure set for hospitals. The goal is for all private and public purchasers, oversight and accrediting entities, and payers and providers of hospital outpatient care to use these same measures in their national public reporting activities. Quality improvement support, collaborations, standardization, and assuring compliance with Medicare Conditions of Participation (CoPs) are important additional tools in achieving this objective.

Related National Activities

National Quality Forum

The NQF has approved a set of national voluntary consensus standards for measuring the quality of hospital care. These measures will permit consumers, providers, purchasers, and quality improvement professionals to evaluate and compare the quality of care in a variety of healthcare settings across the nation by using a standard set of measures. Measures that are endorsed by NQF are denoted as such on the measure information forms.

Hospital Inpatient Quality Reporting (IQR) Program

The Hospital IQR Program is intended to equip consumers with quality of care information to make more informed decisions about healthcare options. It is also intended to encourage hospitals and clinicians to improve the quality of inpatient care provided to all patients. The hospital quality of care information gathered through the program is available to consumers on the Hospital Compare website.

The Hospital IQR Program requires submission of data for specific quality measures for health conditions common among people with Medicare, which typically results in hospitalization.

Measures Management System

The Measures Management System (MMS) is a set of processes and decision criteria used by CMS to oversee the development, implementation, and maintenance of healthcare quality measures. CMS recognizes the need for quality measures of the highest caliber, maintained throughout their life cycle to ensure they retain the highest level of scientific soundness, importance, feasibility, and usability. Through the use of a standardized process with broadly recognized criteria, the MMS ensures that CMS will have a coherent, transparent system for measuring the quality of care delivered to its beneficiaries.

Paperwork Reduction Act (PRA)

PRA Disclosure Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is **0938-1109.** The time required to complete this information collection is estimated to average 15 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to CMS, 7500 Security Boulevard, Attn: PRA Reports Clearance Officer, Mail Stop C4-26-05, Baltimore, MD 21244-1650.

Expiration Date: 01-31-2022

Using the Manual

This portion of the manual provides a brief overview of the information contained within each section. It is intended as a quick reference to assist in the implementation of the Hospital Outpatient measures. The sections of this manual are interrelated and are most useful when considered together.

Section 1 – Measurement Information
This section contains a Measure Information Form (MIF) for each Hospital Outpatient measure. MIFs describe the purpose, use, and clinical rationale for specific measures. They also identify population assessed by the measure and how improvement in a measure would be demonstrated.

Detailed analytical algorithms are included with each MIF. The algorithms are used to calculate performance measurement rates for each of the measures. Each algorithm contains detailed steps regarding information used in the rate calculation. They specify when and how exclusion and inclusion criteria are applied for the specified measure.

Section 2 – Data Dictionary
This section describes the patient-level data elements required to capture and calculate individual measurements; it specifies those data elements that must be collected for each patient that falls into any of the selected populations and those data elements needed for a specific measure.

Section 3 – Missing and Invalid Data
This section addresses how to approach missing and invalid data. Missing data refer to data elements, required for calculating a Hospital Outpatient measure, that have no values present for one or more encounters. Invalid data refer to data element values, required for calculating a hospital outpatient measure, that fall outside of the range of allowable values defined for that data element. Reducing missing and invalid data minimizes the bias to a measure rate because records with missing or invalid data cannot be included in the calculation of the observed measure rate. This section describes preventing missing and invalid data in detail.

Section 4 – Population and Sampling Specifications
This section provides guidance on defining the hospital's outpatient population and information on the order of data flow. Defining the population is the first step to estimate a hospital's performance. A population is generally defined as a collection of patients sharing a common set of universally measured characteristics, such as an International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Principal Diagnosis or Current Procedural Terminology (CPT®) Codes. The outpatient population and diagnosis/CPT® codes meet this description for the Hospital Outpatient measures. Additional information regarding population and sampling are found in this section.

Section 5 – Hospital Outpatient Department Quality Measure Data Transmission
This section provides guidelines for transmitting Hospital Outpatient measure data. It highlights the unique data transmission specifications for Hospital Outpatient measure data for the CMS Clinical Data Warehouse. It is divided into three parts: Guidelines for Submission of Data, Transmission Data Element List, and Transmission Data Processing Flow. This section provides specific information regarding data transmission.

Section 6 – Tools and Resources

This section provides additional resources for abstracting measures and data elements.

Appendix A – ICD-10-CM Diagnosis and CPT® Code Tables
For many of the measures, eligibility for inclusion or exclusion in the outpatient population of interest is defined by the presence of certain ICD-10-CM diagnosis codes and CPT® codes including Evaluation and Management (E/M) codes within the patient-level record. Appendix A contains the code tables that define the populations for all measures. There is a description of the codes, as defined in the applicable coding manual, and a shortened description that may be used in a data abstraction tool. The Measure Information section also refers to the codes or tables provided in this section. The code tables in this Appendix are evaluated periodically and modified as indicated.

Appendix B – Glossary of Terms

Appendix C – Medication Tables
Several of the Hospital Outpatient measures address the use and timing of certain medications. This appendix contains tables with the specific names that may be associated with medication categories (e.g., trade names). These tables are provided to facilitate appropriate data collection of applicable medications. These tables are not meant to be an inclusive list of all available therapeutic agents; rather, they represent current information available at the time of publication.

Appendix D – Preview Section
The preview section is intended to provide an overview of future updates. The information provided in a Preview Section **should not** be programmed or submitted. Placement in this appendix does not assume that the information will be implemented in a future manual.

Outpatient Delivery Settings

Acute Myocardial Infarction (AMI)		
Measures:	OP-2	Fibrinolytic Therapy Received Within 30 Minutes of ED Arrival
	OP-3	Median Time to Transfer to Another Facility for Acute Coronary Intervention

ED-Throughput		
Measures:	OP-18	Median Time from ED Arrival to ED Departure for Discharged ED Patients
	OP-22	Left Without Being Seen

Stroke		
Measure:	OP-23	Head CT or MRI Scan Results for Acute Ischemic Stroke or Hemorrhagic Stroke Patients who Received Head CT or MRI Scan Interpretation Within 45 Minutes of ED Arrival

Imaging Efficiency		
Measures:	OP-8	MRI Lumbar Spine for Low Back Pain
	OP-10	Abdomen CT – Use of Contrast Material
	OP-13	Cardiac Imaging for Preoperative Risk Assessment for Non-Cardiac Low-Risk Surgery

Measures Submitted via a Web-Based Tool		
Measures:	OP-29	Appropriate Follow-up Interval for Normal Colonoscopy in Average Risk Patients
	OP-31	Cataracts – Improvement in Patient's Visual Function within 90 Days Following Cataract Surgery
	OP-33	External Beam Radiotherapy (EBRT) for Bone Metastases

Outcome		
Measures:	OP-32	Facility 7-Day Risk-Standardized Hospital Visit Rate after Outpatient Colonoscopy
	OP-35	Admissions and Emergency Department (ED) Visits for Patients Receiving Outpatient Chemotherapy
	OP-36	Hospital Visits after Hospital Outpatient surgery

Measure Information Forms

Overview
Below is a defined overview of the Measure Information Form (MIF) and Flowchart (Algorithm) Formats:

Note: An algorithm provides the logical steps, data element evaluation, arithmetic calculations, and data manipulation steps that are required to calculate a given measure. The algorithms and data elements needed to calculate each of the measures are identified in the MIF.

Measure Set – The specific national Hospital Outpatient quality measure set to which an individual measure belongs (e.g., Acute Myocardial Infarction, ED-Throughput).

Set Measure ID # – A unique alphanumeric identifier assigned to a measure. Information associated with a measure is identified by this unique alphanumeric number (i.e., OP-2, OP-3, etc.).

Performance Measure Name – A brief title that uniquely identifies the measure.

Description – A brief explanation of the measure's focus, such as the activity or the area on which the measure centers attention (e.g., median time from ED arrival to ED departure time for discharged ED patients).

Rationale – The reason for performing a specified process to improve the quality of care outcome. This may include specific literature references, evidence-based information, expert consensus, etc.

Type of Measure – Indicates what is being evaluated by the measure.
- **Process:** A measure used to assess a goal-directed, interrelated series of actions, events, mechanisms, or steps, such as a measure of performance that describes what is done to, for, or by patients, as in performance of a procedure.
- **Outcome:** A measure that indicates the result of performance (or non-performance) of a function(s) or process(es).
- **Structural:** A measure used to assess the characteristics and capacity of the provider to deliver quality healthcare.
- **Measures Submitted via a Web-Based Tool:** A measure used to assess a goal-directed, interrelated series of actions, events, mechanisms, or steps with data entry achieved through the secure side of QualityNet.org.

Improvement Noted As – Describes how improvement would be indicated by the measure.
- An increase in the rate/score/number of occurrences.
- A decrease in the rate/score/number of occurrences.
- Either an increase or a decrease in the rate/score/number of occurrences, depending upon the context of the measure (e.g., utilization).

Numerator Statement – Represents the portion of the denominator that satisfies the conditions of the performance measure.
- **Included Population in Numerator:** Specific information describing the population(s) comprising the numerator, not contained in the numerator statement, or not applicable.
- **Excluded Population in Numerator:** Specific information describing the population(s) that should not be included in the numerator, or none.
- **Data Elements:** Those data elements necessary or required to determine (or establish) the numerator.

Note: If the measure is reported as a rate (proportion or ratio), the Numerator and Denominator Statements are completed. If a performance measure does not have both a numerator and a denominator, then a Continuous Variable Statement is completed.

Denominator Statement – Represents the population evaluated by the performance measure.

- **Included Population in Denominator:** Specific information describing the population(s) comprising the denominator, not contained in the denominator statement, or not applicable.
- **Excluded Population in Denominator:** Specific information describing the population(s) that should not be included in the denominator, or none.
- **Data Elements:** Those data elements required to determine (or establish) the denominator.

Note: If the measure is reported as a rate (proportion or ratio), the Numerator and Denominator Statements are completed. If a performance measure does not have both a numerator and a denominator, then a Continuous Variable Statement is completed.

Continuous Variable Statement – Describes an aggregate data measure in which the value of each measurement can fall anywhere along a continuous scale.

- **Included Population in Continuous Variable:** Specific information describing the population(s) comprising the performance measure, not contained in the Continuous Variable Statement, or not applicable.
- **Excluded Population in Continuous Variable:** Specific information describing the population(s) that should not be included in the performance measure, or none.
- **Data Elements:** Those data elements required to determine (or establish) the measure for a continuous variable.

Note: If a measure is reported as a central tendency, the Continuous Variable Statement is completed. This item is only completed when the performance measure does not have numerator and denominator statements.

Risk Adjustment – Indicates whether a measure is subject to the statistical process for reducing, removing, or clarifying the influences of confounding factors to allow more useful comparisons.

Data Collection Approach – Recommended timing for when data should be collected for a measure. Data collection approaches include retrospective, concurrent, prospective, or Medicare Claims data collection.

- **Retrospective data collection:** Involves collecting data for events that have already occurred.
- **Concurrent data collection:** The process of gathering data on how a process works or is working while a patient is in active treatment.
- **Prospective data collection:** Data collection in anticipation of an event or occurrence.
- **Medicare Claims data collection:** The use of data that is administratively derived from CMS claims and does not require abstraction.

Data Accuracy – Recommendations to reduce identifiable data errors, to the extent possible.

Measure Analysis Suggestions – Recommendations to assist in the process of interpreting data and drawing valid conclusions.

Sampling – Indicates whether a measure can be sampled. Sampling is a process of selecting a representative part of the population in order to estimate the hospital's performance without collecting data for its entire population.

Data Reported As – Indicates how data will be reported for a measure.

- Aggregate rate generated from count data reported as a proportion.
- Aggregate rate generated from count data reported as a ratio.
- Aggregate measures of central tendency.
- Claims data reported as condition-specific, hospital-specific, or risk-standardized.

Selected References – Specific literature references that are used to support the importance of the performance measure.

Algorithm Introduction

Each measure set's initial patient population and associated measures are described by a unique algorithm. An algorithm is a predefined set of rules that helps to break down complex processes into simple, repetitive steps.

Initial Patient Population algorithms evaluate and identify which episode of care (EOC) records are in the measure set's population and are eligible to be sampled.

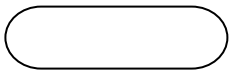
Measure algorithms serve two purposes. First, they evaluate and identify which EOC records contain missing and/or invalid data that will prohibit the ability to properly evaluate the measure. Second, they determine if:

- For rate-based measures, the patient's EOC record belongs in the measure population described by the denominator, and if the patient experienced the event described in the numerator.
- For continuous variable measures, the patient's EOC record belongs in the patient population described in the measure's statement and, if so, to define and calculate the measurement value.

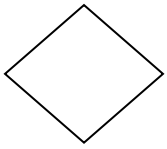
This section contains some standard flowcharting conventions used to develop each algorithm:

- **Flow lines:** Used to guide the reader to different parts of the algorithm, with arrows denoting the direction of movement. Generally, movement is from the top to the bottom of the chart.
- **Symbols:** Used in each algorithm are described later in this section under Flowchart Symbols.
- **Temporary variables:** Within algorithms are noted in the variable key at the top of each page.

Flowchart Symbols

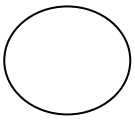


Start/Stop (ovals) denotes the beginning or end of an algorithm.

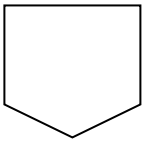


Diamonds represent "If…Then" decision points for logic tests and comparisons. Two or three flow lines exit the decision point to reflect alternative actions based upon an evaluation of the condition(s) stated around the decision point.

Rectangles or process boxes show when computation or manipulation of the data are required, such as a calculation or summarization.

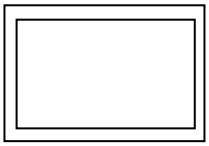


Circle or "On-page" connectors, labeled with a letter, show a link to sections of the algorithm which are continued on the same page.



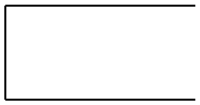
Five-sided or "Off-page" connectors, labeled with a letter, show a link to sections of the algorithm which are continued on different pages.

Note: Both circular, "On-page," and five-sided, "Off-page," connectors containing the letters B, D, E, X, or Y lead to measure Outcome Boxes.

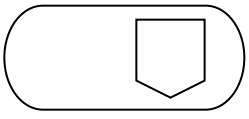


Outcome Boxes represent the result of data passed through the algorithm. Connectors extending from outcome boxes lead to the end of the algorithm or to risk adjustment procedures, where applicable. This symbol is also used to identify the strata within a stratified measure.

Symbol to represent comments ("note") that should be taken into account when programming the flowchart.



The open rectangle symbol is placed alongside the Process box to which they are applicable. Comments are used to expand upon information contained within the process box, such as how to properly calculate age. Comments are never the sole location where processing logic is provided.



Start/Return symbols denote the beginning and end of a sub-routine. Algorithms that use this symbol are called from another algorithm, and the data processing flow returns to the calling algorithm when the "Return" is encountered.

See the Initial Patient Population Algorithms and Transmission Data Processing Flows for an example of the usage of this symbol.

Measure Category Assignments

Measure Category Assignments are calculated measure results for each EOC that is processed through a measure algorithm.

The following are the possible Measure Category Assignments:

B **Not in Measure Population**

- For rate-based and continuous variable measures: Record is not a member of the measure's population.

D **In Measure Population** (used for reporting)

- For rate-based measures: Record is a member of the measure's population, and there has not been an occurrence of the measure.
- For continuous variable measures: Record is a member of the measure's population and has sufficient, accurate, and valid data to compute the measurement.

D(#) **In Measure Population** (used to identify stratified populations of specific measures)

- For rate-based measures: Record is a member of the measure's population, and there has not been an occurrence of the measure.
- For continuous variable measures: Record is a member of the measure's population and has sufficient, accurate, and valid data to compute the measurement.

E **In Numerator Population**

- For rate-based measures: Record is a member of the measure's population, and there has been an occurrence of the measure.
- For continuous variable measures: Does not apply.

X **Data Are Missing**

- For rate-based and continuous variable measures: Data are missing that are required to calculate the measure. The record will be rejected when transmitted.

Y[1] **Unable to Determine (UTD) (**Allowable Value Does Not Allow Calculation of the Measure)

- For rate-based measures: Does not apply
- For continuous variable measures: Record contains a Date, Time, or Numeric data element with a value of 'UTD.'

Hospital Outpatient Quality Measures
Acute Myocardial Infarction (AMI)

Set Measure ID #	Measure Short Name
OP-2	Fibrinolytic Therapy Received Within 30 Minutes of ED Arrival
OP-3	Median Time to Transfer to Another Facility for Acute Coronary Intervention

OP Acute Myocardial Infarction General Data Element List

General Data Element Name	Collected For:
Arrival Time	All Records
Birthdate	All Records
CMS Certification Number ‡, †	All Records
First Name	All Records
Hispanic Ethnicity	All Records
Last Name	All Records
National Provider Identifier ‡, †	Optional for All Records
Outpatient Encounter Date	All Records
Patient Identifier	All Records
Payment Source	All Records
Physician 1	Optional for All Records
Physician 2	Optional for All Records
Postal Code	All Records
Race	All Records
Sex	All Records

‡Transmission Data Element
†Defined in the Transmission Data Element List within the Hospital Outpatient Measure Data Transmission section of this manual.

OP Acute Myocardial Infarction Specific Data Element List

OP AMI Data Element Name	Collected For:
Discharge Code	OP-2, OP-3
E/M Code	OP-2, OP-3
ED Departure Date	OP-3
ED Departure Time	OP-3
Fibrinolytic Administration	OP-2, OP-3
Fibrinolytic Administration Date	OP-2
Fibrinolytic Administration Time	OP-2
ICD-10-CM Principal Diagnosis Code	OP-2, OP-3
Initial ECG Interpretation	OP-2, OP-3
Reason for Delay in Fibrinolytic Therapy	OP-2
Reason for Not Administering Fibrinolytic Therapy	OP-3
Transfer for Acute Coronary Intervention	OP-3

OP-2 and OP-3 Hospital Outpatient Emergency Department AMI Population

Acute Myocardial Infarction

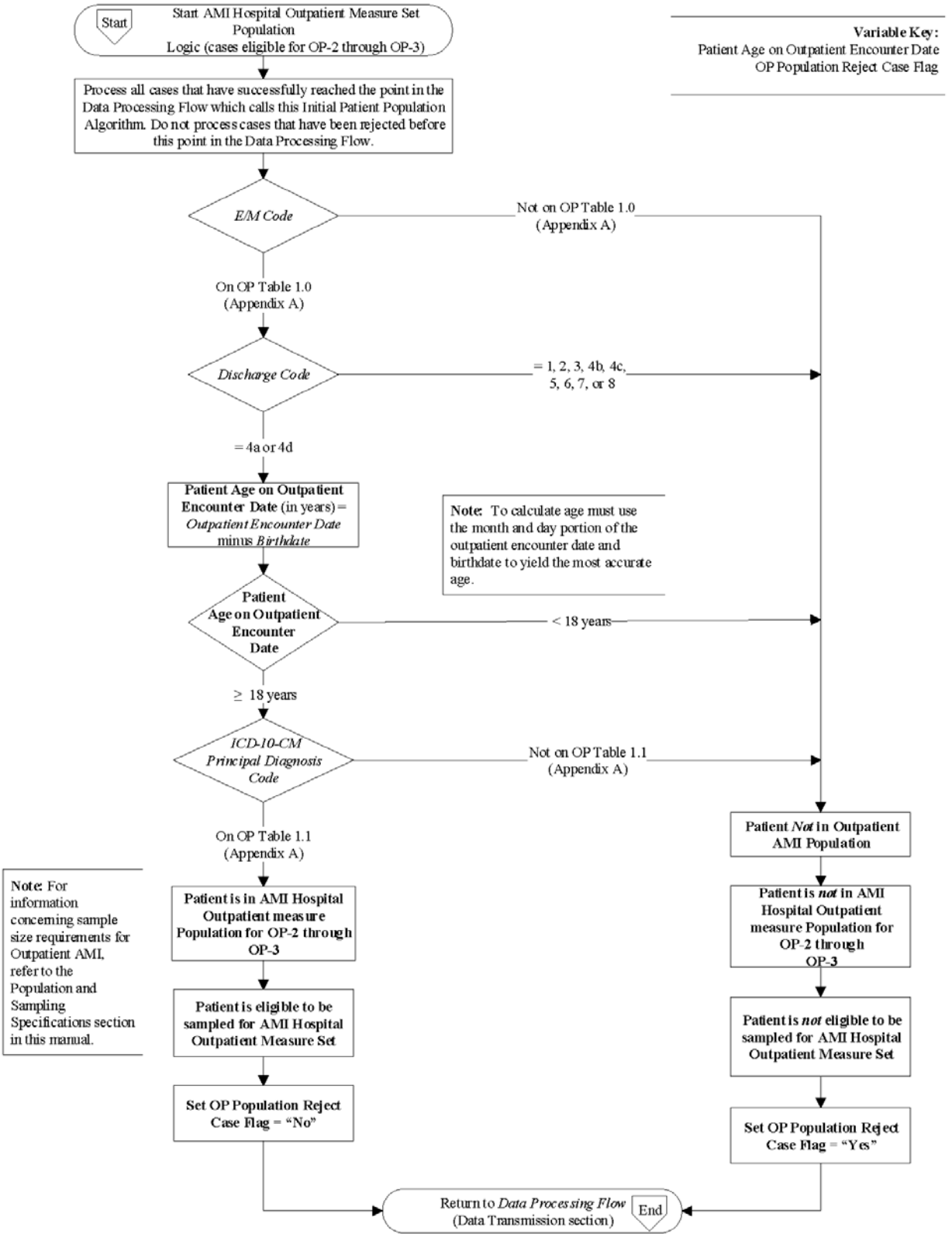
The population of the OP-2 and OP-3 AMI measures is identified using 5 data elements:

- *E/M Code*
- *Discharge Code*
- *Outpatient Encounter Date*
- *Birthdate*
- *ICD-10-CM Principal Diagnosis Code*

Patients seen in a Hospital Emergency Department (*E/M Code* in Appendix A, OP Table 1.0) are included in the OP-2 and OP-3 AMI Hospital Outpatient Population and are eligible to be sampled if they have:

- Discharged/transferred to a short-term general hospital for inpatient care or to a federal healthcare facility (*Discharge Code*), and
- A Patient Age on *Outpatient Encounter Date (Outpatient Encounter Date – Birthdate*) ≥ 18 years, and
- An *ICD-10-CM Principal Diagnosis Code* for AMI defined in Appendix A, OP Table 1.1.

AMI Hospital Outpatient Population Algorithm
OP-2 through OP-3



Algorithm Narrative for OP-2 and OP-3:
AMI Hospital Outpatient Population

1. Start AMI Hospital Outpatient Measure Set Population Logic (cases eligible for OP-2 and OP-3).

2. Start processing all cases that have successfully reached the point in the data processing flow which call this Initial Patient Population Algorithm. Do not process cases that have been rejected before this point in the Data Processing Flow: Clinical in the Data Transmission section.

3. Check *E/M Code*
   a. If *E/M Code* is not in Appendix A, OP Table 1.0, patient is not in the Outpatient AMI Population. Patient is not in the AMI Hospital Outpatient Measure Population for OP-2 and OP-3. Patient is not eligible to be sampled for the AMI Hospital Outpatient Measure Set. Set the OP Population Reject Case Flag to Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *E/M Code* is in Appendix A, OP Table 1.0, continue processing and proceed to *Discharge Code.*

4. Check *Discharge Code*
   a. If Discharge Code equals 1, 2, 3, 4b, 4c, 5, 6, 7, or 8 (Discharge Status code values would = 01, 03, 04, 05, 06, 07, 09, 20, 21, 41, 50, 51, 61, 62, 63, 64, 65, 66, 70), patient is not in the Outpatient AMI Population. Patient is not in the AMI Hospital Outpatient Measure Population for OP-2 and OP-3. Patient is not eligible to be sampled for the AMI Hospital Outpatient Measure Set.
   Set the OP Population Reject Case Flag to Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Discharge Code* equals 4a or 4d (Discharge Status code values would = 02 or 43), continue processing and proceed to Patient Age on *Outpatient Encounter Date*.

5. Calculate Patient Age on *Outpatient Encounter Date*. Patient age, in years, is equal to the *Outpatient Encounter Date* minus the *Birthdate.* Use the month and day portion of the *Outpatient Encounter Date* and the *Birthdate* to yield the most accurate age.

6. Check Patient Age
   a. If patient age is less than 18 years, patient is not in the Outpatient AMI Population. Patient is not in the AMI Hospital Outpatient Measure Population for OP-2 and OP-3. Patient is not eligible to be sampled for the AMI Hospital Outpatient Measure Set. Set the OP Population Reject Case Flag to Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If patient age is greater than or equal to 18 years, continue processing and proceed to *ICD-10-CM Principal Diagnosis Code*.

7. Check *ICD-10-CM Principal Diagnosis Code*
   a. If the *ICD-10-CM Principal Diagnosis Code* is not in Appendix A, OP Table 1.1, patient is not in the Outpatient AMI Population. Patient is not in the AMI Hospital Outpatient Measure Population for OP-2 and OP-3. Patient is not eligible to be sampled for the AMI Hospital Outpatient Measure Set. Set the OP Population Reject Case Flag to Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If the *ICD-10-CM Principal Diagnosis Code* is in Appendix A, OP Table 1.1, patient is in the AMI Hospital Outpatient Measure Population for OP-2 and OP-3. Patient is eligible to be sampled for the AMI Hospital Outpatient Measure Set. Set the OP Population Reject Case Flag to No. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

NQF-Endorsed Voluntary Consensus Standards for Hospital Care
Measure Information Form

Performance Measure Name: Fibrinolytic Therapy Received Within 30 Minutes of ED Arrival

Measure ID #: OP-2

Measure Set: Hospital Outpatient Acute Myocardial Infarction

Outpatient Setting: Emergency Department

Description: Emergency Department acute myocardial infarction (AMI) patients with ST-segment elevation on the ECG closest to arrival time receiving fibrinolytic therapy during the ED stay and having a time from ED arrival to fibrinolysis of 30 minutes or less.

Rationale: The American Heart Association (AHA) estimates that 790,000 people experience a heart attack, or myocardial infarction, in the United States each year (Benjamin, 2017). Timely treatment (through reperfusion) for patients with ST-segment elevation myocardial infarction (STEMI) is a strong predictor of patient outcomes; fibrinolytic therapy is considered a viable option for patients for whom timely access to primary percutaneous coronary intervention (PCI) on site or via transfer is not feasible (Viergutz, 2016). Recent evidence suggests that fibrinolysis is safe even for those STEMI patients who later receive PCI (Armstrong and Welsh, 2017; Costa, 2016; Hernandez, 2016; Peiyuan, 2016; Puymirat, 2017). Clinical practice guidelines recommend that patients with STEMI receive fibrinolytic therapy be given within 30 minutes of hospital arrival in patients with ST-elevation myocardial infarction (O'Gara, 2013; Chew, 2016). For STEMI patients presenting to the ED, initiating treatment within this recommended time frame has been found to significantly improve short-term survival rates and long-term outcomes, including decreased in-hospital mortality and increased years of life saved (Bucholz et al., 2016; Puymirat et al., 2016).

Type of Measure: Process

Improvement Noted As: An increase in the rate.

Numerator Statement: Emergency Department AMI patients whose time from ED arrival to fibrinolysis is 30 minutes or less.

Included Populations: Not applicable

Excluded Populations: None

Data Elements:
- *Arrival Time*
- *Fibrinolytic Administration Date*
- *Fibrinolytic Administration Time*
- *Outpatient Encounter Date*

Denominator Statement: Emergency Department AMI patients with ST-segment elevation on ECG who received fibrinolytic therapy.

Included Populations:
- An *E/M Code* for emergency department encounter as defined in Appendix A, OP Table 1.0, and
- Patients discharged/transferred to a short-term general hospital for inpatient care, or to a federal healthcare facility, and

- An *ICD-10-CM Principal Diagnosis Code* for AMI as defined in Appendix A, OP Table 1.1, and
- ST-segment elevation on the ECG performed closest to ED arrival, and
- *Fibrinolytic Administration.*

Excluded Populations:
- Patients less than 18 years of age.
- Patients who did not receive *Fibrinolytic Administration* within 30 minutes **and** had a *Reason for Delay in Fibrinolytic Therapy.*

Data Elements:
- *Birthdate*
- *Discharge Code*
- *E/M Code*
- *Fibrinolytic Administration*
- *ICD-10-CM Principal Diagnosis Code*
- *Initial ECG Interpretation*
- *Reason for Delay in Fibrinolytic Therapy*

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical record documents. Some hospitals may prefer to gather data concurrently by identifying patients in the population of interest. This approach provides opportunities for improvement at the point of care/service. However, complete documentation includes the principal or other ICD-10-CM diagnosis and procedure codes, which require retrospective data entry.

Data Accuracy: Variation may exist in the assignment of ICD-10-CM codes; therefore, coding practices may require evaluation to ensure consistency. There may be additional variation by provider, facility, and documentation protocol for chart-abstracted data elements.

Measure Analysis Suggestions: This measure rate will assist in understanding the number of AMI patients that are receiving fibrinolysis within 30 minutes of emergency department arrival and will identify potential opportunities for improvement to increase the rate of patients receiving fibrinolysis in 30 minutes or less.

Sampling: Yes; for additional information see the Population and Sampling Specifications section.

Data Reported As: Aggregate rate generated from count data reported as a proportion.

Selected References:

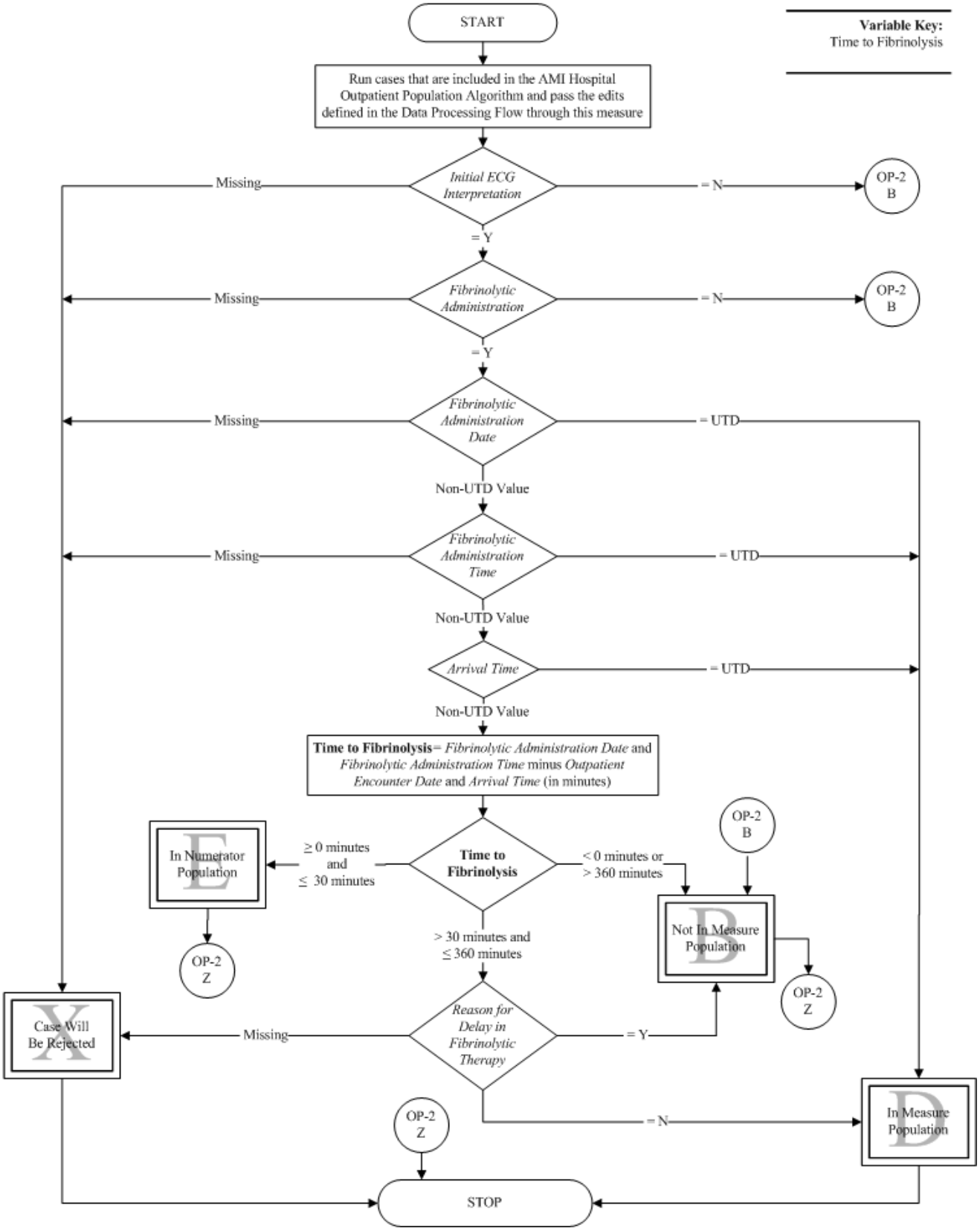
- Armstrong, P. W. and R. C. Welsh. Recalibrating Reperfusion Waypoints. Circulation, 136(13).
- Benjamin E.J., Blaha M.J., Chiuve S.E., Cushman M., Das S.R., Deo R., et al. Heart Disease and Stroke Statistics—2017 Update: A Report From the American Heart Association. 2017; 135:e1–e458.
- Bucholz E. M., N. M. Butala, S. L. Normand, Y. Wang, and H. M. Krumholz. Association of Guideline-Based Admission Treatments and Life Expectancy After Myocardial Infarction in Elderly Medicare Beneficiaries. Journal of the American College of Cardiology, 2015; 67:20: 2378–2391.
- Chew, D. P., I. A. Scott, L. Cullen J. K. French, T. G. Briffa, P. A. Tideman, S. Woodruffe, A. Kerr, M. Branagan, and P. E. G. Aylward. National Heart Foundation of Australia and Cardiac Society of Australia and New Zealand: Australian Clinical Guidelines for the Management of Acute Coronary Syndromes. Medical Journal of Australia, 2016; 205:3: 128–133.
- Costa, C., D. Durao, A. Belo, K. Domingues, B. Santos and M. Leal. Coronary angiography after successful thrombolysis – Is the recommended time interval of 24h an important issue? International Journal of Cardiology, 2016, 222, 515-520.

- O'Gara P.T., Kusher F.G., Ascheim D.D., Casey D.E., Chung M.K., Lemos J.A., Ettinger S.M., et al. 2013 ACCF/AHA Guideline for the Management of ST-Elevation Myocardial Infarction: Executive Summary: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. Circulation, 2013; 127:1-88. Published online December 17, 2012.
- Puymirat, E., J. Caudron, P. G. Steg, G. Lemesle, Y. Cottin, P. Coste, F. Schiele, A. de Labriolle, V. Bataille, J. Ferrieres, T. Simon and N. Danchin. Prognostic impact of non-compliance with guidelines-recommended times to reperfusion therapy in ST-elevation myocardial infarction. The FAST-MI 2010 registry. Eur Heart J Acute Cardiovasc Care, 2017; 6:1: 26-33.
- Viergutz, T., J. Gruttner, T. Walter, C. Weiss, B. Haaff, G. Pollach, C. Madler, and T. Luiz. Preclinical Fibrinolysis in Patients with ST-segment Elevation Myocardial Infarction in a Rural Region. Anaesthesist, 2016, 65(9): 673–680.

OP-2: Fibrinolytic Therapy Received Within 30 Minutes of ED Arrival

Numerator: Emergency Department AMI patients whose time from ED arrival to fibrinolysis is 30 minutes or less.

Denominator: Emergency Department AMI patients with ST-segment elevation on ECG who received fibrinolytic therapy.



Algorithm Narrative for OP-2:
Fibrinolytic Therapy Received Within 30 Minutes of ED Arrival

Numerator: Emergency Department AMI patients whose time from ED arrival to fibrinolysis is 30 minutes or less.

Denominator: Emergency Department AMI patients with ST-segment elevation on ECG who received fibrinolytic therapy.

1. Start. Run all cases that are included in the AMI Hospital Outpatient Population Algorithm and pass the edits defined in the Data Processing Flow through this measure. Proceed to *Initial ECG Interpretation.*

2. Check *Initial ECG interpretation*
   a. If *Initial ECG interpretation* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Initial ECG Interpretation* equals No, the case will proceed to a Measure Category Assignment of B. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If Initial *ECG interpretation* equals Yes, the case will proceed to *Fibrinolytic Administration*.

3. Check *Fibrinolytic Administration*
   a. If *Fibrinolytic Administration* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Fibrinolytic Administration* equals No, the case will proceed to a Measure Category Assignment of B. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *Fibrinolytic Administration* equals Yes, the case will proceed to *Fibrinolytic Administration Date.*

4. Check *Fibrinolytic Administration Date*
   a. If *Fibrinolytic Administration Date* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Fibrinolytic Administration Date* equals UTD, the case will proceed to a Measure Category Assignment of D. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *Fibrinolytic Administration Date* equals Non-UTD Value, the case will proceed to *Fibrinolytic Administration Time.*

5. Check *Fibrinolytic Administration Time*
   a. If *Fibrinolytic Administration Time* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Fibrinolytic Administration Time* equals UTD, the case will proceed to a Measure Category Assignment of D. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *Fibrinolytic Administration Time* Equals Non-UTD Value, the case will proceed to *Arrival Time*.

6. Check *Arrival Time*
    a. If *Arrival Time* equals UTD, the case will proceed to a Measure Category Assignment of D. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If *Arrival Time* equals Non-UTD Value, the case will proceed to Time to Fibrinolysis.

7. Calculate the Time to Fibrinolysis
    a. Time in minutes is equal to the *Fibrinolytic Administration Date* and *Fibrinolytic Administration Time* (in minutes) minus the *Outpatient Encounter Date* and *Arrival Time* (in minutes).

8. Check the Time to Fibrinolysis
    a. If Time to Fibrinolysis is greater than or equal to 0 minutes and less than or equal to 30 minutes, the case will proceed to a Measure Category Assignment of E. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If Time to Fibrinolysis is less than 0 minutes or greater than 360 minutes, the case will proceed to a Measure Category Assignment of B. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    c. If Time to Fibrinolysis is greater than 30 minutes and less than or equal to 360 minutes, the case will proceed to *Reason for Delay in Fibrinolytic Therapy*.

9. Check *Reason for Delay in Fibrinolytic Therapy*
    a. If *Reason for Delay in Fibrinolytic Therapy* is missing, the case will proceed to a Measure Category Assignment of X and the case will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If *Reason for Delay in Fibrinolytic Therapy* equals Yes, the case will proceed to a Measure Category Assignment of B. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    c. If *Reason for Delay in Fibrinolytic Therapy* equals No, the case will proceed to a Measure Category Assignment of D. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

NQF-Endorsed Voluntary Consensus Standards for Hospital Care
Measure Information Form

Performance Measure Name: Median Time to Transfer to Another Facility for Acute Coronary Intervention

Measure ID #: OP-3

Measure Set: Hospital Outpatient Acute Myocardial Infarction

Outpatient Setting: Emergency Department

Set Measure ID #	Performance Measure Name
OP-3a	Median Time to Transfer to Another Facility for Acute Coronary Intervention-Overall Rate
OP-3b	Median Time to Transfer to Another Facility for Acute Coronary Intervention-Reporting Measure
OP-3c	Median Time to Transfer to Another Facility for Acute Coronary Intervention-Quality Improvement Measure

Description: Median time from emergency department arrival to time of transfer to another facility for acute coronary intervention.

Rationale: The American Heart Association (AHA) estimates that 790,000 people experience a heart attack, or myocardial infarction, in the United States each year (Benjamin, 2017). Timely transfer for acute coronary intervention (ACI), such as a percutaneous coronary intervention (PCI), is associated with improved patient outcomes (Bucholz, 2016; Martin, 2016). National clinical practice guidelines support initiating PCI (measured through door-to-balloon time) within 120 minutes or less for ST-segment elevation myocardial infarction (STEMI) patients who need to be transferred from a non-PCI capable hospital to one at which PCI can be performed (O'Gara, 2013).

Type of Measure: Process

Improvement Noted As: A decrease in the median value.

Continuous Variable Statement: Time (in minutes) from emergency department arrival to transfer to another facility for acute coronary intervention.

Included Populations:
- An *E/M Code* for emergency department encounter as defined in Appendix A, OP Table 1.0, and
- Patients discharged/transferred to a short-term general hospital for inpatient care or to a federal healthcare facility, and
- An *ICD-10-CM Principal Diagnosis Code* for AMI as defined in Appendix A, OP Table 1.1, and
- ST-segment elevation on the ECG performed closest to ED arrival, and
- Patients with *Transfer for Acute Coronary Intervention.*

Excluded Populations:
- Patients less than 18 years of age.
- Patients receiving *Fibrinolytic Administration.*

Data Elements:

- *Arrival Time*
- *Birthdate*
- *Discharge Code*
- *ED Departure Date*
- *ED Departure Time*
- *E/M Code*
- *Fibrinolytic Administration*
- *ICD-10-CM Principal Diagnosis Code*
- *Initial ECG Interpretation*
- *Outpatient Encounter Date*
- *Reason for Not Administering Fibrinolytic Therapy*
- *Transfer for Acute Coronary Intervention*

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical record documents. Some hospitals may prefer to gather data concurrently by identifying patients in the population of interest. This approach provides opportunities for improvement at the point of care/service. However, complete documentation includes the principal or other ICD-10-CM diagnosis and procedure codes, which require retrospective data entry.

Data Accuracy: Variation may exist in the assignment of ICD-10-CM codes; therefore, coding practices may require evaluation to ensure consistency. There may be additional variation by provider, facility, and documentation protocol for chart-abstracted data elements.

Measure Analysis Suggestions: None

Sampling: Yes; for additional information see the Population and Sampling Specifications section.

