HOSPITAL OUTPATIENT DEPARTMENT QUALITY MEASURES
ED-Throughput

<table>
<thead>
<tr>
<th>Set Measure ID #</th>
<th>Measure Short Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>OP-18</td>
<td>Median Time from ED Arrival to ED Departure for Discharged ED Patients</td>
</tr>
<tr>
<td>OP-20</td>
<td>Door to Diagnostic Evaluation by a Qualified Medical Personnel</td>
</tr>
<tr>
<td>OP-22</td>
<td>Left Without Being Seen*</td>
</tr>
</tbody>
</table>

**OP ED-Throughput GENERAL DATA ELEMENT LIST**

<table>
<thead>
<tr>
<th>General Data Element Name</th>
<th>Collected For:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrival Time</td>
<td>All Records</td>
</tr>
<tr>
<td>Birthdate</td>
<td>All Records</td>
</tr>
<tr>
<td>CMS Certification Number1,2</td>
<td>All Records</td>
</tr>
<tr>
<td>First Name</td>
<td>All Records</td>
</tr>
<tr>
<td>Hispanic Ethnicity</td>
<td>All Records</td>
</tr>
<tr>
<td>Last Name</td>
<td>All Records</td>
</tr>
<tr>
<td>National Provider Identifier1,2</td>
<td>Optional for All Records</td>
</tr>
<tr>
<td>Outpatient Encounter Date</td>
<td>All Records</td>
</tr>
<tr>
<td>Patient HIC#</td>
<td>Collected by CMS for patients with a Payment Source of Medicare who have a standard HIC number</td>
</tr>
<tr>
<td>Patient Identifier</td>
<td>All Records</td>
</tr>
<tr>
<td>Payment Source</td>
<td>All Records</td>
</tr>
<tr>
<td>Physician 1</td>
<td>Optional for All Records</td>
</tr>
<tr>
<td>Physician 2</td>
<td>Optional for All Records</td>
</tr>
<tr>
<td>Postal Code</td>
<td>All Records</td>
</tr>
<tr>
<td>Race</td>
<td>All Records</td>
</tr>
<tr>
<td>Sex</td>
<td>All Records</td>
</tr>
</tbody>
</table>

1Transmission Data Element
2Defined 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.
<table>
<thead>
<tr>
<th>OP ED Data Element Name</th>
<th>Collected For:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrival Time</td>
<td>OP-18, OP-20</td>
</tr>
<tr>
<td>Discharge Code</td>
<td>OP-18, OP-20</td>
</tr>
<tr>
<td>E/M Code</td>
<td>OP-18, OP-20</td>
</tr>
<tr>
<td>ED Departure Date</td>
<td>OP-18</td>
</tr>
<tr>
<td>ED Departure Time</td>
<td>OP-18</td>
</tr>
<tr>
<td>ICD-9-CM Principal Diagnosis Code</td>
<td>OP-18</td>
</tr>
<tr>
<td>Outpatient Encounter Date</td>
<td>OP-18, OP-20</td>
</tr>
<tr>
<td>Provider Contact Date</td>
<td>OP-20</td>
</tr>
<tr>
<td>Provider Contact Time</td>
<td>OP-20</td>
</tr>
</tbody>
</table>
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

Start OP-18 and OP-20 Population logic sub-routine

Run all cases that pass the General and Measure Set edits defined in the Data Processing Flow to determine which cases are in the population of the OP-18 and OP-20 measures.

E/M Code

On OP Table 1.0 (Appendix A)

Patient is in the OP-18 and OP-20 Outpatient Population

Patient not in the ED Throughput Outpatient Population

Patient is eligible to be sampled for the OP-18 and OP-20 measures

Patient not eligible to be sampled for OP-18 and OP-20 measures

Set OP Population Reject Case Flag = "No"

Set OP Population Reject Case Flag = "Yes"

Return to Data Processing Flow (Data Transmission section)

End

Variable Key: OP Population Reject Case Flag

Note: For information concerning sample size requirements for the OP-18 and OP-20 measure, refer to the Population and Sampling Specifications section in this manual.
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.
Measure Information Form

Measure Set: Hospital Outpatient ED-Throughput

Measure ID #: OP-18

Outpatient Setting: Emergency Department

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

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:

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.

START

Run 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

Discharge Code

= Missing

= 1, 2, 3, 4a, 4b, 4c, 4d, or 5

Arrival Time = UTD

Non-UTD Value

= Missing

ED Departure Date = UTD

= Non UTD

ED Departure Time = UTD

= Non UTD

Measurement Value = ED Departure Date and ED Departure Time minus Outpatient Encounter Date and Arrival Time (in minutes)

Case Will Be Rejected

< 0 minutes

Measurement Value

> or = 0

= Missing

6, 7, or 8

Stratification Table:

<table>
<thead>
<tr>
<th>MeasureID</th>
<th>Stratified By</th>
</tr>
</thead>
<tbody>
<tr>
<td>OP-18a (D1)</td>
<td>Overall Measure</td>
</tr>
<tr>
<td>OP-18b (D)</td>
<td>Reporting Measure</td>
</tr>
<tr>
<td>OP-18c (D2)</td>
<td>Psych/MentalMeasure</td>
</tr>
<tr>
<td>OP-18d (D3)</td>
<td>Transfer Measure</td>
</tr>
</tbody>
</table>

In Measure Population

OP-18

Z

Not in Measure Population

OP-18

B

OP-18

H
An episode of care may receive multiple measure category assignments for this measure.

Note: Initialize the Measure Category Assignment for OP-18b, OP-18c, and OP-18d = 'B'.

Do not change the Measure Category Assignment that was already calculated for the overall rate (OP-18a).
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:
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.

START

Run 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

Discharge Code

= 6 or 8

= 1, 2, 3, 4a, 4b, 4c, 4d, 5, or 7

Provider Contact Date

= UTD

Non-UTD Value

Provider Contact Time

= UTD

Non-UTD Value

Arrival Time

= UTD

Non-UTD Value

Measurement Value = Provider Contact Date and Provider Contact Time minus Outpatient Encounter Date and Arrival Time (in minutes)

< 0 minutes

Case Will Be Rejected

≥ 0 minutes

In Measure Population

Note: There will be no category assignment E for this measure because it is a continuous variable.

STOP
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)