Glycemic Metrics in Kentucky Quality Counts (KQC)

ADE	Severe Hypoglycemia (Hospital Harm)
ADE	Severe Hyperglycemia (Hospital Harm)

Benefits of Providing Glycemic Metrics

- **Establish a benchmark**

- **Report data in Kentucky Quality Counts (KQC)**

- **All ACH, CAH, LTACH, and Rehab**

- **KHA will collaborate with facilities based on need**
  - Provide technical assistance
  - Provide education and resources
  - Individualized support as needed

Why are these metrics valuable?

- Severe Hypo- and Hyper- Glycemia are Hospital Harm Events

- One of the most common adverse drug events

- Preventable

- Improve patient safety

- Track and trend performance

- Drive implementation of best practices

Centers for Medicare & Medicaid Services' Hospital Harm Measures for Severe Hypoglycemia and Hyperglycemia: Is Your Hospital Ready? | Diabetes Spectrum | American Diabetes Association (diabetesjournals.org)

Hospital Harm- Severe Hyperglycemia

Description:

- Number of inpatient hospital days with a hyperglycemic event (harm) per the total qualifying inpatient hospital days for that encounter

- 18 years of age and older

Hospital Harm - Severe Hyperglycemia | eCQI Resource Center

Definition:

Inpatient hospitalizations

- Time in the emergency department and observation when the transition between these encounters (if they exist) and the inpatient encounter are within an hour or less of each other

Hospital Harm - Severe Hyperglycemia | eCQI Resource Center

Hospital Harm- Severe Hyperglycemia - *continued*

Definition:

Measure defines a day with a hyperglycemic event as either:

- a day with a test (lab or point-of-care (POC)) for glucose with a result of >300 mg/dL

  OR

- A day in which a glucose test with a result was not found and it was preceded by two consecutive days where at least one lab or point-of-care (POC) test for glucose during each of the two days for glucose had a result >=200 mg/dL.

Hospital days are full 24-hour periods that start at the time of admission to the hospital (including ED and observation), excluding the last period before discharge from hospital inpatient if it is less than 24 hours.

Hospital Harm - Severe Hyperglycemia | eCQI Resource Center

Initial Population:

Inpatient hospitalizations for patients age 18 and older that end during the measurement period, as well as **either**:

- A diagnosis of diabetes that starts before the end of the encounter;

  OR

- Administration of at least one dose of insulin or any hypoglycemic medication that starts during the encounter

  OR

- Presence of at least one glucose value >=200 mg/dL at any time during the encounter

Hospital Harm - Severe Hyperglycemia | eCQI Resource Center

Denominator (Equals Initial Population)

Inpatient hospitalizations for patients age 18 and older that end during the measurement period, as well as ***either***:

- A diagnosis of diabetes that starts before then end of the encounter;
  OR
- Administration of at least one dose of insulin or any hypoglycemic medication that starts during the encounter
  OR
- Presence of at least one glucose value >=200 mg/dL at any time during the encounter

Hospital Harm - Severe Hyperglycemia | eCQI Resource Center

Hospital Harm- Severe Hyperglycemia - *continued*

Denominator Exclusion:

- Inpatient hospitalizations for patients with a glucose result of >600 mg/dL anytime between 1 hour prior to the start of the encounter to 6 hours after the start of the encounter

- Inpatient hospitalizations for patients who have comfort care measures ordered or provided during the encounter.

- Inpatient hospitalizations for patients who have a discharge disposition to hospice care at home or in a health care facility.

Hospital Harm - Severe Hyperglycemia | eCQI Resource Center

Numerator

- Inpatient hospitalizations
- Hyperglycemic event within the first 10 days of the encounter
  - Excluding the first 24 hours and the last period before discharge from the hospital if less than 24 hours

Hyperglycemic event is defined as:

- A day with at least one glucose value >300 mg/dL,

  OR

- A day where a glucose test and result was not found, and it was immediately preceded by two contiguous, consecutive days where at least one glucose value during each of the two days was >=200 mg/dL

Numerator exclusions: inpatient hospitalizations that meet the denominator exclusions

Hospital Harm - Severe Hyperglycemia | eCQI Resource Center

Hospital Harm - Severe Hypoglycemia

Description:

- Inpatient hospitalizations

- Age 18 and older

- At least one hypoglycemic medication administered during the encounter

- Suffer the harm of a severe hypoglycemic event during the encounter

Hospital Harm - Severe Hypoglycemia | eCQI Resource Center

Definition:

Inpatient hospitalizations

- Time in the emergency department or observation when the transition between these encounters (if they exist) and the inpatient encounter are within an hour or less of each other.