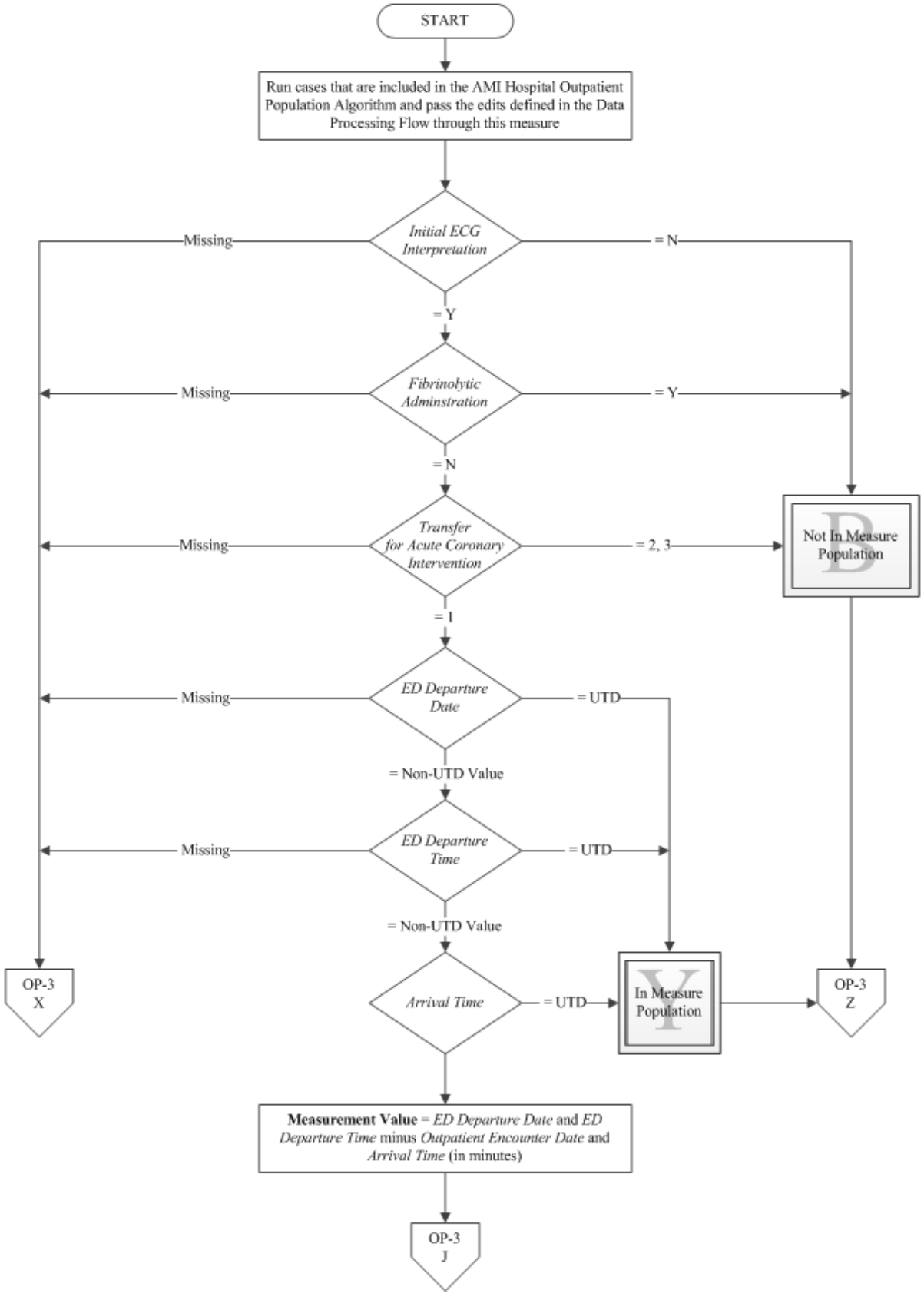
Data Reported As: Aggregate measure of central tendency.

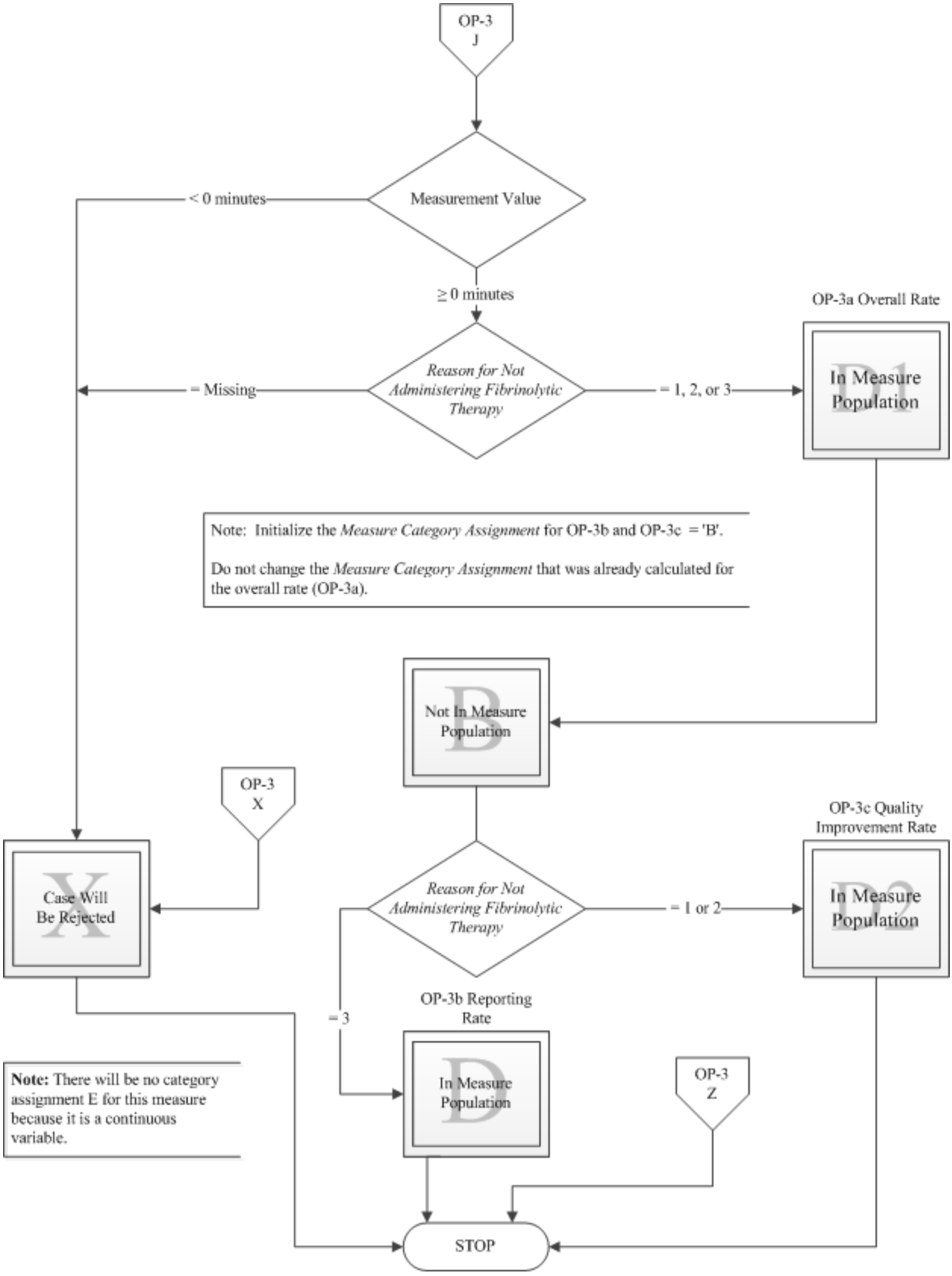
Selected References:

- Benjamin E.J., Blaha M.J., Chiuve S.E., Cushman M., Das S.R., Deo R., et al. Heart Disease and Stroke Statistics—2017 Update: A Report From the American Heart Association. 2017; 135:e1–e458.
- Bucholz E. M., N. M. Butala, S. L. Normand, Y. Wang, and H. M. Krumholz. Association of Guideline-Based Admission Treatments and Life Expectancy After Myocardial Infarction in Elderly Medicare Beneficiaries. Journal of the American College of Cardiology, 2015; 67:20: 2378–2391.
- Martin L., M. Murphy, A. Scanlon, D. Clark, and O. Farouque. "The Impact On Long Term Health Outcomes for STEMI Patients During a Period of Process Change to Reduce Door to Balloon Time." European Journal of Cardiovascular Nursing, vol. 15, no. 3, 2016, pp. e37–44.
- O'Gara PT, Kusher FG, Ascheim DD, Casey DE, Chung MK, Lemos JA, Ettinger SM, et al. 2013 ACCF/AHA Guideline for the Management of ST-Elevation Myocardial Infarction: Executive Summary: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. Circulation, 2013; 127:1-88. Published online December 17, 2012.

OP-3: Median Time to Transfer to Another Facility for Acute Coronary Intervention

Continuous Variable Statement: Time (in minutes) from emergency department arrival to transfer to another facility for acute coronary intervention





Algorithm Narrative for OP-3:
Median Time to Transfer to Another Facility for Acute Coronary Intervention

Continuous Variable Statement: Time (in minutes) from emergency department arrival to transfer to another facility for acute coronary intervention.

1. Start. Run all cases that are included in the AMI Hospital Outpatient Population Algorithm and pass the edits defined in the Data Processing Flow through this measure. Proceed to *Initial ECG Interpretation*.

2. Check *Initial ECG Interpretation*.
   a. If *Initial ECG Interpretation* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Initial ECG Interpretation* equals No, the case will proceed to a Measure Category Assignment of B. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *Initial ECG Interpretation* equals Yes, the case will proceed to *Fibrinolytic Administration*.

3. Check *Fibrinolytic Administration*
   a. If *Fibrinolytic Administration* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Fibrinolytic Administration* equals Yes, the case will proceed to a Measure Category Assignment of B. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *Fibrinolytic Administration* equals No, the case will proceed to *Transfer for Acute Coronary Intervention*.

4. Check *Transfer for Acute Coronary Intervention*
   a. If *Transfer for Acute Coronary Intervention* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Transfer for Acute Coronary Intervention* equals 2 or 3, the case will proceed to a Measure Category Assignment of B. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *Transfer for Acute Coronary Intervention* equals 1, the case will proceed to *ED Departure Date*.

5. Check *ED Departure Date*
   a. If *ED Departure Date* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *ED Departure Date* equals UTD, the case will proceed to a Measure Category Assignment of Y. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *ED Departure Date* equals Non-UTD Value, the case will proceed to *ED Departure Time*.

6. Check *ED Departure Time*
   a. If *ED Departure Time* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *ED Departure Time* equals UTD, the case will proceed to a Measure Category Assignment of Y. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

c. If *ED Departure Time* equals Non-UTD Value, the case will proceed to *Arrival Time*.

7. Check *Arrival Time*
   a. If *Arrival Time* equals UTD, the case will proceed to a Measure Category Assignment of Y. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Arrival Time* equals Non-UTD Value, the case will proceed to the Measurement Value.

8. Calculate the Measurement Value

   a. Time in minutes is equal to the *ED Departure Date* and *ED Departure Time* (in minutes) minus the *Outpatient Encounter Date* and *Arrival Time* (in minutes).

9. Check the Measurement Value
   a. If Measurement Value is less than 0 minutes, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If Measurement Value is greater than or equal to 0 minutes, the case will proceed to *Reason for Not Administering Fibrinolytic Therapy*.

10. Check *Reason for Not Administering Fibrinolytic Therapy*
    a. If *Reason for Not Administering Fibrinolytic Therapy* is missing, the case will proceed to a Measure Category Assignment of X and the case will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If *Reason for Not Administering Fibrinolytic Therapy* equals 1, 2, or 3, the case will proceed to a Measure Category Assignment of D1, the OP-3a Overall Rate. Initialize the Measure Category Assignment for OP-3b and OP-3c equal to B. Do not change the Measure Category Assignment that was already calculated for the overall rate of OP-3a. Proceed to *Reason for Not Administering Fibrinolytic Therapy*.

11. Check *Reason for Not Administering Fibrinolytic Therapy*
    a. If *Reason for Not Administering Fibrinolytic Therapy* equals 1 or 2, the case will proceed to a Measure Category Assignment of D2, the OP-3c Quality Improvement Rate. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If *Reason for Not Administering Fibrinolytic Therapy* equals 3, the case will proceed to a Measure Category Assignment of D, the OP-3b Reporting Rate. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

Hospital Outpatient Quality Measures
ED-Throughput

Set Measure ID #	Measure Short Name
OP-18	Median Time from ED Arrival to ED Departure for Discharged ED Patients
OP-22	Left Without Being Seen*

*Data entry for OP-22 will be achieved through the secure side of QualityNet.org via an online tool available to authorized users. Because the measure uses administrative data and not claims data to determine the measure's denominator population, OP-22 is not included in the ED-Throughput Population.

OP ED-Throughput General Data Element List

General Data Element Name	Collected for:
Arrival Time	All Records
Birthdate	All Records
CMS Certification Number ǂ, ‡	All Records
First Name	All Records
Hispanic Ethnicity	All Records
Last Name	All Records
National Provider Identifier ǂ, ‡	Optional for All Records
Outpatient Encounter Date	All Records
Patient Identifier	All Records
Payment Source	All Records
Physician 1	Optional for All Records
Physician 2	Optional for All Records
Postal Code	All Records
Race	All Records
Sex	All Records

ǂ Transmission Data Element.
‡ Defined in the Transmission Data Element List within the Hospital Outpatient Measure Data Transmission section of this manual.

OP ED-Throughput Specific Data Element List

OP ED Data Element Name	Collected for:
Arrival Time	OP-18
Discharge Code	OP-18
E/M Code	OP-18
ED Departure Date	OP-18
ED Departure Time	OP-18
ICD-10-CM Principal Diagnosis Code	OP-18
Outpatient Encounter Date	OP-18

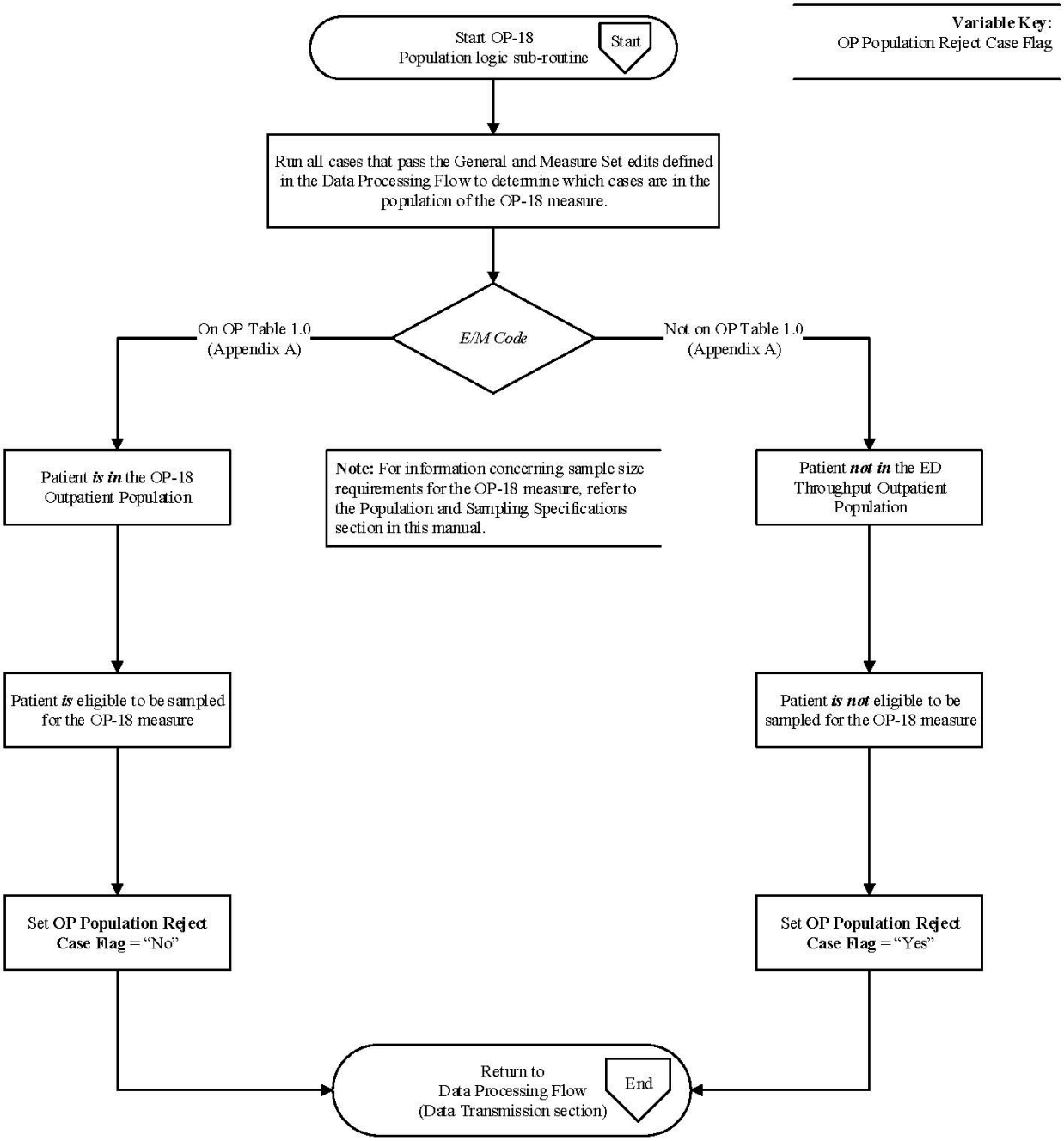
OP-18 Hospital Outpatient Emergency Department Throughput Population

ED-Throughput
The population of the OP-18 measure is identified using 1 data element:

- *E/M Code*

Patients seen in a Hospital Emergency Department (E/M Code in Appendix A OP Table 1.0) are included in the OP-18 Hospital Outpatient Population and are eligible to be sampled if they have an *E/M Code* in Appendix A, OP Table 1.0.

ED Throughput Hospital Outpatient Population Algorithm
OP-18



Algorithm Narrative for OP-18:
ED-Throughput Hospital Outpatient Population

Variable Key: OP Population Reject Case Flag

1. Start ED-Throughput Initial Patient Population logic sub-routine. Process all cases that have successfully reached the point in the Transmission Data Processing Flow: Clinical which calls this Initial Patient Population Algorithm. Do not process cases that have been rejected before this point in the Transmission Data Processing Flow.

2. Check *E/M Code*
   a. If the *E/M Code* is not on OP Table 1.0 (Appendix A), the patient is not in the ED Initial Patient Population and is not eligible to be sampled for the ED-Throughput measure set. Set the Initial Patient Population Reject Case Flag to equal Yes. Return to Transmission Data Processing Flow in the Data Transmission section.
   b. If the *E/M Code* is on OP Table 1.0 (Appendix A), the patient is in the ED Initial Patient Population and is eligible to be sampled for the ED-Throughput measure set. Set Initial Patient Population Reject Case Flag to equal No. Return to Transmission Data Processing Flow in the Data Transmission section.

NQF-Endorsed Voluntary Consensus Standards for Hospital Care
Measure Information Form

Performance Measure Name: Median Time from ED Arrival to ED Departure for Discharged ED Patients

Measure ID #: OP-18

Measure Set: Hospital Outpatient ED-Throughput

Outpatient Setting: Emergency Department

Set Measure ID #	Performance Measure Name
OP-18a	Median Time from ED Arrival to ED Departure for Discharged ED Patients – Overall Rate
OP-18b	Median Time from ED Arrival to ED Departure for Discharged ED Patients – Reporting Measure
OP-18c	Median Time from ED Arrival to ED Departure for Discharged ED Patients – Psychiatric/Mental Health Patients
OP-18d	Median Time from ED Arrival to ED Departure for Discharged ED Patients – Transfer Patients

Description: Median time from emergency department arrival to time of departure from the emergency room for patients discharged from the emergency department.

Rationale: Empirical evidence demonstrates that emergency department (ED) throughput is an indicator of hospital quality of care and shows that shorter lengths of stay in the ED lead to improved clinical outcomes. Significant ED overcrowding has numerous downstream effects, including prolonged patient waiting times, increased suffering for those who wait, rushed and unpleasant treatment environments, and potentially poor patient outcomes (Gardner, 2018). Quality improvement efforts aimed at reducing ED overcrowding and length of stay have been associated with an increase in ED patient volume, decrease in number of patients who leave without being seen, reduction in costs, and increase in patient satisfaction (Bucci, 2016; Chang, 2017; Zocchi, 2015).

Recent peer-reviewed studies also demonstrate the need for dedicated emergency mental health services, supplying evidence that the clinical needs for these patients substantively differ from the non-psychiatric population (ACEP, 2017; Lester, 2018).

Type of Measure: Process

Improvement Noted As: A decrease in the median value.

Continuous Variable Statement: Time (in minutes) from ED arrival to ED departure for patients discharged from the emergency department.

Included Populations:
- Any ED patient from the facility's emergency department

Excluded Populations:
- Patients who expired in the emergency department

Data Elements:
- *Arrival Time*
- *Discharge Code*
- *E/M Code*
- *ED Departure Date*
- *ED Departure Time*
- *ICD-10-CM Principal Diagnosis Code*
- *Outpatient Encounter Date*

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical record documents. Some hospitals may prefer to gather data concurrently by identifying patients in the population of interest. This approach provides opportunities for improvement at the point of care/service. However, complete documentation includes the principal or other ICD-10-CM diagnosis and procedure codes, which require retrospective data entry.

Data Accuracy: There may be variation by provider, facility, and documentation protocol for chart-abstracted data elements.

Measure Analysis Suggestions: None

Sampling: Yes; for additional information see the Population and Sampling Specifications section.

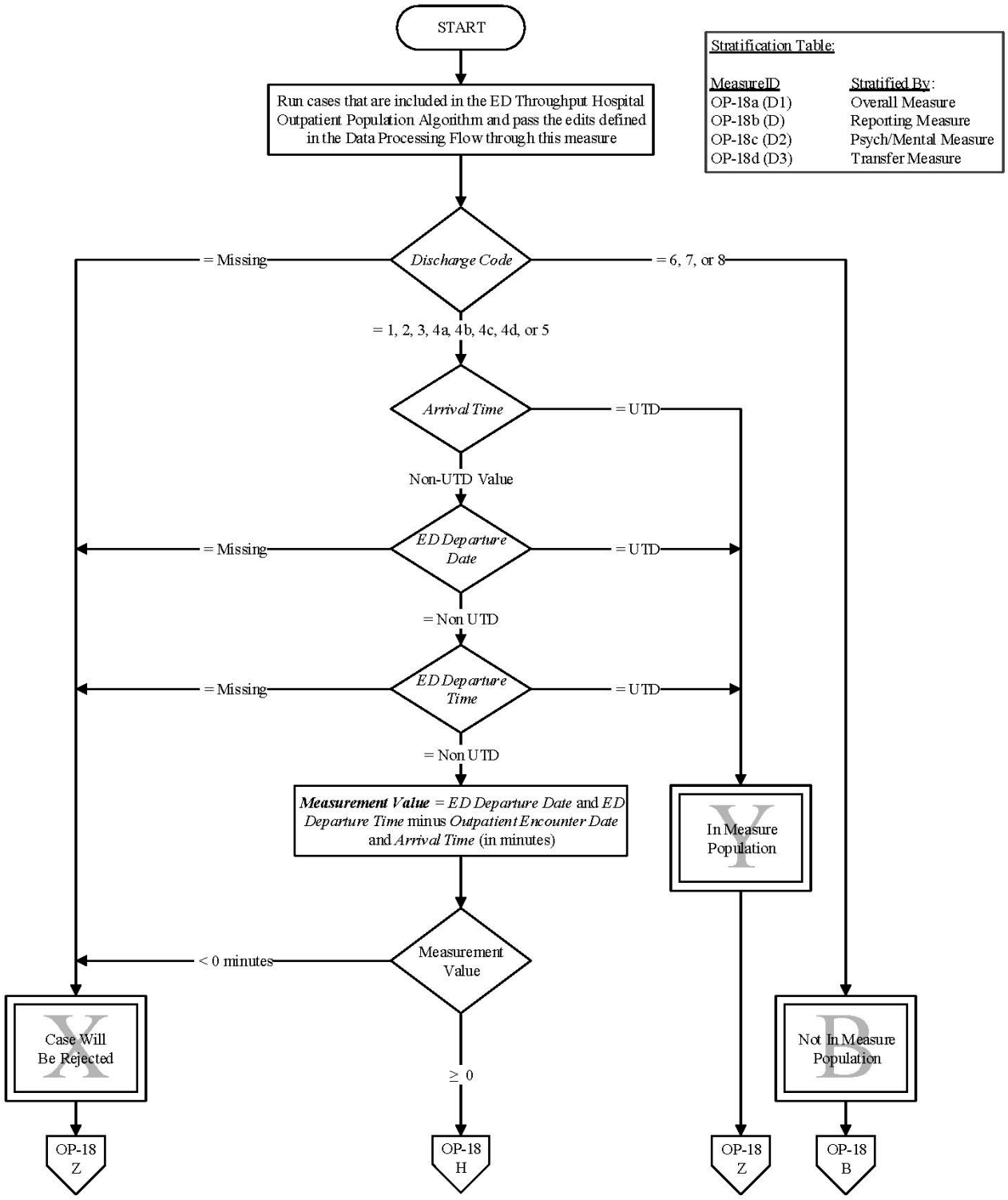
Data Reported As: Aggregate measure of central tendency.

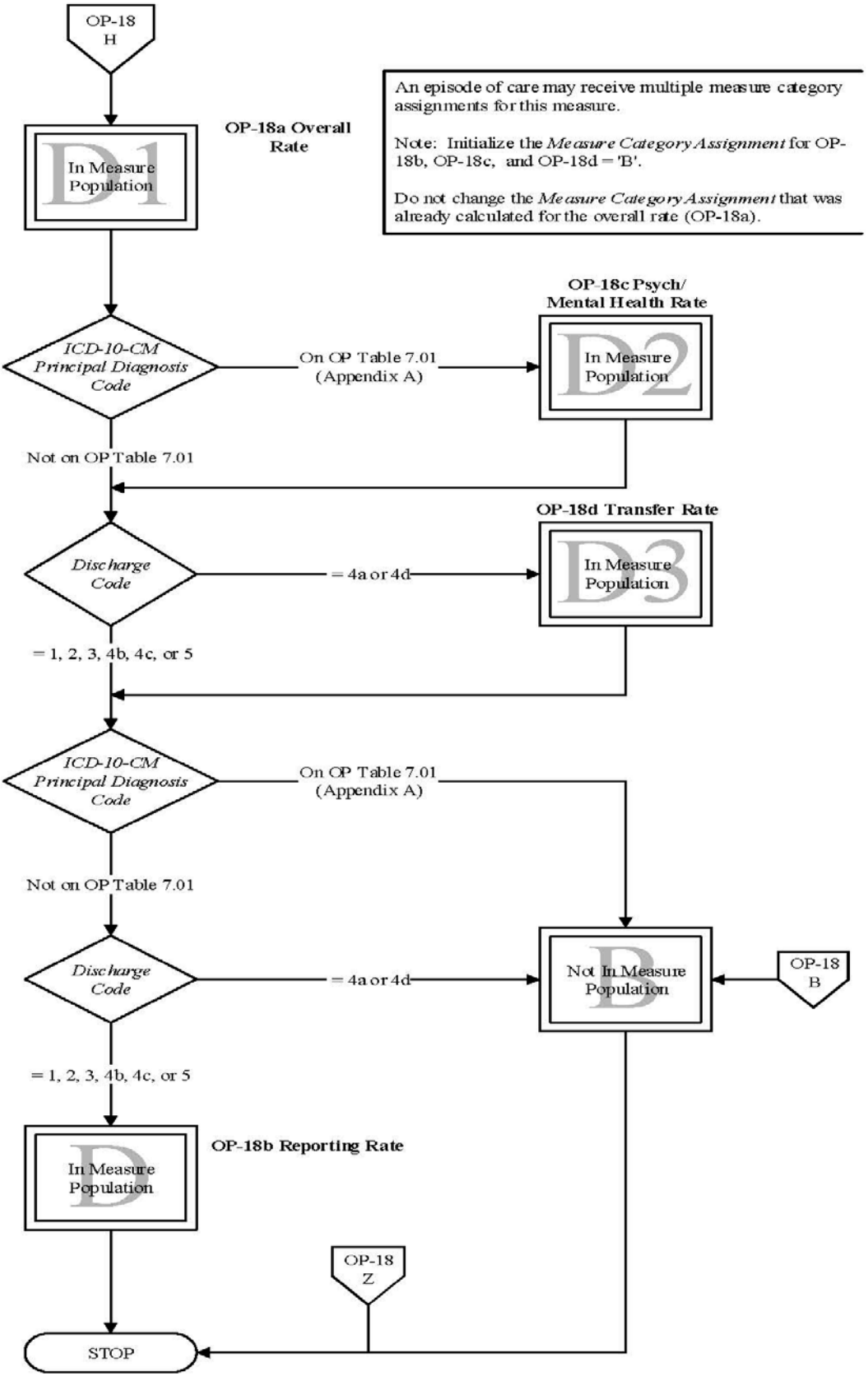
Selected References:

- Bucci, S., A. G. de Belvis, S. Marventano, A. C. De Leva, M. Tanzariello, M. L. Specchia, W. Ricciardi and F. Franceschi. Emergency department crowding and hospital bed shortage: Is Lean a smart answer? A systematic review. Eur Rev Med Pharmacol Sci, 2016, 20(20), 4209-4219.
- Chang, A. M., A. Lin, R. Fu, K. J. McConnell and B. Sun. Associations of Emergency Department Length of Stay With Publicly Reported Quality-of-care Measures. Acad Emerg Med, 2017, 24(2), 246-250.
- Gardner, R. M., N. A. Friedman, M. Carlson, T. S. Bradham and T. W. Barrett. Impact of revised triage to improve throughput in an ED with limited traditional fast track population. Am J Emerg Med., 2017, 36(1), 124-127.
- Lester, N. A., L. R. Thompson, K. Herget, J. A. Stephens, J. V. Campo, E. J. Adkins, T. E. Terndrup and S. Moffatt-Bruce. CALM Interventions: Behavioral Health Crisis Assessment, Linkage, and Management Improve Patient Care. Am J Med Qual., 2017, 33(1), 65-71.
- Zocchi, M. S., M. S. McClelland, and J. M. Pines. Increasing Throughput: Results From A 42-Hospital Collaborative To Improve Emergency Department Flow. The Joint Commission Journal on Quality and Patient Safety, 2015, 41(12):532–542.

OP-18: Median Time from ED Arrival to ED Departure for Discharged ED Patients

Continuous Variable Statement: Time (in minutes) from ED arrival to ED departure for patients discharged from the emergency department.





Algorithm Narrative for OP-18:
Median Time from ED Arrival to ED Departure for Discharged ED Patients

Continuous Variable Statement: Time (in minutes) from ED arrival to ED departure for patients discharged from the emergency department.

1. Start processing. Run all cases that are included in the ED-Throughput Hospital Outpatient Population Algorithm and pass the edits defined in the Data Processing Flow through this measure. Proceed to *ICD-10-CM Principal Diagnosis Code*.

2. Check *Discharge Code*
   a. If *Discharge Code* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Discharge Code* equals 6, 7, or 8, the case will proceed to a Measure Category Assignment of B. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *Discharge Code* equals 1, 2, 3, 4a, 4b, 4c, 4d, or 5, the case will proceed to *Arrival Time.*

3. Check *Arrival Time*
   a. If *Arrival Time* equals UTD, the case will proceed to a Measure Category Assignment of Y. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Arrival Time* equals Non-UTD Value, the case will proceed to *ED Departure Date*.

4. Check *ED Departure Date*
   a. If *ED Departure Date* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *ED Departure Date* equals UTD, the case will proceed to a Measure Category Assignment of Y. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *ED Departure Date* equals non-UTD, the case will proceed to *ED Departure Time*.

5. Check *ED Departure Time*
   a. If *ED Departure Time* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *ED Departure Time* equals UTD, the case will proceed to a Measure Category Assignment of Y. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *ED Departure Time* equals non-UTD, the case will proceed to Measurement Value.

6. Calculate the Measurement Value
   a. Time in minutes is equal to the *ED Departure Date* and *ED Departure Time* (in minutes) minus the *Outpatient Encounter Date* and *Arrival Time* (in minutes).

7. Check Measurement Value
   a. If Measurement Value is less than 0 minutes, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If Measurement Value is greater than or equal to 0 minutes, the case will proceed to a Measure Category Assignment of D1.

8. Initialize the Measure Category Assignment for all cases in D1

9. Proceed to *ICD-10-CM Principal Diagnosis Code*

10. Check *ICD-10-CM Principal Diagnosis Code*
    a. If *ICD-10-CM Principal Diagnosis Code* is in Appendix A, OP Table 7.01, the case will proceed to a Measure Category Assignment of D2. Proceed to *Discharge Code*.
    b. If *ICD-10-CM Principal Diagnosis Code* is not in Appendix A, OP Table 7.01, the case will proceed to *Discharge Code*.

11. Check *Discharge Code*
    a. If *Discharge Code* equals 4a or 4d, the case will proceed to a Measure Category Assignment of D3. Proceed to *ICD-10-CM Principal Diagnosis Code*.
    b. If *Discharge Code* equals 1, 2, 3, 4b, 4c, or 5, the case will proceed to *ICD-10-CM Principal Diagnosis Code*.

12. Check *ICD-10-CM Principal Diagnosis Code*
    a. If *ICD-10-CM Principal Diagnosis Code* is in Appendix A, OP Table 7.01, the case will proceed to a Measure Category Assignment of B. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If *ICD-10-CM Principal Diagnosis Cod*e is not in Appendix A, OP Table 7.01, the case will proceed to *Discharge Code*.

13. Check *Discharge Code*
    a. If *Discharge Code* equals 4a or 4d, the case will proceed to a Measure Category Assignment of B. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If *Discharge Code* equals 1, 2, 3, 4b, 4c, or 5, the case will proceed to a Measure Category Assignment of D. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

Measure Information Form

Performance Measure Name: Left Without Being Seen

Measure ID #: OP-22

Measure Set: Hospital Outpatient ED-Throughput

Outpatient Setting: Emergency Department

Description: Percent of patients who leave the Emergency Department (ED) without being evaluated by a physician/advanced practice nurse/physician's assistant (physician/APN/PA).

Measure ascertains response to the following question(s):

- What was the total number of patients who left without being evaluated by a physician/APN/PA? _____(numerator).
- What was the total number of patients who presented to the ED? _____(denominator).

Annual data submission period: See the timeline posted to QualityNet.org for this measure; select Hospitals-Outpatient and then Data Submission in the drop-down menu. Data entry will be achieved through the secure side of QualityNet.org via an online tool available to authorized users.

Definition for patients who presented to the ED:

- Patients who presented to the ED are those that signed in to be evaluated for emergency services.

Definition for Physician/APN/PA:

- Patients who are seen by a resident or intern are to be considered as seen by a physician.
- An institutionally credentialed provider, acting under the direct supervision of a physician for healthcare services in the emergency department (e.g., an obstetric nurse providing assessment of an obstetric patient) are to be considered as seen by a physician.
- Advanced Practice Nurse (APN, APRN) titles may vary between state and clinical specialties. Some common titles that represent the advanced practice nurse role are:
  - Nurse Practitioner (NP)
  - Certified Registered Nurse Anesthetist (CRNA)
  - Clinical Nurse Specialist (CNS)
  - Certified Nurse Midwife (CNM)

Hospital Outpatient Quality Measure
Stroke

Measure ID #	Measure Short Name
OP-23	Head CT or MRI Scan Results for Acute Ischemic Stroke or Hemorrhagic Stroke Patients who Received Head CT or MRI Scan Interpretation Within 45 minutes of ED Arrival

OP Stroke General Data Element List

General Data Element Name	Collected For:
Arrival Time	All Records
Birthdate	All Records
CMS Certification Number ‡, †	All Records
First Name	All Records
Hispanic Ethnicity	All Records
Last Name	All Records
National Provider Identifier ‡, †	Optional for All Records
Outpatient Encounter Date	All Records
Patient Identifier	All Records
Payment Source	All Records
Physician 1	Optional for All Records
Physician 2	Optional for All Records
Postal Code	All Records
Race	All Records
Sex	All Records

‡Transmission Data Element.
†Defined in the Transmission Data Element List within the Hospital Outpatient Measure Data Transmission section of this manual.

OP Stroke Specific Data Element List

OP Stroke Data Element Name	Collected For:
Arrival Time	OP-23
Discharge Code	OP-23
E/M Code	OP-23
Date Last Known Well	OP-23
ICD-10-CM Principal Diagnosis Code	OP-23
Head CT Scan or MRI Order	OP-23
Head CT Scan or MRI Interpretation Date	OP-23
Head CT Scan or MRI Interpretation Time	OP-23
Last Known Well	OP-23
Time Last Known Well	OP-23

OP-23 Hospital Outpatient Emergency Department Stroke Population

Stroke

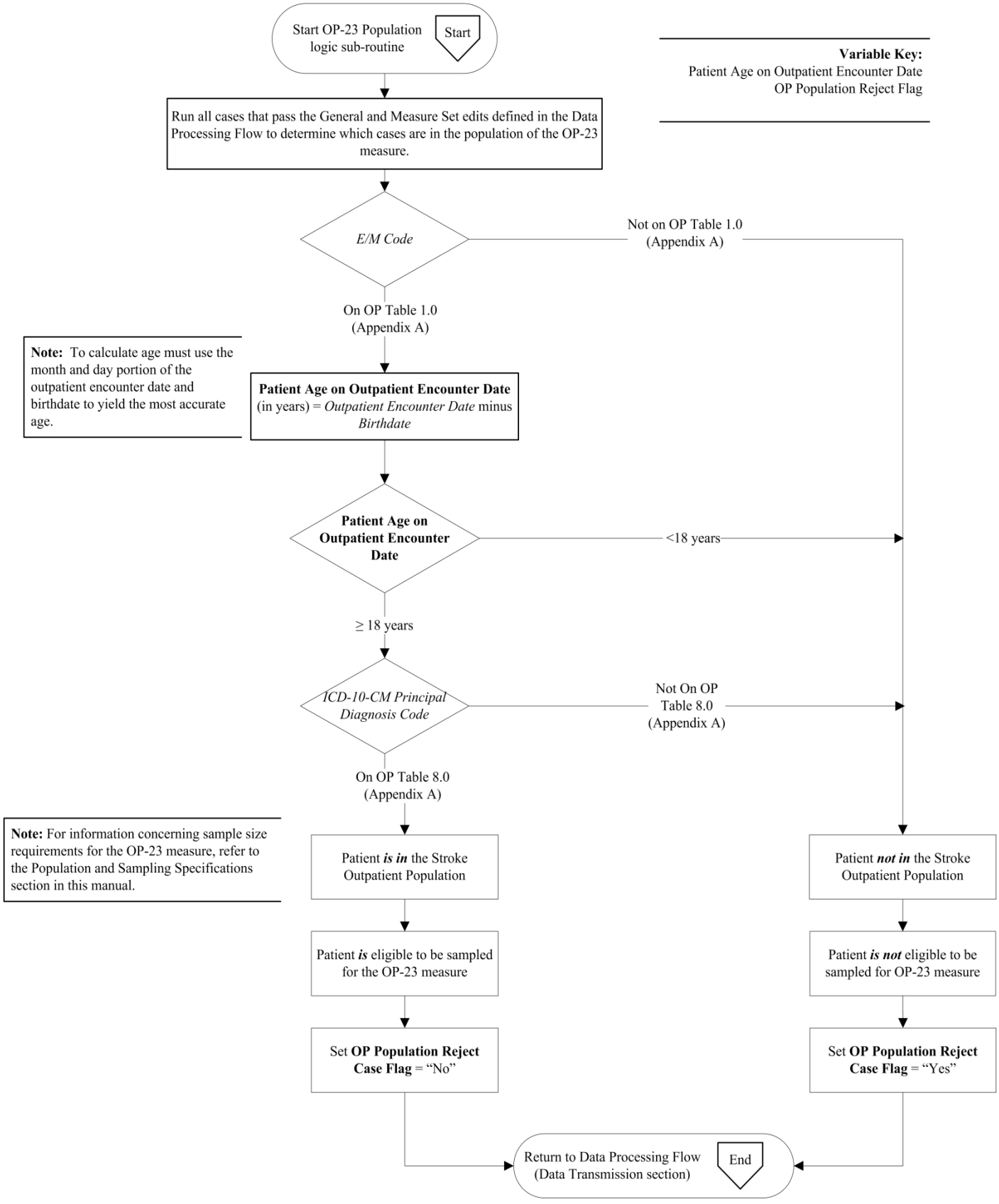
The population of the OP-23 ED Stroke measure is identified using 4 data elements:

- *E/M Code*
- *Outpatient Encounter Date*
- *Birthdate*
- *ICD-10-CM Principal Diagnosis Code*

Patients seen in a Hospital Emergency Department (E/M Code in Appendix A, OP Table 1.0) are included in the OP-23 ED Stroke Hospital Outpatient Population and are eligible to be sampled if they have:

- A patient age on *Outpatient Encounter Date* (*Outpatient Encounter Date – Birthdate*) ≥ 18 years, and
- An *ICD-10-CM Principal Diagnosis Code* for Acute Ischemic or Hemorrhagic Stroke as defined in Appendix A, OP Table 8.0

Stroke Hospital Outpatient Population Algorithm
OP-23



Algorithm Narrative for OP-23:
Stroke Hospital Outpatient Population

1. Start Stroke Initial Patient Population logic sub-routine. Process all cases that have successfully reached the point in the Transmission Data Processing Flow: Clinical which calls this Initial Patient Population Algorithm. Do not process cases that have been rejected before this point in the Transmission Data Processing Flow.

2. Check *E/M Code*
   a. If *E/M Code* is not in Appendix A, OP Table 1.0, patient is not in the Outpatient Stroke Population. Patient is not eligible to be sampled for the OP-23 measure. Set the OP Population Reject Case Flag to Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *E/M Code* is in Appendix A, OP Table 1.0, continue processing and proceed to Measurement Value.

3. Calculate Measurement Value. Measurement Value, in years, is equal to the *Outpatient Encounter Date* minus *Birthdate*

4. Check Measurement Value
   a. If the Measurement Value is less than 18 years, patient is not in the Outpatient Stroke Population. Patient is not eligible to be sampled for the OP-23 measure. Set the OP Population Reject Case Flag to Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If the Measurement Value is greater than or equal to 18 years, continue processing, and the case will proceed to *ICD-10-CM Principal Diagnosis Code*.

5. Check *ICD-10-CM Principal Diagnosis Code*
   a. If the *ICD-10-CM Principal Diagnosis Code* is on Table 8.0, patient is in the Outpatient Stroke Population. Patient is eligible to be sampled for the OP-23 measure. Set the OP Population Reject Case Flag to No. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If the *ICD-10-CM Principal Diagnosis Code* is not on Table 8.0, patient is not in the Outpatient Stroke Population. Patient is not eligible to be sampled for the OP-23 measure. Set the OP Population Reject Case Flag to Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

NQF-Endorsed Voluntary Consensus Standards for Hospital Care
Measure Information Form

Performance Measure Name: Head CT or MRI Scan Results for Acute Ischemic Stroke or Hemorrhagic Stroke Patients who Received Head CT or MRI Scan Interpretation Within 45 Minutes of ED Arrival

Measure ID #: OP-23

Measure Set: Hospital Outpatient Stroke

Outpatient Setting: Emergency Department

Description: Emergency Department Acute Ischemic Stroke or Hemorrhagic Stroke patients who arrive at the ED within 2 hours of the onset of symptoms who have a head CT or MRI scan performed during the stay and having a time from ED arrival to interpretation of the Head CT or MRI scan within 45 minutes of arrival.

