Measure Information Form

Measure Set: Emergency Department

Set Measure ID #: ED-1

Set Measure ID #	Performance Measure Name
ED-1a	Median Time from ED Arrival to ED Departure for Admitted ED Patients – Overall Rate
ED-1b	Median Time from ED Arrival to ED Departure for Admitted ED Patients – Reporting Measure
ED-1c	Median Time from ED Arrival to ED Departure for Admitted ED Patients – Psychiatric/Mental Health Patients

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

Description: Median time from emergency department arrival to time of departure from the emergency room for patients admitted to the facility 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% of large hospitals report EDs operating "at" or "over" capacity. Approximately one third of hospitals in the US 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% 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. 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. 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 admitted to the facility from the emergency department.

Included Populations:
Any *ED Patient* from the facility's emergency department

Excluded Populations:
Patients who are not an *ED Patient*

Data Elements:
- *Arrival Date*
- *Arrival Time*
- *ED Departure Date*
- *ED Departure Time*
- *ED Patient*
- *ICD-9-CM Principal Diagnosis Code*

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 opportunity 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, please refer to the measure set specific sampling requirements and for additional information see the Population and Sampling Specifications section.

Data Reported As: Aggregate measure of central tendency

Selected References:

- 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.
- 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.
- 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.
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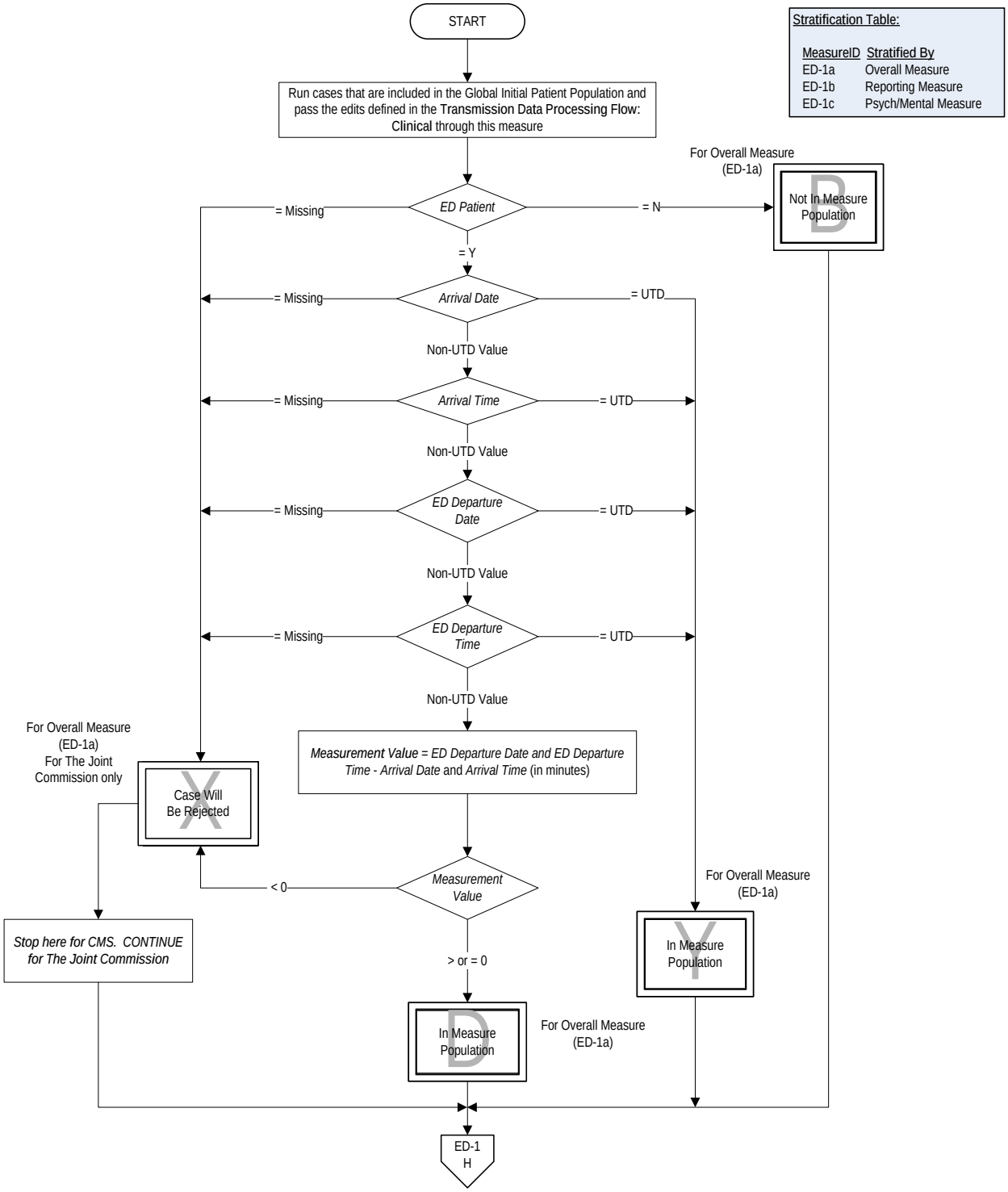
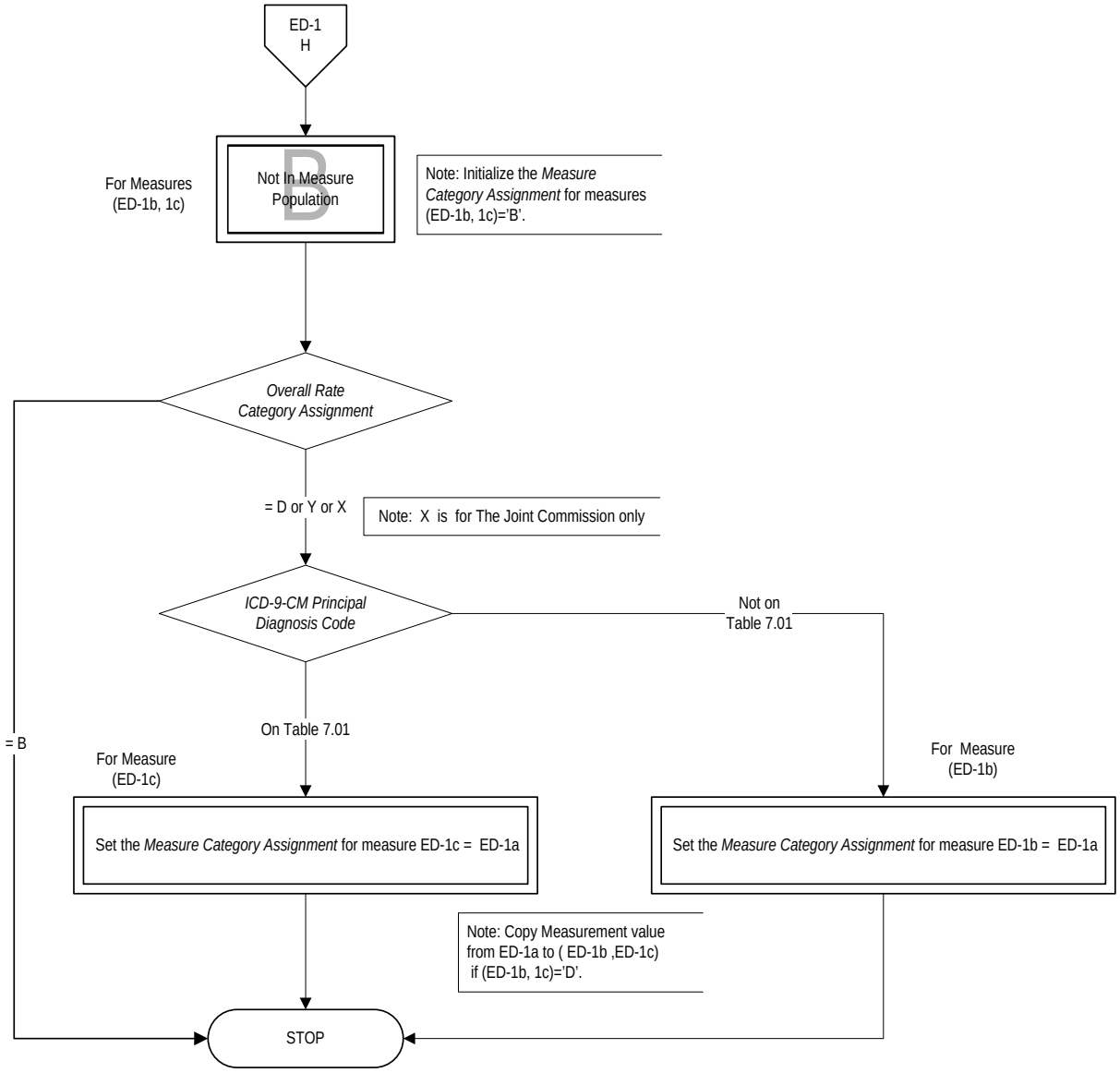
- Kyriacou DN, Ricketts V, Dyne PL, McCollough MD, Talan DA. A 5-year time study analysis of emergency department patient care efficiency. *Ann Emerg Med*. 1999;34:326-35.
- Pines JM, et al. ED crowding is associated with variable perceptions of care compromise. *Acad Emerg Med*. 2007;14:1176-81.
- Pines 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.