Hospital Harm - Severe Hypoglycemia | eCQI Resource Center

Definition:

Measure defined

- Laboratory or point-of-care (POC) test for glucose with a result less than 40 mg/dL, where a hypoglycemic medication was given within the 24 hours prior to the start of the low glucose event and administered during the encounter (including emergency department and observation stays contiguous with the admission)

The measure does not count a severe hypoglycemic event (harm) in the numerator if there is a repeat test for glucose with a result greater than 80 mg/dL within five minutes of this initial low glucose test.

Hospital Harm - Severe Hypoglycemia | eCQI Resource Center

Initial Population

- Inpatient hospitalizations that end during the measurement period

- Age 18 and older

- At least one hypoglycemic medication administration starts during the encounter

Hospital Harm - Severe Hypoglycemia | eCQI Resource Center

Hospital Harm - Severe Hypoglycemia - *continued*

Denominator (Equals Initial Population)

- Inpatient hospitalizations that end during the measurement period

- Age 18 and older

- At least one hypoglycemic medication administration starts during the encounter

No denominator exclusion

Hospital Harm - Severe Hypoglycemia | eCQI Resource Center

Numerator

- Inpatient hospitalizations where a severe hypoglycemic event occurred during the encounter:

  - A glucose test with a result less than 40 mg/dL

    AND

  - A hypoglycemic medication was administered within 24 hours before the start of the severe hypoglycemic event (i.e., the glucose test with a result less than 40 mg/dL)

    AND

- There was no subsequent repeat test for glucose with a result greater than 80 mg/dL within five minutes or less from the start of the initial glucose test with a result less than 40mg/dL

Only one qualifying severe hypoglycemic event is counted in the <u>numerator</u>, and only one severe hypoglycemic event is counted per encounter.

The 24-hour and 5-minute timeframes are based on the time the glucose was drawn, as this reflects the time the patient was experiencing that specific glucose level.

No numerator exclusion

[Hospital Harm - Severe Hypoglycemia | eCQI Resource Center](#)

Medicaid Only

Test Hospital Acute Care (A)

Period

August 2025

Initiative Filter

HRIP 2026 Baseline Data-Medicaid Only

HRIPQ
Hospital Rate Improvement Program Quality

Outcome Measures

Medicaid Only ADE-1D Severe Hypoglycemia   Numerator   Denominator

Medicaid Only ADE-1E Severe Hyperglycemia   Numerator   Denominator

Question 1

- What does definition of "minus the last period before discharge from the hospital if less than 24 hours" for the hyperglycemic metrics in the numerator mean?

Example 1

Day Index	24 Hour Interval start and end time	Eligible hospital Day count	Event
1	Aug 28 : 1815 (admission)- Aug 29 : 1814	Not eligible hospital day	
2	Aug 29 : 1815- Aug 30 : 1814	eligible Day 1	
3	Aug 30 : 1815- Aug 31 : 1814	eligible Day 2	
4	Aug 31 : 1815- Sept 1 : 1211 (discharge)	not eligible	Aug 31 2041 Glu: 345

Question 2

- How do you count the patient in the numerator in the hyperglycemic metrics?

Example 2

Day Index	24 Hour Interval start and end time	Eligible hospital Day count	Event
1	Aug 28 : 1815 (admission)- Aug 29 : 1814	Not eligible hospital day	
2	Aug 29 : 1815- Aug 30 : 1814	eligible Day 1	
3	Aug 30 : 1815- Aug 31 : 1814	eligible Day 2	
4	Aug 31 : 1815- Sept 1 : 1211 (discharge)	not eligible	Aug 31 2041 Glu: 345

Question 3

- How do you count the patient in the numerator in the hyperglycemic metrics?

Example 3

Day Index	24 Hour Interval start and end time	Eligible hospital Day count	Event
1	Dec 26 : 1915 (admission)- Dec 27 : 1914	Not eligible hospital day	
2	Dec 27 : 1915- Dec 28 : 1914	eligible Day 1	
3	Dec 28 : 1915 - Dec 29 : 1914	eligible Day 2	Dec 28 2100 Glu: 351
4	Dec 29 : 1915- Dec 30 : 1914	eligible Day 3	Dec 30 1023 Glu: 402
5	Dec 30 : 1915- Dec 31 : 1914	eligible Day 4	Dec 30 2104 Glu: 120
6	Dec 31 : 1915- Jan 1 : 1311 (discharge)	not eligible	Dec 31 2141 Glu: 335

Question 4

- What does the numerator in the hyperglycemic metric mean for "A day where a glucose test and result was not found, and it was immediately preceded by two contiguous, consecutive days where at least one glucose value during each of the two days was >=200 mg/dL"?