Rationale: The Centers for Disease Control and Prevention (CDC) estimates that nearly 800,000 people experience a stroke in the United States each year; approximately 140,000 deaths annually are related to stroke (Yang et al., 2017). The American Health Association (AHA) and American Stroke Association (ASA) recommend performing emergency imaging of the brain before initiating any specific treatment for acute stroke; for most patients, a non-enhanced brain imaging scan, such as a computed tomography (CT) scan or magnetic resonance imaging (MRI), provides sufficient information to make care decisions (Powers et al., 2018; Jauch et al. 2013). Timely brain imaging is a critical component of ED evaluation for patients with suspected acute stroke because it provides important information about the diagnosis, prognosis, and treatment needs for these patients (Powers et al. 2018). AHA/ASA guidelines recommend that brain imaging be interpreted by a qualified provider within 45 minutes of ED arrival because results from these studies are critical to differentiate ischemic strokes, hemorrhagic strokes, and stroke mimics; imaging findings can be used to identify appropriate candidates for tissue plasminogen activator (tPA), which is the gold standard for treating acute ischemic stroke (Jauch et al. 2013). Because the Food and Drug Administration (FDA) has approved tPA for use within three hours of symptom onset, prompt imaging can accelerate administration of the time-sensitive therapy for eligible patients (Cheng et al. 2015).

Because of the therapeutic window for selecting a stroke treatment, timely completion and interpretation of the CT or MRI scan are imperative; playing a role in evaluating the quality of care a patient receives (Kamal, 2017). Decreasing radiology report turnaround times can improve care team coordination, impact ED length of stay, and reduce the time needed for providers to initiate potentially life-saving interventions for stroke patients (Handel, 2011).

Type of Measure: Process

Improvement Noted As: An increase in the rate.

Numerator Statement: Emergency Department Acute Ischemic Stroke or Hemorrhagic Stroke patients arriving at the ED within 2 hours of the *Time Last Known Well*, with an order for a head CT or MRI scan whose time from ED arrival to interpretation of the Head CT scan is within 45 minutes of arrival.

Included Populations: Not Applicable

Excluded Populations: None

Data Elements:

- *Arrival Time*
- *Head CT or MRI Scan Interpretation Date*
- *Head CT or MRI Scan Interpretation Time*
- *Outpatient Encounter Date*

Denominator Statement: Emergency Department Acute Ischemic Stroke or Hemorrhagic Stroke patients arriving at the ED within 2 hours of the *Time Last Known Well* with an order for a head CT or MRI scan.

Included Populations:

- Patients with an *ICD-10-CM Principal Diagnosis Code* for acute ischemic stroke, or hemorrhagic stroke as defined in Appendix A, OP Table 8.0; and
- Patients who had a *Head CT or MRI Scan Order*; and
- An *E/M Code* for emergency department encounter as defined in Appendix A, OP Table 1.0.

Excluded Populations:

- Patients less than 18 years of age.
- Patients who expired.
- Patients who left the emergency department against medical advice, discontinued care, or for whom *Discharge Code* is not documented or unable to be determined (UTD).

Data Elements:

- *Birthdate*
- *Date Last Known Well*
- *Discharge Code*
- *E/M Code*
- *Head CT or MRI Scan Order*
- *ICD-10-CM Principal Diagnosis Code*
- *Last Known Well*
- *Time Last Known Well*

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical record documents. Some hospitals may prefer to gather data concurrently by identifying patients in the population of interest. This approach provides opportunities for improvement at the point of care/service. However, complete documentation includes the principal or other ICD-10-CM diagnosis and procedure codes, which require retrospective data entry.

Data Accuracy: Variation may exist in the assignment of ICD-10-CM codes; therefore, coding practices may require evaluation to ensure consistency. There may be additional variation by provider, facility, and documentation protocol for chart-abstracted data elements.

Measure Analysis Suggestions: None

Sampling: Yes; for additional information see the Population and Sampling Specifications section.

Data Reported As: Aggregate rate generated from count data reported as a proportion.

Suggested References:

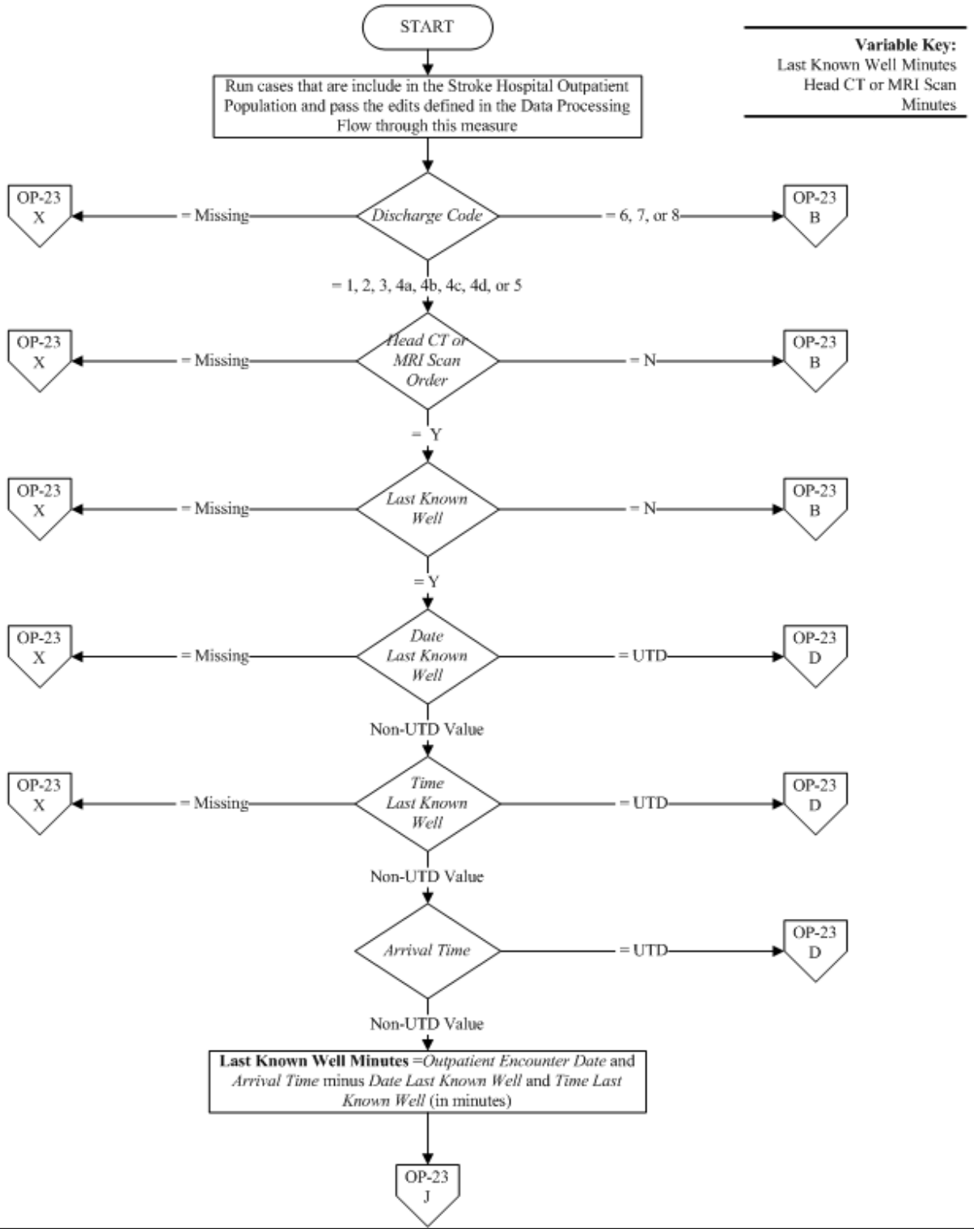
- Cheng NT, Kim AS. Intravenous Thrombolysis for Acute Ischemic Stroke Within 3 Hours Versus Between 3 and 4.5 Hours of Symptom Onset. Demaerschalk BM, ed. The Neurohospitalist, 2015;5(3):101-109.
- Jauch E.C., Saver J.L., Adams H.P. Jr, Bruno A., Connors J.J., Demaerschalk B.M., Khatri P., McMullan PW Jr, Qureshi AI, Rosenfield K, Scott PA, Summers DR, Wang DZ, Wintermark M, Yonas H; on behalf of the American Heart Association Stroke Council, Council on Cardiovascular Nursing, Council on Peripheral Vascular Disease, and Council on Clinical Cardiology. (2013). Guidelines for the early management of patients with acute ischemic stroke: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke, 44(3), 870-947

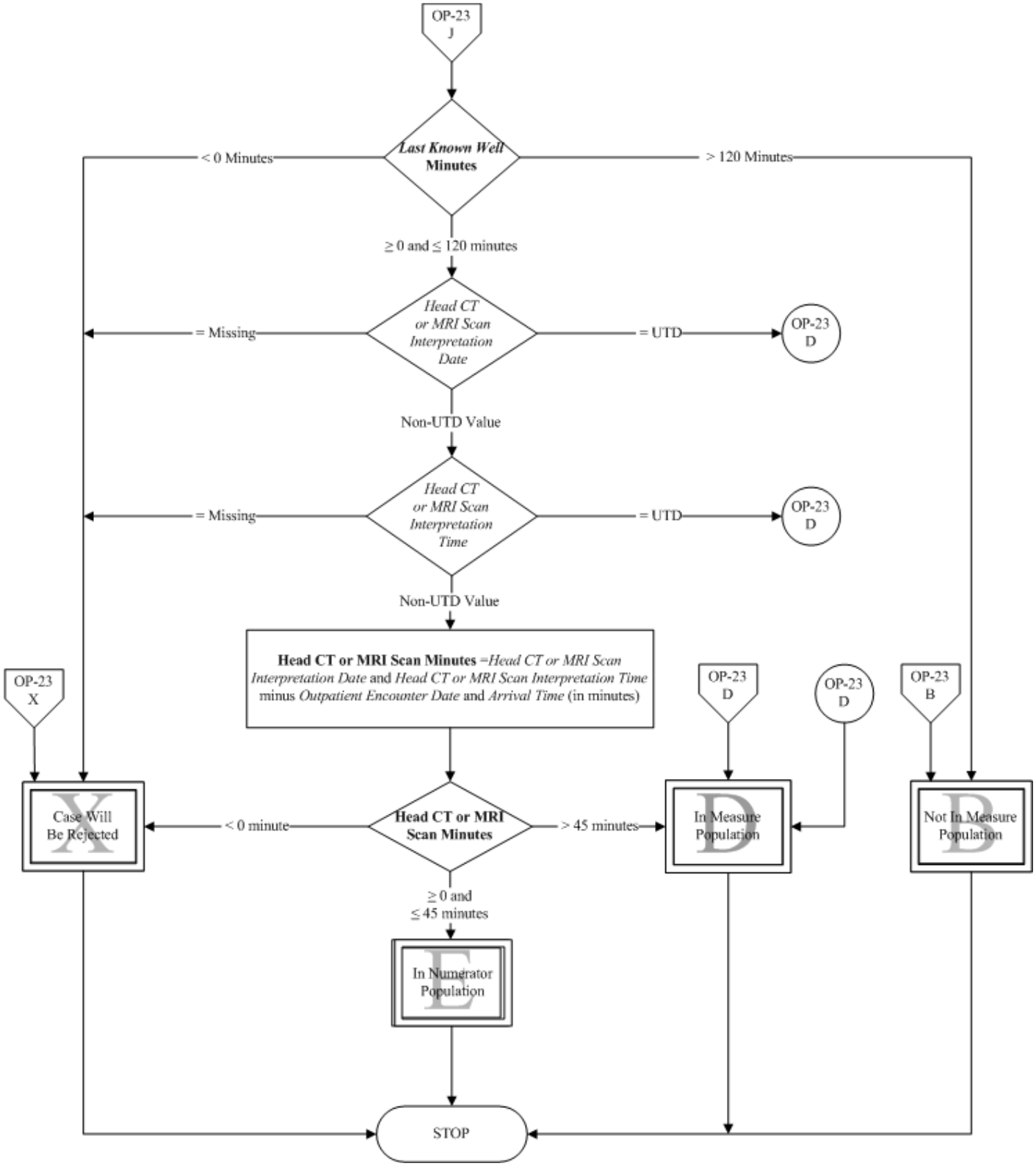
- Handel, D., Epstein, S., Khare, R., Abernethy, D., Klauer, K., Pilgrim, R., Soremekun, O. and O. Sayan. (2011). Interventions to Improve the Timeliness of Emergency Care. Academic Emergency Medicine, 18:1295-302.
- Kamal, N., S. Sheng, Y. Xian, R. Matsouaka, M. D. Hill, D. L. Bhatt, J. L. Saver, M. J. Reeves, G. C. Fonarow, L. H. Schwamm and E. E. Smith. (2017). Delays in Door-to-Needle Times and Their Impact on Treatment Time and Outcomes in Get With The Guidelines-Stroke. Stroke, 48(4), 946-954.
- Powers, W.J., Rabinstein, A.A., Ackerson, T., Adeoye, O. M., et al. (2018). American Heart Association/American Stroke Association.
- Powers, W. J., C. P. Derdeyn, J. Biller, C. S. Coffey, B. L. Hoh, E. C. Jauch, K. C. Johnston, S. C. Johnston, A. A. Khalessi, C. S. Kidwell, J. F. Meschia, B. Ovbiagele, and D. R. Yavagal. (2015). American Heart Association/American Stroke Association Focused Update of the 2013 Guidelines for the Early Management of Patients with Acute Ischemic Stroke Regarding Endovascular Treatment.

OP-23: Head CT or MRI Scan Results for Acute Ischemic Stroke or Hemorrhagic Stroke Patients who Received Head CT or MRI Scan Interpretation Within 45 Minutes of ED Arrival

Numerator: Emergency Department Acute Ischemic Stroke or Hemorrhagic Stroke patients arriving at the ED within 2 hours of the time last known well, with an order for a head CT or MRI scan whose time from ED arrival to interpretation of the Head CT scan is within 45 minutes of arrival.

Denominator: Emergency Department Acute Ischemic Stroke or Hemorrhagic Stroke patients arriving at the ED within 2 hours of the time last known well with an order for a head CT or MRI scan.





Algorithm Narrative for OP-23:
Head CT or MRI Scan Results for Acute Ischemic Stroke or Hemorrhagic Stroke Patients who Received Head CT or MRI Scan Interpretation Within 45 minutes of ED Arrival

Numerator Statement: Emergency Department Acute Ischemic Stroke or Hemorrhagic Stroke patients who arrive at the ED within 2 hours of the onset of symptoms who have a head CT or MRI scan performed during the stay and having a time from ED arrival to interpretation of the Head CT or MRI scan within 45 minutes of arrival.

Denominator Statement: Emergency Department Acute Ischemic Stroke or Hemorrhagic Stroke patients arriving at the ED within 2 hours of the *Time Last Known Well* with an order for a head CT or MRI scan.

1. Start processing. Run cases that are included in the Stroke Hospital Outpatient Population and pass the edits defined in the Data Processing Flow through this measure.

2. Check *Discharge Code*.
   a. If *Discharge Code* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Discharge Code* equals 6, 7, or 8, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *Discharge Code* equals 1, 2, 3, 4a, 4b, 4c, 4d, or 5, continue processing and proceed to *Head CT or MRI Scan Order*.

3. Check *Head CT or MRI Scan Order*.
   a. If *Head CT or MRI Scan Order* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Head CT or MRI Scan Order* equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *Head CT or MRI Scan Order* equals Yes, continue processing and proceed to *Last Known Well*.

4. Check *Last Known Well*.
   a. If *Last Known Well* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Last Known Well* equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *Last Known Well* equals Yes, continue processing and proceed to *Date Last Known Well*.

5. Check *Date Last Known Well*.
   a. If *Date Last Known Well* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Date Last Known Well* equals UTD, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

c. If *Date Last Known Well* equals a Non-UTD Value, continue processing and proceed to *Time Last Known Well.*

6. Check *Time Last Known Well*.
   a. If *Time Last Known Well* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Time Last Known Well* equals UTD, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   c. If *Time Last Known Well* equals a Non-UTD Value, continue processing and proceed to *Arrival Time*.

7. Check *Arrival Time*.
   a. If *Arrival Time* equals UTD, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If *Arrival Time* equals a Non-UTD Value, continue processing and proceed to Measurement Value.

8. Calculate Measurement Value. Measurement Value, in minutes, is equal to the *Outpatient Encounter Date* and *Arrival Time* minus *Date Last Known Well* and *Time Last Known Well*.

9. Check Measurement Value.
   a. If the Measurement Value is greater than 120 minutes, the case will proceed to a Measurement Category Assignment of B and will not be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
   b. If the Measurement Value is greater than or equal to zero and less than or equal to 120 minutes, continue processing and proceed to *Head CT or MRI Scan Interpretation Date*.
   c. If the Measurement Value is less than zero minutes, the case will proceed to a Measurement Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

10. Check *Head CT or MRI Scan Interpretation Date*.
    a. If *Head CT or MRI Scan Interpretation Date* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If *Head CT or MRI Scan Interpretation Date* equals UTD, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    c. If *Head CT or MRI Scan Interpretation Date* equals a Non-UTD Value, continue processing and proceed to *Head CT or MRI Scan Interpretation Time*.

11. Check *Head CT or MRI Scan Interpretation Time*.
    a. If *Head CT or MRI Scan Interpretation Time* is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If *Head CT Scan Interpretation Time* equals UTD, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

c. If *Head CT Scan Interpretation Time* equals a Non-UTD Value, continue processing and proceed to Measurement Value.

12. Calculate Measurement Value. Measurement Value, in minutes, is equal to the *Head CT or MRI Scan Interpretation Date* and *Head CT or MRI Scan Interpretation Time* minus *Outpatient Encounter Date* and *Arrival Time*.

13. Check Measurement Value.
    a. If the Measurement Value is greater than 45 minutes, the case will proceed to a Measurement Category Assignment of D and will be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If the Measurement Value is greater than or equal to zero and less than or equal to 45 minutes, the case will proceed to a Measure Category Assignment of E and will be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    c. If the Measurement Value is less than zero minutes, the case will proceed to a Measure Category Assignment of X and will be rejected. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

Measure Information Form

Performance Measure Name: MRI Lumbar Spine for Low Back Pain

Measure ID #: OP-8

Measure Set: Imaging Efficiency Measures

Description: This measure calculates the percentage of MRI (Magnetic Resonance Imaging) of the Lumbar Spine studies with a diagnosis of low back pain on the imaging claim and for which the patient did not have prior claims-based evidence of antecedent conservative therapy.

Antecedent conservative therapy may include (see subsequent details for codes):

1. Claim(s) for physical therapy in the 60 days preceding the Lumbar Spine MRI.
2. Claim(s) for chiropractic evaluation and manipulative treatment in the 60 days preceding the Lumbar Spine MRI.
3. Claim(s) for evaluation and management in the period > 28 days and < 60 days preceding the Lumbar Spine MRI.

Detailed specifications for the measures, including measure implementation information, can be found via the following link:
http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1228695266120

Measure Information Form

Performance Measure Name: Abdomen CT – Use of Contrast Material

Measure ID #: OP-10

Measure Set: Imaging Efficiency Measures

Description: This measure calculates the percentage of abdomen studies that are performed with and without contrast out of all abdomen studies performed (those with contrast, those without contrast, and those with both). The measure is calculated based on a one-year window of claims data.

Technical Note: To reflect changes made to the CPT coding system, codes for combined abdomen/pelvis studies have been added to those contained within the numerator and denominator, beginning in July 2013, for claims data from 2011 and beyond.

Detailed specifications for the measure, including measure implementation information, can be found via the following link:
http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1228695266120

Measure Information Form

Performance Measure Name: Cardiac Imaging for Preoperative Risk Assessment for Non-Cardiac Low-Risk Surgery

Measure ID #: OP-13

Measure Set: Imaging Efficiency Measures

Description: This measure calculates the percentage of Stress Echocardiography, Single Photon Emission Computed Tomography, Myocardial Perfusion Imaging (SPECT MPI), Cardiac Computed Tomography Angiography (CCTA), or Stress Magnetic Resonance Imaging (MRI) studies performed at a hospital outpatient facility in the 30 days prior to an ambulatory low-risk, non-cardiac surgery performed anywhere.

Detailed specifications for the measures, including measure implementation information, can be found via the following link: http://qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1228695266120.

Measure Information Form

Performance Measure Name: Appropriate Follow-up Interval for Normal Colonoscopy in Average Risk Patients

Measure ID #: OP-29

Measure Set: Measures submitted via a web-based tool

Description: Percentage of patients aged 50 to 75 years of age receiving a screening colonoscopy without biopsy or polypectomy who had a recommended follow-up interval of at least 10 years for repeat colonoscopy documented in their colonoscopy report.

Numerator Statement: Patients who had a recommended follow-up interval of at least 10 years for repeat colonoscopy documented in their colonoscopy report.

Denominator Statement: All patients aged 50 to 75 years of age receiving screening colonoscopy without biopsy or polypectomy.

Denominator Criteria (Eligible Cases):
Patients aged ≥ 50 and ≤ 75 on date of encounter
and
ICD-10-CM Diagnosis code: Z12.11
and
CPT or HCPCS: 44388, 45378, G0121
without
CPT Category I Modifiers: 52, 53, 73, 74
without
ICD-10-CM Diagnosis codes: Z83.71, Z86.010, Z80.0, Z85.038

Denominator Exclusions:

- Documentation of medical reason(s) for not recommending at least a 10-year follow-up interval (e.g. inadequate prep, familial or personal history of colonic polyps, patient had no adenoma and age is ≥66 years old, or life expectancy is <10years, other medical reasons). Medical reason(s) are at the discretion of the physician. Documentation indicating no follow-up colonoscopy is needed or recommended is only acceptable if the patient's age is documented as ≥66 years old, or life expectancy <10 years. Documentation of a medical condition or finding can be used as a medical reason(s) for denominator exclusion purposes only if the documented recommended follow-up interval is less than 10 years.
  Examples:
  - Diverticulitis documented in the medical record and a follow-up interval of 5 years in the colonoscopy report.
  - Family history of colon cancer and a follow-up interval of 3 years documented in the colonoscopy report.
  - Less than adequate prep documented in the medical record with a repeat colonoscopy in 3 years in the colonoscopy report.

Annual data submission period: See the timeline posted to QualityNet.org for this measure; select Hospitals-Outpatient and then Data Submission in the drop-down menu. Data entry will be achieved through the secure side of QualityNet.org via an online tool available to authorized users.

Additional instructions: Patients will be counted in the numerator if there is reference in the final colonoscopy report that the appropriate follow-up interval for the repeat colonoscopy is at least 10 years from the date of the current colonoscopy (i.e., the colonoscopy performed during the measurement period). A range that includes "10 years" (e.g., 7 to 10 years) is not acceptable.

Measure Information Form

Performance Measure Name: Cataracts – Improvement in Patient's Visual Function within 90 Days Following Cataract Surgery

Measure ID #: OP-31*

Measure Set: Measures submitted via a web-based tool

Description: Percentage of patients aged 18 years and older who had cataract surgery and had improvement in visual function achieved within 90 days following the cataract surgery, based on completing a pre-operative and post-operative visual function survey.

Numerator Statement: Patients 18 years and older who had improvement in visual function achieved within 90 days following cataract surgery, based on completing **both** a pre-operative and post-operative visual function survey.

Denominator Statement: All patients aged 18 years and older who had cataract surgery and completed **both** a pre-operative and post-operative visual function survey.

Denominator Criteria (Eligible Cases):
Patients aged ≥ 18 years
and
CPT (with or without modifiers): 66840, 66850, 66852, 66920, 66930, 66940, 66982, 66983, 66984

Excluded Populations: Patients who did not complete both a pre-operative and post-operative survey.

Annual data submission period: See the timeline posted to QualityNet.org for this measure; select Hospitals-Outpatient and then Data Submission in the drop-down menu. Data entry will be achieved through the secure side of QualityNet.org via an online tool available to authorized users.

Data Collection Approach: Include procedures performed from the beginning of the reporting year through 90 days prior to the end of the reporting period. This will allow the post-operative period to occur.

Definition for Survey: The data collection instrument is specified as an assessment tool that has been appropriately validated for the population for which it is being used. The surveys can be completed by phone, mail, email, or during physician follow-up. The same data collection instrument used pre-operatively must be used post-operatively.

Examples of tools for visual function assessment include, but are not limited to: National Eye Institute Visual Function Questionnaire (VFQ- http://www.rand.org/health/surveys_tools/vfq.html), the Visual Function (VF)-14, the modified VF-8, the Activities of Daily Vision Scale (ADVS), the Catquest, and the modified Catquest-9. For each of the VF tools (VF-14 or VF-8R), all questions have equal weight, only non-missing questions are included, and the total weight is 100.

Definition of Performance Met: Improvement in visual function achieved within 90 days following cataract surgery (G0913).

Definition of Performance Not Met: Improvement in visual function not achieved within 90 days following cataract surgery (G0915).

Denominator Exception: Patient care survey was not completed by patient (G0914).

*Finalized in the CY 2015 OPPS/ASC final rule, hospitals have the option to voluntarily collect and submit data for OP-31 for the CY 2017 payment determination and subsequent years. All data submitted voluntarily will be publicly reported as discussed in the CY 2014 OPPS/ASC proposed rule (78 FR 43645) and final rule with comment period (78 FR 75092).

Measure Information Form

Performance Measure Name: External Beam Radiotherapy for Bone Metastases

Measure ID #: OP-33

Measure Set: Measures submitted via a web-based tool

Description: Percentage of patients, regardless of age, with a diagnosis of bone metastases and no history of previous radiation to the same anatomic sitewho receive external beam radiation therapy (EBRT) with an acceptable fractionation scheme.

Numerator Statement: All patients, regardless of age, with bone metastases, and no previous radiation to the same anatomic site who receive EBRT for the treatment of bone metastases with any of the following recommended fractionation schemes: 30Gy/10fxns, 24Gy/6fxns, 20Gy/5fxns, and 8Gy/1fxn. The data for the numerator may be found in the consultation and office visit notes, outpatient treatment center record, and problem/diagnosis list.

Denominator Statement: All patients with bone metastases and no previous radiation to the same anatomic site who receive EBRT for the treatment of bone metastases. The data for the denominator may be found in the consultation and office visit notes, outpatient treatment center record, and other-treatment summaries.

Denominator Criteria (Eligible Cases):
All patients, regardless of age
AND
Bone metastases diagnosis (ICD-10-CM): C79.51, C79.52
AND
CPT® Codes: 77402, 77407, 77412

Denominator Exclusions:
Documentation of medical reason(s) including:

- Patients with a diagnosis of multiple myeloma (ICD-10-CM codes C90.00-C90.02).
- The EBRT is used to treat anything other than bone metastases.
- Previous radiation treatment to the same anatomic site (i.e., retreatment).
- Patients who are part of a prospective clinical protocol or registry study involving the administration of radiation therapy, especially stereotactic radiosurgery (SRS) or stereotactic body radiation therapy (SBRT).
- Patients with femoral axis cortical involvement greater than 3 cm in length if the current EBRT is to that femur.
- Patients who have undergone a surgical stabilization procedure if at the site of the current EBRT treatment.
- Patients with spinal cord compression, cauda equina compression, or radicular pain documented in the chart as related to the bone metastases being treated with EBRT.
- Documentation of patient reason(s) including:
    - Patient declines treatment
    - Economic, social, or religious reasons

Data Source/Data Collection Instrument: The data sources for this measure include radiation oncologist consultation note, physician office progress note, radiation flow sheet, and radiology report. Data from Cancer Registry are not applicable.

Annual data submission period: See the timeline posted to QualityNet.org for this measure; select Hospitals-Outpatient and then Data Submission in the drop-down menu. Data entry will be achieved through the secure side of QualityNet.org via an online tool available to authorized users. Facilities that do not perform EBRT should report “zero” in the numerator and denominator.

Additional Instructions:

- All encounters that result from a single treatment plan should be considered one case with the case being attributed to the first date of administration of EBRT.
- Consider the administration of EBRT to different anatomic sites as separate cases.
- If any portion of the EBRT treatment course is billed as part of the outpatient bill, the case should be included.

Centers for Medicare & Medicaid Services (CMS)
Facility 7-Day Risk-Standardized Hospital Visit Rate after Outpatient Colonoscopy

Introduction

This section of the manual includes the Measure Information Form (MIF) for the CMS Facility 7-Day Risk-Standardized Hospital Visit Rate after Outpatient Colonoscopy measure. This is an administrative claims-based measure, so there is no data abstraction responsibility on the part of the facility. The measure includes outpatient colonoscopies performed among Medicare Fee-for-Service (FFS) beneficiaries aged ≥ 65 years.

CMS will use the measure results in the Hospital Outpatient Quality Reporting (OQR) Program for payment determination in calendar year 2022. Beginning with payment determination year 2020, CMS will calculate the measure with three years of claims data. For payment determination year 2022, the performance period is January2018 through December 2020.

This measure was developed by a team of clinical and statistical experts from the Yale New Haven Health Services Corporation/Center for Outcomes Research and Evaluation (YNHHSC/CORE), under contract to CMS. The measure is currently endorsed by the National Quality Forum (NQF #2539).

The aim of the MIF is to provide transparency of the measure methodology to the facility and vendor communities. Additional background information about the measure methodology can be found in the Measure Updates and Specifications Report available on the Measure Methodology *QualityNet* page (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228775197506). CMS provides a new report each year to align with the most current calendar year. For example, the 2018 Measure Updates and Specifications Report will align with a performance period ending in calendar year 2018. If the re-evaluation report associated with the performance period of this MIF is not yet available, it is sufficient to use the most recent report. Please submit questions about the measure to the *QualityNet* Question and Answer Tool here: https://cms-ocsq.custhelp.com/.

CMS calculates a facility-level risk-standardized unplanned hospital visit rate for all eligible facilities. Facilities and their ORYX® Vendors do not have sufficient data to produce facilities' risk-standardized results. CMS uses inpatient and outpatient claims data to determine whether a beneficiary has had an unplanned hospital visit to any acute care hospital within 7 days of the outpatient colonoscopy. In addition, CMS extracts and utilizes physician office, inpatient, and outpatient claims data from the year prior to the colonoscopy, as well as claims data from the colonoscopy, to risk adjust the facility-level outcome rates.

Measure Information Form (MIF)

Performance Measure Name: Facility 7-Day Risk-Standardized Hospital Visit Rate after Outpatient Colonoscopy

Measure ID #: OP-32

Measure Set: CMS Outcome Measures (Claims-Based)

Description: The Facility 7-Day Risk-Standardized Hospital Visit Rate after Outpatient Colonoscopy Measure, hereafter referred to as the colonoscopy measure, estimates a facility-level rate of risk-standardized, all-cause, unplanned hospital visits within 7 days of an outpatient colonoscopy among Medicare fee-for-service (FFS) patients aged 65 years and older.

Rationale: The colonoscopy measure will reduce adverse patient outcomes associated with preparation for colonoscopy, the procedure itself, and follow-up care by capturing and making more visible to providers and patients all unplanned hospital visits following the procedure. The measure score will assess quality and inform quality improvement.

Type of Measure: Outcome

Improvement Noted As: A decrease in the facility-level risk-standardized unplanned hospital visit rate. Lower rate indicates better quality.

Numerator Statement:
This outcome measure does not have a traditional numerator and denominator like a core process measure (e.g., percentage of adult patients with diabetes aged 18-75 years receiving one or more hemoglobin A1c tests per year); thus, we are using this field to define the outcome. The calculation of the rate is defined below under the Measure Calculation section below.

The outcome for this measure is all-cause, unplanned hospital visits within 7 days of an outpatient colonoscopy. The measure defines a hospital visit as any emergency department (ED) visit, observation stay, or unplanned inpatient admission.

Denominator Statement:
The target population for this measure includes low-risk colonoscopies performed in the outpatient setting for Medicare FFS patients aged 65 years and older. For implementation in the Outpatient Quality Reporting (OQR) Program, the measure will be calculated among hospital outpatient departments (HOPDs).

Included Populations:
Outpatient colonoscopies for Medicare FFS patients aged 65 years and older. Medicare FFS beneficiaries with an outpatient colonoscopy are included if the patient has been enrolled in Part A and Part B Medicare for the 12 months prior to the date of procedure to ensure a full year of administrative data for risk adjustment.

The measure is focused on low-risk colonoscopies. Cohort codes are located in the data dictionary that accompanies the Measure Updates and Specifications Report, available on the Measure Methodology *QualityNet* page (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228775197506). (Note that in prior years, all measure codes are located within the Measure Updates and Specifications Reports.)

The measure does not include colonoscopy Current Procedural Terminology (CPT®) procedure codes that reflect fundamentally higher-risk or different procedures. Qualifying colonoscopies billed with a concurrent high-risk colonoscopy procedure code are not included in the measure; the data dictionary that accompanies the most recent Measure Updates and Specifications Report at the link above contains the complete listing of all high-risk procedure codes.

Cohort exclusions (excluded colonoscopies):
See the Measure Updates and Specifications Report available on the Measure Methodology *QualityNet* page for detailed measure cohort exclusion criteria (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228775197506). The accompanying data dictionary file to the report contains current exclusion codes.

Admissions not counted in the outcome ("Planned admissions"):
Admissions identified as planned by the planned admission algorithm are not counted in the outcome. The "algorithm" is a set of criteria for classifying admissions as planned using Medicare claims. The algorithm identifies admissions that are typically planned and may occur within 7 days of an outpatient colonoscopy. CMS based the planned admission algorithm on three principles:

1. A few specific, limited types of care are always considered planned (transplant surgery, maintenance chemotherapy, rehabilitation);
2. Otherwise, a planned admission is defined as a non-acute admission for a scheduled procedure; and
3. Admissions for acute illness or for complications of care are never planned.

The planned admission algorithm uses a flowchart and four tables of procedures and conditions to operationalize these principles and to classify inpatient admissions as planned. ED visits and observation stays are never considered planned. The flowchart and tables are in the Measure Updates and Specifications Report available on the Measure Methodology *QualityNet* page (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228775197506).

Risk Adjustment:
The measure's approach to risk adjustment is tailored to, and appropriate for, a publicly reported outcome measure as articulated in published scientific guidelines (Krumholz et al., 2006; Normand et al., 2007).

The measure uses a two-level hierarchical logistic regression model to estimate facility-level risk-standardized hospital visit rates. This approach accounts for the clustering of patients within facilities and variation in sample size across facilities.

The risk-adjustment model has 15 patient-level variables (age, concomitant upper GI endoscopy, polypectomy during the procedure, and 12 comorbidity variables). The measure defines comorbidity variables using condition categories (CCs), which are clinically meaningful groupings of the many thousands of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis codes. Certain CCs are considered possible complications of care; therefore, the measure does not risk-adjust for them if they occur only at the time of the procedure. Therefore, only comorbidities that convey information about the patient at the time of the procedure or in the 12 months prior, and not complications that arose during the colonoscopy procedure are included in the risk adjustment. The Measure Updates and Specifications Report data dictionary contains complete definitions of risk factors and CCs that are considered possible complications of care and are not risk-adjusted for if they occur only at the time of the procedure.

Table 1: Patient-Level Risk-Adjustment Variables

Patient-level variables	Risk-adjusted variables
Demographics	Age (categorized; 65-69; 70-74; 75-79; 80-84; 85+)
Procedural factors	Concomitant Endoscopy Polypectomy during Procedure
Comorbidities	Congestive Heart Failure Ischemic Heart Disease Stroke/Transient Ischemic Attack (TIA) Chronic Lung Disease Metastatic Cancer Liver Disease Iron Deficiency Anemia Disorders of Fluid, Electrolyte, Acid-Base Pneumonia Psychiatric Disorders Drug and Alcohol Abuse/Dependence Arrhythmia Age Categorized x Arrhythmia Interaction

Note: The relationship between age and risk of a hospital visit within 7 days was modified by the presence or absence of a cardiac arrhythmia (p-value for interaction < 0.001). Therefore, we included an interaction term (age categorized x arrhythmia) in the final model.

Full details of the development of the risk-adjustment model for this measure are available at: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Measure-Methodology.html.

Data Collection Approach: Medicare administrative claims and enrollment data.

Data Accuracy: The administrative claims data used to calculate the measure are maintained by CMS' Office of Information Services. These data undergo additional quality assurance checks during measure development and maintenance.

Measure Analysis Suggestions: None

Sampling: No

Data Reported As: Facility-level 7-day risk-standardized unplanned hospital visit rate following outpatient colonoscopy.

Measure Calculation:
The measure estimates facility-level 7-day risk-standardized unplanned hospital visit rates using hierarchical logistic regression modeling (a form of hierarchical generalized linear modeling [HGLM]). In brief, the approach simultaneously models two levels (patient and facility) to account for the variance in patient outcomes within and between facilities. At the patient level, the model adjusts the log-odds of a hospital visit within 7 days of the procedure for age, procedural factors, and selected clinical covariates. At the facility level, it estimates the facility-specific intercepts as arising from a normal distribution. The facility-specific intercept represents the underlying risk of a hospital visit within 7 days after a colonoscopy at that facility while accounting for patient risk. The facility-specific intercepts also account for the clustering (non-

independence) of patients within the same facility. If there were no differences among facilities, the facility-specific intercepts would be identical across all facilities after adjusting for patient risk.

The statistical modeling approach is described fully in the original technical report: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Measure-Methodology.html.

Selected References:

- Krumholz HM, Brindis RG, Brush JE, et al. Standards for Statistical Models Used for Public Reporting of Health Outcomes: An American Heart Association Scientific Statement From the Quality of Care and Outcomes Research Interdisciplinary Writing Group: Cosponsored by the Council on Epidemiology and Prevention and the Stroke Council Endorsed by the American College of Cardiology Foundation. Circulation. 2006; 113 (3): 456-462.
- Normand S-LT, Shahian DM. Statistical and Clinical Aspects of Hospital Outcomes Profiling. Stat Sci. 2007; 22 (2): 206-226.

Centers for Medicare & Medicaid Services (CMS)
Admissions and Emergency Department (ED) Visits for Patients Receiving Outpatient Chemotherapy

Introduction

This section of the manual includes the Measure Information Form (MIF) for the CMS Admissions and Emergency Department (ED) Visits for Patients Receiving Outpatient Chemotherapy measure. This is an administrative claims-based measure, so there is no data abstraction responsibility on the part of the facility. The measure includes Medicare fee-for-service (FFS) patients aged 18 years and older at the start of the performance period with a diagnosis of any cancer (except leukemia), who received at least one outpatient chemotherapy treatment at the reporting hospital during the performance period.

CMS has finalized adoption of the measure into the Hospital Outpatient Quality Reporting (OQR) Program for payment determination beginning in calendar year 2020.

This measure was developed by a team of clinical and statistical experts from the Yale New Haven Health Services Corporation/Center for Outcomes Research and Evaluation (YNHHSC/CORE), under contract to CMS. The measure is currently undergoing initial endorsement review as part of the National Quality Forum's portfolio of cancer care measures.

The aim of the MIF is to provide transparency of the measure methodology to the facility and vendor communities. Additional background information about the measure methodology can be found in the Measure Updates and Specifications Report available on the Measure Methodology *QualityNet* page (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776192121). CMS provides a new report each year to align with the most current calendar year. For example, the 2018 Measure Updates and Specifications Report will align with a performance period of calendar year 2018. If the re-evaluation report associated with the performance period of this MIF is not yet available, it is sufficient to use the most recent report. Please submit questions about the measure to the *QualityNet* Question and Answer Tool here: https://cms-ocsq.custhelp.com/.

Measure Information Form (MIF)

Performance Measure Name: Admissions and Emergency Department (ED) Visits for Patients Receiving Outpatient Chemotherapy

Measure ID #: OP-35

Measure Set: CMS Outcome Measures (Claims-Based)

Description: The Admission and Emergency Department (ED) Visits for Patients Receiving Outpatient Chemotherapy Measure, hereafter referred to as the chemotherapy measure, estimates hospital-level, risk-adjusted rates of inpatient admissions or ED visits for cancer patients ≥18 years of age for at least one of the following diagnoses—anemia, dehydration, diarrhea, emesis, fever, nausea, neutropenia, pain, pneumonia, or sepsis—within 30 days of hospital-based outpatient chemotherapy treatment. Rates of admission and ED visits are calculated and reported separately.

Rationale: Chemotherapy treatment can have severe, predictable side effects, which, if inappropriately managed, can reduce patients' quality of life and increase healthcare utilization and costs. This measure aims to assess the care provided to cancer patients and encourage quality improvement efforts to reduce the number of potentially avoidable inpatient admissions and ED visits among cancer patients receiving chemotherapy in a hospital outpatient setting. Improved management of these potentially preventable clinical conditions that are frequent side effects of chemotherapy treatment—including anemia, dehydration, diarrhea, emesis, fever, nausea, neutropenia, pain, pneumonia, or sepsis—could reduce admissions and ED visits and increase patients' quality of care and quality of life. This measure encourages hospitals to use guidelines from the American Society of Clinical Oncology, National Comprehensive Cancer Network, Oncology Nursing Society, Infectious Diseases Society of America, and other professional societies to integrate and promote use of evidence-based interventions to prevent and treat common side effects and complications of chemotherapy.

Type of Measure: Outcome

Improvement Noted As: A decrease in the hospital-level risk-adjusted rates of inpatient admissions or ED visits. Lower rate indicates better quality.

Numerator Statement:
The chemotherapy measure is a risk-adjusted outcome measure and does not have a traditional numerator like a process measure; thus, we use this field to define the measured outcomes of interest as this measure separately reports hospital rates of two outcomes: inpatient admissions and ED visits. The outcomes for this measure are one or more inpatient admissions, and one or more ED visits without an inpatient admission, for one of the following diagnoses—anemia, dehydration, diarrhea, emesis, fever, nausea, neutropenia, pain, pneumonia, or sepsis—within 30 days of receiving hospital-based outpatient chemotherapy treatment for cancer. These 10 conditions are potentially preventable through appropriately managed outpatient care. The qualifying diagnosis on the inpatient admission or ED visit claim must be (1) the principal diagnosis or (2) a secondary diagnosis accompanied by a principal diagnosis of cancer.

