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| **eCQM Title** | **Equity of Emergency Care Capacity and Quality REHQR** | | |
| **eCQM Identifier (Measure Authoring Tool)** |  | **eCQM Version Number** | 0.2.000 |
| **CBE Number** | Not Applicable | **GUID** | 50cb43d5-d3d0-438e-ab4b-42db2744128b |
| **Measurement Period** | January 1, 20XX through December 31, 20XX | | |
| **Measure Steward** | Centers for Medicare & Medicaid Services (CMS) | | |
| **Measure Developer** | Yale New Haven Health Service Corporation/ Center for Outcomes Research and Evaluation | | |
| **Endorsed By** | None | | |
| **Description** | This measure's main objectives are to capture variation in equity of emergency care and measure capacity and quality of emergency care to support hospital quality improvement. The measure aims to reduce patient harm and improve outcomes for patients requiring emergency care in an emergency department (ED) in Rural Emergency Hospitals (REHs). Emergency care capacity is inclusive of several concepts pertaining to crowding in an ED. This measure will be designed to align with incentives to promote improved care and to help identify where patients do not receive equitable access to emergency care.  The measure intends to capture established outcome metrics that quantify capacity and access of care in an ED including for patients with mental health disorders. Additional disparities in ED care are well documented for patients of older age, by race and ethnicity, primary language, and insurance status; such documented disparities include significantly longer ED wait times, higher left without being seen rates, and longer total length of stay in the ED. | | |
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| **Measure Scoring** | Proportion | | |
| **Measure Type** | Intermediate Clinical Outcome | | |
| **Stratification** | Four cohorts of the measure will be calculated, stratified by age and mental health visits. The measure's outcome will be stratified by race and ethnicity, primary language, and insurance status to best address equity of emergency care.  A history of mental health disorders does not automatically exclude or include patients in the strata; the principal diagnosis defines inclusion in the appropriate strata. For the purposes of this measure, mental health disorders do not include substance use disorders. Stratification by age will be reported for patients less than 18 years of age and patients 18 years of age and older, for both mental health and non-mental health cohorts. All references to “ED” indicate an ED visit that occurred at an REH.  Total score and score for the following strata will be reported:  Non-Mental Health Visits  Stratification 1: all patients aged less than 18 years seen in the ED who do not have an ED encounter principal diagnosis consistent with mental health disorders. Patients who have an ED encounter principal diagnosis consistent with substance use disorders will be included in this stratification.  Stratification 2: all patients aged 18 years and older seen in the ED who do not have an ED encounter principal diagnosis consistent with mental disorders. Patients who have an ED encounter principal diagnosis consistent with substance use disorders will be included in this stratification.  Mental Health Visits  Stratification 3: all patients aged less than 18 years seen in the ED who have an ED encounter principal diagnosis consistent with mental health disorders.  Stratification 4: all patients aged 18 years and older seen in the ED who have an ED encounter principal diagnosis consistent with mental health disorders. | | |
| **Risk Adjustment** | While the HOQR version of this measure will utilize volume standardization to address differences in patient population between hospitals, this REH version will not because all REHs are within the same volume strata. | | |
| **Rate Aggregation** | NA | | |
| **Rationale** | This measure aims to reduce patient harm and improve outcomes for patients requiring emergency care in an ED by addressing the variation in equity of emergency care and measuring the capacity and quality of emergency care. There are long-standing concerns about parameters that impact the quality and timeliness of care in the ED. Currently, there are no national metrics to assess the proportion of patients impacted by the quality of timely ED care. | | |
