HOSPITAL OUTPATIENT DEPARTMENT 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-20	Door to Diagnostic Evaluation by a Qualified Medical Personnel
OP-22	Left Without Being Seen*

OP ED-Throughput GENERAL DATA ELEMENT LIST

General Data Element Name	Collected For:
Arrival Time	All Records
Birthdate	All Records
CMS Certification Number[1,2]	All Records
First Name	All Records
Hispanic Ethnicity	All Records
Last Name	All Records
National Provider Identifier[1,2]	Optional for All Records
Outpatient Encounter Date	All Records
Patient HIC#	Collected by CMS for patients with a *Payment Source* of Medicare who have a standard HIC number
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

[1]Transmission Data Element
[2]Defined in the Transmission Data Element List within the Hospital Outpatient Measure Data Transmission section of this manual

*****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 SPECIFIC DATA ELEMENT LIST

OP ED Data Element Name	Collected For:
Arrival Time	OP-18, OP-20
Discharge Code	OP-18, OP-20
E/M Code	OP-18, OP-20
ED Departure Date	OP-18
ED Departure Time	OP-18
ICD-9-CM Principal Diagnosis Code	OP-18
Outpatient Encounter Date	OP-18, OP-20
Provider Contact Date	OP-20
Provider Contact Time	OP-20

