

Measure #415: Emergency Medicine: Emergency Department Utilization of CT for Minor Blunt Head Trauma for Patients Aged 18 Years and Older - National Quality Strategy Domain: Efficiency and Cost Reduction

2017 OPTIONS FOR INDIVIDUAL MEASURES:
REGISTRY ONLY

MEASURE TYPE:
Efficiency

DESCRIPTION:

Percentage of emergency department visits for patients aged 18 years and older who presented within 24 hours of a minor blunt head trauma with a Glasgow Coma Scale (GCS) score of 15 and who had a head CT for trauma ordered by an emergency care provider who have an indication for a head CT

INSTRUCTIONS:

This measure is to be reported for **each denominator eligible visit** for patients aged 18 years and older who present to the emergency department with a minor blunt head trauma during the performance period. It is anticipated that eligible clinicians who provide care in the emergency department will submit this measure.

Measure Reporting:

The listed denominator criteria is used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions allowed by the measure. The quality-data codes listed do not need to be submitted for registry-based submissions; however, these codes may be submitted for those registries that utilize claims data.

DENOMINATOR:

All emergency department visits for patients aged 18 years and older who presented within 24 hours of a minor blunt head trauma with a Glasgow Coma Scale (GCS) score of 15 and who had a head CT for trauma ordered by an emergency care provider*

DENOMINATOR NOTE: *This measure looks to determine if an emergency care provider ordered head CT services typically provided under CPT code 70450.

Definitions:

Presented within 24 hours – The 24 hour timeframe is based on the time of injury reported by the patient or caregiver or guardian

Minor Blunt Head Trauma – Includes only non-penetrating injuries

Denominator Criteria (Eligible Cases):

Patients aged ≥ 18 years on date of encounter

AND

Diagnosis for minor blunt head trauma (ICD-10-CM): S00.03XA, S00.33XA, S00.431A, S00.432A, S00.439A, S00.531A, S00.532A, S00.83XA, S00.93XA, S02.0XXA, S02.101A, S02.102A, S02.109A, S02.110A, S02.111A, S02.112A, S02.113A, S02.118A, S02.119A, S02.11AA, S02.11BA, S02.11CA, S02.11DA, S02.11EA, S02.11FA, S02.11GA, S02.11HA, S02.19XA, S02.2XXA, S02.30XA, S02.31XA, S02.32XA, S02.400A, S02.401A, S02.402A, S02.40AA, S02.40BA, S02.40CA, S02.40DA, S02.40EA, S02.40FA, S02.411A, S02.412A, S02.413A, S02.42XA, S02.600A, S02.601A, S02.602A, S02.609A, S02.610A, S02.611A, S02.612A, S02.620A, S02.621A, S02.622A, S02.630A, S02.631A, S02.632A, S02.640A, S02.641A, S02.642A, S02.650A, S02.651A, S02.652A, S02.66XA, S02.670A, S02.671A, S02.672A, S02.69XA, S02.80XA, S02.81XA, S02.82XA, S02.91XA, S02.92XA, S06.0X0A, S06.0X1A, S06.0X2A, S06.0X3A, S06.0X4A, S06.0X9A, S06.1X0A, S06.1X1A, S06.1X2A, S06.1X3A, S06.1X4A, S06.1X9A, S06.2X0A, S06.2X1A, S06.2X2A, S06.2X3A, S06.2X4A, S06.2X9A, S06.300A, S06.301A,

S06.302A, S06.303A, S06.304A, S06.309A, S06.340A, S06.341A, S06.342A, S06.343A, S06.344A, S06.349A, S06.350A, S06.351A, S06.352A, S06.353A, S06.354A, S06.359A, S06.360A, S06.361A, S06.362A, S06.363A, S06.364A, S06.369A, S06.4X0A, S06.4X1A, S06.4X2A, S06.4X3A, S06.4X4A, S06.4X9A, S06.5X0A, S06.5X1A, S06.5X2A, S06.5X3A, S06.5X4A, S06.5X9A, S06.6X0A, S06.6X1A, S06.6X2A, S06.6X3A, S06.6X4A, S06.6X9A, S06.810A, S06.811A, S06.812A, S06.813A, S06.814A, S06.819A, S06.820A, S06.821A, S06.822A, S06.823A, S06.824A, S06.829A, S06.890A, S06.891A, S06.892A, S06.893A, S06.894A, S06.899A, S06.9X0A, S06.9X1A, S06.9X2A, S06.9X3A, S06.9X4A, S06.9X9A, S09.10XA, S09.11XA, S09.19XA, S09.8XXA, S09.90XA, S09.92XA, S09.93XA, S10.0XXA, S10.83XA, S10.93XA