| **Clinical Recommendation Statement** | The goal of this Emergency Care Capacity and Quality (ECCQ) measure is to assess and improve the safety and equity of care for the 140 million ED visits that patients experience each year. Limitations in capacity and quality of emergency care have been shown to be associated with harm, such as increases in mortality, delays in care, preventable errors, poor patient experience and staff burnout. These capacity and quality limitations are also associated with increased costs of care. This proposed ECCQ measure, still in development, is intended for use in CMS’s REHQR program. The numerator is comprised of all ED visits that meet the criteria, defined in the numerator, of a quality gap in access. Challenges related to emergency care access and capacity have been increasing and have prompted public calls for action. Prior efforts to measure components of this proposed measure were unsuccessful, likely in part due to the construction of the measure score, which was based on median performance that obscured poor performance. Implementation of this proposed measure, which captures multiple components of quality and capacity, will minimize gaming, and help identify facilities where patients do not receive equitable access to emergency care. This measure, therefore, could positively impact millions of patients who seek treatment in the ED and help address long-standing disparities in emergency care, including for patients with mental health disorders. | | |
| **Improvement Notation** | Improvement noted as a decrease in measure score (decrease in proportion of eligible visits that meet the numerator criteria). | | |
| **Reference** | Reference Type: CITATION    Reference Text: 'American Medical Association. 2022. What is Behavioral Health. https://www.ama-assn.org/delivering-care/public-health/what-behavioral-health' | | |
| **Reference** | Reference Type: CITATION    Reference Text: 'Centers for Disease Control and Prevention. Emergency Department Visits. https://www.cdc.gov/nchs/fastats/emergency-department.htm (2021).' | | |
| **Reference** | Reference Type: CITATION    Reference Text: 'ECQI Resource Center. Median Admit Decision Time to ED Departure Time for Admitted Patients.' | | |
| **Definition** | Mental Health:  Mental health generally refers to mental health disorders, life stressors and crises, and stress-related physical symptoms. Mental health care refers to the prevention, diagnosis, and treatment of those conditions. For this measure, mental health cohorts will be defined separately from substance use disorders.  ED Observation:  ED observation stays, defined as an observation encounter where the patient remains physically in an area under control of the emergency department and under the care of an emergency clinician inclusive of observation in a hospital bed. ED observation involves placing patients in observation status after their initial evaluation, allowing for continued assessment, treatment, and the determination of a safe disposition. ED observation stays are generally longer than routine ED visits and may allow time to evaluate a patient’s response to treatment. | | |
| **Guidance** | Measure Score Calculation  The measure score is first calculated at the individual ED level as the proportion of ED visits where any one of the four outcomes occurred. | | |
| **Transmission Format** | TBD | | |
| **Initial Population** | Includes all ED visits at REHs associated with patients of all ages, for all-payers, during the performance period. Patients can have multiple visits during a performance period; each visit is eligible to contribute to the outcome. | | |
| **Denominator** | Equals Initial Population | | |
| **Denominator Exclusions** | None | | |
| **Numerator** | The numerator is comprised of any ED visit in the denominator with any quality gap in access; if the patient experiences any of the following during a visit, the visit is included in the numerator:  1. The patient waited longer than 1 hour to be placed in a treatment room or dedicated treatment area that allows for audiovisual privacy during history-taking and physical examination; or  2. The patient left the ED without being evaluated by a physician/advanced practice nurse/physician’s assistant, or  3. The patient, if transferred, boarded for longer than 4 hours, or  4. The patient had an ED length of stay (LOS) (time from ED arrival to ED physical departure as defined by the ED depart timestamp) of longer than 8 hours. | | |
| **Numerator Exclusions** | ED encounters with ED observation stays will be excluded from criteria #4 (ED LOS).  Transfers out to a facility will be excluded from criteria #4 (ED LOS). | | |
| **Denominator Exceptions** | None | | |
| **Supplemental Data Elements** | For every patient in the Initial Population, also identify county, ethnicity, payer, primary language, race, sex, state and zip code. | | |