OP-18 and OP-20 Hospital Outpatient Emergency Department Throughput Population

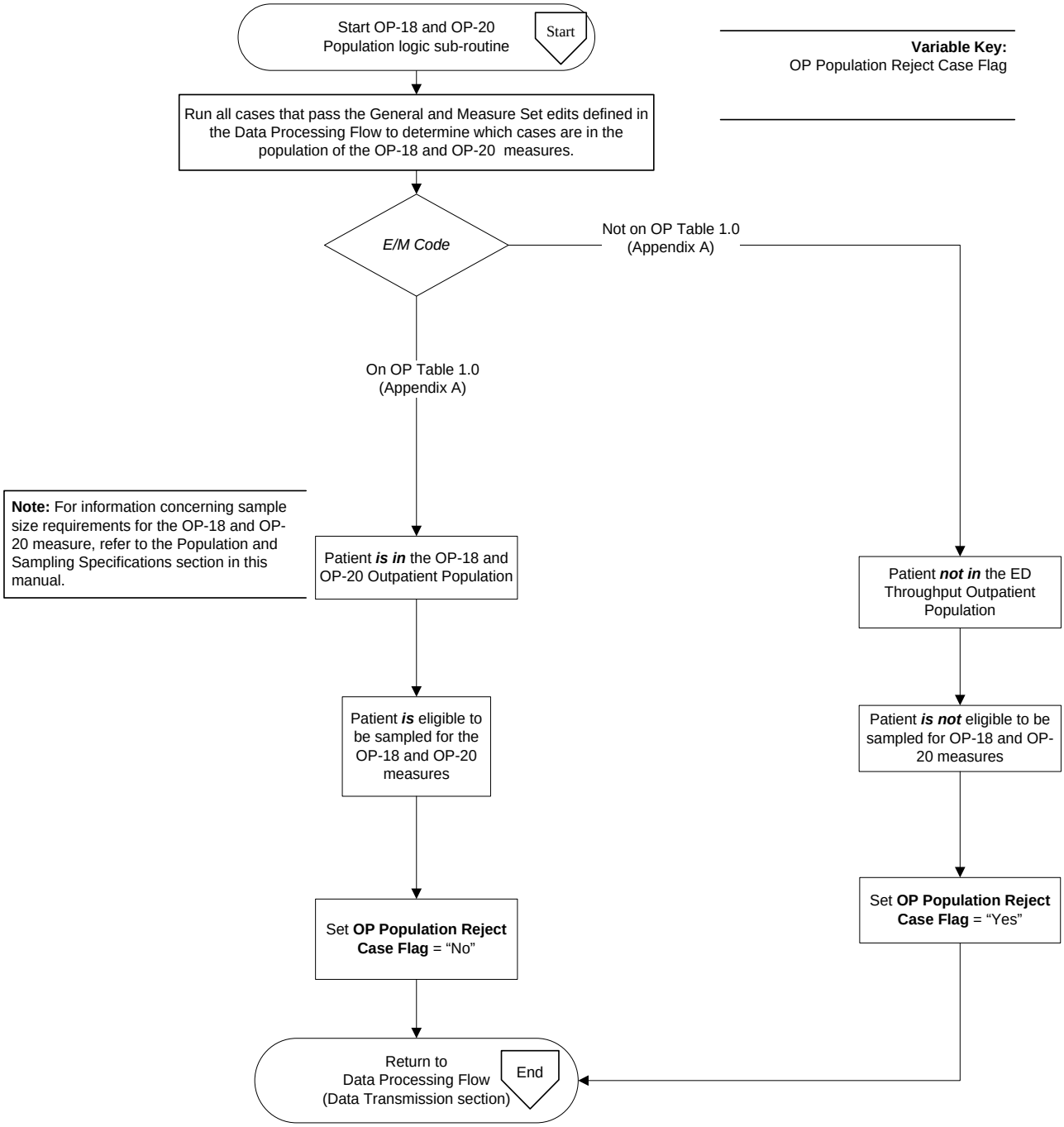
ED Throughput

The population of the OP-18 and OP-20 measures is identified using 1 data element:

- *E/M Code*

Patients seen in a Hospital Emergency Department (*E/M Code* on Appendix A OP Table 1.0) are included in the OP-18 and OP-20 Hospital Outpatient Population and are eligible to be sampled if they have: An *E/M Code* on Appendix A, OP Table 1.0

ED Throughput Hospital Outpatient Population Algorithm
OP-18 and OP-20



Algorithm Narrative for ED-Throughput Hospital Outpatient Population (OP-18 and OP-20)

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

Measure Set: Hospital Outpatient ED-Throughput

Measure ID #: OP-18

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

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

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

Rationale: Reducing the time patients remain in the emergency department (ED) can improve access to treatment and increase quality of care. Reducing this time potentially improves access to care specific to the patient condition and increases the capability to provide additional treatment. In recent times, EDs have experienced significant overcrowding. Although once only a problem in large, urban, teaching hospitals, the phenomenon has spread to other suburban and rural healthcare organizations. According to a 2002 national U.S. survey, more than 90 percent of large hospitals report EDs operating "at" or "over" capacity. Overcrowding and heavy emergency resource demand have led to a number of problems, including ambulance refusals, prolonged patient waiting times, increased suffering for those who wait, rushed and unpleasant treatment environments, and potentially poor patient outcomes. Approximately one third of hospitals in the U.S. report increases in ambulance diversion in a given year, whereas up to half report crowded conditions in the ED. In a recent national survey, 40 percent of hospital leaders viewed ED crowding as a symptom of workforce shortages. ED crowding may result in delays in the administration of medication such as antibiotics for pneumonia and has been associated with perceptions of compromised emergency care. For patients with non-ST-segment-elevation myocardial infarction, long ED stays were associated with decreased use of guideline-recommended therapies and a higher risk of recurrent myocardial infarction. When EDs are overwhelmed, their ability to respond to community emergencies and disasters may be compromised.

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-9-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-9-CM diagnosis and procedure codes, which require retrospective data entry.