ED-1: Median Time from ED Arrival to ED Departure for Admitted ED Patients

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




ED-1
H
For Measures
(ED-1b, 1c)
Not In Measure
Population
D
Note: Initialize the *Measure Category Assignment* for measures (ED-1b, 1c)='B'.
Overall Rate Category Assignment
= D or Y or X
Note: X is for The Joint Commission only
ICD-9-CM Principal Diagnosis Code
Not on
Table 7.01
On Table 7.01
= B
For Measure
(ED-1c)
For Measure
(ED-1b)
Set the *Measure Category Assignment* for measure ED-1c = ED-1a
Set the *Measure Category Assignment* for measure ED-1b = ED-1a
Note: Copy Measurement value from ED-1a to (ED-1b ,ED-1c) if (ED-1b, 1c)='D'.
STOP

Emergency Department (ED)-1: Median Time from Emergency Department Arrival to ED Departure for Admitted ED Patients

Continuous Variable Statement: Time, in minutes, from ED arrival to ED departure for patients admitted to the facility from the emergency department.

Stratification Table: The Stratification Table includes the Measure ID and Stratified By.

Measure ID	Stratified By
ED-1a	Overall Measure
ED-1b	Reporting Measure
ED-1c	Psych/Mental Measure

1. Start processing. Run cases that are included in the Global Initial Patient Population and pass the edits defined in the Transmission Data Processing Flow: Clinical through this measure.

2. Check ED Patient
   a. If ED Patient is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. For CMS, stop processing. For The Joint Commission, assign the Measure Category to X for ED-1a, proceed to step 9.
   b. If ED Patient equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Assign the Measure Category to B for ED-1a, proceed to step 9.
   c. If ED Patient equals Yes, continue processing and proceed to check Arrival Date.

3. Check Arrival Date
   a. If the Arrival Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. For CMS, stop processing. For The Joint Commission, assign the Measure Category to X for ED-1a, proceed to step 9.
   b. If the Arrival Date equals Unable To Determine, the case will proceed to a Measure Category Assignment of Y and will be in the Measure Population. Assign the Measure Category to Y for ED-1a, proceed to step 9.
   c. If Arrival Date equals a Non Unable To Determine Value, continue processing and proceed to check Arrival Time.

4. Check Arrival Time
   a. If the Arrival Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. For CMS, stop processing. For The Joint Commission, assign the Measure Category to X for ED-1a, proceed to step 9.

b. If the Arrival Time equals Unable To Determine, the case will proceed to a Measure Category Assignment of Y and will be in the Measure Population. Assign the Measure Category to Y for ED-1a, proceed to step 9.
c. If Arrival Time equals a Non Unable To Determine Value, continue processing and proceed to check ED Departure Date.

5. Check ED Departure Date
   a. If the ED Departure Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. For CMS, stop processing. For The Joint Commission, assign the Measure Category to X for ED-1a, proceed to step 9.
   b. If the ED Departure Date equals Unable To Determine, the case will proceed to a Measure Category Assignment of Y and will be in the Measure Population. Assign the Measure Category to Y for ED-1a, proceed to step 9.
   c. If ED Departure Date equals a Non Unable To Determine Value, continue processing and proceed to check ED Departure Time.

6. Check ED Departure Time
   a. If the ED Departure Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. For CMS, stop processing. For The Joint Commission, assign the Measure Category to X for ED-1a, proceed to step 9.
   b. If the ED Departure Time equals Unable To Determine, the case will proceed to a Measure Category Assignment of Y and will be in the Measure Population. Assign the Measure Category to Y for ED-1a, proceed to step 9.
   c. If ED Departure Time equals a Non Unable To Determine Value, continue processing and proceed to Calculate Measurement Value.

7. Calculate Measurement Value. Measurement Value, in minutes, is equal to the ED Departure Date and ED Departure Time minus the Arrival Date and Arrival Time. Continue processing and proceed to check Measurement Value.

8. Check Measurement Value
   a. If the Measurement Value is greater than or equal to zero minutes, the case will proceed to a Measurement Category Assignment of D and will be in the Measure Population. Assign the Measure Category to D for ED-1a. Proceed to step 9.
   b. If the Measurement Value is less than zero minutes, the case will proceed to a Measure Category Assignment of X and will be rejected. For CMS, stop processing. For The Joint Commission, assign the Measure Category to X for ED-1a. Proceed to step 9.

9. Initialize the Measure Category Assignment for measures (ED-1b, 1c) to equal 'B'. Continue processing and proceed to check Overall Rate Category Assignment.

10. Check Overall Rate Category Assignment
    a. If the Overall Rate is “D or Y or X” continue processing and proceed to check ICD-9-CM Principal Diagnosis Code. NOTE: X is for The Joint Commission Only.
    b. If the Overall Rate is equal to B stop processing.

11. Check ICD-9-CM Principal Diagnosis Code
    a. If the ICD-9-CM Principal Diagnosis Code is on Table 7.01, set the Measure Category Assignment for measure ED-1c equal to ED-1a. Stop processing. Note: Copy Measurement value from ED-1a to ED-1c if ED-1c equals D.
    b. If the ICD-9-CM Principal Diagnosis Code is not on Table 7.01, set the Measure Category Assignment for measure ED-1b equal to ED-1a. Stop processing. Note: Copy Measurement value from ED-1a to ED-1b if ED-1b equals D.