Outcomes are identified separately for the inpatient admissions and ED visits categories; a patient can only qualify for an outcome in either category, but not both. Patients who experience both an inpatient admission and an ED visit during the performance period are counted towards the inpatient admission outcome. Among those with no qualifying inpatient admissions, qualifying ED visits will be counted. As a result, the rates can be viewed as an additive to provide a comprehensive performance estimate of quality of care following

hospital-based outpatient chemotherapy treatment. The rates are calculated separately because the severity and cost of an inpatient admission is different from that of an ED visit, and both adverse events are important signals of quality and represent important healthcare outcomes for patients. The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Internal Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes that identify these diagnoses are in the data dictionary available on the Measure Methodology *QualityNet* page (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776192121) on sheets "Numerator-Anemia," "Numerator-Dehydration," "Numerator-Diarrhea," "Numerator-Emesis," "Numerator-Fever," "Numerator-Nausea," "Numerator-Neutropenia," "Numerator-Pain," "Numerator-Pneumonia," and "Numerator-Sepsis." The ICD-9 codes were used during development and testing of the measure; the data dictionary also includes the mapping from these ICD-9 codes to ICD-10 codes.

Denominator Statement:
The chemotherapy measure cohort includes Medicare fee-for-service (FFS) patients, aged 18 years and older at the start of the performance period, with a diagnosis of any cancer (except leukemia), who received at least one outpatient chemotherapy treatment at the reporting hospital during the performance period.
The ICD-9 and ICD-10 codes that identify cancer diagnoses are in the measure data dictionary on sheet "Denominator-Cancer." The measure identifies chemotherapy treatment using ICD-9 and ICD-10 procedure and encounter codes, Current Procedural Terminology (CPT®)/Healthcare Common Procedure Coding System (HCPCS) procedure and medication procedure codes, and Uniform Billing-04 (UB-04) revenue center codes. The ICD-9, ICD-10, CPT®, HCPCS, and revenue center codes that identify chemotherapy treatment are in the measure data dictionary on the following tabs: "Denominator-Chemo Procedure," "Denominator-Chemo Encounter," and "Denominator-Chemo Medicine" (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776192121). The ICD-9 diagnosis and procedure codes were used during development and testing of this measure; the data dictionary also includes the mapping from these ICD-9 codes to ICD-10 codes.

Cohort exclusions:
See the Measure Updated and Specifications Report available on the Measure Methodology *QualityNet* page for detailed measure cohort exclusion criteria: (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776192121).

Risk Adjustment:
Since the measure has two mutually exclusive outcomes—qualifying inpatient admissions and qualifying ED visits—it has two risk-adjustment models, one for each dependent variable (inpatient admissions and ED visits). A two-level hierarchical logistic regression model is used to estimate risk-standardized outcome rates. This approach accounts for differences in patient mix, the clustering of patients within hospitals, and variation in sample size.

The measure adjusts for variables that are clinically relevant and associated with the outcome. It seeks to adjust for differences in patient demographics, clinical comorbidities, and treatment exposure which vary across patient populations and influence the outcome but do not relate to quality. Specifically, the risk-standardized model for inpatient admissions has 21 patient-level variables (age, sex, two exposure variables, nine comorbidity variables, and eight cancer categories). The risk-standardized model for ED visits has 16 patient-level variables (age, sex, two exposure variables, six comorbidity variables, and six cancer categories).

Table 1: Patient-Level Risk-Adjustment Variable

Category	Inpatient Admission Outcome	ED visit outcome
Demographics	Age (years above 18, continuous) Sex	Age (years above 18, continuous) Sex
Exposure	Number of hospital outpatient chemotherapy treatments during the performance period Whether the patient received concurrent radiotherapy and chemotherapy	Number of hospital outpatient chemotherapy treatments during the performance period Whether the patient received concurrent radiotherapy and chemotherapy
Cancer type	Breast cancer Digestive cancer Respiratory cancer Lymphoma Other cancer Prostate cancer Secondary cancer of the lymph nodes Secondary cancer of solid tumor	Breast cancer Digestive cancer Respiratory cancer Other cancer Secondary cancer of the lymph nodes Secondary cancer of solid tumor
Comorbidities	Respiratory disorder Renal disease Diabetes Other injuries Metabolic disorder Gastrointestinal disorder Psychiatric disorder Neurological condition Cardiovascular disease	Respiratory disorder Other injuries Gastrointestinal disorder Psychiatric disorder Neurological condition Cardiovascular disease

The Condition Categories (CCs) that define each of these comorbidities and the ICD-9 and ICD-10 codes that define the cancer categories are included in the data dictionary (Risk Model: Inpatient Admissions Outcome Model Definitions and Risk Model: Emergency Department Outcome Model Definitions). The comorbidities are based on version 22 of the CMS CC groups. Full Details of the development of the risk-standardization model for this measure are in the Measure Updates and Specifications Report available on the Measure Methodology *QualityNet* page (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776192121).

Data Collection Approach: Medicare administrative claims and enrollment data.

Data Accuracy: The administrative claims data used to calculate the measure are maintained by CMS' Office of Information Services. These data undergo additional quality assurance checks during measure development and maintenance.

Measure Analysis Suggestions: None

Sampling: No

Data Reported As: Facility-level, risk-standardized rate of inpatient admissions and ED visits for cancer patients within 30 days of hospital-based outpatient chemotherapy treatment.

Measure Calculation:
The measure calculates a hospital-specific risk-adjusted rate for each of the two outcomes. Each rate is calculated as the ratio of a hospital's "predicted" number of outcomes to "expected" number of outcomes multiplied by the national observed outcome rate. It estimates the expected number of outcomes for each hospital using the hospital's patient case mix and the average hospital-specific intercept (that is, the average intercept among all hospitals in the sample). The measure estimates the predicted number of outcomes for each hospital using the same patient case mix, but an estimated hospital-specific intercept. Operationally, the measure obtains the expected number of outcomes for each hospital by summing the expected probabilities of outcomes for all patients treated at the hospital. It calculates the expected probability of outcomes for each patient via the hierarchical model, which applies the estimated regression coefficients to the observed patient characteristics and adds the average of the hospital-specific intercept. It calculates the predicted number of outcomes for each hospital by summing the predicted probabilities for all patients in the hospital. The measure calculates the predicted probability for each patient through the hierarchical model, which applies the estimated regression coefficients to the observed patient characteristics and adds the hospital-specific intercept. If there were no differences among facilities, the facility-specific intercepts would be identical across all facilities after adjusting for patient risk.

If a hospital's ratio of predicted to expected outcomes are less than 1, it indicates that the hospital is performing better than expected given its case mix. If a hospital's ratio of predicted to expected outcomes is greater than 1, it indicates that the hospital is performing worse than expected given its case mix. For ease of interpretation, we transform this ratio to a rate by multiplying by the national observed rate for that outcome. If the "predicted" number of outcomes is higher (or lower) than the "expected" number of outcomes for a given hospital, the risk-adjusted rate will be higher (or lower) than the national observed admission rate.

The statistical modeling approach is fully described in the Measure Updates and Specifications Report available on the Measure Methodology *QualityNet* page (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776192121).

Centers for Medicare & Medicaid Services (CMS)
Hospital Visits after Outpatient Surgery Measure

Introduction

This section of the manual includes the Measure Information Form (MIF) for the CMS Hospital Visits after Hospital Outpatient Surgery measure. This is an administrative claims-based measure, so there is no data abstraction responsibility on the part of the facility. The measure includes Medicare FFS patients, aged 65 and older, with unplanned hospital visits following same-day surgery at hospital outpatient departments (HOPDs) during the performance period.

CMS has finalized adoption of the measure into the Hospital Outpatient Quality Reporting (OQR) Program for payment determination beginning in calendar year 2020.

This measure was developed by a team of clinical and statistical experts from the Yale New Haven Health Services Corporation/Center for Outcomes Research and Evaluation (YNHHSC/CORE), under contract to CMS. The measure is currently endorsed by the National Quality Forum (NQF #2687).

The aim of the MIF is to be transparent about the measure methodology for the facility and vendor communities. Additional background information about the measure methodology can be found in the Measure Updates and Specifications Report available on the Measure Methodology *QualityNet* page (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776203288). CMS provides a new report each year. For example, the 2018 Measure Updates and Specification Report will align with a performance period of calendar year 2018. If the re-evaluation report associated with the performance period of this MIF is not yet available, it is sufficient to use the most recent report. Please submit questions about the measure to the *QualityNet* Question and Answer Tool here: https://cms-ocsq.custhelp.com/.

CMS calculates a facility-level risk-standardized unplanned hospital visit ratio for all eligible facilities. Facilities and their ORYX® Vendors do not have sufficient data to produce facilities' risk-standardized results. CMS inpatient and outpatient claims data are used to determine whether a beneficiary has had an unplanned hospital visit to any acute care hospital within 7 days of the outpatient surgery. In addition, CMS extracts and utilizes physician office, inpatient, and outpatient claims data from the year prior to the surgery as well as claims data from the surgery to risk adjust the facility-level results.

Measure Information Form (MIF)

Performance Measure Name: Hospital Visits after Hospital Outpatient Surgery

Measure ID #: OP-36

Measure Set: CMS Outcome Measures (Claims-Based)

Description: Facility-level, post-surgical risk-standardized hospital visit ratio (RSHVR) of the predicted to expected number of all-cause, unplanned hospital visits within 7 days of a same-day surgery at a hospital outpatient department (HOPD) among Medicare fee-for-service (FFS) patients aged 65 years and older.

Rationale: Outpatient same-day surgery is exceedingly common in the United States. Unanticipated hospital visits following same-day surgery reflect quality of care. While most outpatient surgery is safe, there are well-described and potentially preventable adverse events that occur after outpatient surgery, which can result in unanticipated hospital visits. Similarly, direct admissions after surgery that are primarily caused by non-clinical patient considerations, such as lack of transport home upon discharge, or facility logistical issues, such as delayed start of surgery, are common causes of unanticipated yet preventable hospital admissions following same-day surgery. A quality measure of hospital visits following outpatient same-day surgery can improve transparency, inform patients and providers, and foster quality improvement.

Type of Measure: Outcome

Improvement Noted As: A decrease in the ratio of predicted-to-expected unplanned hospital visits. Lower score indicates better quality.

Numerator Statement:
The outcome is all-cause unplanned hospital visits, defined as 1) an inpatient admission directly following surgery or 2) an emergency department [ED] visit, observation stay, or unplanned inpatient admission occurring after discharge from the HOPD and within 7 days of the outpatient surgery.

Denominator Statement:
Eligible same-day surgeries or cystoscopy procedures with intervention performed at HOPDs for Medicare FFS patients aged 65 years and older with the exception of eye surgeries and same day surgeries performed concurrently with high-risk procedures.

Included Populations:
The target population is Medicare FFS patients aged 65 years and older undergoing same-day surgery (those that do not typically require an overnight stay) at HOPDs. The measure is limited to patients who have been enrolled in Medicare Part A and Part B in the 12 months prior to the date of surgery to ensure adequate data for identifying comorbidities for risk adjustment.

The measure includes surgeries for which a physician claim identifies a qualifying surgery as having been performed in an outpatient setting, and matches to a hospital facility claim to identify the HOPD where the surgery took place. For further information see the Cohort section of the Measure Updates and Specifications report available on the Measure Methodology *QualityNet* page (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776203288). Surgeries for which a facility claim is not filed are not included in the measure cohort.

"Same-day surgeries" are substantive surgeries listed on Medicare's list of covered ambulatory surgery center (ASC) procedures. Medicare developed this list to identify surgeries that can be safely performed as

same-day surgeries and do not typically require an overnight stay. Surgeries on the Medicare's list of covered ASC procedures do not involve or require major or prolonged invasion of body cavities, extensive blood loss, major blood vessels, or care that is either emergent or life-threatening. Although Medicare developed this list of surgeries for ASCs, this measure uses it for two reasons. First, it aligns with the target cohort of surgeries that have a low to moderate risk profile and are safe to be performed as same day surgeries. By only including surgeries on this list, the measure effectively does not include surgeries performed at hospitals that typically require an overnight stay which are more complex, higher risk surgeries. Second, this list of surgeries is annually reviewed and updated by Medicare, and includes a transparent public comment submission and review process for addition and/or removal of procedures codes. The lists are posted at https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ASCPayment/11_Addenda_Updates.html (refer to Addendum AA of the respective link).

The measure cohort does not include eye surgeries. Although eye surgery is considered a substantive surgery, its risk profile is more representative of "minor" surgery, in that it is characterized by high volume and a low outcome.

The measure includes cystoscopy procedures with intervention because it is a common procedure, often performed for therapeutic intervention by surgical teams, and the outcome rate and causes of hospital visits post-procedure similar to other surgeries in the measure cohort.

Where multiple procedures occur concurrently, the measure only includes surgeries that are performed concurrently with another low to moderate risk procedure. The measure does not include same-day surgeries performed concurrently with a higher risk procedure such as an inpatient-only surgery.

For further details on the included surgeries and measure cohort, see the Measure Updates and Specifications Report available on the Measure Methodology *QualityNet* page (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776203288).

Cohort exclusions:
See Appendix C: Measure Specification in the latest Measure Updates and Specifications Report available on the Measure Methodology *QualityNet* page for detailed measure cohort exclusion criteria (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776203288).

Admissions Not Counted in the Outcome ("Planned Admissions"):
Admissions identified as planned by the planned admission algorithm are not counted in the outcome. The "algorithm" is a set of criteria for classifying admissions as planned using Medicare claims. The algorithm identifies admissions that are typically planned and may occur within 7 days of an outpatient surgery. CMS based the planned admission algorithm on three principles:

1. A few specific, limited types of care are always considered planned (transplant surgery, maintenance chemotherapy, rehabilitation);
2. Otherwise, a planned admission is defined as a non-acute admission for a scheduled procedure; and
3. Admissions for acute illness or for complications of care are never planned.

The planned admission algorithm uses a flowchart and four tables of procedures and conditions to operationalize these principles and to classify inpatient admissions as planned. The measure considers admissions occurring on the day of the surgery (Day 0) and Day 1 post-surgery unplanned. For inpatient

admissions occurring after Day 1 following surgery, the measure only includes unplanned admissions in the measure outcome.

ED visits and observation stays are never considered planned. The flowchart and tables are available in the latest Measure Updates and Specifications Report (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776203288).

Risk Adjustment:
The measure approach to risk adjustment is tailored to, and appropriate for, a publicly reported outcome measure as articulated in published scientific guidelines [1, 2].

The measure uses a two-level hierarchical logistic regression model to estimate RSHVRs. This approach accounts for the clustering of patients within HOPDs and variation in sample size.

The risk-adjustment model has 25 patient-level variables, including age, clinical comorbidities, and indicators of surgical complexity.

The measure defines comorbidity variables using CMS Condition Categories (CCs), which are clinically meaningful groupings of many thousands of ICD-10-CM diagnosis codes. Certain CCs are considered possible complications of care and are not risk-adjusted for if they only occur at the surgery. See the data dictionary available on the Measure Methodology *QualityNet* page (http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776203288) for CCs that are considered possible complications of care and are not risk-adjusted for if they only occur at the surgery.

The measure risk adjusts for surgical procedural complexity using two variables. First, it adjusts for surgical procedural complexity using the Work Relative Value Unit (RVU) of the procedure. Work RVUs are assigned to each Current Procedural Terminology (CPT) code and approximate surgical procedural complexity by incorporating elements of physician time and effort. For patients with multiple concurrent CPT procedure codes, the measure risk adjusts for the CPT code with the highest Work RVU value. Second, it classifies each surgery into an anatomical body system group using the Agency for Healthcare Research and Quality (AHRQ) Clinical Classification System (CCS) [3]. The measure uses the body system variable, in addition to the Work RVU of the surgery, to account for organ-specific difference in risk and complications which are not adequately captured by the Work RVU alone. This approach to risk adjustment for surgical procedural complexity is similar to that described in the literature and used for risk adjustment in the American College of Surgeons' National Surgical Quality Improvement Program [4]. The coding list for the body systems is available at: https://www.hcup-us.ahrq.gov/tools_software.jsp.

Table 1: Patient-Level Risk-Adjustment Variables

Patient-level variables	Risk-adjusted variables
Demographics	Age (years greater than 65)
Comorbidities	Cancer Diabetes and DM complications Disorders of fluid/electrolyte/acid-base Intestinal obstruction perforation Inflammatory bowel disease Bone/joint/muscle infections/necrosis

	Hematological disorders including coagulation defects and iron deficiency Dementia or senility Psychiatric disorders Hemiplegia, paraplegia, paralysis, functional disability Other significant CNS disease Cardiorespiratory arrest, failure and respiratory dependence Congestive heart failure Ischemic heart disease Hypertension and hypertensive disease Arrhythmias Vascular disease Chronic lung disease UTI and other urinary tract disorders Pelvic inflammatory disease and other specified female genital disorders Chronic ulcers Cellulitis, local skin infection Prior significant fracture Morbid obesity
Procedural Complexity	Work RVU AHRQ surgery body system

For a detailed description of the development and refinement of the risk-adjustment model, see the Hospital Visits after Hospital Outpatient Surgery: 2016 Measure Updates and Specifications Report http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776203288.

Data Collection Approach: Medicare administrative claims and enrollment data.

Data Accuracy: The administrative claims data used to calculate the measure are maintained by CMS' Office of Information Services. These data undergo additional quality assurance checks during measure development and maintenance.

Measure Analysis Suggestions: None

Sampling: No

Data Reported As: Facility-level 7-day risk-standardized unplanned hospital visit ratio following outpatient surgery.

Measure Calculation:
To calculate a facility-specific, post-surgical risk-standardized hospital visit ratio (RSHVR) for outpatient surgery patients, the measure uses hierarchical logistic regression to model the log-odds of the outcome as a function of the patient demographic and clinical characteristics, surgical procedure, and a random facility-specific intercept. This strategy accounts for within-facility correlation of the observed outcome, and it accommodates the assumption that underlying differences in quality across HOPDs lead to systematic difference in outcomes. For fairness, the model adjusts for demographic and clinical characteristics and procedural variables that vary across patient populations, are unrelated to quality, and influence the outcome in order to help ensure differences in the measure score do not reflect differences in case mix and surgical procedure mix across HOPDs. If there were no differences among facilities, the facility-specific intercepts would be identical across all facilities after adjusting for patient risk. The statistical approach to calculating]

[RSHVR is described in Appendix A of the 2018 Measure Updates and Specification Report and Appendix D of the 2016 Measure Updates and Specifications Report: http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228776203288).

Selected References:

1. Krumholz HM, Brindis RG, Brush JE, et al. Standards for Statistical Models Used for Public Reporting of Health Outcomes: An American Heart Association Scientific Statement From the Quality of Care and Outcomes Research Interdisciplinary Writing Group: Cosponsored by the Council on Epidemiology and Prevention and the Stroke Council Endorsed by the American College of Cardiology Foundation. Circulation. 2006; 113 (3): 456-462.
2. Normand S-LT, Shahian DM. Statistical and Clinical Aspects of Hospital Outcomes Profiling. Stat Sci. 2007; 22 (2): 206-226.
3. HCUP Clinical Classifications Software for Services and Procedures. Healthcare Cost and Utilization Project (HCUP). 2008. Agency for Healthcare Research and Quality, Rockville, MD http://www.hcup-us.ahrq.gov/toolssoftware/ccs_svcsproc/ccssvcproc.jsp, 2014.
4. Raval MV, Cohen ME, Ingraham AM, et al. Improving American College of Surgeons National Surgical Quality Improvement Program risk adjustment: incorporation of a novel procedure risk score. Journal of the American College of Surgeons. Dec 2010; 211(6): 715-723.

Data Dictionary

Introduction:
This section of the manual describes the data elements required to calculate category assignments and measurements for the Hospital Outpatient measures. It includes information necessary for defining and formatting the data elements, as well as the allowable values for each data element. This information is intended to assist in processing patient-level data elements for Hospital Outpatient measures.

It is of primary importance that all hospitals using Hospital Outpatient measures gather and utilize the data elements as defined in this section. This will ensure that the data are standardized and comparable across hospitals.

Regardless of which measures are selected by a hospital, certain general data elements must be collected and submitted for **every** patient that falls into **any** of the selected outpatient populations. These data elements are considered "general" to each outpatient encounter.

These data elements include:

- *Arrival Time*
- *Birthdate*
- *CMS Certification Number* ‡, †
- *Hispanic Ethnicity*
- *Outpatient Encounter Date*
- *Patient Identifier*
- *Payment Source*
- *Postal Code*
- *Race*
- *Sex*

‡ Transmission Data Element.

† Defined in the Transmission Data Element List within the Hospital Outpatient Quality Measure Data Transmission section of this manual.

ǂ Collected by CMS for patients with a Payment Source of Medicare who have a standard HIC number

Interpretation of Data Dictionary Terms:
Data elements fall into three broad categories in order to support specific measures. They include:

- ***General Data Elements*** – Data elements that must be collected by hospitals for each patient record.
  - Data elements required for each hospital outpatient encounter record submitted.
  - Data elements used to identify the hospital on each patient record required for each patient-level record submitted.
  - Patient demographic data required for each hospital outpatient encounter record submitted.
- ***Measure-Specific Data Elements*** – Data elements used by one specific measure or outpatient measure set, such as the ED-Throughput outpatient measure set.
- ***Optional Data Elements*** – Data elements collected to capture information that might be helpful for internal analysis.

Data Dictionary Terms

Data Element Name:	A short phrase identifying the data element.
Collected For:	Identifies the measure(s) that utilize this data element or specifies that the data element is used for data transmission or verification.
Definition:	A detailed explanation of the data element.
Suggested Data Collection Question:	A suggested wording for a data element question in a data abstraction tool.
Format:	Length = number of characters or digits allowed for the data element Type = type of information the data element contains (i.e., numeric, alphanumeric, date, decimal, or time) Occurs = the number of times the data element occurs in a single encounter record
Allowable Values:	A list of acceptable responses for this data element.
Notes for Abstraction:	Provided to assist abstractors in the selection of an appropriate value for a data element.
Suggested Data Sources:	Source document from which data can be identified such as an administrative or medical record. Some data elements also list excluded data sources that are unacceptable sources for collecting information.
Guidelines for Abstraction:	Designed to assist abstractors in determining how a data element should be answered.

General Abstraction Guidelines

The General Abstraction Guidelines are a resource designed to assist abstractors in determining how an abstraction question should be answered. The abstractor should first refer to the specific notes and guidelines under each data element as these instructions should take precedence over the following General Abstraction Guidelines. All of the allowable values for a given data element are outlined, and notes and guidelines are often included in each data element's notes and guidelines which provide the necessary direction for abstracting a data element. Thus, it is important to utilize the information found in the notes and guidelines when entering or selecting the most appropriate answer.

Medical Record Documentation

The intent of abstraction is to use only documentation that was part of the medical record during the hospitalization (is present upon discharge) and that is present at the time of abstraction. There are instances where an addendum or late entry is added after discharge. This late entry or addendum can be used for abstraction purposes as long as it has been added within 30 days of discharge [Refer to the Medicare Conditions of Participation for Medical Records, 42CFR482.24(c)(4)(viii)], unless otherwise specified in the data element. Documents containing amendments, corrections, or delayed entries must employ the following widely accepted recordkeeping principles (CMS "Medicare Program Integrity Manual" Chapter 3, Section 3.3.2.4):

- Clearly and permanently identify any amendments, corrections, or addenda;
- Clearly indicate the date and author of any amendments, corrections, or addenda; and
- Clearly identify all original content.

It is not the intent to have documentation added at the time of abstraction to ensure the passing of a measure.

Important Note: Data element specific notes and guidelines always take precedence over the General Abstraction Guidelines.

Per the Medicare Conditions of Participation, all documentation in the medical record must be legible and must be timed, dated, and authenticated [42CFR482.24(c) (1)]. However, documentation that is not timed, dated, or authenticated may still be used for abstraction if not required by the specific data element. When abstracting a medical record, if a handwritten document is determined to be not legible, other documentation should be reviewed in an attempt to obtain the answer. If no other source document is able to verify the handwritten documentation, only then is the abstractor to answer unable to determine from the medical record documentation, unless otherwise specified in the data element. Authentication may include written signatures, initials, computer key, or other codes.

Data element information should be retrieved from the current medical record, covering the encounter date being abstracted. Information ascertainable from previous testing or previous history **and** determined to be part of the current medical record may be used in abstraction. Previous testing or history information used in abstraction should be information that was part of the medical record during the encounter when care was being delivered. As electronic data are available at all times during the hospitalization, it is acceptable to use these data for abstraction purposes.

The medical record must be abstracted as documented (i.e., taken at "face value"). When the value documented is obviously in error (not a valid format/range or outside of the parameters for the data element) **and** no other documentation is found that provides this information, the abstractor should select "UTD."

Suggested Data Sources

- Suggested Data Sources are listed in alphabetical order, **not** priority order, unless otherwise specified. Suggested Data Sources are designed to provide guidance to the abstractor as to the locations/sources where the information needed to abstract a data element will likely be found. However, the abstractor is not limited to these sources for abstracting the information and is encouraged to review the entire medical record.
- In some instances, a data element may restrict the sources that may be used to gain the information, list a priority in which the sources should be used, or may restrict documentation by only physician/advanced practice nurse/physician assistant. If so, these sources will be identified and labeled as Excluded Data Sources, Only Acceptable Sources, Priority Source, or Physician/APN/PA Documentation Only.
- In the course of abstraction, if conflicting information is found in a source other than the Suggested Data Sources and use of this source is not restricted, consider using this information if it more accurately answers the question, unless otherwise specified.
- If, after due diligence, the abstractor determines that a value is not documented, or the abstractor is not able to determine the answer value, the abstractor must select UTD as the answer.
- Hospitals often label forms and reports with unique names or titles. Suggested Data Sources are listed by commonly used titles; however, information may be abstracted from any source that is equivalent to those listed.

Inclusions/Exclusions

- Inclusions are acceptable terms that should be abstracted as positive findings (e.g., Yes).
- Inclusion lists are limited to those terms that are believed to be most commonly used in medical record documentation. The list of inclusions should not be considered all-inclusive, unless otherwise specified in the data element.
- Exclusions are unacceptable terms that should be abstracted as negative findings (e.g., No).
- Exclusion lists are limited to those terms an abstractor may most frequently question whether or not to abstract as a positive finding for a particular element. The list of exclusions should not be considered all-inclusive, unless otherwise specified in the data element.
- When both an inclusion and exclusion are documented in a medical record, the inclusion takes precedence over the exclusion and would be abstracted as a positive finding (e.g., answer Yes), unless otherwise specified.

Physician/Advanced Practice Nurse/Physician Assistant Documentation

- Advanced Practice Nurse (APN, APRN) titles may vary between state and clinical specialties. Some common titles that represent the advanced practice nurse role are:
    - Nurse Practitioner (NP)
    - Certified Registered Nurse Anesthetist (CRNA)
    - Clinical Nurse Specialist (CNS)
    - Certified Nurse Midwife (CNM)
- When a physician/advanced practice nurse/physician assistant (physician/APN/PA) signs a form or report (e.g., ED sheet with triage and nursing information and a physician/APN/PA has signed somewhere on the form), information on that form/report should be considered physician/APN/PA documentation. Rubber-stamped physician/APN/PA signatures are not acceptable on any document within the medical record. Handwritten, electronic signatures, or facsimiles of original written or electronic signatures are acceptable.
- Resident and intern notes should be considered physician documentation. Medical student notes must be co-signed by a physician.

- For purposes of abstraction, telephone or verbal physician/APN/PA orders (TO/VO) in the medical record are considered physician/APN/PA documentation at the time they were written, regardless of whether or not they were authenticated by the physician/APN/PA at the time of abstraction.

Pharmacist Documentation

Pharmacist titles may vary. Some common titles that represent the pharmacist role are:

- Doctor of Pharmacy (Pharm.D. or D.Ph.)
- Registered Pharmacist (R.Ph.)

Medications

- The approved medication tables contained in Appendix C may not be inclusive lists of all available therapeutic agents acceptable for a particular data element. Discrepancies must be reported.
- Whether or not a medication has been administered to a patient is often clear when using medical record sources such as medication administration records, but documentation can be more ambiguous in other sources, namely, physician orders, ED records, and ambulance records. To make a determination using these sources, use the following criteria:
    - For electronic health records (EHRs) only accept documentation that reflects the actual administration of the medication in the context of the chart.
    - If a medication in the physician orders has been initialed and signed off with a time, do **not** presume that the medication was administered. The documentation **must** indicate that the medication was actually given.
    - For an ED or ambulance record, there is no need for documentation indicating that the medication was actually given.
        - Example: If the ED or ambulance record reflects "ASA 325mg po 1300" and no other documentation exists indicating that the medication was actually given (e.g., "given" or "administered"), this is acceptable documentation to abstract.
- Hospitals may allow a patient (or his or her caregiver/support person where appropriate) to self-administer both hospital-issued medications and the patient's own medications brought into the hospital. Hospitals must document the administration of each medication, as reported by the patient (or the patient's caregiver/support person where appropriate) in the patient's medical record [42CFR482.23(c)(6)].

Nursing Care Plans, Standing Orders, and Protocols

- Per Medicare Conditions of Participation [42CFR482.23(b)(4)], hospitals have the option of having a stand-alone nursing care plan or a single interdisciplinary care plan that addresses nursing and other disciplines.
- Hospitals may use pre-printed and electronic standing orders, order sets, and protocols for patient orders if such orders and protocols are dated, timed, and authenticated promptly in the patient's medical record by the ordering practitioner responsible for the care of the patient [42CFR482.24(c)(3)].

Diagnostic/Laboratory Tests

Whether or not a diagnostic or laboratory test has been done is usually clear when using medical record sources such as diagnostic test reports, laboratory reports, or progress notes (where a physician might note test findings), but documentation can be more ambiguous in other sources, namely, physician orders and ED records. To make a determination using these sources, use the following criteria:

- If a test in the physician orders has been initialed and signed off with a time, do **not** presume that the test was done. The documentation **must** indicate that the test was actually done (e.g., accompanied by a word such as "done").
- For an ED record, there is no need for explicit documentation indicating that the test was actually done. For example, if an ED record notes "Lipid profile" and this is followed by a signature and/or a time, the abstractor should presume the test was performed.

Grids

Instructions for reading values recorded on grids: Measure from the midpoint of the symbol, number, or letter. If the value falls between two lines on the grid, abstract the first occurring value.

Abstraction Recommendations for Multiple Same-Day Encounters

- If two ED visits on the same day are rolled into one claim, abstract the **first** chronological encounter that meets the inclusion criteria for the population.
- If two ED visits on the same encounter date meet the inclusion criteria and are billed as two separate claims, **both** cases may be eligible for abstraction according to sampling requirements. Because the data element *Arrival Time* is used to differentiate between two cases that occur on the same encounter date, if both cases are submitted with UTD for *Arrival Time*, the case submitted last will override the previous case.

Alphabetical Data Element List

Data Element Name: ***Arrival Time***

Collected For: All records (used in algorithms for OP-2, OP-3, OP-18, OP-23)

Definition: The earliest documented time (military time) the patient arrived at the outpatient or emergency department.

Suggested Data Collection Question: What was the **earliest** documented time the patient arrived at the outpatient or emergency department?

Format:

Length: 5 – HH:MM (with or without colon) or UTD

Type: Time

Occurs: 1

Allowable Values:

HH = Hour (00–23)

MM = Minutes (0–59)

UTD = Unable to Determine

Time must be recorded in military time format.

With the exception of midnight and noon:

- If the time is in the a.m., conversion is not required.
- If the time is in the p.m., add 12 to the clock time hour.

  Examples:

  - Midnight = 0000 Noon = 1200
  - 5:31 a.m. = 0531 5:31 p.m. = 1731
  - 11:59 a.m. = 1159 11:59 p.m. = 2359

Note: 0000 = midnight. If the time is documented as 0000 11-24-20XX, review supporting documentation to determine if the *Outpatient Encounter Date* should remain 11-24-20XX or if it should be converted to 11-25-20XX.

When converting midnight, or 2400, to 0000, do not forget to change the *Outpatient Encounter Date*.

Example:

- Midnight or 2400 on 11-24-20XX = 0000 on 11-25-20XX.

Notes for Abstraction:

- For times that include seconds, remove the seconds and record the time as is.
  Example:
    - 1500:35 would be recorded as 1500
- If the time of the arrival is unable to be determined from medical record documentation, select UTD.
- The medical record must be abstracted as documented (taken at "face value"). When the time documented is obviously in error (not a valid time) **and** no other documentation is found that provides this information, the abstractor should select UTD.
  Example:
    - Documentation indicates the arrival time was 3300. No other documentation in the list of Only Acceptable Sources provides a valid time. Since the *Arrival Time* is outside of the range in the Allowable Values for Hour, it is not a valid time, and the abstractor should select UTD.

      Note: Transmission of a case with an invalid time as described above will be rejected from the CMS Clinical Data Warehouse. Use of UTD for *Arrival Time* allows the case to be accepted into the Warehouse.
- Review the Only Acceptable Sources to determine the earliest time the patient arrived at the ED or observation. The intent is to utilize any documentation which reflects processes that occurred after the arrival at the ED or after arrival to observation.
- Documentation outside of the Only Acceptable Sources list should **not** be referenced (e.g., ambulance record, physician office record, H&P).
  Examples:
    - ED Triage Time 0800. ED rhythm strip 0830. EMS report indicates patient was receiving EMS care from 0805 through 0825. The EMS report is disregarded. Enter 0800 for *Arrival Time*.
    - ED noted arrival time of 0945. Lab report shows blood culture collected at 0830. It is not clear that the blood culture was collected in the ED because the lab report does not specify it was collected in the ED (unable to confirm lab report as an Only Acceptable Source). Enter 0945 for *Arrival Time*.
- *Arrival Time* should **not** be abstracted simply as the earliest time in one of the Only Acceptable Sources, without regard to other substantiating documentation. When looking at the Only Acceptable Sources, if the earliest time documented appears to be an obvious error, this time should not be abstracted.
  Examples:
    - ED arrival time notes as 2300 on 10-28-20xx. ED MAR shows an antibiotic administration time of 0100 on 10-28-20xx. Surrounding documentation on the ED MAR makes clear that the 10-28-20xx date is an obvious error- Date was not changed to 10-29-20xx. The antibiotic administration date/time would be converted to 0100 on 10-29-20xx. (Please see the note under the Allowable Values section of this data element). Enter 2300 for *Arrival Time*.

- ED face sheet lists arrival time of 1320. ED Registration Time 1325. ED Triage Time 1330. ED Consent to treat form has 1:17 time but "AM" is circled. ED record documentation suggests the 1:17 AM is an obvious error. Enter 1320 for *Arrival Time*.
- ED ECG timed as 1742. ED Greet Time 2125. ED Triage Time 2130. There is no documentation in the Only Acceptable Sources which suggests the 1742 is an obvious error. Enter 1742 for *Arrival Time*.
- ED RN documents on the nursing triage note, "Blood culture collected at 0730." ED arrival time is documented as 1030. There is no documentation in the Only Acceptable Sources which suggests the 0730 is an obvious error. Enter 0730 for *Arrival Time*.

- The source "Emergency Department record" includes any documentation from the time period that the patient was an ED patient.
- The source "Procedure notes" refers to procedures such as cardiac caths, endoscopies, and surgical procedures. Procedure notes do not include ECG and x-ray reports.
- The *Arrival Time* may differ from the admission time.

Observation Status:

- If the patient was admitted to observation from an outpatient setting of the hospital, use the time the patient arrived at the ED or on the floor for observation care as the *Arrival Time*.
- If the patient was admitted to observation from the ED of the hospital, use the time the patient arrived at the ED as the *Arrival Time*.

Suggested Data Sources:

Only Acceptable Sources:

- Emergency Department record, which may include:
  - ED face sheet
  - ED consent/Authorization for treatment forms
  - ED/Outpatient registration/Sign-in forms
  - ED ECG reports
  - ED telemetry/rhythm strips
  - ED laboratory reports
  - ED x-ray reports
- Observation record
- Procedure notes
- Vital signs graphic record

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction:

- Addressographs/stamps
- Pre-printed times on a vital sign graphic record

Data Element Name: ***Birthdate***

Collected For: All records

Definition: The month, day, and year the patient was born.

Note: Patient Age on *Outpatient Encounter Date* (in years) is calculated by *Outpatient Encounter Date* minus *Birthdate*. The algorithm to calculate age must use the month and day portion of encounter date and birthdate to yield the most accurate age.

Suggested Data Collection Question: What is the patient's date of birth?

Format:

Length: 10 – MM-DD-YYYY (includes dashes)

Type: Date

Occurs: 1

Allowable Values:

MM = Month (01–12)

DD = Day (01–31)

YYYY = Year (1880–Current Year)

Notes for Abstraction:

Because this data element is critical in determining the population for all measures, the abstractor should **not** assume that the claim information for the birthdate is correct. If the abstractor determines through chart review that the date is incorrect, correct and override the downloaded value. If the abstractor is unable to determine the correct birthdate through chart review, default to the date of birth on the claim information.

Suggested Data Sources:

- Outpatient record
- Emergency Department record

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Date Last Known Well***

Collected For: OP-23

Definition: The date prior to hospital arrival at which the patient was last known to be without the signs and symptoms of the current stroke or at his or her baseline state of health.

Suggested Data Collection Question: What was the date associated with the time at which the patient was last known to be well or at his or her baseline state of health?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD

Type: Date

Occurs: 1

Allowable Values:

MM = Month (01-12)

DD = Day (01-31)

YYYY = Year (20xx)

UTD = Unable to Determine

Notes for Abstraction:

- Enter the date associated with the *Time Last Known Well.* If the *Date Last Known Well* is unable to be determined from medical record documentation, enter UTD.
- The medical record must be abstracted as documented (taken at "face value"). When the date documented is obviously in error (not a valid date/format) **and** no other documentation is found that provides this information, the abstractor should select UTD.

  Example:

  - Documentation indicates the *Date Last Known Well* was 03-**42**-20xx. No other documentation in the medical record provides a valid date. Since the *Date Last Known Well* is outside of the range listed in the Allowable Values for Day, it is not a valid date, and the abstractor should select UTD.

    Note: Transmission of case with an invalid date as described above will be rejected from the CMS Clinical Data Warehouse. Use of UTD for *Date Last Known Well* allows the case to be accepted into the Warehouse.

- If the *Date Last Known Well* is documented as a specific date and entered as *Date Last Known Well* on a Code Stroke Form or stroke-specific electronic template, enter that date as *Date Last Known Well*. Documentation of the *Date Last Known Well* on a stroke-specific form or template should be selected regardless of other dates last known well documented elsewhere in the medical record.

Exceptions:

- **Any** physician/APN/PA documentation that *last known well*/onset of signs/symptoms is unknown/uncertain/unclear takes precedence over specific time on a Code Stroke Form.

- References in relation to arrival date are acceptable (e.g., today, tonight, this evening, or this morning). The *Date Last Known Well* and the arrival date may be the same date or a different date.
  Examples:
  - "Wife reports patient normal this evening until approximately 9 PM." Hospital arrival is 0030 on 12-10-20xx. *Date Last Known Well* is 12-09-20xx.
  - "Patient states he felt perfectly fine earlier today. At noon, he began to have trouble seeing." Hospital arrival is 1559 on 12-10-20xx. *Date Last Known Well* is 12-10-20xx.
- If a reference to *date last known well* is documented without a specific date, enter that date for *Date Last Known Well*. If multiple dates are documented, select the earliest date.
  Examples:
  - "Patient last known well today (day of arrival)." Select arrival date for *Date Last Known Well.*
  - "Patient normal yesterday" (day before arrival) documented in H&P and consult note documents that patient was last known to be well on Monday (two days prior to arrival). Select Monday's date for *Date Last Known Well.*
- A Code Stroke Form is used by the stroke team or ED staff to document the acute stroke process. See the inclusion list for acceptable terms used for a Code Stroke Form. The list is not all-inclusive.
- *Date Last Known Well* on a Code Stroke Form may be documented by a nurse or other member of the care team authorized to serve as a scribe.

Suggested Data Sources:

- Ambulance record
- Code Stroke Form/template
- Emergency Department records
- History and Physical
- IV flow sheets
- Medication administration record
- Nursing flow sheets
- Progress notes
- Transfer sheet

Inclusion Guidelines for Abstraction:

Signs and Symptoms of Stroke

- Sudden numbness or weakness of the face, arm, or leg, especially on one side of the body

- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden severe headache

Code Stroke Form

- Stroke Activation Form
- Stroke Alert Form
- Stroke Assessment Form
- Stroke Intervention Form
- Stroke Rapid Response Form
- Thrombolysis Checklist
- tPA Eligibility Form

Exclusion Guidelines for Abstraction:

Code Stroke Form

- Stroke Education Form
- Core Measure Form

Data Element Name: ***Discharge Code***

Collected For: OP-2, OP-3, OP-18, OP-23

Definition: The final place or setting to which the patient was discharged from the outpatient setting.

Suggested Data Collection Question: What was the patient's discharge code from the outpatient setting?

Format:

Length: 2

Type: Alphanumeric

Occurs: 1

Allowable Values:

1 Home

2 Hospice – Home

3 Hospice – Health Care Facility

4a Acute Care Facility – General Inpatient Care

4b Acute Care Facility – Critical Access Hospital

4c Acute Care Facility – Cancer Hospital or Children's Hospital

4d Acute Care Facility – Department of Defense or Veteran's Administration

5 Other Health Care Facility

6 Expired

7 Left Against Medical Advice/AMA

8 Not Documented or Unable to Determine (UTD)

Notes for Abstraction:

- If documentation is contradictory, use the latest documentation. If there is documentation that further clarifies the level of care, that documentation should be used to determine the correct value to abstract.

  Example:

  - Nursing discharge note documentation reflects that the patient is being discharged to "XYZ" Hospital. The Social Service notes from the day before discharge further clarify that the patient will be transferred to the rehab unit at "XYZ" Hospital; select value 5.

- If the medical record states only that the patient is being discharged to another hospital and does not reflect the level of care that the patient will be receiving, select value 4a.
- When determining whether to select value 7 ("Left Against Medical Advice"):
    - A signed AMA form is not required for this data element, but in the absence of a signed form, the medical record must contain physician or nurse documentation that the patient left against medical advice or AMA.
    - Do not consider AMA documentation and other disposition documentation as "contradictory." If any source states the patient left against medical advice, select value 7, regardless of whether the AMA documentation was written last (e.g., AMA form signed and discharge instruction sheet states "Discharged home with belongings"—Select value 7).
    - Physician order written to discharge to home. Nursing notes reflect that the patient left before discharge instructions could be given; select value 1.