Data Accuracy: None

Measure Analysis Suggestions: None

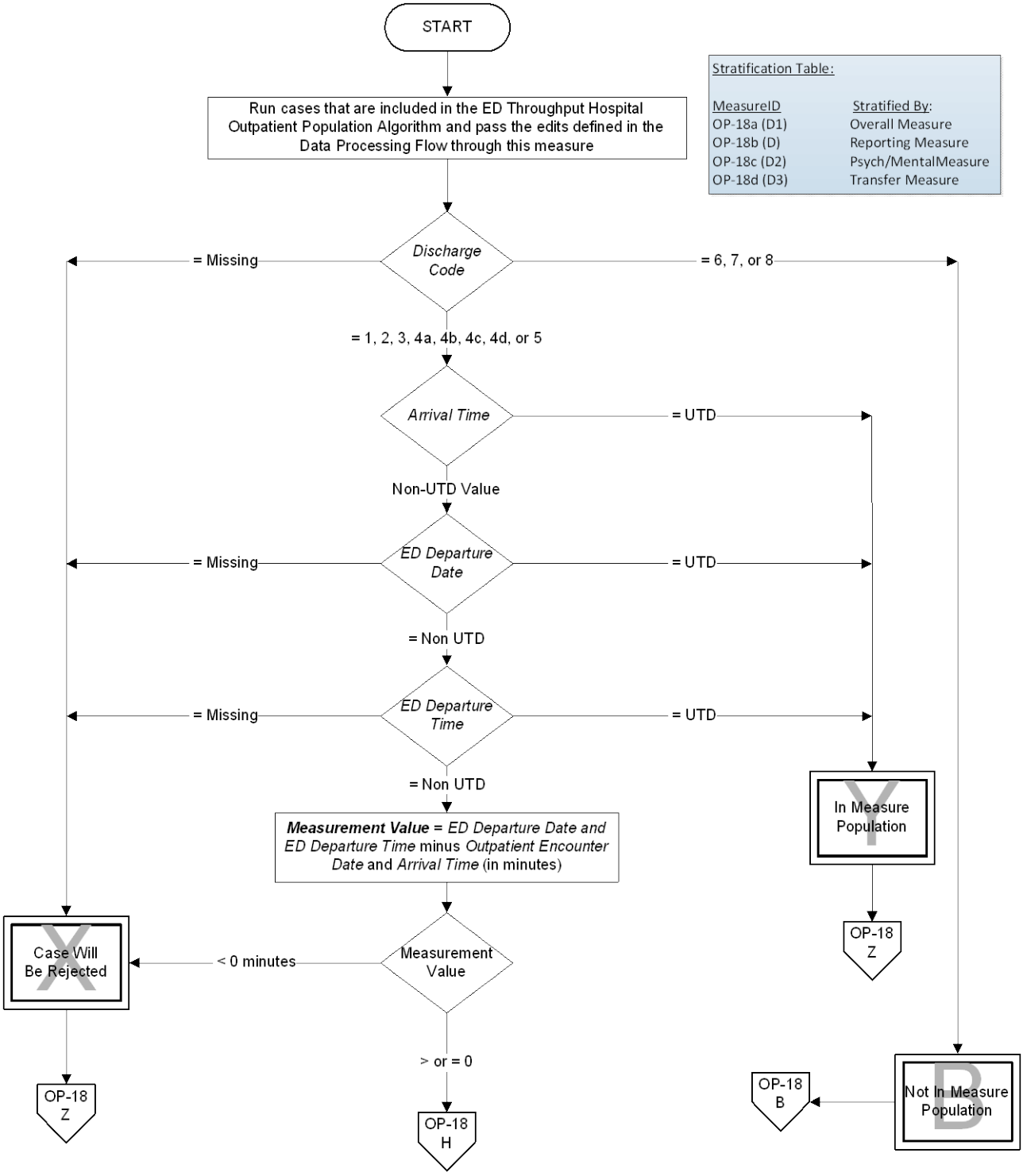
Sampling: Yes, for additional information see the Population and Sampling Specifications section.