AND

Patient encounter during the **performance period (CPT)**: 99281, 99282, 99283, 99284, 99285

AND

Patient presented within 24 hours of a minor blunt head trauma with a GCS score of 15 and had a head CT ordered for trauma by an emergency care provider: G9530

AND NOT

DENOMINATOR EXCLUSION:

Patient has documentation of ventricular shunt, brain tumor, multisystem trauma, pregnancy, or is currently taking an antiplatelet medication including: ASA/dipyridamole, clopidogrel, prasugrel, ticlopidine, ticagrelor, or cilostazol: G9531

NUMERATOR:

Emergency department visits for patients who have an indication for a head CT

Definitions:

Indications for a head CT in patients presenting to the emergency department for minor blunt head trauma-

Patients with any one of the following:

- Severe headache
- Vomiting
- Age 65 years and older
- Physical signs of a basilar skull fracture (signs include haemotympanum, "raccoon" eyes, cerebrospinal fluid leakage from the ear or nose, Battle's sign)
- Focal neurological deficit
- Coagulopathy
- Thrombocytopenia
- Currently taking any of the following anticoagulant medications*: apixaban, argatroban, bivalirudin, dabigatran, dalteparin, desirudin, enoxaparinm, fondaparinux, heparin, lepirudin, low molecular weight heparin, rivaroxaban, tinzaparin, warfarin
- Dangerous mechanism of injury (i.e., ejection from a motor vehicle, a pedestrian struck, and a fall from a height of more than 3 feet or 5 stairs)

OR

Patients with either loss of consciousness OR posttraumatic amnesia AND any one of the following:

- Headache
- Age 60 years and older, and less than 65 years
- Drug/alcohol intoxication
- Short-term memory deficits
- Evidence of trauma above the clavicles (physical location, any trauma to the head or neck [i.e., laceration, abrasion, bruising, ecchymosis, hematoma, swelling, fracture])
- Posttraumatic seizure

**The aforementioned list of medications/drug names is based on clinical guidelines and other evidence and may not be all-inclusive or current. Physicians and other health care professionals should refer to the FDA's web site page entitled "Drug Safety Communications" for up-to-date drug recall and alert information when prescribing medications. As part of the measure maintenance process, the measure and specifications will be updated routinely to account for newly released and FDA approved pharmacologic agents.*

Numerator Options:

Performance Met:

Patient with minor blunt head trauma had an appropriate indication(s) for a head CT (**G9529**)

OR

Performance Not Met:

Patient with minor blunt head trauma did not have an appropriate indication(s) for a head CT (**G9533**)

RATIONALE:

This measure is needed to close the gap in provider performance as patients with mild closed head injuries without guideline indications for CT or MRI imaging are receiving such studies. The results of this are increased healthcare expenditures, unnecessary patient radiation exposure, and possibly prolonged evaluation times.

This measure is an appropriateness measure, and as such is one for which a higher score indicates better quality. The technical expert panel (TEP) considered an alternate measure construction, such that this measure would more closely match the pediatric measure; however, the feasibility issues posed by the alternate construction resulted in the construction as seen here.

CLINICAL RECOMMENDATION STATEMENTS:

The following evidence statements are quoted verbatim from the referenced clinical guidelines and other references:

A noncontrast head CT is indicated in head trauma patients with loss of consciousness or posttraumatic amnesia only if one or more of the following is present: headache, vomiting, age greater than 60 years, drug or alcohol intoxication, deficits in short-term memory, physical evidence of trauma above the clavicle, posttraumatic seizure, GCS score less than 15, focal neurologic deficit, or coagulopathy. (Level A recommendation) (ACEP, 2008).