Suggested Data Sources:

- Discharge instruction sheet
- Nursing discharge notes
- Progress notes
- Emergency Department record
- Physician orders
- Transfer record

Excluded Data Sources:

- UB-04

Inclusion Guidelines for Abstraction:

For Value 1:

- Assisted Living Facilities
- Court/Law Enforcement – includes detention facilities, jails, and prison
- Home – includes board and care, foster or residential care, group or personal care homes, and homeless shelters
- Home with Home Health Services
- Outpatient Services including outpatient procedures at another hospital, Outpatient Chemical Dependency Programs, and Partial Hospitalization

For Value 3:

- Hospice Care – General Inpatient and Respite
- Hospice Care – Residential and Skilled Facilities
- Hospice Care – Other Health Care Facilities (excludes home)

For Value 5:

- Extended or Intermediate Care Facility (ECF/ICF)
- Long Term Acute Care Hospital (LTACH)
- Nursing Home or Facility, including Veteran's Administration Nursing Facility
- Psychiatric Hospital or Psychiatric Unit of a Hospital

- Rehabilitation Facility, including Inpatient Rehabilitation Facility/Hospital or Rehabilitation Unit of a Hospital
- Skilled Nursing Facility (SNF), Sub-Acute Care, or Swing Bed
- Transitional Care Unit (TCU)

Exclusion Guidelines for Abstraction: None

Data Element Name: ***E/M Code***

Collected For: OP-2, OP-3, OP-18, OP-23

Definition: The code used to report evaluation and management services provided in the hospital outpatient department clinic or emergency department.

Suggested Data Collection Question: What was the E/M code documented for this outpatient encounter?

Format:

Length: 5

Type: Alphanumeric

Occurs: 1

Allowable Values:

- Select the *E/M Code* from Appendix A, OP Table 1.0.

Suggested Data Sources:

- Outpatient record

Inclusion Guidelines for Abstraction:

- Refer to Appendix A, OP Table 1.0, EM Codes.

Exclusion Guidelines for Abstraction: None

Data Element Name: ***ED Departure Date***

Collected For: OP-3, OP-18

Definition: The month, day, and year at which the patient departed from the emergency department.

Suggested Data Collection Question: What is the date the patient departed from the emergency department?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD

Type: Date

Occurs: 1

Allowable Values:

MM = Month (01-12)

DD = Day (01-31)

YYYY = Year (20xx)

UTD = Unable to Determine

Notes for Abstraction:

- The medical record must be abstracted as documented (taken at "face value"). When the date documented is obviously in error (not a valid format/range or outside of the parameters of care **and** no other documentation is found that provides this information), the abstractor should select UTD.

  Examples:

  - Documentation indicates the ED departure date was 03-**42**-20xx. No other documentation in the list of Only Acceptable Sources provides a valid date. Since the *ED Departure Date* is outside of the range listed in the Allowable Values for Day, it is not a valid date, and the abstractor should select UTD.
  - Patient expired on 02-12-20xx, and all documentation within the Only Acceptable Sources indicates the *ED Departure Date* was 03-12-20xx. Other documentation in the medical record supports the date of death as being accurate. Since the *ED Departure Date* is after the *Discharge Date* (death), it is not outside of the parameter of care, and the abstractor should select UTD.

    Note: Transmission of a case with an invalid date as described above will be rejected from the CMS Clinical Data Warehouse. Use of UTD for *ED Departure Date* allows the case to be accepted into the warehouse.

- If the date the patient departed is unable to be determined from medical record documentation, select UTD.
- If the date of departure is not documented but you are able to determine the date from other documentation, this is acceptable (e.g., you are able to identify from documentation the patient arrived and was transferred on the same day).
- If there is documentation the patient left against medical advice and it cannot be determined what date the patient left against medical advice, select UTD.
- For patients who are placed into observation services, use the date of the physician/APN/PA order for observation services as *ED Departure Date*.
- The inclusion and exclusion lists are not to be considered comprehensive lists of inclusions and exclusions.
- If there is a discharge date listed on a disposition sheet, this may be abstracted as *ED Departure Date*.

Suggested Data Sources:

Only Acceptable Sources:

- Emergency Department record

Inclusion Guidelines for Abstraction:

- ED departure date
- ED discharge date
- ED leave date

Exclusion Guidelines for Abstraction:

- Disposition date

Data Element Name: ***ED Departure Time***

Collected For: OP-3, OP-18

Definition: The time (military time) represented in hours and minutes at which the patient departed from the emergency department.

Suggested Data Collection Question: What is the time the patient departed from the emergency department?

Format:

Length: 5 – HH-MM (with or without colon) or UTD

Type: Time

Occurs: 1

Allowable Values:

HH = Hour (00–23)

MM = Minutes (0–59)

UTD = Unable to Determine

Time must be recorded in military time format.

With the exception of midnight and noon:

- If the time is in the a.m., conversion is not required.
- If the time is in the p.m., add 12 to the clock time hour.

Examples:

- Midnight = 0000 Noon = 1200
- 5:31 a.m. = 0531 5:31 p.m. = 1731
- 11:59 a.m. = 1159 11:59 p.m. = 2359

Note: 0000 = midnight. If the time is documented as 0000 11-24-20xx, review supporting documentation to determine if the *ED Departure Date* should remain 11-24-20xx or if it should be converted to 11-25-20xx.

When converting midnight, or 2400, to 0000, do not forget to change the *ED Departure Date*.

Example:

- Midnight or 2400 on 11-24-20xx = 0000 on 11-25-20xx.

Notes for Abstraction:

- The intention is to capture the latest time at which the patient was receiving care in the emergency department, under the care of emergency department services, or awaiting transport to service/care.
- For times that include seconds, remove the second and record the time as is.
  Example:
    - 1500:35 would be recorded as 1500.
- The medical record must be abstracted as documented (taken at "face value"). When the time documented is obviously in error (not a valid format/range) **and** no other documentation is found that provides this information, the abstractor should select UTD.
  Example:
    - Documentation indicates the ED departure time was 3300. No other documentation in the list of Only Acceptable Sources provides a valid time. Since the *ED Departure Time* is outside of the range in the Allowable Values for Hour, it is not a valid time, and the abstractor should select UTD.
      Note: Transmission of a case with an invalid time as described above will be rejected from the CMS Clinical Data Warehouse. Use of UTD for *ED Departure Time* allows the case to be accepted into the warehouse.
- *ED Departure Time* is the documented time the patient physically left the emergency department.
- Do not use the time the discharge order was written because it may not represent the actual time of departure.
- If there is a discharge time listed on the disposition sheet, this may be used for *ED Departure Time*.
- When more than one emergency department departure/discharge time is documented, abstract the latest time.
  Examples:
    - ED nursing notes contain documentation that the patient was transferred to floor at 1800 and transport documentation states that patient left the ED via stretcher at 1815. There are multiple times documented for departure. Use the later time of 1815 as *ED Departure Time*.
    - ED nursing notes contain documentation that the patient departed the ED at 0500. ED record contains documentation of medication administration at 0510 and that the patient departed the ED at 0620. Physician notes contain documentation of an assessment at 0540. As there are multiple departure times documented, enter 0620 for *ED Departure Time*, as it is the latest time documented.
- If the time the patient departed is unable to be determined from medical record documentation, select UTD.
  Example:
    - ED nursing notes documented patient departed from the ED at 1225. Nursing notes document medication administration at 1245. Physician progress notes document assessment at 1310. There is substantial documentation to support that the patient was in the ED after documented departure and no additional documented time of ED departure. Enter UTD for *ED Departure Time*.
- If *ED Departure Time* is documented prior to arrival, abstract as UTD.
- If patient expired in the ED, use the time of death as the departure time.

- The inclusion and exclusion lists are not to be considered comprehensive lists of inclusions and exclusions.

Observation Status:

- For patients who are placed into observation services, use the time of the physician/APN/PA order for observation for *ED Departure Time*.
- The intent of this guidance is to abstract the time that the patient is no longer under the care of the ED. When a patient is placed into observation, their clinical workflow may vary from patients who are not placed into observation prior to departure from the ED, so the observation order may be used instead of the actual ED departure time.

Suggested Data Sources:

Only Acceptable Sources:

- Emergency Department record

Inclusion Guidelines for Abstraction:

- ED leave time
- ED discharge time
- ED departure time
- ED checkout time
- ED order for observation status
- Gone time
- Transfer time
- Release Time
- Out time
- Transport documented time
- The event log, registration sheet, transfer record, etc. (if a discharge time is noted and the document is part of the permanent record)

Exclusion Guidelines for Abstraction:

- Report called time
- Disposition time
- Discharge instructions time
- Coding summary
- Physician's discharge summary
- ED record released from holding time
- Chart closed time
- Off the tracking board time

Data Element Name: ***Fibrinolytic Administration***
Collected For: OP-2, OP-3

Definition: Fibrinolytic therapy is the administration of a pharmacological agent intended to cause lysis of a thrombus (destruction or dissolution of a blood clot).

Suggested Data Collection Question: Did the patient receive fibrinolytic therapy at this emergency department?

Format:

Length: 1

Type: Alphanumeric

Occurs: 1

Allowable Values:

Y (Yes) Fibrinolytic therapy was initiated at this emergency department.

N (No) There is no documentation fibrinolytic therapy was initiated at this emergency department, or Unable to Determine from medical record documentation.

Notes for Abstraction:

- In the event the patient was brought to the hospital via ambulance and fibrinolytic therapy was infusing at the time of arrival, select Yes.
- In the event the patient was brought to the emergency department via ambulance and fibrinolytic therapy was infused during transport **but was completed** at the time of the emergency department arrival, select No.
- If the first dose of reteplase (Retavase) is given in the ambulance and the second dose is given in the emergency department, select Yes.

Suggested Data Sources:

- Emergency Department record

Inclusion Guidelines for Abstraction:

- Refer to Appendix C, OP Table 1.3, Fibrinolytic Agents.

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Fibrinolytic Administration Date***

Collected For: OP-2

Definition: The month, day, and year primary fibrinolytic therapy was administered at this facility. Fibrinolytic therapy is the administration of a pharmacological agent intended to cause lysis of a thrombus (destruction or dissolution of a blood clot).

Suggested Data Collection Question: What was the date primary fibrinolytic therapy was initiated during this hospital stay?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD

Type: Date

Occurs: 1

Allowable Values:

MM = Month (01-12)

DD = Day (01-31)

YYYY = Year (20xx)

UTD = Unable to Determine

Notes for Abstraction:

- If the date primary fibrinolytic therapy was initiated is unable to be determined from medical record documentation, enter UTD.
- The medical record must be abstracted as documented (taken at "face value"). When the date documented is obviously in error (not a valid date/format) and no other documentation is found that provides this information, the abstractor should select UTD.
  Example:
  - Documentation indicates the *Fibrinolytic Administration Date* was 03-42-20xx. No other documentation in the medical record provides a valid date. Since the *Fibrinolytic Administration Date* is outside of the range listed in the Allowable Values for Day, it is not a valid date, and the abstractor should select UTD.
    Note: Transmission of a case with an invalid date as described above will be rejected from the CMS Clinical Data Warehouse. Use of UTD for *Fibrinolytic Administration Date* allows the case to be accepted into the warehouse.
- If there are two or more different fibrinolytic administration dates (either different fibrinolytic episodes or corresponding with the same episode), enter the earliest date.
- In the event the patient was brought to the hospital via ambulance and fibrinolytic therapy was infusing at the time of hospital arrival, enter the date the patient arrived at this hospital.

Suggested Data Sources:

- Ambulance record
- Discharge summary
- Emergency Department record
- ICU/Nursing flow sheets

- IV flow sheets
- Medication administration record
- Nursing notes
- Transfer sheet

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction:

- Fibrinolytics given during or after a PCI

Data Element Name: ***Fibrinolytic Administration Time***

Collected For: OP-2

Definition: The time (military time) that primary fibrinolytic therapy started. Fibrinolytic therapy is the administration of a pharmacological agent intended to cause lysis of a thrombus (destruction or dissolution of a blood clot).

Suggested Data Collection Question: What was the time primary fibrinolytic therapy was initiated during this hospital stay?

Format:
Length: 5 – HH-MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:
HH = Hour (00–23)
MM = Minutes (0–59)
UTD = Unable to Determine

Time must be recorded in military time format.

With the exception of midnight and noon:
- If the time is in the a.m., conversion is not required.
- If the time is in the p.m., add 12 to the clock time hour.
  Examples:
  - Midnight = 0000 Noon = 1200
  - 5:31 a.m. = 0531 5:31 p.m. = 1731
  - 11:59 a.m. = 1159 11:59 p.m. = 2359

Note: 0000 = midnight. If the time is documented as 0000 11-24-20xx, review documentation to determine if the *Fibrinolytic Administration Date* should remain 11-24-20xx or if it should be converted to 11-25-20xx.

When converting midnight, or 2400, to 0000, do not forget to change the *Fibrinolytic Administration Date*.
Example:
- Midnight or 2400 on 11-24-20xx = 0000 on 11-25-20xx.

Notes for Abstraction:
- For times that include seconds, remove the seconds and record the time as is.
  Example:
  - 1500:35 would be recorded as 1500.
- If the time primary fibrinolytic therapy was initiated is unable to be determined from medical record documentation, enter UTD.
- The medical record must be abstracted as documented (taken at "face value"). When the time documented is obviously in error (not a valid time/format) **and** no other documentation is found that provides this information, the abstractor should select UTD.
  Example:
  - Documentation indicates the *Fibrinolytic Administration Time* was 3300. No other documentation in the medical record provides a valid time. Since the *Fibrinolytic Administration Time* is outside of the range listed in the Allowable Values for Hour, it is not a valid time, and the abstractor should select UTD.

Note: Transmission of a case with an invalid time as described above will be rejected from the CMS Clinical Data Warehouse. Use of UTD for *Fibrinolytic Administration Time* allows the case to be accepted into the warehouse.

- If there are two or more different fibrinolytic administration times (either different fibrinolytic episodes or corresponding with the same episode), enter the earliest time.
- In the event the patient was brought to the hospital via ambulance and fibrinolytic therapy was infusing at the time of hospital arrival, enter the time the patient arrived at this hospital.

Suggested Data Sources:
- Ambulance record
- Emergency department record
- ICU/nursing flow sheets
- IV flow sheets
- Medication administration record
- Nursing notes
- Transfer sheet

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction:
- Fibrinolytics given during or after a PCI

Data Element Name: ***First Name***

Collected For: All records

Definition: The patient's first name.

Suggested Data Collection Question: What is the patient's first name?

Format:
Length: 30
Type: Character
Occurs: 1

Allowable Values:
Enter the patient's first name.

Notes for Abstraction: None

Suggested Data Sources:
- Outpatient record
- Emergency Department record

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Head CT or MRI Scan Interpretation Date***

Collected For: OP-23

Definition: The month, day, and year at which the earliest head CT or MRI scan interpretation was completed or reported.

Suggested Data Collection Question: What is the date the earliest head CT or MRI scan interpretation was completed or reported?

Format:
Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:
MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:
- The medical record must be abstracted as documented (taken at "face value"). When the date documented is obviously in error (not a valid format/range) or outside of the parameters of care and no other documentation is found that provides this information, the abstractor should select UTD.
  Examples:
  - Documentation indicates the *Head CT or MRI Scan Interpretation Date* was 03-**42**-20xx. No other documentation in the list of Only Acceptable Sources provides a valid date. Since the *Head CT or MRI Scan Interpretation Date* is outside of the range listed in the Allowable Values for Day, it is not a valid date, and the abstractor should select UTD.
  - Patient expires on 02-12-20xx, and all documentation within the Only Acceptable Sources indicates the *Head CT or MRI Scan Interpretation Date* was 03-12-20xx. Other documentation in the medical record supports the date of death as being accurate. Since the *Head CT or MRI Scan Interpretation Date* is after the date of death, it is outside of the parameter of care, and the abstractor should select UTD.
    Note: Transmission of a case with an invalid date as described above will be rejected from the CMS Clinical Data Warehouse. Use of UTD for *Head CT or MRI Scan Interpretation Date* allows the case to be accepted into the Warehouse.
- Enter the date associated with *Head CT or MRI Scan Interpretation Time*.
- If the date of the head CT or MRI scan interpretation is unable to be determined from medical record documentation, abstract UTD.
- Abstract the result of the earliest head CT or MRI scan interpretation (closest to arrival).
- If there are multiple result dates documented for the same head CT or MRI scan, use the earliest result date.
- *Head CT or MRI Scan Interpretation Time* should not be abstracted as the time the results of the scan were relayed to the ED physician/APN/PA if an earlier interpretation time is documented.
  Example:
  - Radiology head CT report at 1100. ED physician notes: "Received head CT report at 1130." *Head CT or MRI Scan Interpretation Time* is 1100.

- Preliminary CT dictated by radiologist at 2205. ED physician documents "Findings discussed directly with radiologist at 2209." *Head CT or MRI Scan Interpretation Time* is 2205.
- Nurse documents "CT scan completed at 1400; physician notified of results at 1445." *Head CT or MRI Scan Interpretation Time* is 1445.

Suggested Data Sources:
- Emergency Department record

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Head CT or MRI Scan Interpretation Time***

Collected For: OP-23

Definition: The time (military time) represented in hours and minutes at which the earliest head CT or MRI scan interpretation was completed or reported.

Suggested Data Collection Question: What is the time the earliest head CT or MRI scan interpretation was completed or reported?

Format:
Length: 5 – HH-MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:
HH = Hour (00–23)
MM = Minutes (0–59)
UTD = Unable to Determine

Time must be recorded in military time format.

With the exception of midnight and noon:
- If the time is in the a.m., conversion is not required.
- If the time is in the p.m., add 12 to the clock time hour.
  Examples:
  - Midnight = 0000 Noon = 1200
  - 5:31 a.m. = 0531 5:31 p.m. = 1731
  - 11:59 a.m. = 1159 11:59 p.m. = 2359

Note: 0000 = midnight. If the time is documented as 0000 11-24-20xx, review supporting documentation to determine if the *Head CT or MRI Scan Interpretation Date* should remain 11-24-20xx or if it should be converted to 11-25-20xx.

When converting midnight, or 2400, to 0000, do not forget to change the *Head CT or MRI Scan Interpretation Date.*
Example:
- Midnight or 2400 on 11-24-20xx = 0000 on 11-25-20xx.

Notes for Abstraction:
- For times that include seconds, remove the seconds and record the time as is.
  Example:
  - 1500:35 would be recorded as 1500.
- If the *Head CT or MRI Scan Interpretation Time* is unable to be determined from medical record documentation, select UTD.
- The medical record must be abstracted as documented (taken at "face value"). When the time documented is obviously in error (not a valid time) **and** no other documentation is found that provides this information, the abstractor should select UTD.
  Example:
  - Documentation indicates the head CT or MRI scan interpretation was 3300. No other documentation in the medical record provides a valid time. Since the *Head CT or MRI Scan*

Interpretation Time is outside of the range listed in the Allowable Values for Hour, it is not a valid time, and the abstractor should select UTD.
Note: Transmission of a case with an invalid time as described above will be rejected from the CMS Clinical Data Warehouse. Use of UTD for *Head CT or MRI Scan Interpretation Time* allows the case to be accepted into the warehouse.

- If the time of the head CT or MRI scan interpretation is unable to be determined from medical record documentation, abstract UTD.
- Abstract the result of the earliest head CT or MRI scan interpretation (closest to arrival).
- The dictation time or the time of a preliminary interpretation may be abstracted if it is known to be an accurate representation of when the earliest head CT or MRI scan interpretation time occurred.
- If there are multiple result times documented for the same head CT or MRI scan, use the earliest result time.
- If the head CT or MRI scan interpretation is documented prior to arrival, abstract UTD.
- It is acceptable to use nurse documentation of a head CT or MRI scan interpreted by a physician. The interpretation must be performed by the physician/APN/PA, but it can be documented by a nurse.

Suggested Data Sources:

- Emergency Department record

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Head CT or MRI Scan Order***

Collected For: OP-23

Definition: Documentation in the medical record that a Computerized Tomography (CT) or Magnetic Resonance Imaging (MRI) scan of the head was ordered during an emergency department visit.

Suggested Data Collection Question: Was a head CT or MRI scan ordered by the physician during the emergency department visit?

Format:
Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:
Y (Yes) There is documentation a head CT or MRI scan was ordered by the physician/APN/PA during the emergency department visit.

N (No) There is no documentation a head CT or MRI scan was ordered by the physician/APN/PA during the emergency department visit.

Notes for Abstraction:
- If there is documentation a head CT or MRI scan is ordered during the emergency department visit but is cancelled and there are no other head CT or MRI scans ordered during the emergency department visit, abstract No.

Suggested Data Sources:
- Nurses notes
- Physician notes/orders
- Radiology notes

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Hispanic Ethnicity***

Collected For: All records

Definition: Documentation that the patient is of Hispanic ethnicity or Latino.

Suggested Data Collection Question: Is the patient of Hispanic ethnicity or Latino?

Format:
Length: 1
Type: Character
Occurs: 1

Allowable Values:
Y (Yes) Patient is of Hispanic ethnicity or Latino.

N (No) Patient is not of Hispanic ethnicity or Latino or unable to determine from medical record documentation.

Notes for Abstraction:
- The data element *Race* is required in addition to this data element.

Suggested Data Sources:
- Outpatient record
- Emergency Department record

Inclusion Guidelines for Abstraction:
A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. The term "Spanish origin" can be used in addition to "Hispanic or Latino."

Examples:
- Black-Hispanic
- Chicano
- H
- Hispanic
- Latin American
- Latino/Latina
- Mexican-American
- Spanish
- White-Hispanic

Exclusion Guidelines for Abstraction: None

Data Element Name: ***ICD-10-CM Principal Diagnosis Code***

Collected For: OP-2, OP-3, OP-18, OP-23

Definition: The International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) code associated with the diagnosis established after study to be chiefly responsible for the outpatient encounter.

Suggested Data Collection Question: What was the ICD-10-CM code selected as the principal diagnosis for this record?

Format:

Length: 8 (without decimal point or dot)

Type: Alphanumeric

Occurs: 1

Allowable Values:

Any valid diagnosis code as per the CMS ICD-10-CM master code table (Code Descriptions in Tabular Order): https://www.cms.gov/Medicare/Coding/ICD10/index.html

Notes for Abstraction: None

Suggested Data Sources:

- Outpatient record
- Emergency Department record
- UB-04

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Initial ECG Interpretation***

Collected For: OP-2, OP-3

Definition: ST-segment elevation based on the documentation of the electrocardiogram (ECG) performed closest to emergency department arrival. The normal ECG is composed of a P wave (atrial depolarization), Q, R, and S waves (QRS complex, ventricular depolarization), and a T wave (ventricular repolarization). The ST-segment, the segment between the QRS complex and the T wave, may be elevated when myocardial injury (AMI) occurs.

Suggested Data Collection Question: Is there documentation of ST-segment elevation on the electrocardiogram (ECG) performed closest to emergency department arrival?

Format:

Length: 1

Type: Alphanumeric

Occurs: 1

Allowable Values:

Y (Yes) ST-segment elevation on the interpretation of the 12-lead ECG performed closest to emergency department arrival.

N (No) No ST-elevation on the interpretation of the 12-lead ECG performed closest to emergency department arrival, no interpretation or report available for the ECG performed closest to emergency department arrival, or unable to determine from medical record documentation.

Notes for Abstraction:

Methodology:

1. Identify the ECG performed closest to arrival, either before or after emergency department arrival, but not more than 1 hour prior to arrival. If unable to determine which ECG was performed closest to arrival select No. **Exception:** If the pre-arrival ECG and the first ECG performed after arrival at the hospital are exactly the same amount of time away from hospital arrival (e.g., both ECGs are 10 minutes away from *Arrival Time*), use the first ECG performed after hospital arrival.

2. Start with review of the **signed** tracing. Determine if the terms or phrases are Inclusions or Exclusions. Evaluate findings line by line. Do not cross reference between lines except for those Exclusions with "with mention of" phrasing (e.g., LVH and ST-elevation noted on separate lines on the same ECG meets the Exclusion "ST-elevation with any mention of early repolarization, left ventricular hypertrophy (LVH), normal variant, pericarditis, or Printzmetal/Printzmetals variant in one interpretation"). If you have an Exclusion, select No, regardless of other documentation, and there is no need to review further.

3. If there is no signed tracing, or in the absence of an Exclusion on the signed tracing, proceed to other interpretations that clearly refer to the ECG done closest to arrival. Only those terms specifically identified or referred to by the physician/APN/PA as ECG findings and where documentation is clear it is from the ECG performed closest to arrival should be considered in abstraction (e.g., "STEMI" listed only as a physician diagnosis or impression would not be used). Do not cross-reference findings between interpretations unless otherwise specified. If you encounter an Exclusion in any of the other interpretations, select No, regardless of other documentation, and there is no need to review further.

4. At the end of your review, if you have no Exclusions, and either the signed ECG tracing or interpretations of this ECG tracing include at least one Inclusion, select Yes. Otherwise, select No.

- ECG interpretation is defined as:

    - 12-lead tracing with name/initials of the physician/advanced practice nurse/physician assistant (physician/APN/PA) who reviewed the ECG signed or typed on the report, or

    - Physician/APN/PA documentation of ECG findings in another source (e.g., ED record).

- Do not measure ST-segments from the tracing itself.
- Consider a tracing 12-lead if it has the appropriate markings (the presence of at least 12-leads: I, II, III, AVR, AVL, AVF, V1–V6).
- If ECG documentation outside of a tracing is not specified as 12-lead, assume it is 12-lead unless documentation indicates otherwise.
- Disregard any description of an MI or ST-segment that is not on either the Inclusion list or the Exclusion list.
- If documentation is contradictory within the same interpretation or between different interpretations, select No.
  Examples:
    - "ST-elevation" and "No ST-elevation"
    - "Acute anterior MI" and "no acute MI"
        - Documentation such as "STEMI" and "no ST-elevation" should not be considered contradictory for the purposes of this data element.
- Notations which describe ST-elevation as old, chronic, age unknown, recent, or previously seen, or which state ST-elevation and "no new changes," "unchanged," "no acute changes," or "no significant changes" when compared to a prior ECG should be disregarded. Other documentation of ST-elevation within the same interpretation or a different interpretation may still count as an Inclusion or Exclusion.
  Exception:
    - When the ST-elevation on the ECG done closest to arrival is described as previously seen on an ECG done by EMS or physician office prior to arrival, this ST-elevation may count as an Inclusion. Documentation must be explicit within the ECG interpretation itself (e.g., "Initial ECG shows ST-elevation 1mm V1-V2. Improved from ECG done in the field"). Abstractors should **not** make inferences based on documentation outside of the interpretation (context, sequence of events, etc.).
- Notations which describe ST-elevation as a range where it cannot be determined if elevation is less than 1 mm/.10mV (e.g., "0.5-1 mm ST-elevation," "ST greater than 0.06 mV V2-V6") should be disregarded. Other documentation of ST-elevation within the same interpretation or a different interpretation may still count as an Inclusion or Exclusion.

- If any of the inclusion terms are described using the qualifier "possible," "probable," or "potential," disregard that finding (neither Inclusion nor Exclusion).
- Do not consider "subendocardial" an MI "location" (e.g., "acute subendocardial MI" should be disregarded).

Suggested Data Sources:
Physician/APN/PA Documentation Only
- ECG reports
- Emergency Department record

Inclusion Guidelines for Abstraction:
ST-segment elevation
- Myocardial infarction (MI), with any mention of location or combinations of locations (e.g., anterior, apical, basal, inferior, lateral, posterior, or combination), if described as acute/evolving (e.g., "posterior AMI").
- Q wave MI, if described as acute/evolving
- ST ↑
- ST consistent with injury or acute/evolving MI
- ST abnormality consistent with injury or acute/evolving MI
- ST changes consistent with injury or acute/evolving MI
- ST-elevation (STE)
- ST-elevation myocardial infarction (STEMI)
- ST-segment noted as greater than or equal to .10mV
- ST-segment noted as greater than or equal to 1 mm
- STEMI or equivalent
- Transmural MI, if described as acute/evolving

Exclusion Guidelines for Abstraction:
ST-segment elevation
- Documentation of the absence of STEMI (In reference to the ECG performed closest to arrival) – e.g., "No STEMI," "not consistent with STEMI," "not diagnostic of STEMI."
- Non Q wave MI (NQWMI)
- Non ST-elevation MI (NSTEMI)
- ST-elevation (ST ↑) clearly described as confined to **one** lead.
- All ST-elevation (ST ↑, STE) in one interpretation described in one or more of the following ways:
    - Minimal
    - Non-diagnostic
    - Non-specific
    - ST-elevation or ST-segment noted as less than .10 mV in elevation
    - ST-elevation or ST-segment noted as less than 1mm in elevation
    - ST-elevation (or ST-segment noted as greater than or equal to .10mV/1mm) described using one of the negative modifiers or qualifiers listed under the Exclusion Guidelines for Abstraction
- ST-elevation (ST ↑) with any mention of the following in one interpretation:
    - Early repolarization
    - Left ventricular hypertrophy (LVH)
    - Normal variant
    - Pericarditis

    - Printzmetal/Printzmetal's variant
- ST, ST abnormality, or ST changes consistent with injury or acute/evolving MI **or** any of the "myocardial infarction" (MI) inclusion terms described using one of the negative modifiers or qualifiers listed under the Exclusion Guidelines for Abstraction.
- ST-segment elevation, or any of the other ST-segment elevation inclusion terms, with any mention of pacemaker/pacing (unless atrial only or nonfunctioning pacemaker) in one interpretation.

Qualifiers and Modifiers
The following qualifiers and modifiers should be abstracted as negative findings, unless otherwise specified. Consider this list all-inclusive:

Qualifiers
- And/or (+/-; e.g., "ST abnormalities consistent with ischemia and/or injury"), except when comparing only Inclusions (e.g., "ST segment elevation and/or STEMI").
- Cannot exclude
- Cannot rule out
- Consider
- Could/may/might be
- Could/may/might have
- Could/may/might have been
- Could/may/might have had
- Could/may/might indicate
- Or, except when comparing only Inclusions
- Questionable (?)
- Risk of
- Ruled out (r'd/o, r/o'd)
- Suggestive of
- Suspect
- Suspicious
- Vs., except when comparing only Inclusions

Modifiers:
- Borderline
- Insignificant/not significant/no significance
- Minor
- Scant
- Slight
- Sub-clinical
- Subtle
- Trace
- Trivial

Data Element Name: ***Last Known Well***

Collected For: OP-23

Definition: The date and time prior to hospital arrival at which it was witnessed or reported that the patient was last known to be without the signs and symptoms of the current stroke or at his or her baseline state of health.

Suggested Data Collection Question: Is there documentation that the date and time of *Last Known Well* was witnessed or reported?

Format:
Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:
Y (Yes) There is documentation that the date and time of *Last Known Well* was witnessed or reported.

N (No) There is no documentation that the date and time of *Last Known Well* was witnessed or reported, **or** Unable to Determine from medical record documentation.

Notes for Abstraction:
- Select Yes if **both** a date *Last Known Well* and a *Time Last Known Well* are documented.
- Select No if there is **any** physician/APN/PA documentation that the *Time Last Known Well* is "unknown." Documentation must explicitly state that the *Time Last Known Well* is unknown/uncertain.
- Documentation must explicitly state that the *Time Last Known Well* is unknown/uncertain/unclear. Documentation that time of symptom onset is unknown/uncertain/unclear is also acceptable when *Time Last Known Well* is not documented. If *Last Known Well* is not explicitly documented as unknown, do not make inferences (e.g., do not assume that patient awoke with stroke so *Last Known Well* unknown unless explicitly documented).
    - If one physician documents a *Time Last Known Well* and another documents time of symptom onset unknown, select Yes.
    - If one physician documents a *Time Last Known Well* and nurse/EMS documents *Last Known Well* unknown, select Yes.
    - If one physician documents *Time Last Known Well* unknown, and another documents a *Time Last Known Well*, select No.

  Exception:
    - If the physician documents *Last Known Well* as unknown and the same physician crosses out unknown, or mentions in a later note that *Last Known Well* is now known with a time documented, select Yes.
- If the *Time Last Known Well* is clearly greater than 2 hours prior to hospital arrival **and** no specific time is documented, select No.

  Example:
    - "Patient OK last night." Select No because no other documentation of a specific time/time range/time reference was present in the medical record and the time is required for the *Time Last Known Well*.
- If there is no documentation that *Last Known Well* or stroke signs/symptoms occurred prior to hospital arrival but there is documentation that *Last Known Well* first occurred after *Arrival Time* (e.g., in-house stroke), select No.

Suggested Data Sources:
- Ambulance record
- Code Stroke Form/template
- Emergency department record
- History and Physical
- Nursing flow sheets
- Progress notes
- Transfer sheet

Inclusion Guidelines for Abstraction:
Signs and Symptoms of Stroke
- Sudden numbness or weakness of the face, arm, or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden severe headache

Exclusion Guidelines for Abstraction:

None

Data Element Name: ***Last Name***

Collected For: All records

Definition: The patient's last name.

Suggested Data Collection Question: What is the patient's last name?

Format:
Length: 60
Type: Character
Occurs: 1

Allowable Values:
Enter the patient's last name.

Notes for Abstraction: None

Suggested Data Sources:
- Outpatient record
- Emergency Department record

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Outpatient Encounter Date***

Collected For: All records

Definition: The documented month, day, and year the patient arrived in the hospital outpatient setting.

Suggested Data Collection Question: What was the date the patient arrived in the hospital outpatient setting?

Format:
Length: 10 – MM-DD-YYYY (includes dashes)
Type: Date
Occurs: 1

Allowable Values:
MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)

Notes for Abstraction:
- The intent of this data element is to determine the date the patient arrived in the hospital outpatient setting.
- UTD is **not** an allowable value.
- Consider the outpatient encounter date as the earliest documented date the patient arrived in the applicable hospital outpatient setting.

Suggested Data Sources:
- Outpatient record
- Emergency Department record

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction:
- Preoperative tests or screening

Data Element Name: ***Patient Identifier***

Collected For: All records

Definition: The number used by the hospital to identify this patient's hospital outpatient encounter. The number provided will be used to identify the patient in communications with the hospital outpatient setting, e.g., Medical Record Number, Account Number, Unique Identifiable Number as determined by the facility, etc.

A *Patient Identifier* is required.

Suggested Data Collection Question: What was the number used to identify this outpatient encounter?

Format:
Length: 40
Type: Character
Occurs: 1

Allowable Values:
Up to 40 letters and/or numbers

Notes for Abstraction: None

Suggested Data Sources:
- Outpatient record
- Emergency Department record

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Payment Source***

Collected For: All records

Definition: The source of payment for this outpatient encounter.

Suggested Data Collection Question: What is the patient's source of payment for this outpatient encounter?

Format:
Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:
1 Source of payment is Medicare.
2 Source of payment is Non-Medicare.

Notes for Abstraction:
- If Medicare is listed as the primary, secondary, tertiary, or even lower down on the list of payers, select 1.
- If the patient is an Undocumented Alien or illegal immigrant, select 1.
  Undocumented Alien: Section 1011 of the Medicare Modernization Act of 2003 allows for reimbursement for services rendered to patients who are: Undocumented or illegal aliens (immigrants), aliens who have been paroled into a United States port of entry, and Mexican citizens permitted to enter the United States on a laser visa.

Suggested Data Sources:
- Face sheet
- UB-04

Inclusion Guidelines for Abstraction:
Medicare includes, but is not limited to:
- Black Lung
- End Stage Renal Disease (ESRD)
- Medicare Fee-for-Service (includes DRG or PPS)
- Medicare HMO/Medicare Advantage
- Medicare Secondary Payer
- Railroad Retirement Board (RRB)

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Physician 1***

Collected For: All records (optional element)

Definition: The first physician identifier.

Suggested Data Collection Question: What is the first physician identifier?

Format:
Length: 50
Type: Alphanumeric
Occurs: 1

Allowable Values:
Enter the first physician identifier, as directed. Up to 50 letters, numbers, and/or special characters can be entered.
Note: Only the following special characters will be allowed:
~ ! @ # $ % ^ * ( ) _ + { } | : ? ` - = [ ] \ ; ‘ . , / and space

Notes for Abstraction:
This data element may be used to capture physician information that might be helpful in internal analysis. This information is for internal analysis only and will not be shared with any external parties in any data output.

Suggested Data Sources: None

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Physician 2***

Collected For: All records (optional element)

Definition: A second physician identifier.

Suggested Data Collection Question: What is the second physician identifier?

Format:
Length: 50
Type: Alphanumeric
Occurs: 1

Allowable Values:
Enter the second physician identifiers, as directed. Up to 50 letters, numbers, and/or special characters can be entered.
Note: Only the following special characters will be allowed:
~ ! @ # $ % ^ * ( ) _ + { } | : ? ‘ - = [ ] \ ; . , / and space

Notes for Abstraction:
This data element may be used to capture physician information that might be helpful in internal analysis. This information is for internal analysis only and will not be shared with any external parties in any data output.

Suggested Data Sources: None

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Postal Code***

Collected For: All records

Definition: The postal code of the patient's residence. For United States ZIP codes, the hyphen is implied. If the patient is determined to not have a permanent residence, then the patient is considered homeless.

Suggested Data Collection Question: What is the postal code of the patient's residence?

Format:
Length: 9
Type: Character
Occurs: 1

Allowable Values:
Any valid five or nine-digit postal code, or "homeless" if the patient is determined not to have a permanent residence. If the patient is not a resident of the United States, use "non-US."

Notes for Abstraction:
- If the postal code of the patient is unable to be determined from medical record documentation, enter the provider's postal code.

Suggested Data Sources:
- Outpatient record
- Emergency Department record
- UB-04

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Race***

Collected For: All records

Definition: Documentation of the patient's race.

Suggested Data Collection Question: What is the patient's race?

Format:
Length: 1
Type: Character
Occurs: 1

Allowable Values:

1 **White:** Patient's race is White or the patient has origins in Europe, the Middle East, or North Africa.

2 **Black or African American:** Patient's race is Black or African American.

3 **American Indian or Alaska Native:** Patient's race is American Indian/Alaska Native.

4 **Asian:** Patient's race is Asian.

5 **Native Hawaiian or Pacific Islander:** Patient's race is Native Hawaiian/Pacific Islander.

7 **UTD:** Unable to determine the patient's race or not stated (e.g., not documented, conflicting documentation, or patient unwilling to provide).

Notes for Abstraction:
- The data element *Hispanic Ethnicity* is required in addition to this data element.
- If documentation indicates the patient has more than one race (e.g., Black-White, Indian-White), select the first listed race.
- Although the terms "Hispanic" and "Latino" are actually descriptions of the patient's ethnicity, it is not uncommon to find them referenced as race. If the patient's race is documented only as Hispanic/Latino, select "White." If the race is documented as mixed Hispanic/Latino with another race, use whatever race is given (e.g., Black Hispanic – select "Black"). Other terms for Hispanic/Latino include Chicano, Cuban, H (for Hispanic), Latin American, Latina, Mexican, Mexican-American, Puerto Rican, South or Central American, and Spanish.

Suggested Data Sources:
- Outpatient record
- Emergency Department record

Inclusion Guidelines for Abstraction:
Black or African American
A person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black" or "African American."

American Indian or Alaska Native
A person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment (e.g., any recognized tribal entity in North and South America [including Central America], Native American).

Asian
A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

White
A person having origins in any of the original peoples of Europe, the Middle East, or North Africa (e.g., Caucasian, Iranian, White).

Native Hawaiian or Pacific Islander
A person having origins in any of the other original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Reason for Delay in Fibrinolytic Therapy***

Collected For: OP-2

Definition: Documentation of a reason for a delay in initiating fibrinolytic therapy after hospital arrival by a physician/advanced practice nurse/physician assistant (physician/APN/PA). System reasons for delay are **not** acceptable.

Suggested Data Collection Question: Is there a reason documented by a physician/APN/PA for a delay in initiating fibrinolytic therapy after hospital arrival?

Format:
Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:
Y (Yes) Reason documented by a physician/APN/PA for a delay in initiating fibrinolytic therapy after hospital arrival.

N (No) No reason documented by a physician/APN/PA for a delay in initiating fibrinolytic therapy after hospital arrival, or unable to determine from medical record documentation.

Notes for Abstraction:
- System reasons for delay are not acceptable, regardless of any linkage to the delay in fibrinolysis/reperfusion.
  Examples:
  - Equipment-related (e.g., IV pump malfunction)
  - Staff-related (e.g., waiting for fibrinolytic agent from pharmacy)
  - Consultation with other clinician that is not clearly linked to a patient-centered (non-system) reason for delay
- Documentation must be made clear somewhere in the medical record that (1) a "hold," "delay," "deferral," or "wait" in initiating fibrinolysis/reperfusion actually occurred, **and** (2) that the underlying reason for that delay was non-system in nature. Abstractors should **not** make inferences from documentation of a sequence of events alone or otherwise attempt to interpret from documentation. Clinical judgment should not be used in abstraction.
  Examples of acceptable documentation:
  - "Hold on fibrinolytics. Will do CT scan to r/o bleed."
  - "Patient waiting for family and clergy to arrive – wishes to consult with them before fibrinolysis."
  - "Fibrinolysis delayed due to need to control blood pressure before administering fibrinolysis."
  - "Hold fibrinolytics. Need to consult with neurology regarding bleeding risk."
  - "Fibrinolytic therapy initially deferred due to shock."

Exceptions:
- Physician/APN/PA documentation that a cardiopulmonary arrest, mechanical circulatory assist device placement, or intubation occurred within 30 minutes after hospital arrival **or** initial patient/family refusal of fibrinolysis/reperfusion (documented by a physician/APN/PA) are acceptable reasons for delay that do **not** require documentation that a "hold," "delay," "deferral," or "wait" in initiating fibrinolysis actually occurred. In order for cardiopulmonary arrest, mechanical circulatory assist device placement, or intubation within 30 minutes after hospital arrival to be considered an automatic acceptable reason for

delay, physician/APN/PA documentation that it occurred within 30 minutes after hospital arrival must be **clear**.
    - If unable to determine that a documented reason is system in nature, select No.
- Reasons for delay in fibrinolytic therapy should be collected regardless of how soon after arrival it was ultimately initiated or how minimal the delay.

Suggested Data Sources:
Physician/APN/PA Documentation Only:
- Code sheet (if signed by physician/APN/PA)
- Consultation notes
- Discharge summary
- Emergency Department record
- History and Physical
- Physician orders
- Progress notes

Excluded Data Sources:
- Any documentation dated/timed after discharge, except discharge summary and operative/procedure/diagnostic test reports from procedure done during hospital stay.

Inclusion Guidelines for Abstraction:
Mechanical circulatory assist devices
- Aortic balloon pump
- Biventricular assist device (BiVAD)
- Intra-aortic balloon (IAB)
- Intra-aortic balloon counterpulsation (IABC)
- Intra-aortic balloon pump (IABP)
- Intra-aortic counterpulsation (IAC)
- Intra-aortic counterpulsation balloon pump (IACBP)
- Left ventricular assistive device (LVAD)
- Percutaneous ventricular assist device (PVAD)
- Ventricular assist device (VAD)

Cardiopulmonary arrest
- Cardiac arrest
- Cardiopulmonary resuscitation (CPR)
- Defibrillation
- Respiratory arrest
- Ventricular fibrillation (V-fib)

Intubation
- Endotracheal intubation (ETI)
- Mechanical ventilation
- Nasotracheal intubation (NTI)
- Orotracheal intubation

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Reason for Not Administering Fibrinolytic Therapy***

Collected For: OP-3

Definition: Contraindications/reasons for not administering fibrinolytic therapy include: patient refusal, cardiogenic shock, contraindications, or other reasons documented by a physician/APN/PA or pharmacist for not giving fibrinolytics.