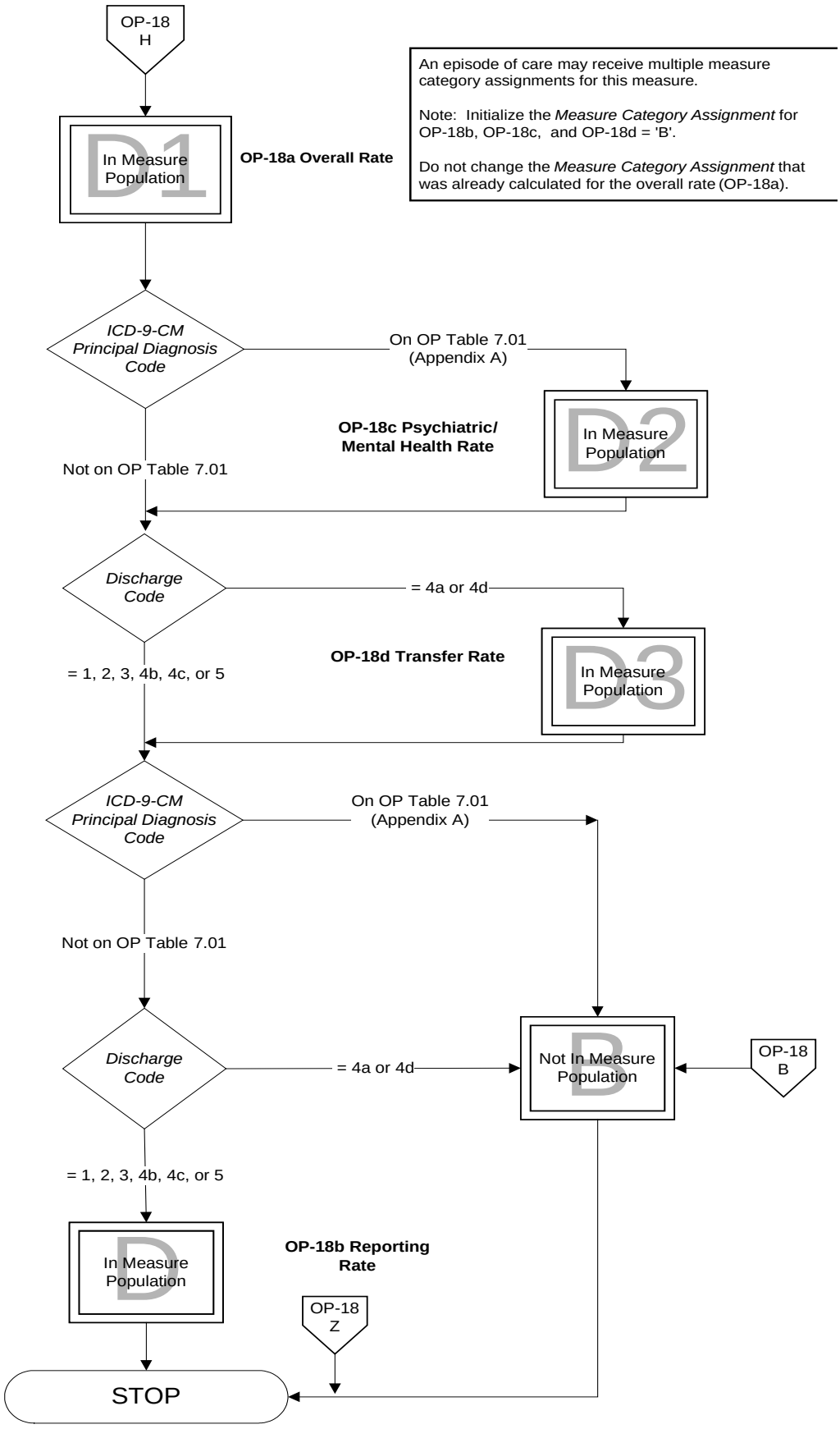
Data Reported As: Aggregate measure of central tendency

Selected References:

- Diercks DB, et al. Prolonged emergency department stays of non-ST-segment-elevation myocardial infarction patients are associated with worse adherence to the American College of Cardiology/American Heart Association guidelines for management and increased adverse events. *Ann Emerg Med*. 2007; 50:489-96.
- Derlet RW, Richards JR. Emergency department overcrowding in Florida, New York, and Texas. *South Med J*. 2002; 95:846-9.
- Derlet RW, Richards JR. Overcrowding in the nation's emergency departments: complex causes and disturbing effects. *Ann Emerg Med*. 2000; 35:63-8.
- Fatovich DM, Hirsch RL. Entry overload, emergency department overcrowding, and ambulance bypass. *Emerg Med J*. 2003; 20:406-9.
- Hwang U, Richardson LD, Sonuyi TO, Morrison RS. The effect of emergency department crowding on the management of pain in older adults with hip fracture. *J Am Geriatr Soc*. 2006; 54:270-5.
- Institute of Medicine of the National Academies. Future of emergency care: Hospital-based emergency care at the breaking point. *The National Academies Press* 2006.
- Kyriacou DN, Ricketts V, Dyne PL, McCollough MD, Talan DA. A 5-year time study analysis of emergency department patient care efficiency. *Ann Emerg Med*. 1999; 34:326-35.
- Pines JM, et al. ED crowding is associated with variable perceptions of care compromise. *Acad Emerg Med*. 2007; 14:1176-81.
- Pines JM, et al. Emergency department crowding is associated with poor care for patients with severe pain. *Ann Emerg Med*. 2008; 51:6-7.
- Schull MJ, et al. Emergency department crowding and thrombolysis delays in acute myocardial infarction. *Ann Emerg Med.* 2004; 44:577-85.
- Siegel B, et al. Enhancing work flow to reduce crowding. *Jt Comm J Qual Patient Saf*. 2007; 33 (11 Suppl):57-67.
- Trzeciak S, Rivers EP. Emergency department overcrowding in the United States: an emerging threat to patient safety and public health. *Emerg Med J*. 2003; 20:402-5.
- Wilper AP, Woolhandler S, Lasser KE, McCormick D, Cutrona SL, Bor DH, Himmelstein DU. Waits to see an emergency department physician: U.S. trends and predictors, 1997-2004. *Health Aff* (Millwood). 2008; 27:w84-95.

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-9-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. 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-9-CM Principal Diagnosis Code*.

10. Check *ICD-9-CM Principal Diagnosis Code*.
    a. If *ICD-9-CM Principal Diagnosis Code* is on Appendix A, OP Table 7.01, the case will proceed to a Measure Category Assignment of D2. Proceed to *Discharge Code*.
    b. If *ICD-9-CM Principal Diagnosis Code* is not on 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-9-CM Principal Diagnosis Code*.
    b. If *Discharge Code* equals 1, 2, 3, 4b, 4c, or 5, the case will proceed to *ICD-9-CM Principal Diagnosis Code.*

12. Check *ICD-9-CM Principal Diagnosis Code*.
    a. If *ICD-9-CM Principal Diagnosis Code* is on 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-9-CM Principal Diagnosis Code* is not on 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

Measure Set: Hospital Outpatient ED-Throughput

Measure ID #: OP-20

Outpatient Setting: Emergency Department

Performance Measure Name: Door to Diagnostic Evaluation by a Qualified Medical Personnel

Description: Median Time from ED Arrival to Provider Contact for Emergency Department Patients

Rationale: Reducing the time patients remain in the emergency department (ED) can improve access to treatment and increase quality of care. Reducing this time potentially improves access to care specific to the patient condition and increases the capability to provide additional treatment. In recent times, EDs have experienced significant overcrowding. Although once only a problem in large, urban, teaching hospitals, the phenomenon has spread to other suburban and rural healthcare organizations. According to a 2002 national U.S. survey, more than 90 percent of large hospitals report EDs operating "at" or "over" capacity. Overcrowding and heavy emergency resource demand have led to a number of problems, including ambulance refusals, prolonged patient waiting times, increased suffering for those who wait, rushed and unpleasant treatment environments, and potentially poor patient outcomes. Approximately one third of hospitals in the U.S. report increases in ambulance diversion in a given year, whereas up to half report crowded conditions in the ED. In a recent national survey, 40 percent of hospital leaders viewed ED crowding as a symptom of workforce shortages. ED crowding may result in delays in the administration of medication such as antibiotics for pneumonia and has been associated with perceptions of compromised emergency care. For patients with non-ST-segment-elevation myocardial infarction, long ED stays were associated with decreased use of guideline-recommended therapies and a higher risk of recurrent myocardial infarction. When EDs are overwhelmed, their ability to respond to community emergencies and disasters may be compromised.