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* [Definitions](file:///C:\Users\kris.done\AppData\Local\Temp\a2980b44-6fcf-470a-ac79-7cdc0c787984_CMS%201264-v0-2-000-QDM-5-6.zip.984\CMS%201264-v0-2-000-QDM-5-6\CMS%201264-v0-2-000-QDM-5-6.html#d1e649)
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**[Population Criteria](file:///C:\\Users\\kris.done\\AppData\\Local\\Temp\\a2980b44-6fcf-470a-ac79-7cdc0c787984_CMS%201264-v0-2-000-QDM-5-6.zip.984\\CMS%201264-v0-2-000-QDM-5-6\\CMS%201264-v0-2-000-QDM-5-6.html" \l "toc)**

* + **Initial Population**
    - * "ED Encounter"
      * union "ED Triage"

* + **Denominator**
    - * "Initial Population"

* + **Denominator Exclusions**
    - * None

* + **Numerator**
    - * "Time to Treatment Room Greater Than 60 Minutes"
      * union "ED Arrival Left Without Being Seen"
      * union "Boarded Time Greater Than 240 Minutes"
      * union "ED Length of Stay Greater Than 480 Minutes"

* + **Numerator Exclusions**
    - * "ED Observation during ED Encounter"
      * union "Discharged to Another Facility"

* + **Denominator Exceptions**
    - * None

* + **Stratification 1**
    - * ( "ED Encounter or Triage of Patients Less Than 18 Years" EDEncounter
      * where not exists ( EDEncounter.diagnoses Diagnosis
      * where Diagnosis.code in "Mental Health Diagnosis without Substance Use Disorders"
      * and Diagnosis.rank = 1
      * )
      * )

* + **Stratification 2**
    - * ( "ED Encounter or Triage of Patients 18 Years and Older" EDEncounter
      * where not exists ( EDEncounter.diagnoses Diagnosis
      * where Diagnosis.code in "Mental Health Diagnosis without Substance Use Disorders"
      * and Diagnosis.rank = 1
      * )
      * )

* + **Stratification 3**
    - * ( "ED Encounter or Triage of Patients Less Than 18 Years" EDEncounter
      * where exists ( EDEncounter.diagnoses Diagnosis
      * where Diagnosis.code in "Mental Health Diagnosis without Substance Use Disorders"
      * and Diagnosis.rank = 1
      * )
      * )

* + **Stratification 4**
    - * ( "ED Encounter or Triage of Patients 18 Years and Older" EDEncounter
      * where exists ( EDEncounter.diagnoses Diagnosis
      * where Diagnosis.code in "Mental Health Diagnosis without Substance Use Disorders"
      * and Diagnosis.rank = 1
      * )
      * )

**[Definitions](file:///C:\\Users\\kris.done\\AppData\\Local\\Temp\\a2980b44-6fcf-470a-ac79-7cdc0c787984_CMS%201264-v0-2-000-QDM-5-6.zip.984\\CMS%201264-v0-2-000-QDM-5-6\\CMS%201264-v0-2-000-QDM-5-6.html" \l "toc)**

* + **Boarded Time Greater Than 240 Minutes**
    - * "Denominator" EDEncounter
      * where "TransferDecisionUsingOrder"(EDEncounter) 241 minutes or more before "EDDepartureTime"(EDEncounter)

* + **Denominator**
    - * "Initial Population"

* + **Discharged to Another Facility**
    - * "ED Length of Stay Greater Than 480 Minutes" EDEncounter
      * where EDEncounter.dischargeDisposition in "Discharge To Acute Care Facility"

* + **ED Arrival Left Without Being Seen**
    - * "ED Triage" EDTriage
      * where EDTriage.dischargeDisposition ~ "Patient left without being seen (finding)"

* + **ED Encounter**
    - * ["Encounter, Performed": "Emergency Department Evaluation and Management Visit"] EDEncounter
      * where EDEncounter.relevantPeriod ends during day of "Measurement Period"

* + **ED Encounter or Triage of Patients 18 Years and Older**
    - * ( "ED Encounter"
      * union "ED Triage" ) EDEncounter
      * where AgeInYearsAt(date from start of EDEncounter.relevantPeriod) >= 18

* + **ED Encounter or Triage of Patients Less Than 18 Years**
    - * ( "ED Encounter"
      * union "ED Triage" ) EDEncounter
      * where AgeInYearsAt(date from start of EDEncounter.relevantPeriod) < 18

* + **ED Length of Stay Greater Than 480 Minutes**
    - * "Denominator" EDEncounter
      * where "EDArrivalTime"(EDEncounter) 481 minutes or more before "EDDepartureTime"(EDEncounter)

* + **ED Observation during ED Encounter**
    - * ( "ED Length of Stay Greater Than 480 Minutes" EDStay
      * with "ED Observation Status" EDO
      * such that ( EDO.relevantPeriod during EDStay.relevantPeriod
      * or EDO.authorDatetime during EDStay.relevantPeriod
      * )
      * )

* + **ED Observation Status**
    - * ( ["Encounter, Performed": "Emergency Department Observation"]
      * union ["Encounter, Order": "Emergency Department Observation"] ) EDObs
      * with "Denominator" EDEncounter
      * such that ( EDObs.relevantPeriod during EDEncounter.relevantPeriod
      * or EDObs.authorDatetime during EDEncounter.relevantPeriod
      * )