Format:
Length: 1
Type: Alphanumeric
Occurs: 1

Suggested Data Collection Question:
Select one of the following potential contraindications or reasons for not administering fibrinolytic therapy:

Allowable Values:
1 **Documented contraindication/reason:** There is a contraindication or other reason documented by a physician/APN/PA or pharmacist for not prescribing fibrinolytic therapy, including patient refusal.

2 **Cardiogenic Shock:** There is physician/APN/PA documentation the patient has a diagnosis of cardiogenic shock.

3 **No documented contraindication/reason or Unable to Determine (UTD):** There is no documentation of contraindication/reason for not prescribing fibrinolytic therapy or unable to determine from medical record documentation.

Notes for Abstraction:
- When conflicting information is documented in a medical record, a positive finding (fibrinolytic allergy) should take precedence over a negative finding (no known allergy).
- If a contraindication/reason listed under the Inclusion Guidelines for Abstraction is clearly documented in the content of the Emergency Department record, then this is sufficient to abstract value 1 for this data element. There does not need to be explicit documentation of a rationale by a provider linking the documented contraindication/reason and the decision to not administer fibrinolytic therapy if the contraindication/reason is listed under the Inclusion Guidelines for Abstraction.
- If a contraindication/reason for not administering fibrinolytic therapy that is not listed under the Inclusion Guidelines for Abstraction is clearly documented in the content of the Emergency Department record, and there is clear documentation by a physician/APN/PA or pharmacist linking this contraindication/reason to the decision to not administer fibrinolytic therapy, then this is also sufficient to abstract value 1 for this data element.
- In situations where there is documentation that would support more than one of the allowable values, 1-3, select the lowest value. Example: Patient has a documented contraindication from the inclusion list and a diagnosis of cardiogenic shock; select value 1.

Suggested Data Sources:
- Emergency Department record

Inclusion Guidelines for Abstraction:

Contraindications
- Any prior intracranial hemorrhage

- Known structural cerebral vascular lesion (e.g., AVM)
- Known malignant intracranial neoplasm (primary or metastatic)
- Ischemia stroke within 3 months **except** acute ischemic stroke within 3 hours
- Suspected aortic dissection
- Active bleeding or bleeding diathesis (excluding menses)
- Significant closed head trauma or facial trauma within 3 months
- Severe uncontrolled hypertension on presentation (SBP > 180 mmHg or DBP > 110 mmHg)
- History of prior ischemic stroke > 3 months, dementia, or known intracranial pathology not covered in contraindications
- Traumatic or prolonged (> 10 minutes) CPR or major surgery (< 3 weeks)
- Recent (within 2 to 4 weeks) internal bleeding
- Noncompressible vascular punctures
- For streptokinase/anistreplase: prior expose (>5 days ago) or prior allergic reaction to these agents
- Pregnancy
- Active peptic ulcer

Current use of any of the following anticoagulants prior to arrival:
- Apixaban
- Coumadin
- Dabigatran
- Eliquis
- Jantoven
- Pradaxa
- Rivaroxaban
- Warfarin
- Warfarin Sodium
- Xarelto

Risk
- Cardiogenic shock

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Sex***

Collected For: All records

Definition: The patient's documented sex on arrival at the hospital.

Suggested Data Collection Question: What was the patient's sex on arrival?

Format:
Length: 1
Type: Character
Occurs: 1

Allowable Values:
M = Male
F = Female
U = Unknown

Notes for Abstraction:
- Collect the documented patient's sex at admission or the first documentation after arrival.
- Consider the sex to be unable to be determined and select "Unknown" if:
    - The patient refuses to provide their sex.
    - Documentation is contradictory.
    - Documentation indicates the patient is transexual.
    - Documentation indicates the patient is a hermaphrodite.

Suggested Data Sources:
- Consultation notes
- Emergency Department record
- Face sheet
- History and Physical
- Nursing admission notes
- Progress notes
- UB-04

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Time Last Known Well***

Collected For: OP-23

Definition: The time prior to hospital arrival at which the patient was last known to be without the signs and symptoms of the current stroke or at his or her baseline state of health.

Suggested Data Collection Question: At what time was the patient last known to be well or at his or her prior baseline state of health?

Format:
Length: 5 – HH-MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:
HH = Hour (00–23)
MM = Minutes (00–59)
UTD = Unable to Determine

Time must be recorded in military time format.

With the exception of midnight and noon:
- If the time is in the a.m., conversion is not required.
- If the time is in the p.m., add 12 to the clock time hour.
  Examples:
  - Midnight = 0000 Noon = 1200
  - 5:31 a.m. = 0531 5:31 p.m. = 1731
  - 11:59 a.m. = 1159 11:59 p.m. = 2359

Note: 0000 = midnight. If the time is documented as 0000 11-24-20XX, review supporting documentation to determine if the *Date Last Known Well* should remain 11-24-20xx or if it should be converted to 11-25-20xx.

When converting midnight, or 2400, to 0000, do not forget to change the *Date Last Known Well*.
Example:
- Midnight or 2400 on 11-24-20XX = 0000 on 11-25-20XX.

Notes for Abstraction:
- For times that include seconds, remove the seconds and record the time as is.
  Example:
  - 1500:35 would be recorded as 1500
- If the *Time Last Known Well* is unable to be determined from medical record documentation, select UTD.

Exception:
- If the only *Time Last Known Well* is documented as a time immediately before hospital arrival without a specific time range in minutes, e.g., "symptoms started just prior to ED arrival," and no other documentation mentioning *Time Last Known Well* is available in the medical record, use the *Arrival Time* for *Time Last Known Well*.

- The medical record must be abstracted as documented (taken at "face value"). When the time documented is obviously in error (not a valid time) and no other documentation is found that provides this information, the abstractor should select UTD.

  Example:

  - Documentation indicates the *Time Last Known Well* was 3300. No other documentation in the medical record provides a valid time. Since the *Time Last Known Well* is outside of the range listed in the Allowable Values for Hour, it is not a valid time, and the abstractor should select UTD.

    Note: Transmission of a case with an invalid time as described above will be rejected from the CMS Clinical Data Warehouse. Use of UTD for *Time Last Known Well* allows the case to be accepted into the Warehouse.
- If the *Time Last Known Well* is documented as a specific time and entered as *Time Last Known Well* on a Code Stroke Form or stroke-specific electronic template, enter that time as the *Time Last Known Well*. Documentation of the *Time Last Known Well* on a stroke-specific form or template should be selected regardless of other times last known well documented elsewhere in the medical record.

  Exceptions:

  - **Any** physician/APN/PA documentation that *Last Known Well*/onset of signs/symptoms is unknown/uncertain/unclear takes precedence over specific time on a Code Stroke Form.
  - Crossing out of a specific time on a Code Stroke Form and a specific time documented on the same or different Code Stroke Form, use the specific time that is not crossed out.
  - A specific time on a Code Stroke Form and another time reference documented, e.g., 8 hours, on the same or different Code Stroke Forms, use the specific time.
  - Multiple specific times on the same or different Code Stroke Forms, use abstraction guidelines for multiple times *Last Known Well*.
  - If unable to determine if a form is a Code Stroke Form, continue to review the medical record for *Time Last Known Well* documentation in other sources.
- If the *Time Last Known Well* is documented as being a specific number of hours prior to arrival (e.g., felt left side go numb 2 hours ago) rather than a specific time, subtract that number from the time of ED arrival and enter that time as the *Time Last Known Well.*
- If the *Time Last Known Well* is noted to be a range of time prior to ED arrival (e.g., felt left side go numb 2 hours to 3 hours ago), assume the maximum time from the range (e.g., 3 hours), and subtract that number of hours from the time of arrival to compute the *Time Last Known Well*.
- If both the *Time Last Known Well* and symptom onset are documented, select the *Time Last Known Well.*

  Examples:

  - H&P states, "Patient watching TV with family and complained of blurred vision in both eyes at 8:30 PM." ED MD notes, "Patient normal at 8:30 PM." *Time Last Known Well* is 2030.
  - "Patient was doing well at 4:30 PM – noticed difficulty speaking around 6:00 pm." *Time Last Known Well* is 1630.
  - "Patient normal at 2200 before going to bed. Awoke at 0200 with headache and took two aspirin before returning to sleep. OK at 0700 and went to work. Felt confused, unable to speak without slurring at 0800." *Time Last Known Well* is 0700.
- If the only time documented is time of symptom onset without mention of when the patient was last known well, use the time of symptom onset for the *Time Last Known Well*.

  Example:

  - "Sudden onset headache one hour before ED arrival," documented by ED MD. *Arrival Time* 1924. No other documentation referencing time last known well available in the medical record. *Time Last Known Well* is 1824.

- If there are multiple times of last known well documented in the absence of the *Time Last Known Well* explicitly documented on a Code Stroke Form, use physician documentation first before other sources, e.g., nursing, EMS.
    Example:
    - "Patient last seen normal this morning at 1000" per H&P. ED nurse documented 0950 as time last well. *Time Last Known Well* is 1000.
- If multiple times last known well are documented by different physicians or the same provider, use the earliest time documented.
- If there is documentation of one or more episodes of stroke symptoms and documentation of symptom resolution between episodes, use the time of the most recent (last) episode prior to arrival, regardless if all symptoms resolved prior to arrival.
    Examples:
    - "Patient reported right hand paresthesia two days ago that resolved spontaneously after a few minutes. New onset of symptoms today around 0700 involving right arm and right leg." *Time Last Known Well* is 0700.
    - "Wife states that he was having trouble with slurred speech and confusion yesterday. Symptom free this morning. Return of symptoms with facial droop noted around noon." *Time Last Known Well* is 1200.
    - "Wife noticed slurred speech at 8:30 last night. Without symptoms early this morning. Wife noticed slurred speech again at 9:00 during breakfast conversation." *Time Last Known Well* is 0900.
    - "Wife noticed slurred speech at 8:30 last night. Symptom-free this morning. Came to ED to get checked out." *Time Last Known Well* is 2030.
- A Code Stroke Form is used by the stroke team or ED staff to document the acute stroke process. See the inclusion list for acceptable terms used for a Code Stroke Form. The list is not all-inclusive.
- *Time Last Known Well* on a Code Stroke Form may be documented by a nurse or other member of the care team authorized to serve as a scribe.
- If the time is noted to be "less than" a period of time prior to ED arrival, assume the maximum range. Example: *Time Last Known Well* less than one hour ago. Subtract one hour from the time of arrival to compute *Time Last Known Well*.

Suggested Data Sources:
- Ambulance record
- Code Stroke Form/template
- Emergency Department record
- History and physical
- IV flow sheets
- Medication administration record
- Nursing flow sheets
- Progress notes
- Transfer sheet

Inclusion Guidelines for Abstraction:
Signs and Symptoms of Stroke
- Sudden numbness or weakness of the face, arm, or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination

- Sudden severe headache

Code Stroke Form
- Stroke Activation Form
- Stroke Alert Form
- Stroke Assessment Form
- Stroke Intervention Form
- Stroke Rapid Response Form
- Thrombolysis Checklist
- tPA Eligibility Form

Exclusion Guidelines for Abstraction:
Code Stroke Form
- Stroke Education Form
- Core Measure Form

Data Element Name: ***Transfer for Acute Coronary Intervention***

Collected For: OP-3

Definition: Documentation the patient was transferred from this facility's emergency department to another facility for acute coronary intervention.

Suggested Data Collection Question: Was there documentation the patient was transferred from this facility's emergency department to another facility for acute coronary intervention?

Format:
Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:
1 There was documentation the patient was transferred from this facility's emergency department to another facility specifically for acute coronary intervention.

2 There was documentation the patient was admitted to observation status prior to transfer.

3 There was documentation the patient was transferred from this facility's emergency department to another facility for reasons other than acute coronary intervention, or the specific reason for transfer was unable to be determined from medical record documentation.

Notes for Abstraction:
- To select value 1, documentation must include a specifically defined reason for transfer such as "Percutaneous Coronary Intervention," "Angioplasty," or "for cardiac cath," or "for cath lab."
- The Inclusion Guidelines for Abstraction is not an all-inclusive list. If the acute coronary intervention is not listed in the Inclusion Guidelines for Abstraction, but it is a defined reason for transfer, this is sufficient to abstract a 1.
- To select value 2, there must be documentation of a physician/APN/PA order to admit to observation status.
- If a patient receives acute coronary intervention prior to transfer, then abstract value 3.
- The reason for transfer must be a defined ACI. As such, if implicit reasons for transfer, such as "Patient has STEMI" or "Transferred for cardiology consult to discuss possible cath lab" are listed, then select value 3.

Suggested Data Sources:
- Emergency Department record

Inclusion Guidelines for Abstraction:
- Acute angiogram
- Acute cardiac intervention
- Acute coronary intervention
- Angioplasty
- Cath lab
- Cardiac catheterization
- Interventional cardiology
- Percutaneous Coronary Intervention
- Primary Percutaneous Coronary Intervention
- Primary PCI
- PCI

Exclusion Guidelines for Abstraction: None

Missing and Invalid Data

Introduction

Missing data are data elements required for calculating a hospital outpatient measure that have no values present for one or more encounters. Invalid data are data element values required for calculating a hospital outpatient measure that fall outside of the range of allowable values defined for that data element.

Reducing the levels of missing and invalid data is important as it minimizes the potential for measure rate bias. Because records with missing or invalid data cannot be included in the calculation of the observed measure rate, a measure's observed rate may not accurately reflect the patient population. The excluded records may have differed significantly from the records with no missing data (i.e., the records remaining may not be representative of the actual population).

Data Collection and the Unable to be Determined (UTD) Allowable Value

Abstractors provide an answer to every data element that is applicable per the combined skip logic for all measures in a hospital outpatient measure set for the record to be deemed complete and to not be rejected. While there is an expectation that all data elements are collected, it is recognized that, in certain situations, information may not be available (dates, times, codes, etc.). If, after due diligence, the abstractor determines that a value is not documented or is not able to determine the answer value, the abstractor must select UTD as the answer. Note that some data elements do not allow a UTD value for data transmission. The UTD allowable value is used as follows:

- *Birthdate, CPT® Code, E/M Code, ICD-10-CM Principal and Other Diagnosis Codes* and *Outpatient Encounter Date* do not have a UTD allowable value for data transmission. Encounter records containing UTD for any of these data elements are rejected when submitted.
- Date, time, and numeric data elements, other than *Birthdate* and *Outpatient Encounter Date*, have a UTD allowable value option.
    - Rate-based algorithms evaluate records to a Measure Category Assignment = D (failed) when a date, time, or numeric data element containing an allowable value of UTD is evaluated.
    - Continuous variable algorithms evaluate records to a Measure Category Assignment = Y (UTD value exists) when a date, time, or numeric data element containing an allowable value of UTD is evaluated.
    - The method by which data collection software collects UTD information is determined by each software vendor, except the software cannot automatically default to a UTD answer. The decision to enter a UTD for each data element must be made by the abstractor, not the software.
- Yes/No data elements: The allowable value No incorporates UTD into the definition. Refer to the measure algorithms in which each Yes/No data element is used to determine how the record is treated.
- Data elements containing two or more categorical values: The UTD value is either classified as a separate allowable value or included in the same category as "None of the above/Not documented." Refer to the measure algorithms in which each categorical data element is used to determine how the record is treated.

Missing and Invalid Data
For rejected data to be accepted, errors must be corrected and the data resubmitted before the transmission deadline.

- The majority of general data elements that are missing data* cause the encounter record to be rejected. Refer to the Data Dictionary Introduction in this manual for the complete list of general data elements.
- In addition, if both the *ICD-10-CM Principal Diagnosis Code* and the CPT® Code data elements are missing data*, the entire record will be rejected.
- Not all patients have *ICD-10-CM Other Diagnosis Codes*. Records will be accepted for missing data for this data element.
- Measure-specific data elements that are missing data* cause the record to be rejected if any measure algorithm results in a Measure Category Assignment = X (missing data). If no measure evaluates to a category assignment of X, the record will be accepted.
- General and measure-specific data elements that contain invalid data cause the record to be rejected.

Note: *A missing value occurs when the abstractor does not select an answer for a data element (leaves it blank) or the software incorrectly transmits a "null" instead of the correct value for a data element. A UTD allowable value is not considered missing data.

Abstraction Software Skip Logic and Missing Data
Skip logic allows hospitals and vendors to minimize abstraction burden by using vendor software edit logic to bypass abstraction of data elements not utilized in the measure algorithm. However, these bypassed elements will negatively impact data quality and the hospital's CMS chart audit validation results when elements are incorrectly abstracted and subsequent data elements are bypassed and left blank.

The use of skip logic by hospitals and vendors is optional and not required. Hospitals should be aware of the potential impact of skip logic on data quality, abstraction burden, and CMS chart audit validation scores. Vendors and hospitals utilizing skip logic should closely monitor the accuracy rate of abstracted data elements, particularly data elements placed higher in the algorithm flow.

Missing, Invalid, UTD Data Summary:

- Missing Data – No data element value is present (blank or "null").
- Invalid Data – The data element value falls outside of the range of defined allowable values.
- UTD – The allowable value of UTD is present for the data element.

Population and Sampling Specifications

Introduction

Population

Defining the population is the first step to estimate a hospital's performance. A population is generally defined as a collection of patients sharing a common set of universally measured characteristics, such as an ICD-10-CM Principal Diagnosis or CPT® Code. The outpatient population and diagnosis/CPT® codes meet this description for the hospital outpatient quality measures. For the purpose of measuring hospital outpatient quality measures, the term "outpatient population" is defined below:

- An outpatient population refers to all patients (Medicare and non-Medicare) who share a common set of specified, administratively derived data elements. This may include ICD-10-CM diagnosis codes, CPT® codes, or other population characteristics such as age. For example, the population for the Acute Myocardial Infarction (AMI) outpatient OP- 2 and OP-3 measures include all patients with an *E/M Code* on Appendix A, OP Table 1.0, an *ICD-10-CM Principal Diagnosis Code* as defined in Appendix A, OP Table 1.1, and a Patient Age (*Outpatient Encounter Date – Birthdate*) ≥ 18 years.

Population sampling algorithms have been developed for the selected seven measures. Each algorithm defines the initial population on the basis of a limited number of criteria such as age, CPT® codes (including Evaluation/Management [E/M] codes), and ICD-10-CM codes. These basic data elements could be easily obtained from electronic files (e.g., from the billing department) and usually allow a computer-based sampling process to be employed.

Note: Data entry for OP-22 will be achieved through the secure side of QualityNet.org via an online tool available to authorized users. Because the measure uses administrative data and not claims data to determine the measure's denominator population, OP-22 is not included in the ED-Throughput Population Algorithm.

The measure sets and measure populations are presented in Table 1 below.

Table 1: Hospital Outpatient Measure Sets and Measure Populations

Measure Set:	**AMI**
Population:	Acute Myocardial Infarction (AMI)
Measure(s):	OP-2, OP-3
Measure Set:	**ED-Throughput**
Population:	Throughput
Measure(s):	OP-18
Measure Set:	**Stroke**
Population:	Stroke
Measure(s):	OP-23
Measure Set:	**Measures Submitted via a Web-Based Tool**
Population:	Endoscopy/Cataract/EBRT
Measure(s):	OP-29, OP-31, OP-33

Note: Data entry for OP-29, OP-31, and OP-33 will be achieved through the secure side of QualityNet.org via an online tool available to authorized users. These measures use chart-abstracted data to enter a numeric value as a numerator and denominator via the web-based tool.

For the definition of the outpatient population for each sampling population, refer to the appropriate outpatient population discussion in the Measure Information section of this manual.

Sampling

Sampling is a process of selecting a representative part of a population in order to estimate the hospital's performance without collecting data for its entire population. Using a statistically valid sample, a hospital can measure its performance in an effective and efficient manner. Sampling is a particularly useful technique for performance measures that require primary data collection from a source such as the medical record. Sampling should not be used unless the hospital has a large number of cases in the outpatient population because a fairly large number of sample cases are needed to achieve a representative sample of the population. For the purpose of sampling hospital outpatient quality measures, the terms "sample," "effective sample," and "case" are defined below:

- The "sample" is the fraction of the population that is selected for further study.
- "Effective sample" refers to the part of the sample that makes it into the denominator of an outpatient measure set. This is defined as the sample for an outpatient measure set minus all the exclusions and contraindications for the outpatient measure set in the sample.
- A "case" refers to a single record (or an encounter) within the population. For example, during the first quarter a hospital may have 100 patients who had a principal diagnosis associated with the OP- 2 and 3 measures. The hospital's outpatient population would include 100 cases or 100 outpatient records for these measures during the first quarter.

To obtain statistically valid sample data, the sample size should be carefully determined, and the sample cases should be randomly selected in such a way that the individual cases in the population have an equal chance of being selected. Only when the sample data truly represent the whole population can the sample-based performance outpatient measure set data be meaningful and useful. Each hospital is ultimately responsible for adhering to the sampling requirements outlined in this manual.

As a general rule/policy of CMS, providers are encouraged to submit as many cases as possible up to the entire population of cases if reasonably feasible. For example, if the raw data can be easily extracted from an existing electronic database or the abstraction burden is manageable, providers should consider submitting the entire population of cases that meet the initial selection criteria. Otherwise, a statistically valid sample can be selected.

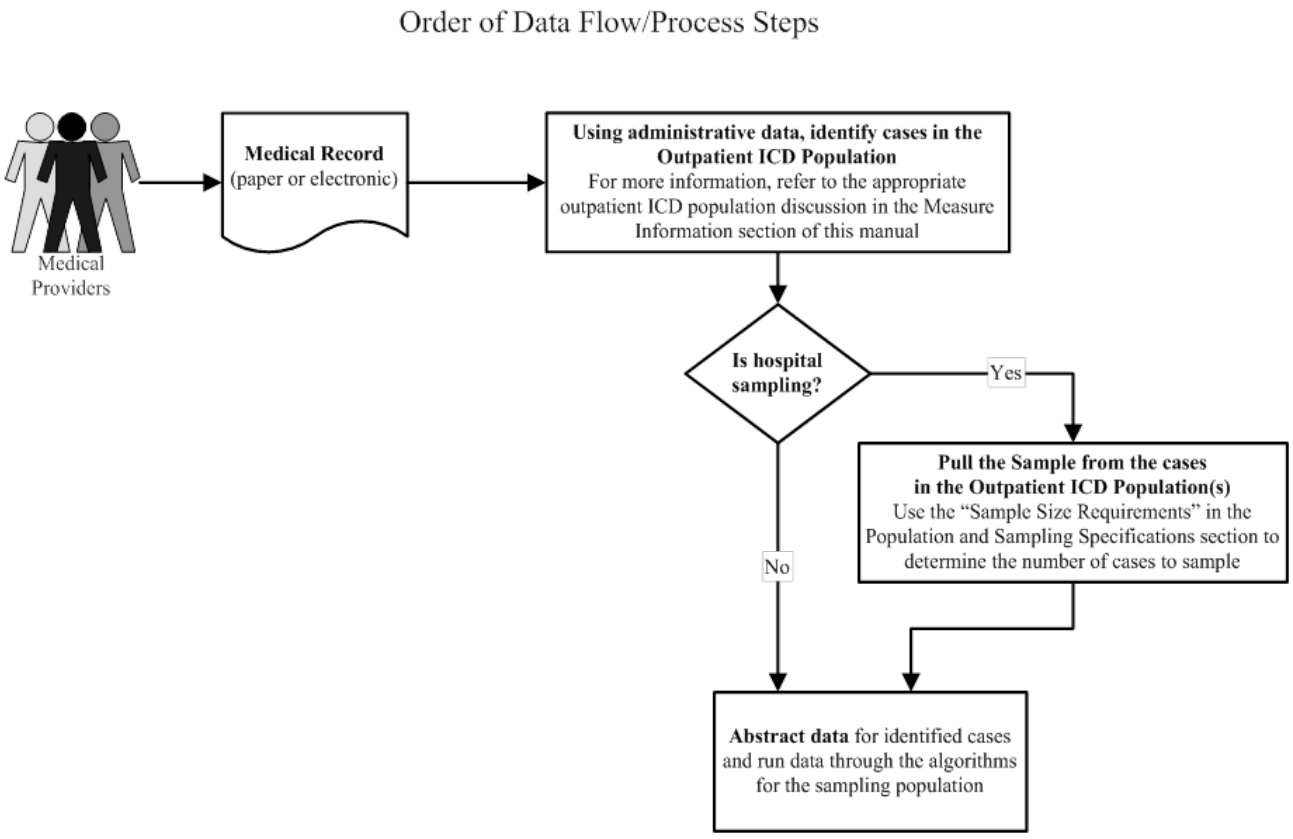
Note: Hospitals are **not** required to sample their data if they elect to include all eligible cases. For example, a hospital has 100 cases for the quarter and must select a sample of 80 cases. The hospital may choose to use all 100 cases given the minimal benefit sampling would offer.

Order of Data Flow

Each outpatient measure set has a unique definition of outpatient population. However, the same data flow or process steps can be used to identify the data that are transmitted to the CMS Clinical Data Warehouse. These process steps are:

- First, identify the outpatient population for the outpatient measure set. An outpatient population is defined for each outpatient measure set, and the count is collected in the *Outpatient Population Size* data element. This data pull utilizes administrative data such as ICD-10-CM diagnosis codes, CPT® codes, outpatient encounter date, and birthdate.
    - All ICD-10-CM diagnosis codes and CPT® codes included in the appropriate outpatient population definition must be applied. This identification process must be completed prior to application of the data integrity filter, outpatient measure set exclusions, and sampling methodology.
    - For specific outpatient measure set definitions, refer to the appropriate outpatient population discussion in the Measure Information section of this manual.

- Second, if the hospital is sampling, use the outpatient population identified above and pull the sample of medical records for each outpatient measure set using the requirements identified in the Quarterly Sampling Requirements section.
- Third, collect or abstract from the identified medical records the general and outpatient measure set-specific data elements that are needed for the sampling population. The count of the number of cases used in this step is collected in the *Outpatient Sample Size* data elements (Note: If the hospital is not sampling, the *Outpatient Sample Size* will equal the *Outpatient Population Size*).
    - If the hospital is not sampling, use all medical records identified in the outpatient population.
    - If the hospital is sampling, use the medical records from the cases in the identified sample.



Sample Size Requirements

Each hospital is ultimately responsible for meeting or exceeding the sample size requirements outlined below. Hospital samples must be monitored to ensure that sampling procedures consistently produce statistically valid and useful data. As a general rule and based on prior experience with CMS hospital inpatient measures, sample size requirements for this project are based on commonly accepted sampling criteria for surveys:

- A five percent margin of error is recommended. The margin of error is the extent of error the investigator is willing to tolerate. Lower margins of error (e.g., three percent) would require substantially larger sample sizes and generate more reliable results from the samples, but the burden of abstraction may not be acceptable for most providers. Inversely, higher margins of error would require relatively smaller sample sizes but less reliable results from those samples.
- For OP-18, in order to reduce the burden of abstraction for smaller hospitals, a 10 percent margin of error was employed to limit the number of cases for the sample size requirements.
- The size of the population, also referred to as the universe population, is the volume of eligible patients from which the sample will be drawn. This number is obviously expected to vary widely among providers. Different sample size estimates are provided for various populations. See Tables 2, 3, and 4 for sample size requirements.
- Given that the number of cases in the sample could further be reduced during the analysis phase due to missing data in the medical records and additional outpatient measure set-specific exclusion criteria, hospitals are strongly advised to overestimate their sample sizes by 10 to 20 percent, or as much as possible.
- A hospital may choose to use a larger sample size than is required.
- Hospitals whose outpatient population size is less than the minimum number of cases for the sampling population must include all eligible cases in their data.
- As a quality check to ensure that sampling methodology was applied correctly, the provider must run a basic comparative analysis of common demographic variables including age distribution, gender ratio, race/ethnicity distribution, and the proportion of Medicare patients between the sampled set and the population of eligible patients. The relative frequencies or distribution of these common variables should be very close between the two data sets. Any significant discrepancy should trigger a review and a restart of the sampling process.
- As indicated earlier, the adequacy of the sample size will be monitored as the project progresses and revised, as needed. Providers that choose to sample are responsible for the sampling process. However, for each sampled case, providers are required to clearly indicate the sample size (n) to which the case belongs, the population size (N) from which the sample was drawn, and the proportion of Medicare and non-Medicare patients in the sample.

Sampling Requirements

A hospital may choose to use a larger sample size than is required. Hospitals whose population size is less than the minimum number of cases per quarter for the measure set cannot sample. Refer to **Table 2** to determine the minimum number of cases that need to be sampled for each population per quarter per hospital for all measure sets except OP-18, OP-29, OP-31, and OP-33. Refer to **Table 3** to determine the minimum number of cases that need to be sampled for each population per quarter per hospital for OP-18. Refer to **Table 4** to determine the annual sample size requirements for OP-29 and OP-31. Refer to **Table 5** to determine the annual sample size requirements for OP-33.

It is important to point out that if a hospital elects to use the monthly sampling guidelines, the hospital is still required to meet the minimum sampling requirements. Given the potential for substantial variation in monthly sampling population sizes, the monthly sample sizes should be based on the known or anticipated population size. When necessary, appropriate oversampling should be employed to ensure that the hospital meets the minimum sample size requirements.

Table 2: Sample Size Requirements per Quarter per Hospital for OP-2, OP-3, and OP-23

Population Per Quarter	**≤ 80**
Quarterly Sample Size	Use all cases
Monthly Sample Size	Use all cases
Population Per Quarter	**81-100**
Quarterly Sample Size	80
Monthly Sample Size	27
Population Per Quarter	**101-125**
Quarterly Sample Size	95
Monthly Sample Size	32
Population Per Quarter	**126-150**
Quarterly Sample Size	109
Monthly Sample Size	37
Population Per Quarter	**151-175**
Quarterly Sample Size	121
Monthly Sample Size	41
Population Per Quarter	**176-200**
Quarterly Sample Size	132
Monthly Sample Size	44
Population Per Quarter	**201-225**
Quarterly Sample Size	143
Monthly Sample Size	48
Population Per Quarter	**226-250**
Quarterly Sample Size	152
Monthly Sample Size	51
Population Per Quarter	**251-275**
Quarterly Sample Size	161
Monthly Sample Size	54
Population Per Quarter	**276-300**
Quarterly Sample Size	169
Monthly Sample Size	57
Population Per Quarter	**301-325**
Quarterly Sample Size	177
Monthly Sample Size	59
Population Per Quarter	**326-350**
Quarterly Sample Size	184
Monthly Sample Size	62
Population Per Quarter	**351-375**
Quarterly Sample Size	191
Monthly Sample Size	64
Population Per Quarter	**376-400**
Quarterly Sample Size	197
Monthly Sample Size	66

Population Per Quarter	**401-425**
Quarterly Sample Size	203
Monthly Sample Size	68
Population Per Quarter	**426-450**
Quarterly Sample Size	208
Monthly Sample Size	70
Population Per Quarter	**451-500**
Quarterly Sample Size	218
Monthly Sample Size	73
Population Per Quarter	**501-600**
Quarterly Sample Size	235
Monthly Sample Size	79
Population Per Quarter	**601-700**
Quarterly Sample Size	249
Monthly Sample Size	83
Population Per Quarter	**701-800**
Quarterly Sample Size	260
Monthly Sample Size	87
Population Per Quarter	**801-900**
Quarterly Sample Size	270
Monthly Sample Size	90
Population Per Quarter	**901-1,000**
Quarterly Sample Size	278
Monthly Sample Size	93
Population Per Quarter	**1,001-2,000**
Quarterly Sample Size	323
Monthly Sample Size	108
Population Per Quarter	**2,001-3,000**
Quarterly Sample Size	341
Monthly Sample Size	114
Population Per Quarter	**3,001-4,000**
Quarterly Sample Size	351
Monthly Sample Size	117
Population Per Quarter	**4,001-5,000**
Quarterly Sample Size	357
Monthly Sample Size	119
Population Per Quarter	**5,001-10,000**
Quarterly Sample Size	370
Monthly Sample Size	124
Population Per Quarter	**≥ 10,001**
Quarterly Sample Size	377
Monthly Sample Size	126

Table 3: Sample Size Requirements per Quarter per Hospital for OP-18

Population Per Quarter	**0-900**
Quarterly Sample Size	63
Monthly Sample Size	21
Population Per Quarter	**≥ 901**
Quarterly Sample Size	96
Monthly Sample Size	32

Table 4: *Sample Size Requirements per Year per Hospital for OP-29 and OP-31

Population Per Year	**0-900**
Yearly Sample Size	63
Quarterly Sample Size	16
Monthly Sample Size	6
Population Per Year	**≥ 901**
Yearly Sample Size	96
Quarterly Sample Size	24
Monthly Sample Size	8

***If a hospital has 20 or fewer cases**, it is not required to submit any data, but it may voluntarily submit these data.

Table 5: Sampling Size Requirements per Year per Hospital for OP-33

Population Per Year	**Sampling Requirements**
≤ 39	Include all cases
40-200	40
201-500	20% of cases
≥ 501	100
Population Per Quarter	**Sampling Requirements**
< 10	Include all cases
10-50	10
51-125	20% of cases
≥ 126	25
Population Per Month	**Sampling Requirements**
< 4	Include all cases
4-16	4
17-41	20% of cases
≥ 42	9

Sampling Approaches

OP-29 and OP-31

Hospitals have the option to sample from their population or submit their entire population. Hospitals that choose to sample for these measures should use a simple sample approach, selecting the population from cases that meet requirements to be included in the denominator. Once the population has been determined, the sample size will be determined based on Table 4 and will either be 63 or 96 cases for the year. This will

constitute an acceptable sample methodology and will meet the annual reporting size requirements. If hospitals choose to select data monthly or quarterly, one option they can use is to select the first month of each quarter/year until they meet the annual reporting requirements.

OP-33

Hospitals have the option to sample from their population or submit their entire population. Hospitals that choose to sample for these measures should use a simple sample approach, selecting the population from cases that meet requirements to be included in the denominator. Once the population has been determined, the sample size will be determined based on Table 5 and will be between 0 and 100 cases for the year. This will constitute an acceptable sample methodology and will meet the annual reporting size requirements. Hospitals can choose to sample monthly, quarterly, or yearly.

Sample Size Examples

OP-2 and OP-3

- A hospital's outpatient population for OP-2 and OP-3 is 10 patients during the quarter. According to Table 2, the required quarterly sample size would be 100 percent of the OP-2 and OP-3 patient population or 10 cases for the quarter.

OP-18

- A hospital's outpatient population size for OP-18 is 700 during the third quarter. According to Table 3, the required quarterly sample size would be 63 cases per quarter. The same hospital has an outpatient population size for OP-18 of 2,000 during the fourth quarter. The hospital had an increase in population size of 1,300 between quarters three and four; the required quarterly sample size would be 96 because the quarterly sample size has been capped at 96 for population sizes of equal to or greater than 901.

OP-29 and OP-31

- A hospital's outpatient population size for OP-29 or OP-31 is 430 during the year. If a hospital elects to sample monthly based on Table 4, the monthly sample size would be a minimum of six patients per month. The hospital is ultimately responsible for meeting the yearly sample size requirement, which is a minimum of 63 patients for the year.
- A hospital's outpatient population size for OP-29 or OP-31 is 950 during the year. According to Table 4, the required yearly sample size would be 96 cases.
- A hospital's outpatient center performs 950 cataract operations during the year; 800 patients complete a pre- and post-operative visual function survey. Select 96 patients out of the 800 patients that have completed both surveys to determine the denominator and meet the required annual sample size.

OP-33

- A hospital's outpatient population size for OP-33 is 300 during the year. If a hospital elects to sample monthly based on Table 5, the monthly sample size would be a minimum of five patients per month (20% of 300 cases is 60. 60 divided by 12 equals 5). The hospital is ultimately responsible for meeting the yearly sample size requirement, which is a minimum of 60 patients for the year.
- A hospital's outpatient population size for OP-33 is 750 during the year. According to Table 5, the required yearly sample size would be 100 cases.
- A hospital's outpatient center performs 35 OP-33 procedures during the year. The hospital is responsible for data submission on all 35 cases.

Sampling Approaches

As previously stated in this section, hospitals have the option to sample from their population or submit their entire population. Hospitals that choose to sample must ensure that the sampled data represents their

outpatient population by using either the simple random sampling or systematic random sampling method and that the sampling techniques are applied consistently within a quarter. For example, quarterly samples for a sampling population must use consistent sampling techniques across the quarterly submission period.

- Simple random sampling – Selecting a sample size (*n*) from the population of size (*N*) in such a way that every case has the same chance of being selected.
- Systematic random sampling – Selecting every k^{th} record from a population size (*N)* in such a way that a sample size of *n* is obtained, where $k = N/n$ rounded to the lower digit. The first sample record (i.e., the starting point) must be randomly selected before taking every k^{th} record. This is a two-step process:
  1. Randomly select the starting point by choosing a number between one and *k* using a table on random number or a computer-generated random number, then
  2. Select every k^{th} record thereafter until the selection of the sample size is completed.

Each hospital is ultimately responsible that the sampling techniques applied for their hospital adhere to the sampling requirements outlined in this manual. Performance measurement systems are responsible for ensuring that the sampling techniques are applied consistently across their client hospitals.

Transmission of Outpatient Population and Sample Data Elements

Refer to the QualityNet website or the Hospital Outpatient Quality Measure Data Transmission section of this manual for the most current CMS Hospital OQR Program submission requirements for transmission of outpatient population and sample count data elements to the CMS Clinical Data Warehouse. Transmission of outpatient population and sample count data elements are used to assist in evaluating completeness of submission in accordance with CMS sampling requirements.

All ICD-10-CM diagnosis codes and CPT® codes included in the appropriate outpatient population definition must be applied. This identification process must be completed prior to the application of a data integrity filter, outpatient measure set exclusions, and sampling methodology. For specific definitions, refer to the appropriate outpatient population in this manual.

The outpatient population and sample data elements are:

- *Outpatient Population Size – Medicare Only*
- *Outpatient Population Size – Non-Medicare Only*
- *Outpatient Sampling Frequency*
- *Outpatient Sample Size – Medicare Only*
- *Outpatient Sample Size – Non-Medicare Only*

Outpatient Sampling Frequency indicates whether the hospital sampled its original population, whether the entire population was used for the specific time period, or the hospital had five or fewer encounters for the encounter quarter and did not submit patient-level data.

Outpatient Population and Sample Size Examples

Example 1 – Hospital does not sample

A hospital uses the OP-3 CPT® Codes (as listed in Appendix A, Table 1.1) and patient age to identify 125 cases in the OP-3 outpatient population during the second quarter. The hospital does not sample the OP-3 outpatient measure set, so data for all 125 cases are collected and used to calculate the hospital's rate for the outpatient measure set. Forty of the 125 cases in the OP-3 outpatient population are Medicare patients.

The breakdown of data by month and Medicare/Non-Medicare is:

	April	May	June	**Total**
Outpatient Population – Medicare patients	10	15	15	**40**
Outpatient Population – Non-Medicare patients	20	30	35	**85**

Total Outpatient Population Size	**30**	**45**	**50**	**125**
Outpatient Sample Size – Medicare patients	10	15	15	**40**
Outpatient Sample Size – Non-Medicare patients	20	30	35	**85**
Total Sample Size	**30**	**45**	**50**	**125**

The following is transmitted for each month in the quarter:

	April	**May**	**June**
Outpatient Population Size – Medicare only	10	15	15
Outpatient Population Size – Non-Medicare only	20	30	35
Outpatient Sampling Frequency (2 = not sampling)	2	2	2
Outpatient Sample Size – Medicare only	10	15	15
Outpatient Sample Size – Non-Medicare only	20	30	35

Example 2 – Hospital samples

A hospital uses the OP-2 CPT® Codes (as listed in Appendix A, OP Table 1.1) and patient age to identify 125 cases in the OP-3 outpatient population during the second quarter. From these 125 cases, the hospital randomly selects a sample of 95 cases. Data for these 95 cases are collected and are then used to calculate the hospital's rate for each OP-3 outpatient measure. Forty of the 125 cases in the OP-3 outpatient population are Medicare patients, and 25 of these cases were included in the sample.

The breakdown of data by month and Medicare/Non-Medicare is:

	April	**May**	**June**	**Total**
Outpatient Population – Medicare patients	10	15	15	**40**
Outpatient Population – Non-Medicare patients	20	30	35	**85**
Total Outpatient Population Size	**30**	**45**	**50**	**125**
Outpatient Sample Size – Medicare patients	5	10	10	**25**
Outpatient Sample Size – Non-Medicare patients	15	25	30	**70**
Total Sample Size	**20**	**35**	**40**	**95**

The following is transmitted for each month in the quarter:

	April	**May**	**June**
Outpatient Population Size – Medicare only	10	15	15
Outpatient Population – Non-Medicare only	20	30	35
Outpatient Sampling Frequency (1 = sampled data)	1	1	1
Outpatient Sample Size –Medicare only	5	10	10
Outpatient Same Size – Non-Medicare only	15	25	30

Hospital Outpatient Quality Measure Data Transmission

Introduction
This section of the manual is provided to highlight the unique data transmission specifications for Hospital Outpatient measure data for the Centers for Medicare & Medicaid Services (CMS) and the CMS Clinical Data Warehouse.

This section is divided into three parts: Guidelines for Submission of Data, Transmission Data Element List, and Transmission Data Processing Flow.

The Guidelines for Submission of Data section provides the user with the data standards required for submission to the CMS Clinical Data Warehouse. It includes an overview of the data required for submission to the CMS Clinical Data Warehouse, as well as the Hospital Outpatient Clinical Data XML file layout and the *Hospital Outpatient Population Data XML File Layout*.

The Transmission Data Element List describes the data elements that are either used to identify the hospital and Hospital Outpatient measure set associated to the transmitted data or is calculated by the vendor using the hospital's patient-level data and measure results. These data elements are not used in the Population Algorithms or Measure Algorithms.

The Transmission Data Processing Flow contains information regarding the order in which the CMS Clinical Data Warehouse evaluates the Hospital Outpatient measures.

IMPORTANT SUBMISSION ALERT!!

At this time, for submission of the Hospital Outpatient measures to CMS under the Hospital Outpatient Quality Reporting (OQR) Program, files must meet the specifications in this CMS manual only. Otherwise, the files will be rejected as not meeting CMS quality data submission requirements for receiving the full payment update.

Providers who are planning to also submit the Hospital Outpatient measures to The Joint Commission must refer to the transmission section separately issued by The Joint Commission. This is important because, at this time, CMS can only accept files which meet the CMS transmission manual specifications, and such files cannot contain the additional Joint Commission transmission data elements (e.g., vendor tracking ID, measure category assignment, measure value).

Guidelines for Submission of Data
Data collected for CMS are transmitted to the CMS Clinical Data Warehouse. All data submitted are required to meet transmission requirements. The file layout requirements are included in the sections that follow.