Type of Measure: Process

Improvement Noted As: A decrease in the median value

Continuous Variable Statement: Time (in minutes) from ED arrival to Provider Contact 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*
- *Outpatient Encounter Date*
- *Provider Contact Date*
- *Provider Contact Time*

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-9-CM diagnosis and procedure codes, which require retrospective data entry.

Data Accuracy: None

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:

- Diercks DB, et al. Prolonged emergency department stays of non-ST-segment-elevation myocardial infarction patients are associated with worse adherence to the American College of Cardiology/American Heart Association guidelines for management and increased adverse events. *Ann Emerg Med*. 2007; 50: 489-96.
- Derlet RW, Richards JR. Emergency department overcrowding in Florida, New York, and Texas. *South Med J*. 2002; 95:846-9.
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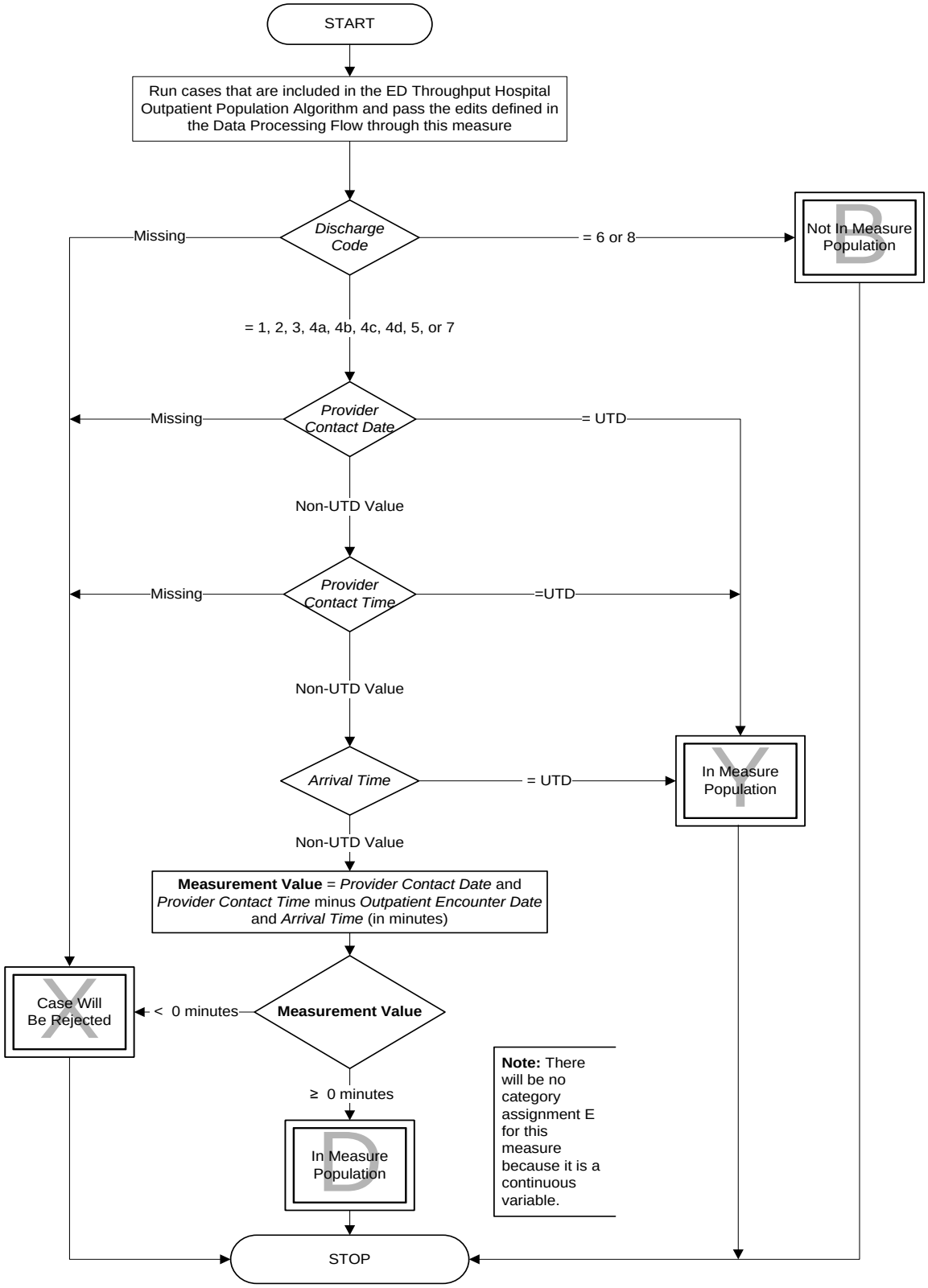
- Fatovich DM, Hirsch RL. Entry overload, emergency department overcrowding, and ambulance bypass. *Emerg Med J*. 2003; 20:406-9.
- Hwang U, Richardson LD, Sonuyi TO, Morrison RS. The effect of emergency department crowding on the management of pain in older adults with hip fracture. *J Am Geriatr Soc*. 2006; 54:270-5.
- Institute of Medicine of the National Academies. Future of emergency care: Hospital-based emergency care at the breaking point. *The National Academies Press* 2006.
- Kyriacou DN, Ricketts V, Dyne PL, McCollough MD, Talan DA. A 5-year time study analysis of emergency department patient care efficiency. *Ann Emerg Med*. 1999; 34:326-35.
- Pines JM, et al. ED crowding is associated with variable perceptions of care compromise. *Acad Emerg Med*. 2007; 14:1176-81.
- Pines JM, et al. Emergency department crowding is associated with poor care for patients with severe pain. *Ann Emerg Med*. 2008; 51:6-7.