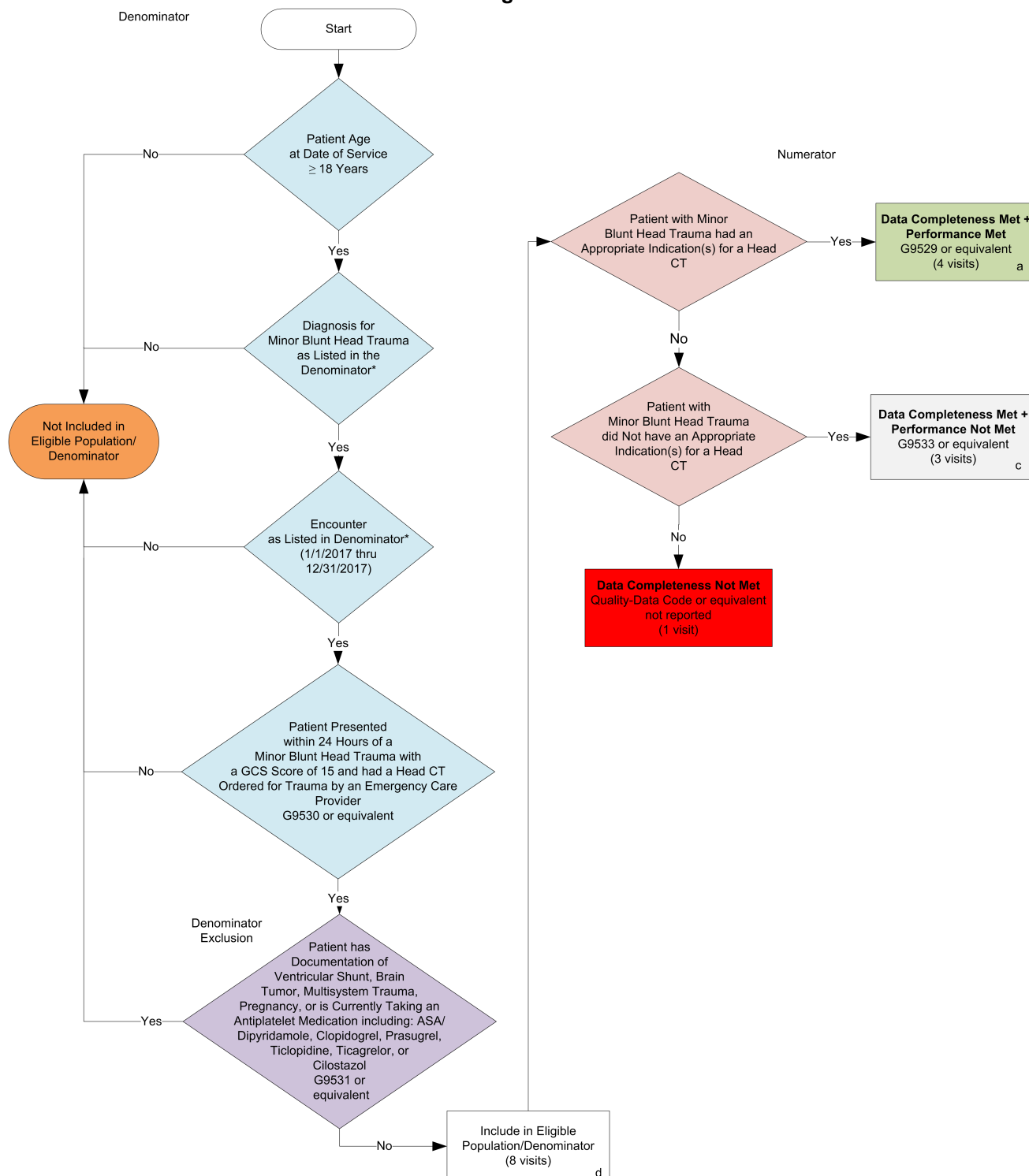
A noncontrast head CT should be considered in head trauma patients with no loss of consciousness or posttraumatic amnesia if there is a focal neurologic deficit, vomiting, severe headache, age 65 years or greater, physical signs of a basilar skull fracture, GCS score less than 15, coagulopathy, or a dangerous mechanism of injury. [Dangerous mechanism of injury includes ejection from a motor vehicle, a pedestrian struck, and a fall from a height of more than 3 feet or 5 stairs.] (Level B recommendations) (ACEP, 2008).

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2017 Registry Individual Measure Flow **#415: Emergency Medicine: Emergency Department Utilization of CT for Minor Blunt Head Trauma for Patients Aged 18 Years and Older**



*See the posted Measure Specification for specific coding and instructions to report this measure.

NOTE: Reporting Frequency: Visit

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2017 Registry Individual Measure Flow
#415: Emergency Medicine: Emergency Department Utilization of CT for Minor Blunt Head Trauma for Patients Aged 18 Years and Older

SAMPLE CALCULATIONS:

Data Completeness=

$$\frac{\text{Performance Met (a=4 visits)} + \text{Performance Not Met (c= 3 visits)}}{\text{Eligible Population / Denominator (d=8 visits)}} = \frac{7 \text{ visits}}{8 \text{ visits}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a=4 visits)}}{\text{Data Completeness Numerator (7 visits)}} = \frac{4 \text{ visits}}{7 \text{ visits}} = 57.14\%$$

NOTE: Reporting Frequency: Visit

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v1

2017 Registry Individual Measure Flow

#415: Emergency Medicine: Emergency Department Utilization of CT for Minor Blunt Head Trauma for Patients Aged 18 Years and Older

Please refer to the specific section of the Measure Specification to identify the denominator and numerator information for use in reporting this Individual Measure.