* + **ED Triage**
    - * ["Encounter, Performed": "Triage"] EDTriage
      * where EDTriage.relevantPeriod during day of "Measurement Period"

* + **Initial Population**
    - * "ED Encounter"
      * union "ED Triage"

* + **Numerator**
    - * "Time to Treatment Room Greater Than 60 Minutes"
      * union "ED Arrival Left Without Being Seen"
      * union "Boarded Time Greater Than 240 Minutes"
      * union "ED Length of Stay Greater Than 480 Minutes"

* + **Numerator Exclusions**
    - * "ED Observation during ED Encounter"
      * union "Discharged to Another Facility"

* + **SDE Ethnicity**
    - * ["Patient Characteristic Ethnicity": "Ethnicity"]

* + **SDE Payer**
    - * ["Patient Characteristic Payer": "Payer Type"]

* + **SDE Race**
    - * ["Patient Characteristic Race": "Race"]

* + **SDE Sex**
    - * ["Patient Characteristic Sex": "ONC Administrative Sex"]

* + **Stratum 1**
    - * ( "ED Encounter or Triage of Patients Less Than 18 Years" EDEncounter
      * where not exists ( EDEncounter.diagnoses Diagnosis
      * where Diagnosis.code in "Mental Health Diagnosis without Substance Use Disorders"
      * and Diagnosis.rank = 1
      * )
      * )

* + **Stratum 2**
    - * ( "ED Encounter or Triage of Patients 18 Years and Older" EDEncounter
      * where not exists ( EDEncounter.diagnoses Diagnosis
      * where Diagnosis.code in "Mental Health Diagnosis without Substance Use Disorders"
      * and Diagnosis.rank = 1
      * )
      * )

* + **Stratum 3**
    - * ( "ED Encounter or Triage of Patients Less Than 18 Years" EDEncounter
      * where exists ( EDEncounter.diagnoses Diagnosis
      * where Diagnosis.code in "Mental Health Diagnosis without Substance Use Disorders"
      * and Diagnosis.rank = 1
      * )
      * )

* + **Stratum 4**
    - * ( "ED Encounter or Triage of Patients 18 Years and Older" EDEncounter
      * where exists ( EDEncounter.diagnoses Diagnosis
      * where Diagnosis.code in "Mental Health Diagnosis without Substance Use Disorders"
      * and Diagnosis.rank = 1
      * )
      * )

* + **Time to Treatment Room Greater Than 60 Minutes**
    - * "Denominator" EDEncounter
      * where "EDArrivalTime"(EDEncounter) 61 minutes or more before "EDTreatmentRoomTimeArrivalTime"(EDEncounter)

**[Functions](file:///C:\\Users\\kris.done\\AppData\\Local\\Temp\\a2980b44-6fcf-470a-ac79-7cdc0c787984_CMS%201264-v0-2-000-QDM-5-6.zip.984\\CMS%201264-v0-2-000-QDM-5-6\\CMS%201264-v0-2-000-QDM-5-6.html" \l "toc)**

* + **EDArrivalTime(EDEncounter "Encounter, Performed")**
    - * Last(EDEncounter.facilityLocations Location
      * where Location.code in "Emergency Department Location"
      * and Global."HasStart"(Location.locationPeriod)
      * return start of Location.locationPeriod
      * sort ascending
      * )

* + **EDDepartureTime(Encounter "Encounter, Performed")**
    - * Last(Encounter.facilityLocations Location
      * where Location.code in "Emergency Department Location"
      * and Global."HasEnd"(Location.locationPeriod)
      * return
      * end of Location.locationPeriod
      * sort ascending
      * )

* + **EDTreatmentRoomTimeArrivalTime(EDEncounter "Encounter, Performed")**
    - * Last(EDEncounter.facilityLocations Location
      * where Location.code in "Emergency Department Treatment Location"
      * and Global."HasStart"(Location.locationPeriod)
      * return start of Location.locationPeriod
      * sort ascending
      * )

* + **Global.HasEnd(period Interval<DateTime>)**
    - * not (
      * end of period is null
      * or
      * end of period = maximum DateTime
      * )

* + **Global.HasStart(period Interval<DateTime>)**
    - * not ( start of period is null
      * or start of period = minimum DateTime
      * )