- Schull MJ, et al. Emergency department crowding and thrombolysis delays in acute myocardial infarction. *Ann Emerg Med.* 2004; 44:577-85.
- Siegel B, et al. Enhancing work flow to reduce crowding. *Jt Comm J Qual Patient Saf*. 2007; 33 (11 Suppl):57-67.
- Trzeciak S, Rivers EP. Emergency department overcrowding in the United States: an emerging threat to patient safety and public health. *Emerg Med J*. 2003; 20:402-5.
- Wilper AP, Woolhandler S, Lasser KE, McCormick D, Cutrona SL, Bor DH, Himmelstein DU. Waits to see an emergency department physician: U.S. trends and predictors, 1997-2004. *Health Aff* (Millwood). 2008; 27:w84-95.

OP-20: Door to Diagnostic Evaluation by a Qualified Medical Personnel
Continuous Variable Statement: Time (in minutes) from ED arrival to Provider Contact for patients discharged from the emergency department.



Algorithm Narrative for
OP-20: Door to Diagnostic Evaluation by a Qualified Medical Personnel

Continuous Variable Statement: Time (in minutes) from ED arrival to Provider Contact 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-9-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 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, 5, or 7, the case will proceed to *Provider Contact Date*.

3. Check *Provider Contact Date*.
   a. If *Provider Contact 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 *Provider Contact 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 *Provider Contact Date* equals non-UTD, the case will proceed to Provider Contact Time.

4. Check *Provider Contact Time*.
   a. If *Provider Contact 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 *Provider Contact 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 *Provider Contact Time* equals non-UTD, the case will proceed to *Arrival Time*.

5. 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 Measurement Value.

6. Calculate the Measurement Value. Time in minutes is equal to the *Provider Contact Date* and *Provider Contact 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 D and will be in the Measure Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission Section.

Measure Information Form

Measure Set: Hospital Outpatient ED-Throughput

Set Measure ID #: OP-22

Outpatient Setting: Emergency Department

Performance Measure Name: Left Without Being Seen

Description: Percent of patients who leave the Emergency Department (ED) without being evaluated by a physician/advance 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 health care 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 specialities. 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)