1. Start with Denominator
2. Check Patient Age:
 - a. If the Age is greater than or equal to 18 years of age on Date of Service and equals No during the measurement period, do not include in Eligible Patient Population. Stop Processing.
 - b. If the Age is greater than or equal to 18 years of age on Date of Service and equals Yes during the measurement period, proceed to check Patient Diagnosis.
3. Check Patient Diagnosis:
 - a. If Diagnosis for Minor Blunt Head Trauma as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
 - b. If Diagnosis for Minor Blunt Head Trauma as Listed in the Denominator equals Yes, proceed to check Current Encounter Performed.
4. Check Encounter Performed:
 - a. If Encounter as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
 - b. If Encounter as Listed in the Denominator equals Yes, proceed to check Patient Presented Within 24 Hours of a Minor Blunt Head Trauma with a GCS Score of 15 and had a Head CT Ordered for Trauma by an Emergency Care Provider.
5. Check Patient Presented Within 24 Hours of a Minor Blunt Head Trauma with a GCS Score of 15 and had a Head CT Ordered for Trauma by an Emergency Care Provider:
 - a. If Patient Presented Within 24 Hours of a Minor Blunt Head Trauma with a GCS Score of 15 and had a Head CT Ordered for Trauma by an Emergency Care Provider equals No, do not include in Eligible Patient Population. Stop Processing.
 - b. If Patient Presented Within 24 Hours of a Minor Blunt Head Trauma with a GCS Score of 15 and had a Head CT Ordered for Trauma by an Emergency Care Provider equals Yes, check Denominator Exclusion.
6. Check Denominator Exclusion:
 - a. If Patient has Documentation of Ventricular Shunt, Brain Tumor, Multisystem Trauma, Pregnancy, or is Currently Taking an Antiplatelet Medication including: ASA/Dipyridamole, Clopidogrel, Prasugrel, Ticlopidine, Ticagrelor, or Cilostazol equals Yes, do not include in Eligible Patient Population. Stop Processing.
 - b. If Patient has Documentation of Ventricular Shunt, Brain Tumor, Multisystem Trauma, Pregnancy, or is Currently Taking an Antiplatelet Medication including: ASA/Dipyridamole, Clopidogrel, Prasugrel, Ticlopidine, Ticagrelor, or Cilostazol equals No, proceed to include in the Eligible Population.

7. Denominator Population:
 - a. Denominator Population is all Eligible Patients in the denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 8 visits in the Sample Calculation.
8. Start Numerator
9. Check Patient With Minor Blunt Head Trauma had an Appropriate Indication(s) for a Head CT:
 - a. If Patient With Minor Blunt Head Trauma had an Appropriate Indication(s) for a Head CT equals Yes, include in Data Completeness Met and Performance Met.
 - b. Data Completeness Met and Performance Met letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 4 visits in Sample Calculation.
 - c. If Patient With Minor Blunt Head Trauma had an Appropriate Indication(s) for a Head CT equals No, proceed to Patient With Minor Blunt Head Trauma did Not have an Appropriate Indication(s) for a Head CT.
10. Check Patient With Minor Blunt Head Trauma did Not have an Appropriate Indication(s) for a Head CT:
 - a. If Patient With Minor Blunt Head Trauma did Not have an Appropriate Indication(s) for a Head CT equals Yes, include in Data Completeness Met and Performance Not Met.
 - b. Data Completeness Met and Performance Not Met letter is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c equals 3 visits in the Sample Calculation.
 - c. If Patient With Minor Blunt Head Trauma did Not have an Appropriate Indication(s) for a Head CT equals No, proceed to Data Completeness Not Met.
11. Check Data Completeness Not Met
 - a. If Data Completeness Not Met equals No, Quality Data Code or equivalent not reported. 1 visit has been subtracted from the reporting numerator in Sample Calculation.

SAMPLE CALCULATIONS:

Data Completeness=

$$\frac{\text{Performance Met (a=4 visits)} + \text{Performance Not Met (c= 3 visits)}}{\text{Eligible Population / Denominator (d=8 visits)}} = \frac{7 \text{ visits}}{8 \text{ visits}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a=4 visits)}}{\text{Data Completeness Numerator (7 visits)}} = \frac{4 \text{ visits}}{7 \text{ visits}} = 57.14\%$$