* + **TransferDecisionUsingOrder(EDEncounter "Encounter, Performed")**
    - * Last((["Encounter, Order": "Decision to Transfer"]) TransferOrder
      * with ["Encounter, Performed": "Emergency Department Evaluation and Management Visit"] ED
      * such that TransferOrder.authorDatetime during ED.relevantPeriod
      * return TransferOrder.authorDatetime
      * sort ascending
      * )

**[Terminology](file:///C:\\Users\\kris.done\\AppData\\Local\\Temp\\a2980b44-6fcf-470a-ac79-7cdc0c787984_CMS%201264-v0-2-000-QDM-5-6.zip.984\\CMS%201264-v0-2-000-QDM-5-6\\CMS%201264-v0-2-000-QDM-5-6.html" \l "toc)**

* code "Patient left without being seen (finding)" ("SNOMEDCT Code (21541000119102)")
* valueset "Decision to Transfer" (2.16.840.1.113762.1.4.1046.286)
* valueset "Discharge To Acute Care Facility" (2.16.840.1.113883.3.117.1.7.1.87)
* valueset "Emergency Department Evaluation and Management Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
* valueset "Emergency Department Location" (2.16.840.1.113762.1.4.1046.284)
* valueset "Emergency Department Observation" (2.16.840.1.113762.1.4.1170.22)
* valueset "Emergency Department Treatment Location" (2.16.840.1.113762.1.4.1046.278)
* valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
* valueset "Mental Health Diagnosis without Substance Use Disorders" (2.16.840.1.113762.1.4.1046.285)
* valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
* valueset "Payer Type" (2.16.840.1.114222.4.11.3591)
* valueset "Race" (2.16.840.1.114222.4.11.836)
* valueset "Triage" (2.16.840.1.113762.1.4.1046.279)

**[Data Criteria (QDM Data Elements)](file:///C:\\Users\\kris.done\\AppData\\Local\\Temp\\a2980b44-6fcf-470a-ac79-7cdc0c787984_CMS%201264-v0-2-000-QDM-5-6.zip.984\\CMS%201264-v0-2-000-QDM-5-6\\CMS%201264-v0-2-000-QDM-5-6.html" \l "toc)**

* "Encounter, Order: Decision to Transfer" using "Decision to Transfer (2.16.840.1.113762.1.4.1046.286)"
* "Encounter, Order: Emergency Department Observation" using "Emergency Department Observation (2.16.840.1.113762.1.4.1170.22)"
* "Encounter, Performed: Emergency Department Evaluation and Management Visit" using "Emergency Department Evaluation and Management Visit (2.16.840.1.113883.3.464.1003.101.12.1010)"
* "Encounter, Performed: Emergency Department Observation" using "Emergency Department Observation (2.16.840.1.113762.1.4.1170.22)"
* "Encounter, Performed: Triage" using "Triage (2.16.840.1.113762.1.4.1046.279)"
* "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
* "Patient Characteristic Payer: Payer Type" using "Payer Type (2.16.840.1.114222.4.11.3591)"
* "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
* "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex (2.16.840.1.113762.1.4.1)"

**[Supplemental Data Elements](file:///C:\\Users\\kris.done\\AppData\\Local\\Temp\\a2980b44-6fcf-470a-ac79-7cdc0c787984_CMS%201264-v0-2-000-QDM-5-6.zip.984\\CMS%201264-v0-2-000-QDM-5-6\\CMS%201264-v0-2-000-QDM-5-6.html" \l "toc)**

* **SDE Ethnicity**
  + - ["Patient Characteristic Ethnicity": "Ethnicity"]

* **SDE Payer**
  + - ["Patient Characteristic Payer": "Payer Type"]

* **SDE Race**
  + - ["Patient Characteristic Race": "Race"]

* **SDE Sex**
  + - ["Patient Characteristic Sex": "ONC Administrative Sex"]

**[Risk Adjustment Variables](file:///C:\\Users\\kris.done\\AppData\\Local\\Temp\\a2980b44-6fcf-470a-ac79-7cdc0c787984_CMS%201264-v0-2-000-QDM-5-6.zip.984\\CMS%201264-v0-2-000-QDM-5-6\\CMS%201264-v0-2-000-QDM-5-6.html" \l "toc)**

* None

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| **Measure Set** |  |