Example 4

Day Index	24 Hour Interval start and end time	Eligible hospital Day count	Event
1	Dec 26 : 1915 (admission)- Dec 27 : 191	preceding days for a day where no glucose result is found- count as num	Dec 27 1800 Glu: 270
2	Dec 27 : 1915- Dec 28 : 1914	eligible Day 1	Dec 28 1600 Glu: 285
3	Dec 28 : 1915 - Dec 29 : 1914	eligible Day 2	
4	Dec 29 : 1915- Dec 30 : 1914	eligible Day 3	Dec 29 2228 Glu: 143
5	Dec 30 : 1915- Dec 31 : 1914	eligible Day 4	Dec 30 2104 Glu: 120
6	Dec 31 : 1915- Jan 1 : 1311 (discharge)	not eligible	Dec 31 2141 Glu: 335

Frequently Asked Questions

Question 5

- What does the numerator in the hypoglycemic metric?

Example 5

Day Index	24 Hour Interval start and end time	Eligible hospital Day count	Event
1	Dec 26 : 1915 (admission)- Dec 27 : 1914	Not eligible hospital day	
2	Dec 27 : 1915- Dec 28 : 1914	eligible Day 1	Dec 28 0800: Glipizide 5 mg po daily given and Dec 28 1100 Glu: 38
3	Dec 28 : 1915 - Dec 29 : 1914	eligible Day 2	Dec 28 2100 Glu: 150
4	Dec 29 : 1915- Dec 30 : 1914	eligible Day 3	Dec 30 1023 Glu: 133
5	Dec 30 : 1915- Dec 31 : 1914	eligible Day 4	Dec 30 2104 Glu: 120
6	Dec 31 : 1915- Jan 1 : 1311 (discharge)	not eligible	Dec 31 2141 Glu: 335

Frequently Asked Questions

Question 6

- **What is considered a specimen source for a glucose test?**
    - Blood
    - Serum
    - Plasma
    - Interstitial fluid

Question 7

- **Who is included in the measure for HRIP?**
    - Medicaid only
    - Medicaid pending
    - Any of the 5 Medicaid MCOs

Frequently Asked Questions

Question 8

- For the initial population in the severe hyperglycemic measure, what hypoglycemic medications are included?

<mark>Value Set Description OID: 2.16.840.1.113762.1.4.1196.394</mark>

Inclusion Criteria: Includes concepts that represent insulin and non-insulin injectable and oral antidiabetic medications.

Exclusion Criteria: No exclusions

["Medication, Administered": "Hypoglycemics Treatment Medications"] | eCQI Resource Center

Instructions to download the medication list for the hyperglycemic measure:

1. Sign in to Severe Hyperglycemia eCQM value set codes are included in the Value Set Authority Center's (VSAC) website: https://vsac.nlm.nih.gov/. Note, you will need to create a VSAC Login upon first signing in.
2. Once in VSAC, you can view value set codes by entering the value set OID (e.g., 2.16.840.1.113762.1.4.1196.394) into the 'Query' field under the 'Search Value Sets' header. You then need to select the appropriate 'Expansion Versions.
3. Alternatively, you can select the 'Download' button in the header, followed by the applicable Reporting Period (i.e., 2024). You will then be able to download the value set codes in a variety of formats.
4. For additional information, please contact the Value Set Authority Center: https://support.nlm.nih.gov/support/create-case/

Frequently Asked Questions

Question 9

- For the numerator and initial population in the severe hypoglycemic measure, what does the hypoglycemic medications does it include?

<mark>Value Set Description OID: 2.16.840.1.113762.1.4.1196.393</mark>

Inclusion Criteria: Includes concepts that represent insulin, non-insulin injectable antidiabetics, and oral antidiabetic medication.

Exclusion Criteria: Excludes concepts that represent medications used to treat diabetes mellitus but are not commonly associated with severe hypoglycemia.

["Medication, Administered": "Hypoglycemics Severe Hypoglycemia"] | eCQI Resource Center

Instructions to download the medication list for the hypoglycemic measure:

1. Sign in to Severe Hypoglycemia eCQM value set codes are included in the Value Set Authority Center's (VSAC) website: https://vsac.nlm.nih.gov/. Note, you will need to create a VSAC Login upon first signing in.

2. Once in VSAC, you can view value set codes by entering the value set OID (e.g., 2.16.840.1.113762.1.4.1196.393) into the 'Query' field under the 'Search Value Sets' header. You then need to select the appropriate 'Expansion Versions'

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References

- Centers for Medicare & Medicaid Services' Hospital Harm Measures for Severe Hypoglycemia and Hyperglycemia: Is Your Hospital Ready? | Diabetes Spectrum | American Diabetes Association (diabetesjournals.org)

- Hospital Harm - Severe Hyperglycemia | eCQI Resource Center

- Hospital Harm - Severe Hypoglycemia | eCQI Resource

- CenterPreparing for the CMS Glycemic Measures: Leveraging Quality Improvement (glytecsystems.com)

- National Quality Forum - Severe hyperglycemia National Quality Forum- severe hyperglycemia measure