Submission Threshold
In order to reduce the burden on hospitals that treat a low number of patients but otherwise meet the submission requirements for a particular quality measure, hospitals that have five or fewer cases in a quarter (both Medicare and non-Medicare) for any measure set (i.e., Stroke) will **not** be required to submit patient-level data for the entire measure set for that quarter.

Submission of Hospital Outpatient Clinical Data
Hospital Outpatient Clinical Data are submitted to the CMS Clinical Data Warehouse on a quarterly submission schedule. All clinical data submitted to the CMS Clinical Data Warehouse must adhere to the *Hospital Outpatient Clinical Data XML File Layout* specifications provided later in the transmission section. Each case must have a separate XML file. For example, if you have 12 records that you have abstracted, you

must have 12 separate XML files. If you have abstracted more than one Hospital Outpatient measure set for a patient encounter, then a separate XML file must be created for each Hospital Outpatient measure set. Each Hospital Outpatient measure can only be abstracted once for the same medical record.

Submission of Hospital Outpatient Population Data
CMS collects population size and declaration of sampling by Hospital Outpatient measure set on a quarterly basis. For hospitals submitting the Hospital Outpatient Population Data, information may be submitted via an XML file to the CMS Clinical Data Warehouse. All population data submitted to the CMS Clinical Data Warehouse must adhere to the *Hospital Outpatient Population Data XML File Layout* specifications provided later in the transmission section. Each file may contain data for only one provider.

Additional guidelines related to the submission of Hospital Outpatient Clinical Data and Hospital Outpatient Population Data are outlined below.

Overview
The guidelines below are for the submission of Hospital Outpatient Clinical Data and Hospital Outpatient Population Data to CMS.

Data Submission Verification
Prior to processing measure outcomes, all data will be verified according to the rules in the Data Transmission section and the edits documents. Cases submitted to the CMS Clinical Data Warehouse that do not meet the requirements outlined in these documents will be rejected.

Requirements for XML Tags and Associated Data
Do not put spaces between XML tags and associated data. Cases with inappropriate spaces will be rejected from the CMS Clinical Data Warehouse.

Export File Character Limitations
Cases exported for submission to the CMS Clinical Data Warehouse may not have greater than 50 characters in the file name.

Missing Data Policy
All cases submitted to the CMS Clinical Data Warehouse must have all data required to calculate the measures. Files submitted, which are missing data required to calculate measures (any case that would result in a Measure Category X assignment), will be rejected from the Warehouse. These cases should be reviewed by the provider, corrected, and resubmitted prior to the submission deadline with an allowable value indicated for any data element that was missing. Please refer to the Missing and Invalid Data Section for additional information.

Required Patient Identifiers Based on Payment Source
1. All cases submitted to the CMS Clinical Data Warehouse are required to include the Patient Identifier. Please refer to the Data Dictionary for the definition of this data element.

Unique Record Key (What fields make a record unique?)
CMS Certification Number, Patient Identifier, Arrival Time, Outpatient Encounter Date, and Outpatient Measure Set.

Principal and Other Diagnosis Codes
Effective March 1, 2007, the National Uniform Billing Committee implemented a Present on Admission (POA) indicator for Principal and other Diagnosis codes. These POA indicators do not apply to outpatient billing and should not be present on outpatient claims. Therefore, data submitted to the CMS Clinical Data

Warehouse must have any POA Indicator removed prior to submission. Failure to remove the indicator will result in cases being rejected from the CMS Clinical Data Warehouse.

Hospital Outpatient Clinical Data XML File Layout
The XML file layout is divided into the following sections. Please refer to the Hospital Outpatient Clinical Data XML file layout example for details on how the file elements are nested.

submission – Parent element. This is a **required** element.
The following attributes identify the initiative and file content of this element:

1. **type** – Describes the setting for which the data are being submitted (OUTPATIENT).
2. **data** – Describes the type of data being submitted (CLINICAL).
3. **version** – The version of the file layout (1.0).
4. **action-code** – Describes the intended action of the file being submitted (ADD or DELETE).
   Note: In order to replace or delete an existing case utilizing the action–code ADD or DELETE, the following data element values must match:
   - *CMS Certification Number (provider-id),*
   - *Patient Identifier (patient-id),*
   - *Arrival Time (arrival-time),*
   - *Encounter Date (encounter-date),* and
   - *Measure Set (encounter measure-set).*

file-audit-data – Sub-element of "*submission*" used to identify file characteristics. This sub-element is **not required** for the parent element "*submission"* and has no attributes.

The following identifies the file content on the "*file-audit-data"* sub-element. This file content is **not a required** sub-element of *"file-audit-data"* and has attributes.

1. **create-date –** Sub-element of "*file-audit-data*" identifying the month, day, and year the file was created.
2. **create-time –** Sub-element of "*file-audit-data*" identifying the hour and minutes representing the time the file was created.
3. **create-by –** Sub-element of "*file-audit-data*" identifying the entity creating the file.
4. **version –** Sub-element of "*file-audit-data*" identifying the version of the file being submitted.
5. **create-by-tool –** Sub-element of "*file-audit-data*" identifying the tool used to create the file.

abstraction-audit-data – Sub-element of "*submission*" identifying characteristics of the abstraction. This sub-element is not required for the parent element "*submission*" and has no attributes.

The following identifies the file content of the "*abstraction-audit-data*" sub-element. This file content is **not a required** sub-element of "*abstraction-audit-data*" and has no attributes.

1. **abstraction-date –** Sub-element of "*abstraction-audit-data*" identifying the month, day, and year the abstraction was created.
2. **abstractor-id –** Sub-element of "*abstraction-audit-data*" identifying the abstractor.
3. **total-abstraction-time –** Sub-element of "*abstraction-audit-data*" identifying the total time in seconds required to abstract the information,
4. **comment –** Sub-element of "*abstraction-audit-data*" containing abstractor comments.

provider – Required sub-element of "*submission*" identifying provider, patient, and encounter information. This sub-element and the file content listed below have no attributes.

1. **provider-id – Required** sub-element of "*provider*" identifying the provider's CMS Certification Number (CCN).
2. **npi –** Sub-element of "*provider*" identifying the provider's National Provider Identifier (NPI). This is not a required sub-element of "*provider*."

patient – Required sub-element of "*provider*" identifying patient demographics. This sub-element has no attributes.

1. **first-name –** Sub-element of "*patient*" providing the patient's first name. This is not a required sub-element of "*patient*" and has no attributes.
2. **last-name –** Sub-element of "*patient*" providing the patient's last name. This is not a required sub-element of "*patient*" and has no attributes.
3. **birthdate –** Sub-element of "*patient*" providing the patient's birthdate. This is a **required** sub-element of "*patient*" and has no attributes.
4. **sex –** Sub-element of "*patient*" identifying the patient's gender. This is a **required** sub-element of "*patient*" and has no attributes.
5. **race –** Sub-element of "*patient*" identifying the patient's race. This is a **required** sub-element of "*patient*" and has no attributes.
6. **ethnic –** Sub-element of "*patient*" identifying the patient's Hispanic ethnicity. This is a **required** sub-element of "*patient*" and has no attributes.
7. **postal-code –** Sub-element of "*patient*" providing the patient's ZIP code. This is a **required** sub-element of "*patient*" and has no attributes.

encounter – Required sub-element of "*patient*" identifying the measure set and the patient's abstracted data. The following attributes identify the initiative and file content of this element:

1. **measure set –** Identifies the measure set for which the data were abstracted. The attribute of "encounter" identifies the measure set.
2. **encounter-date – Required** sub-element of "encounter" identifying the month, day, and year the patient encounter occurred. This sub-element has no attributes.
3. **arrival-time – Required** sub-element of "*encounter*" providing the patient's arrival time. This sub-element has no attributes.
4. **patient-id – Required** sub-element of "*encounter*" identifying the patient associated with the abstracted data. This sub-element has no attributes.

detail – Required sub-element of "*encounter*" identifying the provider-abstracted information. The following attributes of "*detail*" identify the abstracted information.

1. **question-cd –** Question being asked of the abstractor.
2. **answer-cd –** Answer identification code provided by the abstractor.
3. **row-number –** Sequential number identifying each response to a multiple answer question.

answer-value – Sub-element of "*detail*" providing the answer value text attributable to the answer-cd. This is **not a required** sub-element of "detail" and has no attributes.

Example of nested Hospital Outpatient Clinical XML file elements:

- submission (plus attributes type, data, version, and action-code)
  - file-audit-data
    - create-date
    - create-time
    - create-by

- version
- create-by-tool

- abstraction-audit-data
  - abstraction-date
  - abstractor-id
  - total abstraction-time
  - comment
- provider
  - provider-id
  - npi
  - patient
    - first-name
    - last-name
    - birthdate
    - sex
    - race
    - ethnic
    - postal-code
    - encounter (plus attribute measure-set)
      - encounter-date
      - arrival-time
      - patient-id
      - detail (plus attributes answer-code, question-cd, row-number)
        - answer-value

To obtain further information about these questions and their possible attribute values, refer to the applicable data element names (as identified in the first column, Question of the Clinical Data Elements worksheet) in Section 2, Data.

Hospital Outpatient Population Data XML File Layout

The XML file layout is divided into the following sections. Please refer to the *Hospital Outpatient Population Data XML file layout* example for details on how the file elements are nested.

submission – Parent element. This element **is required.**

The following attributes identify the initiative and file content of this element.

1. **type –** Describes the setting for which the data are being submitted (OUTPATIENT).
2. **data –** Describes the type of data being submitted (POPULATION).
3. **version –** The version of the file layout (1.0).
4. **action-code –** Describes the intended action of the file being submitted (ADD).
   Note: In order to replace an existing case utilizing the action-code ADD, the following data element values must match.
   - *CMS Certification Number* (provider-id),
   - Time period start date (time-period start-date),
   - Time period end date (time-period end-date), and
   - *Measure Set* (encounter measure-set).

file-audit-data – Sub-element of "submission" used to identify file characteristics of the file. This sub-element and the file content listed below **are not required** and have no attributes.

The following identify the file content of the "*file-audit-data*" sub-element:

1. **create-date –** Sub-element of "*file-audit-data*" identifying the month, day, and year the file was created.
2. **create-time –** Sub-element of "*file-audit-data"* identifying the hours and minutes representing the time the file was created.
3. **create-by –** Sub-element of "*file-audit-data"* identifying the entity creating the file.
4. **version –** Sub-element of "*file-audit-data*" identifying the version of the file being submitted.
5. **create-by-tool –** Sub-element of "*file-audit-data*" identifying the tool used to create the file.

provider – **Required** sub-element of "*submission*" identifying encounter period and population data. There are no attributes for this element.

1. **provider-id –** Sub-element of "*provider*" identifying the provider.
2. **npi –** Sub-element of "*provider"* identifying the provider's National Provider Identifier (NPI). This is not a required sub-element of "provider."

time-period – **Required** sub-element of "*provider*" with attributes of delimiting the encounter period.

1. **start-date –** The starting month, day, and year for the encounters associated with the submitted data.
2. **end-date –** The ending month, day, and year for the encounters associated with the submitted data. **Note:** Dates in these fields should reflect the encounter time period related to the data being submitted. Time period start and end dates must reflect full month increments and not be greater than one month. Files submitted to the CMS Clinical Data Warehouse are required to contain three one-month time-periods comprising the calendar quarter for which data are being submitted.

   Example

   If the Hospital Outpatient Population Data file is being submitted for the second quarter of 2020, the file must contain the following time periods and appropriate associated data (including all data elements as the Population Details section that follows):
   April 2020
   May 2020
   June 2020

   Files submitted with time periods that do not meet the above requirements will be rejected from the CMS Clinical Data Warehouse.

encounter – **Required** sub-element of "*time-period*" identifying the measure set and the population. The following attributes identify the file content of this element:

1. **measure set –** Identifies the outpatient measure set for which the case was abstracted.
2. **population size**– **Required** sub-element of "*encounter*" identifying population components. There are no attributes for this element.
   a. **Medicare** – **Required** sub-element of "*population-size*" identifying the numbers of Medicare submissions. There are no attributes for this element.
   b. **non-Medicare** – **Required** sub-element of "*population-size*" identifying the number of non-Medicare submissions. There are no attributes for this element.
3. **patient-id** – **Required** sub-element of "*encounter*" identifying the patient associated with the abstracted data. This sub-element has no attributes.
4. **sampling frequency** – **Required** sub-element of "*encounter*" identifying if the provider is sampling. This sub-element has no attributes.
5. **sample-size** – **Required** sub-element of "*encounter*" identifying sampled population sizes. This sub-element has no attributes.

a. **Medicare – Required** sub-element of "*sample-size*" identifying the number of Medicare submissions in the sample. There are no attributes for this element.
b. **non-Medicare – Required** sub-element of "*sample-size*" identifying the number of non-Medicare submissions in the sample. There are no attributes for this element.

Example of nested Hospital Outpatient Population XML file elements:

The XML file elements are nested as follows:

- submission (plus attributes type, data, version, and action-code)
  - file-audit-data
    - create-date
    - create-time
    - create-by
    - version
    - create-by-tool
  - provider
    - provider-id
    - npi
    - time period (plus attributes start-date and end-date)
      - encounter (plus attribute measure-set)
        - population-size
          - Medicare
          - non-Medicare
        - sampling-frequency
        - sample-size
          - Medicare
          - non-Medicare

Please refer to the Transmission Data Element List for further definition of the data elements. Please refer to *Hospital Outpatient Population Data XML File Layout* for further information on details of the XML file format. All data elements are based on encounters that occurred during the associated time period.

Measures Submitted Via a Web-Based Tool

Annual Data Submission Period: See the timeline posted to QualityNet.org for these measures; select Hospital Outpatient and then Data Submission in the drop-down menu.

Submission Instruction:

Data entry will be achieved through the secure side of QualityNet.org via an online tool available to authorized users. After logging into the secure portal:

- Select Hospital Quality Reporting from the Quality Programs drop-down menu to open the "Quality Reporting System My Tasks" page.
- Select the Manage Measures option for view/edit of Structural/Web-Based Measures
- Select Hospital Outpatient Web-Based Measures
- Select the appropriate payment year from the drop-down menu
- Select measure for submitting data, saving each measure as the data is entered.

- Repeat the process for each required measure until data entry for all required measures are complete (select the measure, submit measure data, and save the data). Facilities that do not have data for a required measure should report zeros in both the Numerator and Denominator.
- All measure data must be submitted by the deadline

Transmission Data Element List

These data elements are used either to identify the hospital and Hospital Outpatient measure set associated to the transmitted data or are calculated by the vendor using the hospital's patient-level data measure results. These data elements are not used in the Outpatient Population Algorithms or Measure Algorithms.

Element Name	Page #	Collected For:
CMS Certification Number	5-153	All Records
National Provider Number (NPI)	5-154	Optional for All Records
Outpatient Measure Set	5-155	Used in transmission of the Hospital Outpatient Population Data XML file and the Hospital Outpatient Clinical Data XML file
Outpatient Population Size – Medicare Only	5-156	Used in transmission of the Hospital Outpatient Population Data XML file
Outpatient Population Size – Non-Medicare Only	5-157	Used in transmission of the Hospital Outpatient Population Data XML file
Outpatient Sample Size – Medicare Only	5-158	Used in transmission of the Hospital Outpatient Population Data XML file
Outpatient Sample Size – Non-Medicare Only	5-159	Used in transmission of the Hospital Outpatient Population Data XML file
Outpatient Sampling Frequency	5-160	Used in transmission of the Hospital Outpatient Population Data XML file

IMPORTANT SUBMISSION ALERT!!

At this time, for submission of the Hospital Outpatient measures to CMS under the Hospital Outpatient Quality Reporting (OQR) Program, files must meet the specifications in this CMS manual only. Otherwise, the files will be rejected as not meeting CMS quality data submission requirements for receiving the full payment update.

Providers who are planning to also submit the Hospital Outpatient measures to The Joint Commission must refer to the transmission section separately issued by The Joint Commission. This is important because, at this time, CMS can only accept files which meet the CMS transmission manual specifications, and such files cannot contain the additional Joint Commission transmission data elements (e.g., vendor tracking ID, measure category assignment, measurement value).

Data Element Name: ***CMS Certification Number***

Collected For: All records

Definition: Hospital's six-digit acute care CMS Certification Number (CCN).

Suggested Data Collection Question: What is the hospital's six-digit acute care CMS Certification Number?

Format:
Length: 6
Type: Character
Occurs: 1

Allowable Values:
Any valid six-digit CMS Certification Number.

The first two digits are the numeric state code. The third digit of zero represents an acute facility. The third digit of "1" and fourth digit of "3" represents a Critical Access Hospital (CAH).

Notes for Abstraction: None

Suggested Data Sources: None

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***National Provider Identifier (NPI)***

Collected For: Optional for all records

Definition: All Health Insurance Portability and Accountability Act of 1996 (HIPAA) covered healthcare providers must obtain an NPI. The NPI may be provided in addition to the Medicare provider number.

Suggested Data Collection Question: What is the NPI for this provider?

Format:
Length: 10
Type: Character
Occurs: 1

Allowable Values: Any valid 10-digit NPI number.

The 10th digit is a numeric check digit based off the first 9 digits.

Notes for Abstraction: None

Suggested Data Sources: UB-04, Field Location: 56

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Outpatient Measure Set***

Collected For: Used in transmission of the Hospital Outpatient Population Data XML file and the Hospital Outpatient Clinical XML file.

Definition: Indicates which Hospital Outpatient measure set is being transmitted for the hospital.

Suggested Data Collection Question: Not Applicable.

Format:
Length: 22
Type: Character
Occurs**:** 1

Allowable Values: Refer to the Hospital Outpatient Clinical Data XML file and the Hospital Outpatient Population Data XML file layouts located just after the Transmission Data Processing Flow portion of this section.

Notes for Abstraction: None

Suggested Data Sources: Not Applicable

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Outpatient Population Size – Medicare Only***

Collected For: Used in transmission of the Hospital Outpatient Population Data XML file.

Note: Refer to the Hospital Outpatient Population Data XML file layout located just after the Transmission Data Processing Flow portion of this section.

Definition: Indicates the number of encounter records identified for a hospital with Medicare listed as a payment source prior to the application of data integrity filters, measure exclusions, and/or sampling methodology for the specified time period.

The data element is based on the hospital's initial identification of Medicare encounter records for a Hospital Outpatient measure set. *Outpatient Population Size – Medicare Only* includes all patients that are billed under Medicare or Title 18. Medicare can be listed as a primary, secondary, tertiary, or lower on the list of payment sources for the patient. In addition, patients who are participating as a member of a Medicare HMO/Medicare Advantage are included in the Medicare counts, e.g., Medicare Blue, Humana Gold, Secure Horizons, AARP, Coventry Advantra, etc. This initial data pull utilizes administrative data such as ICD-10-CM diagnosis codes, CPT® codes, outpatient encounter date, and birthdate.

For specific Hospital Outpatient measure set definitions, refer to the appropriate outpatient population discussion in the Measure Information section of this manual.

Note: If the hospital's data have been sampled, this field contains the population from which the sample was originally drawn, **not** the sample size.

Suggested Data Collection Question: Not Applicable.

Format:
Length: 6
Type: Numeric
Occurs: One *Outpatient Population Size – Medicare Only* per Hospital Outpatient measure set

Allowable Values: 0 through 999,999

Notes for Abstraction: *Outpatient Population Size – Medicare Only* must contain the actual number of patients in the population.

Suggested Data Sources: Not Applicable

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Outpatient Population Size – Non-Medicare Only***

Collected For: Used in transmission of the Hospital Outpatient Population Data XML file.

Note: Refer to the Hospital Outpatient Population Data XML file layout located just after the Transmission Data Processing Flow portion of this section.

Definition: Indicates the number of encounter records identified for a hospital with Medicare **not** listed as a payment source prior to the application of data integrity filters, measure exclusions, and/or sampling methodology for the specified time period.

The data element is based on the hospital's initial identification of non-Medicare encounter records for a Hospital Outpatient measure set. This initial data pull utilizes administrative data such as ICD-10-CM diagnosis codes, CPT® codes, outpatient encounter date, and birthdate.

For specific Hospital Outpatient measure set definitions, refer to the appropriate outpatient population discussion in the Measure Information section of this manual.

Note: If the hospital's data have been sampled, this field contains the population from which the sample was originally drawn, **not** the sample size.

Suggested Data Collection Question: Not Applicable.

Format:
Length: 6
Type: Numeric
Occurs: One *Outpatient Population Size – Non-Medicare Only* per Hospital Outpatient measure set

Allowable Values: 0 through 999,999

Notes for Abstraction: *Outpatient Population Size – Non-Medicare Only* must contain the actual number of patients in the population.

Suggested Data Sources: Not Applicable

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Outpatient Sample Size – Medicare Only***

Collected For: Used in transmission of the Hospital Outpatient Population Data XML file.

Note: For more information, refer to the Population and Sampling Specifications section and the Hospital Outpatient Population Data XML file layout located just after the Transmission Data Processing Flow portion of this section.

Definition: Indicates the number of encounter records identified for a hospital with Medicare listed as a payment source for a hospital to perform data abstraction on. This count is after the appropriate sampling methodology, if any, has been applied for the specific time period.

Notes:

- If the hospital is sampling the Hospital Outpatient measure set, then the *Outpatient Sample Size – Medicare Only* will be less than the *Outpatient Population Size – Medicare Only* for the Hospital Outpatient measure set.
- If the hospital is not sampling the Hospital Outpatient measure set, then the *Outpatient Sample Size – Medicare Only* will equal the *Outpatient Population Size – Medicare Only* for the Hospital Outpatient measure set.

Suggested Data Collection Question: Not Applicable.

Format:
Length: 6
Type: Numeric
Occurs: One *Outpatient Sample Size – Medicare Only* per Hospital Outpatient measure set

Allowable Values: 0 through 999,999

Notes for Abstraction: When *Outpatient Sampling Frequency* = "N/A" because the hospital decided to not submit patient-level data, *Outpatient Sample Size – Medicare Only* equals zero.

Suggested Data Sources: Not Applicable

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Outpatient Sample Size – Non-Medicare Only***

Collected For: Used in transmission of the Hospital Outpatient Population Data XML file.

Note: For more information, refer to the Population and Sampling Specifications section and the Hospital Outpatient Population Data XML file layout located just after the Transmission Data Processing Flow portion of this section.

Definition: Indicates the number of encounter records identified for a hospital with Medicare **not** listed as a payment source for a hospital to perform data abstraction on. This count is after the appropriate sampling methodology, if any, has been applied for the specific time period.

Notes:

- If the hospital is sampling the Hospital Outpatient measure set, then the *Outpatient Sample Size – Non-Medicare Only* will be less than the *Outpatient Population Size – Non-Medicare Only* for the Hospital Outpatient measure set.
- If the hospital is not sampling the Hospital Outpatient measure set, then the *Outpatient Sample Size – Non-Medicare Only* will equal the *Outpatient Population Size – Non-Medicare Only* for the Hospital Outpatient measure set.

Suggested Data Collection Question: Not Applicable.

Format:
Length: 6
Type: Numeric
Occurs**:** One *Outpatient Sample Size – Non-Medicare Only* per Hospital Outpatient measure set

Allowable Values: 0 through 999,999

Notes for Abstraction: When *Outpatient Sample Frequency* = "N/A" because the hospital decided not to submit patient-level data, *Outpatient Sample Size – Non-Medicare Only* equals zero.

Suggested Data Sources: Not Applicable

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Data Element Name: ***Outpatient Sampling Frequency***

Collected For: Used in transmission of the Hospital Outpatient Population Data XML file.

Note: Refer to the Population and Sampling Specifications section and the Hospital Outpatient Population Data XML file layout located just after the Transmission Data Processing Flow portion of this section.

Definition: Indicates if the data being transmitted for a hospital have been sampled or represent an entire population for the specified time period.

Suggested Data Collection Question: Not Applicable.

Format:
Length: 1
Type: Character
Occurs: One *Outpatient Sampling Frequency* per Hospital Outpatient measure set

Allowable Values:
1. Yes, the hospital is sampling.
2. No, the hospital is not sampling.
3. N/A, submission of patient-level data is not required.

Notes for Abstraction: Hospitals that have five or fewer cases (both Medicare and non-Medicare) for any measures included in a measure topic (i.e., ED and Stroke) in a quarter will not be required to submit patient-level data for the entire measure topic for that quarter. For example, hospitals with five or fewer cases (both Medicare and non-Medicare) for the ED measure topic in a quarter will not be required to submit patient-level data for that quarter.

Suggested Data Sources: Not Applicable

Inclusion Guidelines for Abstraction: None

Exclusion Guidelines for Abstraction: None

Transmission Data Processing Flow

Introduction

This section contains information regarding the order in which the CMS Clinical Data Warehouse evaluates the Hospital Outpatient measures.

The data processing flow ensures that only valid data are used in the measure algorithms. Each case that is rejected by the process will be listed on a report along with a brief description of the problem. The CMS Clinical Data Warehouse has reports available to assist the submitter to determine how the data were processed. For the CMS Clinical Data Warehouse, please refer to QualityNet.org for more information about the data upload process and these reports.

Data Processing Flow

All data transmitted pass through the following process:

1. If appropriate, files are verified to be proper ZIP and XML files.
    - If the files are invalid, reject the files(s) and stop processing.
    - If the files are valid, continue processing.

Starting with this step, processing is per case (individual XML file):

2. Data are evaluated to ensure the quarter associated to the *Outpatient Encounter Date* is open for data transmission.
    - If the encounter date is missing or not valid per the calendar year, issue the appropriate critical error message, reject the individual XML file, and stop processing.
    - If the encounter date is valid per the calendar year, continue processing.
    - If the Data Collection quarter is closed, issue the appropriate critical error message, reject the individual XML file, and stop processing.
    - If the Data Collection quarter is open, continue processing.
3. Data are evaluated to ensure the *Outpatient Measure Set* is expected from the submitter for the time frame (*Outpatient Encounter Date*) in question. In addition, the CMS Clinical Data Warehouse verifies the data are expected for *CMS Certification Number*.
    - If the data are not expected, missing, or invalid, issue the appropriate critical error message, reject the individual XML file, and stop processing.
    - If the data are expected, continue processing.
4. Check the action-code.
    - If the action-code = ADD, continue with step #5.
    - If the action-code = DELETE, check submission data type.
    - If the submission data type = POPULATION, issue appropriate critical message and reject file(s).
    - If the submission data type = CLINICAL, continue with step # 13.

The following steps are performed if the record's action-code = ADD:

5. The general data elements, as defined in the Data Dictionary section, are evaluated to ensure they exist and contain valid allowable values. These data elements are generally required for all Hospital Outpatient measures (with the exception of NPI).
    - If any general data element is missing or invalid, issue the appropriate critical error message(s), reject the individual XML file, and stop processing.
    - If all general data elements exist and contain valid allowable values, continue processing.
6. The Outpatient Population Algorithm associated to the *Outpatient Measure Set* is evaluated to ensure that the data are in the population of the set. Refer to the appropriate *Outpatient Measure Set* Data Element List for the algorithm.
    - If the Outpatient Population Algorithm returns an **Outpatient Population Reject Case Flag** = Yes (case is not in the outpatient population), reject the XML file and stop processing.
    - If the Outpatient Population Algorithm returns an **Outpatient Population Reject Case Flag** = No (case is not in the outpatient population), reject the XML file and stop processing.
7. The *Outpatient Measure Set* specific data elements are evaluated to ensure they contain valid allowable values. This step does not evaluate for missing data because that process is performed by the measure algorithms.
    - If any *Outpatient Measure Set* specific data elements are invalid, issue the appropriate critical error message(s), set the Edit Reject Case Flag = Yes, and continue processing with step #8.
    - If all *Outpatient Measure Set* specific data elements contain valid allowable values, continue processing.
8. If appropriate for the *Outpatient Measure Set*, grid data elements are evaluated to ensure each row does not contain missing data. This step does not ensure that the entire grid is empty because that process is performed by the measure algorithms.
    - If any row of the grid is missing data, issue the appropriate critical error message(s), set the Edit Reject Case Flag = Yes, and continue processing with step #9.
    - If all data elements exist in each row, continue processing.
9. Each XML file is evaluated for unexpected data. While a case may be in the population of more than one outpatient measure set, each XML file is associated to only one set.

- If any data exist that are not expected for the *Outpatient Measure Set*, issue the appropriate critical error message(s), set the Edit Reject Case Flag = Yes, and continue processing with step #10.

If no unexpected data for the *Outpatient Measure Set* exist, continue processing.

10. Evaluate the Edit Reject Case Flag.

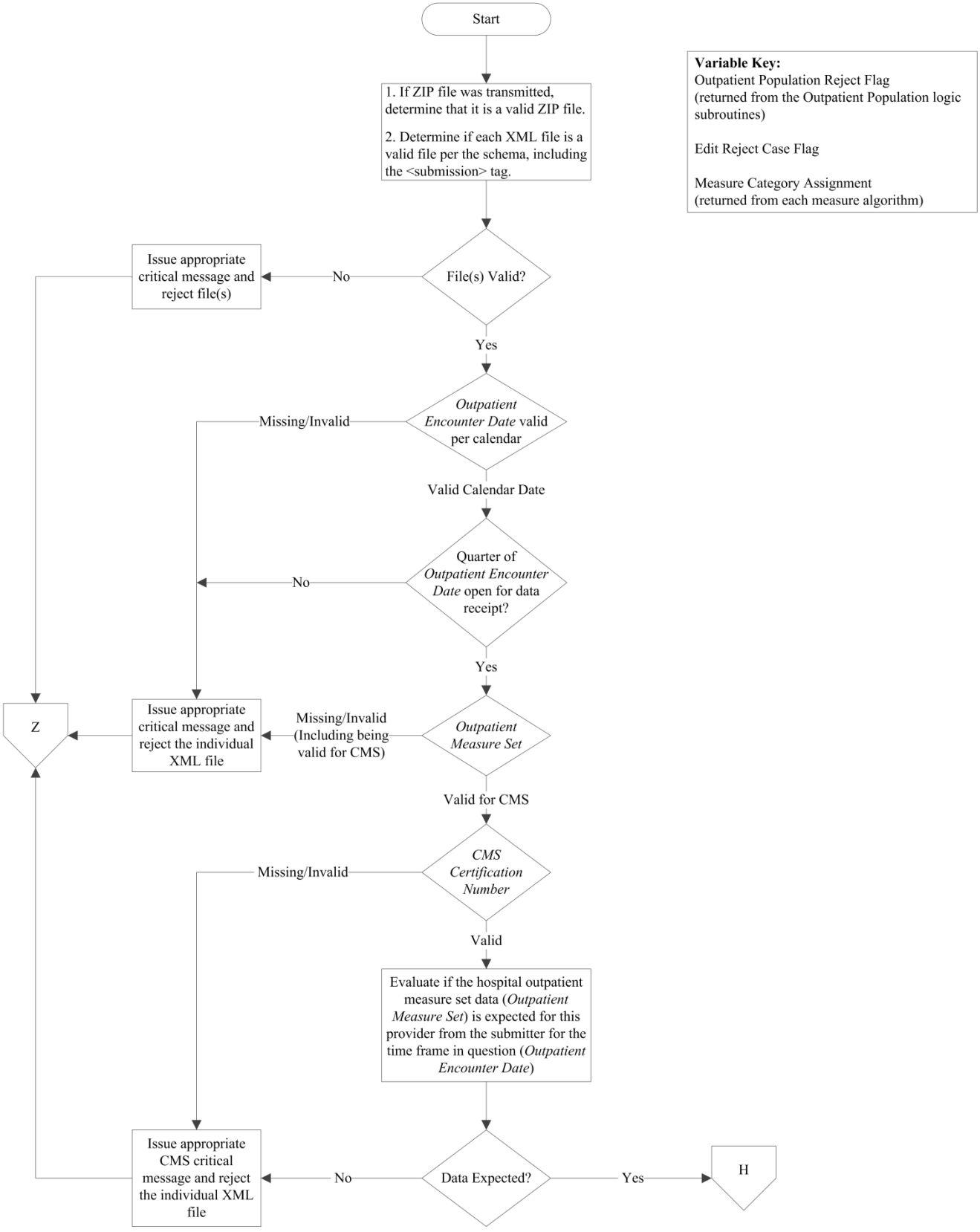
- If the Edit Reject Case Flag = Yes, issue the appropriate critical error message(s), reject the individual XML file, and stop processing.
- If the Edit Reject Case Flag = No, continue with step #11.

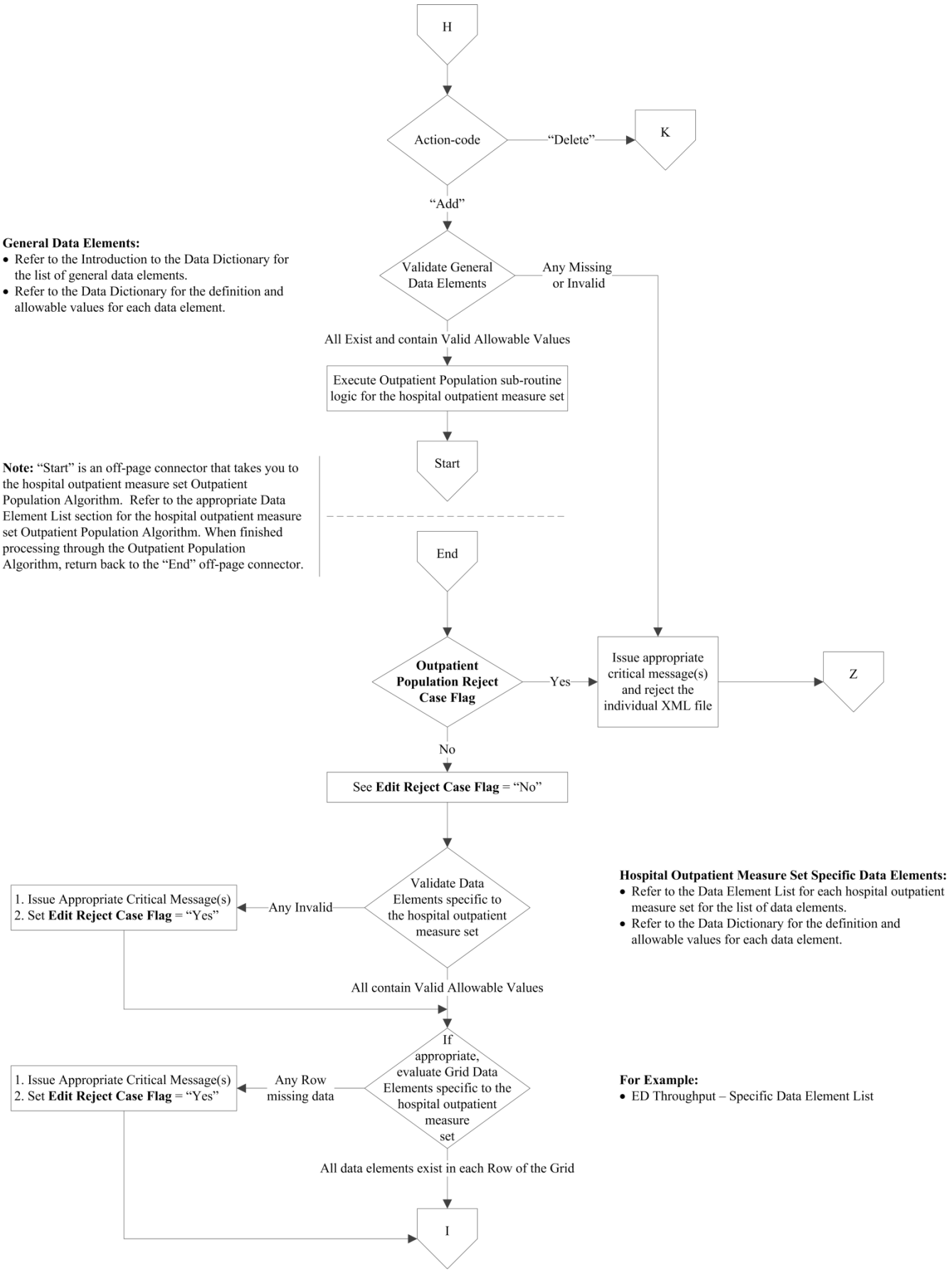
11. Execute each measure algorithm associated to the measures the hospital has selected for the *Outpatient Measure Set*. Refer to the appropriate Measure Information Forms for the *Outpatient Measure Set* for the measure algorithms.
    - If any measure evaluates with a Measure Category Assignment = X, reject the XML file and stop processing.
    - If all measures evaluate with Measure Category Assignment = B, D, E, and/or Y, continue processing.
12. The case is accepted into the CMS Clinical Data Warehouse.

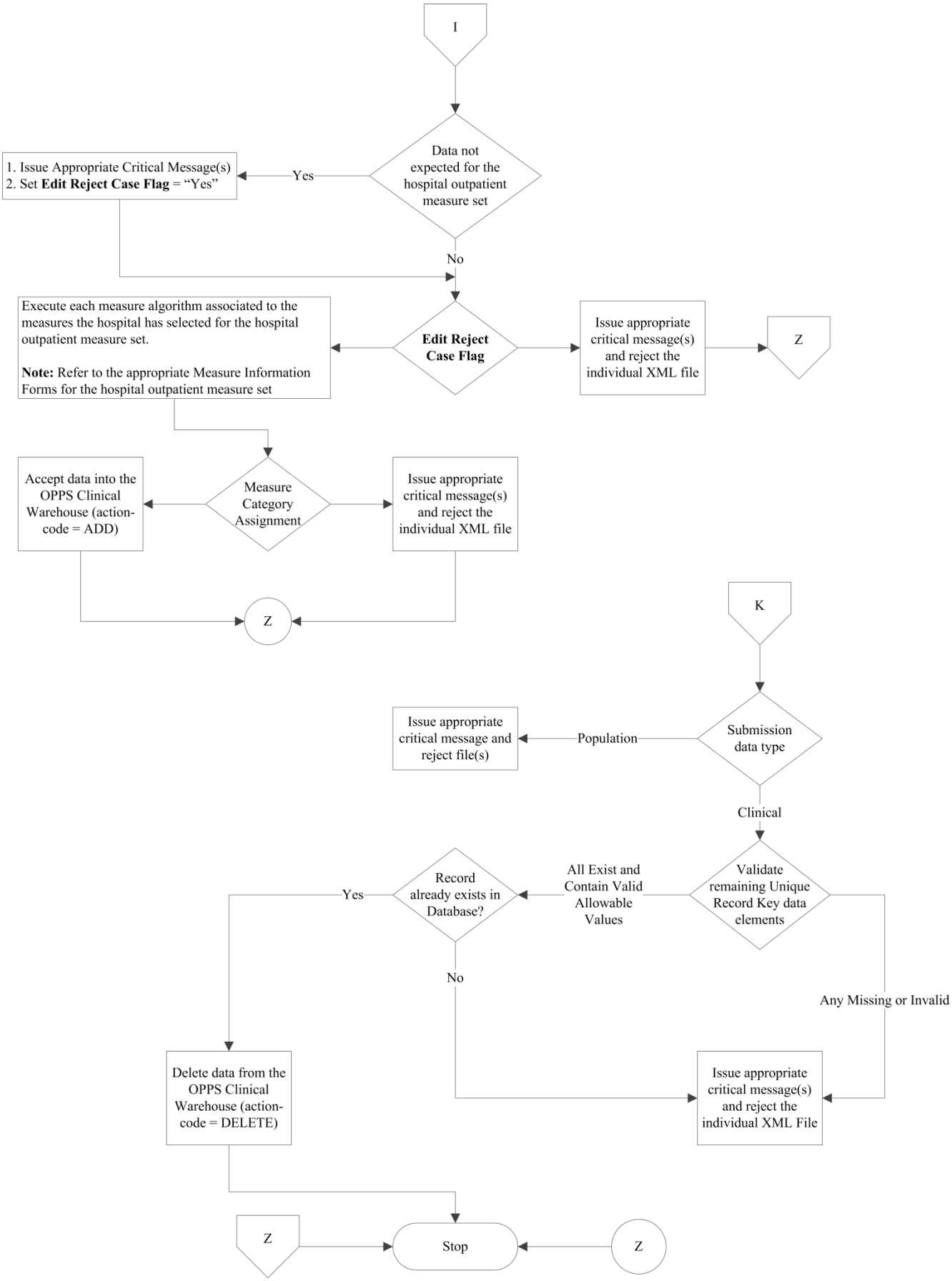
The following steps are performed if the record's action-code = DELETE:

13. The remaining data elements that are part of the Unique Record Key are evaluated to ensure they exist and contain valid allowable values. These data elements are required for all *Outpatient Measure Sets*.
    - If any Unique Record Key data element is missing or invalid, reject the XML file and stop processing.
    - If all Unique Record Key data elements exist and contain valid allowable values, continue processing.
14. The database is checked to see if a record with the same Unique Record Key already exists.
    - If the case does not already exist in the database, then the transmitted DELETE record is rejected.
    - If the record already exists in the database, it is deleted.

Data Processing Flow







Alphabetical Tools and Resources List

Hospital OQR Arrival Time: Guidelines

To be applied when abstracting all measures included in the Hospital OQR Program (OP-2, OP-3, OP-18, and OP-23):

Remember, the definition of *Arrival Time* is ***"the earliest documented time (military time) the patient arrived at the outpatient or emergency department.***"

- If the time of the arrival is unable to be determined from medical record documentation, select "UTD."
- Review the only acceptable sources to determine the earliest time the patient arrived at the ED or observation. Documentation outside of the only acceptable sources list should **not** be referenced (such as ambulance record, physician office record, or H&P).
- "Emergency department record" includes any documentation from the time period that the patient was an ED patient, e.g., ED face sheet, ED consent/authorization for treatment forms, ED/outpatient registration/sign-in forms, triage record, ED physician orders, ECG reports, telemetry rhythm strips, laboratory reports, x-ray reports, etc.
- If the time on the face/registration sheet is not labeled "arrival," "registration," or "admit" time, or is labeled simply "time," then the time can be considered a nondescript time and should **not** be used as *Arrival Time*.
- *Arrival Time* can be the time the patient first sees triage, registration, or the volunteer who puts her/his name on a page with a time. It does **not** have to be a professional who documents the arrival time.
- **Do not** use a time stamp unless it is clear that it is used specifically for patient arrival time.
- **Do not** use pre-printed times on a vital sign graphic record.
- **Do not** use a stamp or label that has a consistent time on every page.

Note the following frequently asked questions:

QUESTION: If the patient enters the ED, is signed in by a volunteer at 1950, and then sits in the waiting room until called by triage at 2012, what is the correct *Arrival Time*?

ANSWER: The earliest documented time the patient arrived in the ED – 1950.

QUESTION: The patient arrives by ambulance and has an ECG, IV, and O2 that are all recorded as 1300. A Nurses Note is documented as 12:55. A note in the ambulance run sheet indicates that the patient arrived at 1240. What is the correct *Arrival Time*?

ANSWER: The earliest documented time the patient arrived in the ED – 1255. You cannot use the ambulance run sheet as a time of arrival; you may only use the run sheet (if you must) to substantiate that the patient was not in the ED at 1240.

QUESTION: The record indicates a non-labeled/non-descript time of 1840 on the registration sheet, the time is not labeled "Admit" or "Registered," there is a time of 1850 on the triage note, an ECG time of 1845, and a lab collection time of 0000. What is the *Arrival Time*?

ANSWER: The earliest documented time the patient arrived in the ED – 1845. Unless there is other documentation to substantiate that the patient was present at 0000, ignore that time and use the next earliest time – 1845. The 1840 time is not valid to use since it was not labeled "arrival," registration," or "admit."

Hospital OQR ED Departure Time: Guidelines

When abstracting *ED Departure Time* for OP-3 (Median Time to Transfer to Another Facility for Acute Coronary Intervention) and OP-18 (Median Time from ED Arrival to ED Departure for Discharged ED Patients):

Remember, the intent of abstraction ***"…is to capture the latest time at which the patient was receiving care in the emergency department, under the care of emergency department services, or awaiting transport to service/care."***

Source: General Abstraction Guidelines, *Medical Record Documentation*

- **Do use** the later departure time if two departure/discharge times are noted.
- **Do use** the time of the observation order written by the physician/APN/PA for patients who are placed into observation.
- **Do <u>not</u> use:**
  - Coding Summary
  - Physician's Discharge Summary
  - ED record released from holding time
  - Chart closed time
  - Off the tracking board time
  - Report called time
  - Disposition time
  - Discharge instruction time
- **Do <u>not</u> use** any time that cannot be substantiated in the medical record. For example, if there is a departure time of 2015 and a note from the physician or nurse written at 2200 with no other information available that the patient was still in the facility, the departure time would be 2015.
- **Do <u>not</u> use** Medication or Vital Signs if they are later than the *ED Departure Time*.
- **Do <u>not</u> use** the time the discharge order was written because it may not represent the actual time of departure.
- **Do use:**
  - Discharge time (if it is listed on the disposition sheet)
  - Release time
  - Out time
  - Gone time
  - Checkout time
  - Transport documented time
  - The Event Log, Registration sheet, Transfer record, etc. (if a discharge time is noted and the document is part of the permanent medical record)
  - Transfer time
  - Order for observation status time
  - Any other synonym that can easily be understood to mean "Departure" or "Discharge"

Note the following frequently asked questions:

Question: Patient was admitted to 'Observation' from the ED. The nurse documents that the patient physically left the ED at 1440. The order for 'Observation' was written at 1700. What time should be abstracted for *ED Departure Time*?

Answer: If the order for 'Observation' is written after the patient departed the ED select the time the patient physically left the ED. In this example, abstract 1440 as the *ED Departure Time.*

Question: *ED Discharge Time* is documented on the face sheet at 1400. A nursing note is documented, "EMS at bedside" at 1422 and medication administration noted at 1428. What would be the appropriate *ED Departure Time*?

Answer: Because there is substantial documentation to support that the patient was in the ED after the documented *Discharge Time* and there is no additional documented time of ED departure, it cannot be determined when the patient physically left the ED. Enter 'UTD' for *ED Departure Time.* Medication administration times are not acceptable for establishing the *ED Departure Time*.

Question: A nurse's note indicates when the patient was discharged from the ED. No other care is documented beyond that time. There is also an electronic time entered after the documented *ED Departure Time* that states "patient removed from the system." Which documentation should be used for abstracting the *ED Departure Time*?

Answer: The intent is to capture the latest time the patient was receiving care in the emergency department. In this example, there is a documented discharge time. The documented discharge time from the nurse's note would be used to abstract *ED Departure Time.* An electronic time or stamp cannot be abstracted for *ED Departure Time* as it does not provide substantial documentation that the patient has physically departed the ED. Similarly, documentation that the patient was removed from system is insufficient for abstracting *ED Departure Time* because it does not provide substantial documentation that the patient physically departed the ED.

Hospital OQR Reason for Delay in Fibrinolytic Therapy: Guidelines

When abstracting for OP-2 (Fibrinolytic Therapy Received within 30 Minutes of ED Arrival):

Remember, the definition of *Reason for Delay in Fibrinolytic Therapy* is ***"a reason for a delay in initiating fibrinolytic therapy after hospital arrival by a physician/advanced practice nurse/physician assistant (physician/APN/PA). System reasons for delay are not acceptable."***

- Documentation must be made clear somewhere in the medical record that:
  - A "hold," "delay," "deferral," or "wait" in initiating fibrinolysis/reperfusion actually occurred, **and**
  - The underlying reason for the delay was non-system in nature.

- Abstractors should **not** make inferences from documentation of a sequence of events alone or otherwise attempt to interpret from documentation. Clinical judgments should not be used in abstraction.

- System reasons for delay are not acceptable, regardless of any linkage to the delay in fibrinolysis/reperfusion. Examples of non-acceptable system reasons are:
  - Equipment-related.
  - Staff-related.
  - Consultation with other clinician that is not clearly linked to patient-centered (non-system) reason for delay.

- Examples of **acceptable** documentation in the medical record:
  - "Hold on fibrinolytics. Will do CT scan to r/o bleed."
  - "Patient waiting for family and clergy to arrive – wishes to consult with them prior to fibrinolysis."
  - "Fibrinolysis delayed due to need to control blood pressure before administering fibrinolysis."
  - "Hold fibrinolytics. Need to consult neurology regarding bleeding risk."
  - "Fibrinolytic therapy initially deferred due to shock."

- Examples of automatic, acceptable reasons that do **not** require documentation of a delay in fibrinolytic administration:
  - Cardiopulmonary arrest, mechanical circulatory assist device placement, or intubation occurring within 30 minutes after hospital arrival (**clearly documented** by a physician/APN/PA), **or**
  - Initial patient/family refusal of fibrinolysis/reperfusion (documented by a physician/APN/PA).

Reasons for delay in fibrinolytic therapy should be collected regardless of how soon after arrival fibrinolysis was ultimately initiated or how minimal the delay.

Template for Collecting OP-29 Data

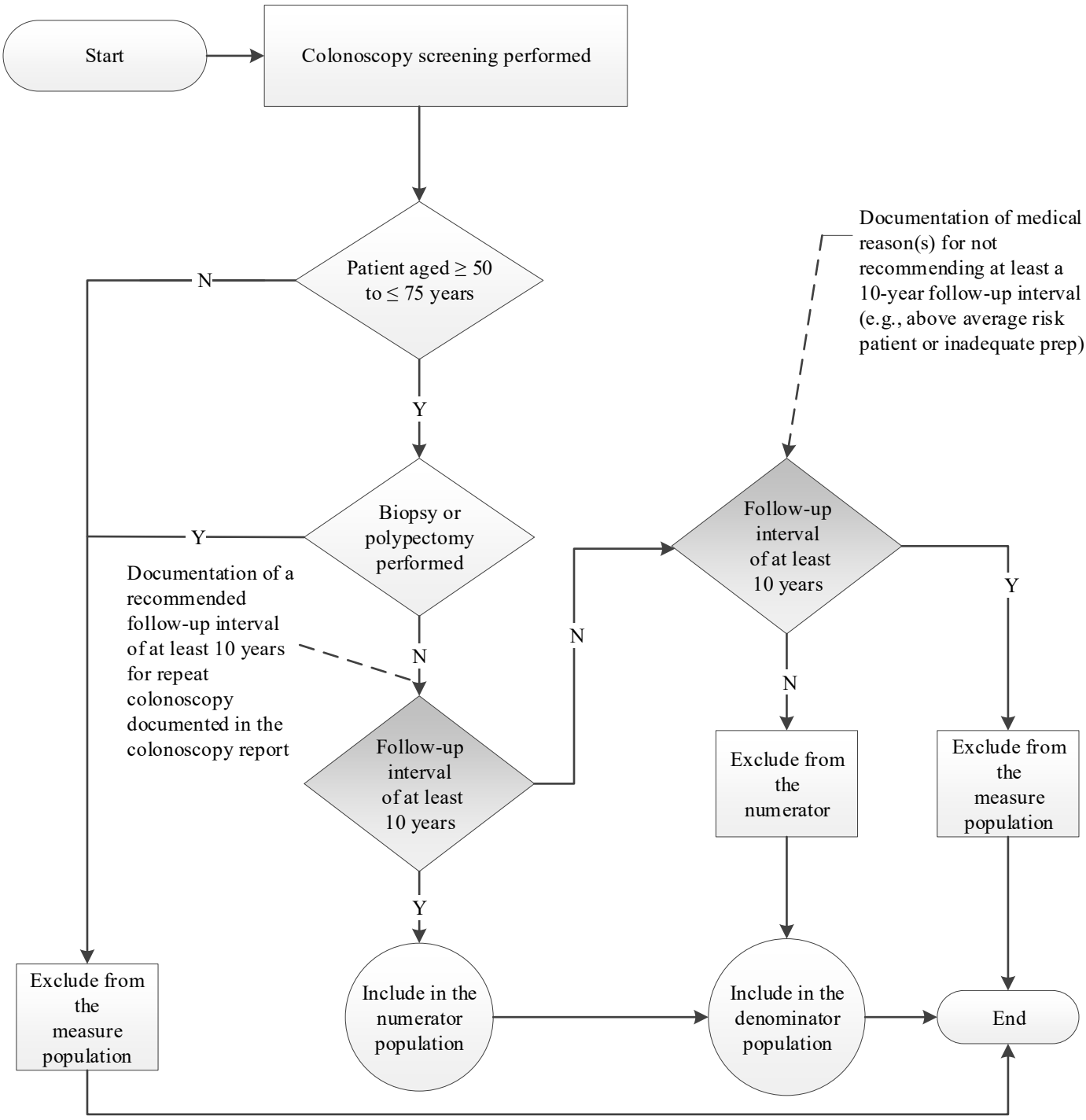
Answer the questions in the tables below to determine whether colonoscopy patients fall into the OP-29 measure, keeping in mind that OP-29 looks forward to recommendations for future care.

OP-29: Appropriate Follow-up Interval for Normal Colonoscopy in Average Risk Patients		
Measure Criteria	**Circle One**	**Denominator/Numerator Determination**
1. Patient had a screening colonoscopy, without biopsy or polypectomy, **and** is ≥ 50 to ≤ 75 years of age on date of encounter	Yes → No →	Include in ***denominator*** population, continue to 1(a) Exclude from ***denominator*** population
a) Documentation of medical reason(s) for not recommending at least a 10-year follow-up interval (e.g., above average risk patient or inadequate prep or if age is documented as a medical reason)	Yes → No →	Exclude from ***denominator*** population Continue to Question 2
2. Recommended follow-up interval of at least 10 years for repeat colonoscopy is documented in colonoscopy report	Yes → No →	Include in ***numerator*** population Exclude from ***numerator*** population

OP-29: Appropriate Follow-Up Interval for Normal Colonoscopy in Average Risk Patients

Numerator Statement: Patients who had a recommended follow-up interval of at least 10 years for repeat colonoscopy documented in their colonoscopy report

Denominator Statement: All patients ≥ 50 to ≤ 75 years of age receiving screening colonoscopy without biopsy or polypectomy



Adapted from algorithm provided by clinical services group/HCA; January 2017

Measure OP-29: Appropriate Follow-Up Interval for Normal Colonoscopy in Average Risk Patients

Denominator Codes

The following codes are derived from the Measure Information Form (MIF) for OP-29 that can be found in the Specifications Manual posted on *QualityNet* at www.qualitynet.org.

Denominator criteria always include both:

- Patients aged ≥ 50 and ≥ 75on date of encounter
- **Z12.11**: Colonoscopy screen with anesthesia

and one of the following:

- **44388**: Colonoscopy through stoma; diagnostic
- **45378**: Diagnostic colonoscopy/screening colonoscopy for non-Medicare patients
- **G0121**: Screening colonoscopy for other Medicare patients

without any of the following modifiers:

- **52**: **Reduced Services**—Under certain circumstances a service or procedure is partially reduced or eliminated at the physician's discretion
- **53**: **Discontinued Procedure**—Under certain circumstances, the physician may elect to terminate a surgical or diagnostic procedure
- **73**: **Discontinued Out-Patient Hospital/Ambulatory Surgery Center (ASC) Procedure Prior to the Administration of Anesthesia**—Due to extenuating circumstances or those that threaten the well-being of the patient
- **74**: **Discontinued Out-Patient Hospital/Ambulatory Surgery Center (ASC) Procedure After Administration of Anesthesia**—Due to extenuating circumstances or those that threaten the well-being of the patient
- **Z83.71**: Family history of colonic polyps
- **Z86.010**: Personal history of colonic polyps
- **Z80.0**: Family history of malignant neoplasm of gastrointestinal tract
- **Z85.038**: Personal history of malignant neoplasm of large intestine

Measure OP-29: Appropriate Follow-Up Interval for Normal Colonoscopy in Average Risk Patients Fact Sheet

Measure Description: Percentage of patients aged 50 to 75 years of age receiving a screening colonoscopy without biopsy or polypectomy who had a recommended follow-up interval of at least 10 years for repeat colonoscopy documented in their colonoscopy report.

Denominator Statement: All patients aged 50 to 75 years of age receiving screening colonoscopy without biopsy or polypectomy.

Numerator Statement: Patients who had a recommended follow-up interval of at least 10 years for repeat colonoscopy documented in their colonoscopy report.

For the purposes of determining this measure, **do**:

- Use the final colonoscopy report only to abstract the recommended follow-up interval. If your facility utilizes another report that is equivalent to or contains the final colonoscopy report, utilize this report for abstraction.
- Use any medical reason, such as a diagnosis, symptom, or condition that is documented in the medical record, to exclude a case from the denominator population **only** when the recommended follow-up interval is less than 10 years. Please note that you must have **both** an interval of less than 10 years and the medical reason documented in order to use this as an exclusion from the denominator. Some examples are:
    - Above average risk patient.
    - Inadequate prep.
    - Family history of colon cancer.
    - Diverticulitis documented in the medical record.

  *Please remember that there is no comprehensive list of medical reasons.

- Exclude a case if there is documentation indicating no follow-up colonoscopy is needed or recommended **and** patient's age is ≥66 years old, or life expectancy <10 years.

For the purposes of determining this measure, **do not**:

- Use records with CPT/HCPCS modifiers 52, 53, 73, or 74.
- Use time frames, such as "5–10 years," "many," "prn," or "when symptomatic," since they are not acceptable terms for the recommended follow-up interval of at least 10 years.

OP-31: Cataracts—Improvement in Patient's Visual Function within 90 Days Following Cataract Surgery: Data Collection Guidelines

Sampling

When collecting data for OP-31, a facility may choose to sample data monthly, quarterly, or annually. Follow the sampling guidelines in the Specifications Manual (Population and Sampling Specifications).

Reporting

At this time, OP-31 remains a **voluntary** measure. Hospitals that choose not to report the measure will not be subject to a reduction in payment update. However, any data submitted for the measure **will be publicly reported**.

Measure Requirements

Survey Tool

OP-31 requires that patients complete both a pre- and post-operative survey using the *same* visual function tool. Patients who do not complete a pre-op survey and post-op survey are excluded from the measure. Surveys may be completed in person, by mail, by phone, or another method of the hospital's choosing. The data collection survey is specified as an assessment tool that has been appropriately validated for the population for which it is being used. The survey tool measures **visual function**, not visual acuity. **A visual assessment tool may not be utilized.** Examples of tools for visual function assessment are found in the Measure Information Form (MIF) in the Specifications Manual under the Definition for Survey (OP-31: Cataracts - Improvement in Patient's Visual Function within 90 days Following Cataract Surgery).

Data Collection Log

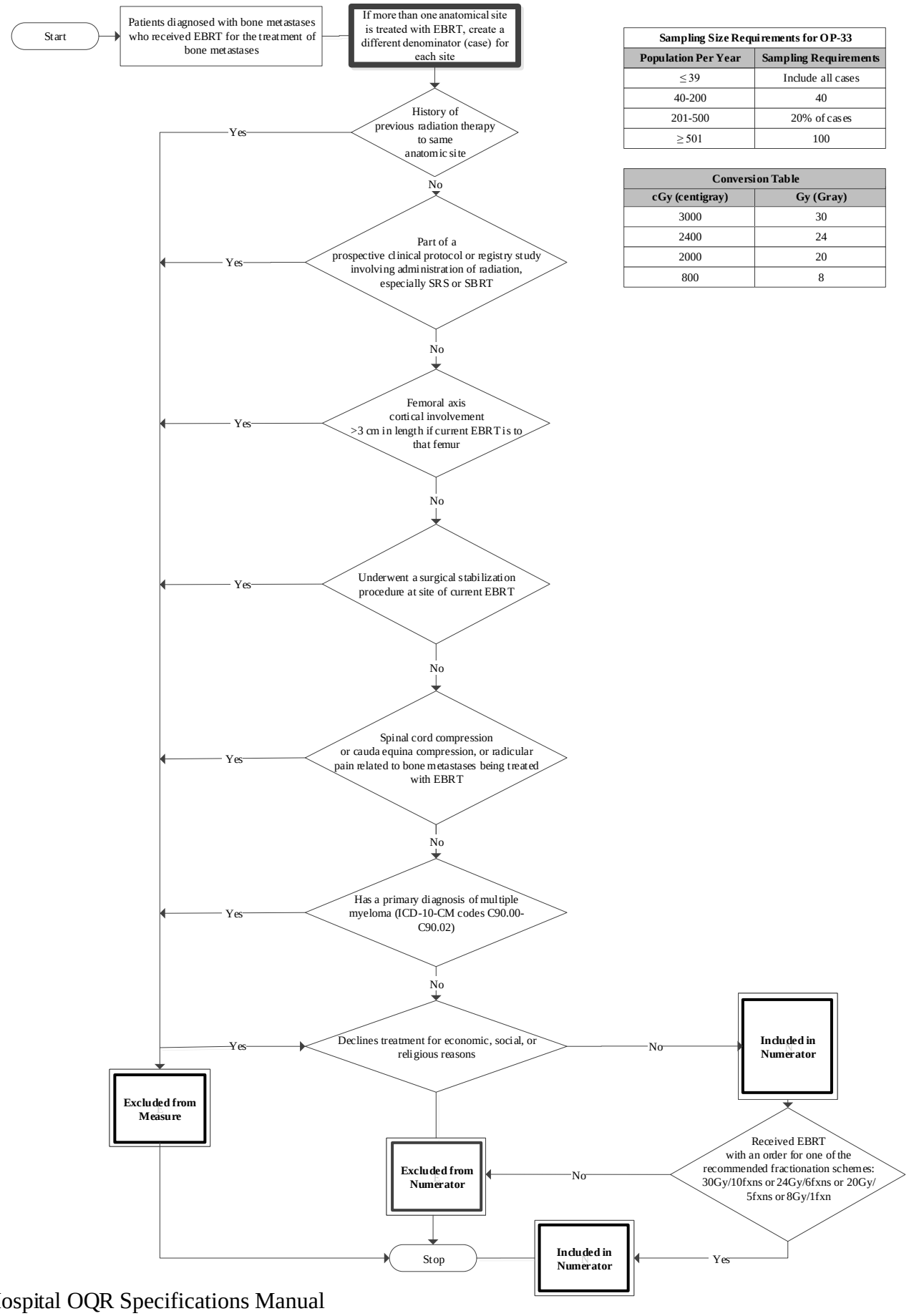
You are not required to use the Data Collection Log provided by the OQR Support Contractor (Data Collection Tool). But, if you choose to use it, you may modify it for your facility. You may require fewer columns or fewer rows to accommodate the number of physicians from whom you need to gather data. Or, you may add columns to track other helpful data, such as the total number of surgeries performed at your facility per provider. Consider using the tool as a master log and delete rows to use as a spreadsheet for sending* to individual providers for their input. Designate a sheet for data collection for each month, quarter, or year, and indicate the sample frequency on the log.

*Since no specific patient-level data is collected, there are no Health Insurance Portability and Accountability Act (HIPAA) issues involved with emailing the spreadsheet.

OP-33: External Beam Radiotherapy for Bone Metastases

Numerator Statement: All patients, regardless of age, with bone metastases, and no previous radiation to the same anatomic site who receive EBRT for the treatment of bone metastases with any of the following recommended fractionation schemes: 30Gy/10fxns, 24Gy/6fxns, 20Gy/5fxns, and 8Gy/1fxn. The data for the numerator may be found in the consultation and office visit notes, outpatient treatment center record, and problem/diagnosis list.

Denominator Statement: All patients with bone metastases and no previous radiation to the same anatomic site who receive EBRT for the treatment of bone metastases. The data for the denominator may be found in the consultation and office visit notes, outpatient treatment center record, and other-treatment summaries.



Sampling Size Requirements for OP-33	
Population Per Year	**Sampling Requirements**
≤ 39	Include all cases
40-200	40
201-500	20% of cases
≥ 501	100

Conversion Table	
cGy (centigray)	**Gy (Gray)**
3000	30
2400	24
2000	20
800	8

OP-33: External Beam Radiotherapy for Bone Metastases Fact Sheet

Description: Percentage of patients, regardless of age, with a diagnosis of bone metastases and no history of previous radiation who receive external beam radiation therapy (EBRT) with an acceptable fractionation scheme.

Numerator: All patients, regardless of age, with bone metastases and no previous radiation to the same anatomic site who receive EBRT for the treatment of bone metastases with any of the following recommended fractionation schemes: 30Gy/10fxns, 24Gy/6fxns, 20Gy/5fxns, and 8Gy/1fxn.

Denominator: All patients with bone metastases and no previous radiation to the same anatomic site who receive EBRT for the treatment of bone metastases. The denominator population for OP-33 can be determined by claims submitted with ICD-10-CM codes C79.51 or C79.52 **and** CPT® codes 77402, 77407, or 77412.

Do use physician's documentation of a medical reason to exclude **only** when the documentation clearly identifies one of the exclusion criteria and associates it with the site being treated with EBRT. Examples include:

- "Patient has previously received radiation treatment to the same anatomic site."
- "Patient has a bone metastasis that has caused spinal cord compression; this bone metastasis will be treated with EBRT."
- "Patient has radicular pain as a result of a bone metastasis that will be treated with EBRT."
- "Patient has undergone surgical stabilization as a result of a bone metastasis that will now undergo treatment with EBRT."

Do consider all encounters that result from a single treatment plan as one case, with the case being attributed to the first date of administration of EBRT.

Do consider the administration of EBRT to different anatomic sites as separate cases.

Do include cases when the treatment plan was initiated but not completed.

Do include cases where any portion of the EBRT treatment is billed as part of the outpatient bill.

Do not include patients who receive EBRT for a reason other than bone metastases.

Do not include patients who are part of a prospective clinical protocol involving the administration of radiation, especially stereotactic radiosurgery (SRS) or stereotactic body radiation therapy (SBRT).

SAMPLING SIZE REQUIREMENTS PER YEAR FOR OP-33

Population Per Year	Sampling Requirements
< 39	Include all cases
40–200	40
201–500	20% of cases
>501	100

FREQUENTLY ASKED QUESTIONS

Q: Patients receiving EBRT have multiple encounters; which encounter should I abstract for OP-33?

A: Group the encounters together as one case and abstract the initial encounter to determine the physician's prescribed fractionation scheme.

Q: A patient previously received EBRT to the femur and is now being treated with radiation to the humerus. Should this patient be included in the measure for the humerus EBRT treatment?

A: Yes. The previous radiation was to a different anatomical site; therefore, it is irrelevant in this instance. Since this is the first EBRT treatment to the femur, the case should be included in the measure.

Q: A patient received EBRT, but the physician's documentation on the initial treatment plan noted this was a "re-treatment." Should this case be excluded?

A: Yes. When the documentation states the EBRT was prescribed as "re-treatment" or "re-irradiation," this is an indication that the patient has previously received radiation to the same anatomic site.

Q: Is CyberKnife® or Gamma Knife® considered EBRT?

A: No. These are trade names for SRS.

Q: Does the exclusion criteria "Patients with femoral axis cortical involvement > 3 cm" apply to all cases?

A: No. This exclusion is specific to patients with femoral metastases and is determined by imaging studies.

Appendix A
ICD-10-CM Diagnosis and CPT® Code Tables

This section will be updated when the current code list is available.

Appendix B
Glossary of Terms

accuracy (of data) The extent to which data are free of identifiable errors.

acute myocardial infarction (AMI) Death of heart muscle resulting from insufficient blood supply to the heart. For purposes of this measure, acute myocardial infarction is identified by the ICD-10-CM codes in Appendix A, Table 1.1.

administrative/billing data (data source) Data that generally reflects the content of discharge abstracts (for example, demographic information on patients such as age, sex, ZIP code; information about the episode of care such as admission source, length of stay, charges, discharge status; and diagnostic and procedural codes). Namely, the Uniform Hospital Discharge Data Set and the Uniform Bill of the Health Care Financing Administration (UB-04) provide specifications for the abstraction of administrative/billing data.

algorithm An ordered sequence of data element retrieval and aggregation through which numerator and denominator events or continuous variable values are identified by a measure. The algorithms are depicted using flowcharting symbols.

allowable values A list of acceptable responses for a data element.

ANSI X12 The American National Standards Institute's standard for transmitting data electronically, or electronic data interchange (EDI).

binary outcome Events or conditions that occur in one or two possible states often labeled 0 or 1. Such data are frequently encountered in medical research. Common examples include dead or alive, and improved or not improved.

central tendency A property of the distribution of a variable, usually measured by statistics such as the mean, median, and mode.

clinical measures Measures designed to evaluate the processes or outcomes of care associated with the delivery of clinical services; allow for intra- and inter-organizational comparisons to be used to continuously improve patient health outcomes; may focus on the appropriateness of clinical decision-making and implementation of these decisions; must be condition-specific, procedure-specific, or address important functions of patient care.

confounding factors Intervening variables that distort the true relationship between/among the variables of interest. They are related to the outcome of interest, but extraneous to the study question and are non-randomly distributed among the groups being compared. They can hide a true correlation or give the appearance of a correlation when none actually exists.

continuous variable An aggregate data measure in which the value of each measurement can fall anywhere along a continuous scale (e.g., the time [in minutes] from emergency department arrival to administration of fibrinolytics).

continuous variable data elements Those data elements required to construct the measure as stated in the section labeled "Continuous Variable Statement."

contraindication A factor or condition that may render the administration of a drug or agent or the performance of a procedure or other practice inadvisable, improper, and/or undesirable.

Current Procedural Terminology (CPT®) code A listing of descriptive terms and identifying codes for reporting medical services and procedures performed by physicians.

critical access hospital (CAH) Hospitals that offer limited services to include round-the-clock emergency care services and are, by definition, located more than 35 miles from a hospital or another critical access hospital, or are certified by the state as being a necessary provider of healthcare services to residents in the area. They maintain no more than 25 beds for acute (hospital-level) inpatient care, subject to a 96-hour average length of stay for acute care patients. For CAHs with swing bed agreements, any of its beds may be used to furnish either inpatient acute care or swing bed services. Hospitals certified by the Secretary of the Department of Health and Human Services (DHHS) as critical access hospitals are eligible for cost-based reimbursement from Medicare if they meet a specific set of federal Conditions of Participation (COPs).

data collection The act or process of capturing raw or primary data from a single or number of sources; also called "data gathering."

data collection effort The availability and accessibility of the required data elements, the relative effort required, and associated cost of abstracting or collecting the data.

data editing The process of correcting erroneous or incomplete existing data, exclusive of data entry input edits.

data element A discrete piece of data, such as patient birthdate or principal diagnosis. See also denominator data elements, numerator data elements, and continuous variable data elements.

data entry The process by which data are transcribed or transferred into an electronic format.

data point The representation of a value for a set of observations or measurements at a specific time interval (e.g., perioperative mortality rate for the month of June 2019).

data quality The accuracy and completeness of measure data on performance in the context of the analytic purposes for which they will be used.

data sources The primary source document(s) used for data collection (for example, billing or administrative data, encounter form, enrollment forms, and medical record). See also administrative data, clinical survey, medical record, patient survey, provider data, and registry/log data.

data transmission The process by which data are electronically sent from one organization to another.

denominator The lower part of a fraction used to calculate a rate, proportion, or ratio. Also, the population for a rate-based measure.

denominator data elements Those data elements required to construct the denominator.

discrete variable See rate-based measure.

electronic data interchange (EDI) An instance of data being sent electronically between parties, normally according to predefined industry standards.

electrocardiogram (ECG) A graphic tracing of the heart's electrical impulses.

emergency department A department that provides care for emergency medical conditions on an urgent basis without requiring a previously scheduled appointment.

episode of care (EOC) A patient or case-level record submitted to the database.

Evaluation and Management (E/M) codes Codes used to report evaluation and management services provided in the physician's office, or in an outpatient or other ambulatory facility.

excluded populations Detailed information describing the populations that should not be included in the indicator. For example, specific age groups, ICD-10-CM procedure or diagnostic codes, or certain time periods could be excluded from the general population drawn upon by the indicator.

fibrinolytic therapy Administration of a pharmacological agent intended to cause lysis of a thrombus (destruction or dissolution of a blood clot). Refer to Appendix C, Table 1.3 for a listing of fibrinolytic agents.

format Specifies the character length of a specific data element; the type of information the data element contains: numeric, decimal number, date, time, or alphanumeric; and the frequency with which the data element occurs.

general data elements Data elements that must be collected by hospitals for each patient record. These data are patient demographic data, hospital identifiers, and patient identifiers.

healthcare organization (HCO) The business entity which is participating in a performance measurement system (e.g., healthcare organization level data describes information about the business entity).

hospital A healthcare organization that has a governing body; an organized medical and professional staff and inpatient facilities; and provides medical, nursing, and related services for ill and injured patients 24 hours per day, seven days per week. For licensing purposes, each state has its own definition of a hospital.

hospitalist A physician whose main practice provides care for hospitalized patients.

ICD-10-CM codes A two-part classification system in current use for coding patient medical information used in abstracting systems and for classifying patients into diagnosis-related groups (DRGs). The first part is a comprehensive list of diseases with corresponding codes compatible with the World Health Organization's list of disease codes. The second part contains procedure codes independent of the disease codes.

included populations Detailed information describing the population(s) that the indicator intends to measure. Details could include such information as specific age groups, diagnoses, ICD-10-CM diagnostic and procedure codes, CPT® codes, enrollment periods, insurance and health plan groups, etc.

Inpatient Prospective Payment System (IPPS) Rule A prospective payment system (PPS) under Medicare for hospital acute inpatient services. Hospitals contract with Medicare to furnish acute inpatient care and are reimbursed through pre-determined payment on a per discharge or per case basis for Medicare beneficiaries with inpatient stays.

invalid data Values for data elements that are required for calculating and/or risk adjusting a core measure that fall outside of the acceptable range of values defined for that data element. Refer to the Missing and Invalid Data section for further information.

mean A measure of central tendency for a continuous variable measure. The mean is the sum of the values divided by the number of observations.

measure information form Tool to provide specific clinical and technical information on a measure. The information contained includes: performance measure name, description, rationale, numerator/denominator/continuous variable statements, included populations, excluded populations, data elements, risk adjustment, sampling, data accuracy, and selected references.

measure of performance See performance measure.

measure-related feedback Measure-related information on performance that is available, on a timely basis, to organizations actively participating in the performance measurement system for use in the organization's ongoing efforts to improve patient care and organizational performance. Feedback can be reflective of information within individual organizations (intra-organizational) and/or across organizations (inter-organizational).

measure-specific data elements Data elements used by one specific measure or several measures in one specific measure set.

median The value in a group of ranked observations that divides the data into two equal parts.

missing data No values present for one or more data elements that are required for calculating and/or risk adjusting a national hospital quality measure. Refer to the Missing and Invalid Data section for further information.

mode The most frequently occurring response for that data element.

module A set of measures under a common group/topic area (e.g., fibrinolytic module).

monthly data point The representation of a value for a set of observations or measurements for a calendar month.

multivariate analysis The analysis of the simultaneous relationships among variables.

national quality measure A standardized performance measure that meets the Centers for Medicare & Medicaid Services evaluation criteria, has precisely defined specifications, can be uniformly embedded in extant systems, has standardized data collection protocols to permit uniform implementation by healthcare organizations and permit comparisons of healthcare organization performance over time through the establishment of a national comparative database.

nosocomial infection An infection acquired by a patient in a healthcare organization, especially a hospital. This infection is not present or incubating before admission to a hospital.

numerator The upper portion of a fraction used to calculate a rate, proportion, or ratio.

numerator data elements Those data elements necessary or required to construct the numerator.

observed rate The observed rate is the measure rate that is based on a hospital's aggregated data for the reporting period. This is calculated as the number of measure numerator cases for the reporting period divided by the number of denominator cases. Observed rates are used to measure hospital performances.

Outpatient Prospective Payment System (OPPS) Rule A prospective payment system (PPS) under Medicare for hospital outpatient services, certain Part B services furnished to hospital inpatients that have no Part A coverage, and partial hospitalization services furnished by community mental health centers. All services paid under the PPS are classified into groups called Ambulatory Payment Classifications or APCs.

A payment rate is established for each APC. Depending on the services provided, hospitals may be paid for more than one APC for an encounter.

outpatient record (data source) Data obtained from the records or documentation maintained on a patient in the hospital outpatient department setting (for example, hospital-based outpatient surgery, hospital-based clinic, emergency department). Includes automated and paper medical record systems.

parenteral Not through the alimentary canal but rather by injection through some other route, such as subcutaneous, intramuscular, intraorbital, intracapsular, intraspinal, intrasternal, intravenous, etc.

patient factor A variable describing some characteristic of individual patients that may influence healthcare-related outcomes. Patient factors can include:

- **complications** Conditions arising after the beginning of healthcare observation and treatment that modifies the course of the patient's health or illness and the intervention/care required.
- **co-morbidities** Pre-existing diseases or conditions.
- **severity of illness classifications** Seriousness or stage of illness at the time of the beginning of healthcare observation or treatment (for example, AJCC staging for oncology patients, NYHA class for cardiovascular patients).
- **functional status** Factors related to health status including physical functioning, role disability due to physical-health problems, bodily pain, general health perceptions, vitality, social functioning, role disability due to emotional problems, and general mental health.
- **patient demographics** Age, ethnicity, gender, location, etc.

patient-level data Collection of data elements that depict the healthcare services provided to an individual (patient). Patient-level data are aggregated to generate hospital-level data and comparison group data.

percentile A value on a scale of 100 that indicates the percentage of a distribution that is equal to or below it.

performance measure A quantitative tool (for example, rate, ratio, index, percentage) that provides an indication of an organization's performance in relation to a specified process or outcome. See the process measure and the outcome measure.

performance measurement system An entity consisting of an automated database(s) that facilitates performance improvement in healthcare organizations through the collection and dissemination of process and/or outcome measures of performance. Measurement systems must be able to generate internal comparisons of organization performance over time, and external comparisons of performance among participating organizations at comparable times.

performance measure-related feedback See measure-related feedback.

predicted value The statistically expected response or outcome for a patient after the risk adjustment model has been applied and the patient's unique set of risk factors have been taken into account.

process An interrelated series of events, activities, actions, mechanisms, or steps that transform inputs into outputs.

proportion measure A measure which shows the number of occurrences over the entire group within which the occurrence should take place (e.g., patients delivered by cesarean section over all deliveries).

provider data (data source) Data obtained from other provider-generated records that are not necessarily contained in the medical record (e.g., pharmacy patient medication profiles, nursing care plans).

randomization A technique for selecting or assigning cases such that each case has an equal probability of being selected or assigned. It is done to stimulate chance distribution, reduce the effects of confounding factors, and produce unbiased statistical data.

range A measure of the spread of a data set; the difference between the smallest and largest observation.

rate-based (measure) An aggregate data measure in which the value of each measurement is expressed as a proportion or as a ratio. In a proportion, the numerator is expressed as a subset of the denominator (for example, patients with cesarean section, divided by all patients who deliver). In a ratio, the numerator and denominator measure different phenomena (for example, the number of patients with central lines who develop infections divided by the number of central line days).

ratio A relationship between two counted sets of data, which may have a value of zero or greater. In a ratio, the numerator is not necessarily a subset of the denominator (e.g., pints of blood transfused to number of patients discharged).

registry/log data (data source) Data obtained from local, regional, or national disease or procedure-related registries, data obtained from the healthcare organization's daily recordings (logs). Examples of such data include tumor, trauma, and cardiology registries. Examples of log data include infusion therapy, central line infection, and labor and delivery logs.

regression coefficients Synonym for regression weight which is derived from statistical modeling and expresses the change in a patient's response or outcome corresponding to a unit of change in the appropriate explanatory variable (i.e., patient risk factor).

relevance The applicability and/or pertinence of the indicator to its users and customers.

reliability The ability of the indicator to accurately and consistently identify the events it was designed to identify across multiple healthcare settings.

reporting period The defined time period which describes the patient's end-of-service.

reperfusion Re-establishing blood flow in an obstructed coronary artery. It may be accomplished with thrombolytic therapy or percutaneous coronary intervention.

risk-adjusted measures Measures that are risk-adjusted using statistical modeling or stratification methods.

risk-adjusted rate A rate that takes into account differences in case mix to allow for more valid comparisons between groups.

sampling frequency If a hospital chooses to sample, they may sample data on either a monthly or quarterly basis. Refer to the "Sample Size Requirements" discussion in the Population and Sampling Specifications section for further information.

sampling method Describes the process used to select a sample. Sampling approaches for national hospital quality measures are simple random sampling and systematic sampling. Refer to the "Sampling Approaches" discussion in the Population and Sampling Specifications section for further information.

sample size The number of individuals or particular patients included in a study, usually chosen so that the study has a particular statistical power of detecting an effect of a particular size. Refer to the "Sample Size Requirements" discussion in the Population and Sampling Specifications section for further information.

score A rating, usually expressed as a number, and based on the degree to which certain qualities or attributes are present (e.g., Glascow coma, ASA scores).

severity The degree of biomedical risk or mortality of medical treatment.

simple random sample A process in which a sample of data is selected from the total population in such a way that every case has the same chance of being selected and that the sample size is met. Refer to the "Sampling Approaches" discussion in the Population and Sampling Specifications section for further information.

standard deviation A measure of variability that indicates the dispersion, spread, or variation in a distribution.

strata See stratified measure.

stratification A form of risk adjustment, which involves classifying data into strata based on one or more characteristics, variables, or other categories.

stratification-based approach for risk adjustment The process of dividing or classifying subgroups known as strata in order to facilitate more valid comparisons. For example, a measure's outcome may be divided into type of surgery-specific categories or strata.

stratified measure A performance measure that is classified into a number of strata to assist in analysis and interpretation. The overall or un-stratified measure evaluates all of the strata together. The stratified measure or each stratum consists of a subset of the overall measure.

stratum See stratified measure.

structure measure A measure that assesses whether organizational resources and arrangements are in place to deliver healthcare, such as the number, type, and distribution of medical personnel, equipment, and facilities.

systematic random sampling A process in which the starting case is selected randomly, and the next cases are selected according to a fixed interval that is based upon the number of cases in the population. For example, the starting case is the second patient that arrives at the hospital. This patient and every subsequent fifth patient becomes part of the random sample until the sample size is reached. Refer to the "Sampling Approaches" discussion in the Population and Sampling Specifications section for further information.

test cases Fictitious patient-level data composed of clinical data elements that yield an expected result for a specific core measure algorithm.

thrombolytic therapy See fibrinolytic therapy.

transmission schedule The schedule of dates on which data are expected to be transmitted.

unable to be determined (UTD) Each data element that is applicable per the algorithm for each of the measures within a topic must be "touched" by the abstractor. While there is an expectation that all data elements are collected, it is recognized that in certain situations information may not be available (i.e., dates,

times, codes, etc.). If, after due diligence, the abstractor determines that a value is not documented or is not able to determine the answer value, the abstractor must select "Unable to Determine (UTD)" as the answer.

validation The process by which the integrity and correctness of data are established. Validation processes can occur immediately after a data item is collected or after a complete set of data are collected. The Centers for Medicare & Medicaid Services (CMS) chart-level validation will validate the data at several levels. There are consistency and internal edit checks to assure the integrity of the submitted data, there are external edit checks to verify expectations about the volume of the data received, and there will be chart-level audits to assure the reliability of the submitted data. Information on these procedures is available on http://www.qualitynet.org.

validity Ability to identify opportunities for improvement in the quality of care, demonstration that the indicator uses results in improvements in outcomes and/or quality of care.

variance Equal to the square of the standard deviation.

verification The process used to ensure consistent implementation of core measure algorithms specified in this manual across disparate measurement systems.

Selected Sources:

- Babbie ER, The Practice of Social Research, 2nd edition, Belmont, CA: Wadsworth Publishing Company, 1979.
- Current Procedural Terminology (CPT®), 4rth edition, American Medical Association, 2007.
- Everitt, BS, The Cambridge Dictionary of Statistics, Cambridge University press, 1998.
- Iezonni LI, Foley SM, Heeran T, Daley J, Duncan CC, Fisher ES, Hughes J. "A Method for Screening the Quality of Hospital Care Uning Administrative Data: Preliminary Validation Results, "Quality Review Bulletin, November, 1992, 361-370.
- Lexikon Second Edition, Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare Organizations, 1998.
- McHorney CA, Kosinsk, M, and Ware Jr. JE. "Comparisons of the Cost and Quality of Norms for theSF-36 Health Survey Collected by Mail Versus Telephone Interview: Results From a National Survey," Medical Care, 32, (1994), 551-567.
- Leon-Chisen N. ICD-10-CM and ICD-10-PCS Coding Handbook, 2014 Ed. with Answers Amer Hospital Assn; 2013.
- ORYX® technical Implementation Guide, Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare Organizations, current.
- 2006 Accreditation Manual(s), Oakbrook Terrace, IL: Joint Commission in Accreditation of Healthcare Organizations, 2005.

Appendix C
Medication Tables

Note: The medication tables are not meant to be inclusive lists of all available therapeutic agents. Discrepancies must be reported.

Index

OP table 1.2 Warfarin

Medication Name
Warfarin Sodium
Coumadin
Jantoven
Warfarin

OP Table 1.3 Fibrinolytic Agents

Medication Name
Activase
Alteplase
Anisoylated Plasminogen-Streptokinase Activator Complex
APSAC
Kabikinase
Retavase
Reteplase
rPA (RPA)
Streptase
Streptokinase
Tenecteplase
Tissue plasminogen activator
TNKase
tPA (TPA)

Appendix D: Preview Section

The Preview Section provides information on new measures. The information provided in this section should not be programmed or submitted. The measure(s) identified in this section are not currently collected.

No new measures have been introduced for the CY 2023 payment determination.

Hospitals that are excluded from payment under the OPPS are not required to report on the Hospital OQR program measures but may do so on a voluntary basis.

