**NQF Measure Submission Form, Version 0.1**

*Updated October 10, 2017*

Is this a measure (or updated version of a measure previously submitted to NQF and given an NQF#?

Yes

No

Several conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards. If any of the conditions are not met, the measure will not be accepted for consideration.

*A. The measure is in the public domain or a Measure Steward Agreement is signed. (All non‐government organizations must sign a Measure Steward Agreement even if measures are made publicly and freely available.)*

*B. The measure owner/steward verifies there is an identified responsible entity and a process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every three years.*

*C. The intended use of the measure includes both accountability applications (including public reporting) and performance improvement to achieve high‐quality, efficient healthcare.*

*D. The measure is fully specified and tested for reliability and validity.*

*E. The measure developer/steward attests that harmonization with related measures and issues with competing measures have been considered and addressed, as appropriate.*

*F. The requested measure submission information is complete and responsive to the questions so that all the information needed to evaluate all criteria is provided.*

Do you agree to these conditions?

Yes

No

**Descriptive Information**

**De.1. Measure Type** *(Patient‐reported outcomes include HRQoL/functional status, symptom/burden, experience* *with care, health‐related behavior.)* \*

Outcome

[**De.2. Measure Title** ‐ Measure titles should be concise yet convey who and what is being measured (see What](http://nqf.qualityforum.dev.win.dotnet.panth.com/docs/what_good_looks_like.aspx) [Good Looks Like)\*](http://nqf.qualityforum.dev.win.dotnet.panth.com/docs/what_good_looks_like.aspx)

Hospital Harm – Severe Hypoglycemia

**De.3.** **Brief description of measure** (*including type of score, measure focus, target population, timeframe, e.g.,* *Percentage of adult patients aged 18‐75 years receiving one or more HbA1c tests per year*)

This electronic clinical quality measure (eCQM) assesses the proportion of inpatient admissions for patients aged 18 years and older who received at least one antihyperglycemic medication during their hospitalization, and who suffered a hypoglycemic event (blood glucose less than 40 mg/dL) within 24 hours of the administration of an antihyperglycemic agent.

**De.4. IF PAIRED/GROUPED,** what is the reason this measure must be reported with other measures to appropriately interpret results?

N/A

**Measure Specifications**

**S.1.** **Measure‐specific Web Page** *(Provide a URL link to a web page specific for this measure that contains current* *detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)*

N/A

**S.2a.** If this is an eMeasure, **HQMF specifications** must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) ‐ if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain‐language description of the specifications)

This is an eMeasure

This is not an eMeasure

**S.2b. Data Dictionary, Code Table, or Value Sets** (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred ‐ if not, contact staff. Provide descriptors for any codes. Use one file with multiple worksheets as needed.)

Available in attached Excel or csv file

No data dictionary/code table – all information provided in the submission form

**S.2c.** Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

Yes

No

**S.2d.** If this is an instrument-based measure, please indicate responder.

Patient

Family or other caregiver

Clinician

Not an instrument-based measure

**S.3.1.** For maintenance of endorsement: Are there changes to the specifications since the last updates/submission. If yes, update the specifications for S1‐2 and S4‐22 and explain reasons for the changes in S3.2.

Yes

No

**S.3.2.** For maintenance of endorsement, please briefly describe any important changes to the measure specifications since last measure update and explain the reasons.

This measure is a re-specification of a previously NQF-endorsed measure that has never been used in a CMS program. Changes to the measure specifications are as follows:

Numerator differences: The current Hospital Harm— Severe Hypoglycemia measure assesses whether a hypoglycemia event occurred during an admission (dichotomous outcome). The previous NQF-endorsed measure counted number of hypoglycemia events in the numerator per patient days in the denominator.

Additionally, the Hospital Harm – Severe Hypoglycemia measure assesses use of specific antihyperglycemic medications found in the Value Set Authority Center (VSAC) that are likely to cause hypoglycemia, within 24 hours of administration. The measure no longer has separate specifications for short-acting insulin. The previous NQF-endorsed measure differentiated between administration of short-acting insulin within 12-hours and other medications within 24 hours.

These changes will ease the burden on hospitals and be meaningful to patients, while still adhering to the original intent of the measure.

Denominator differences: The current Hospital Harm – Severe Hypoglycemia measure examines total number of admissions with at least one antihyperglycemic agent administered during the hospital stay. The NQF-endorsed measure examined the total number of hospital days with at least one anti-diabetic agent administered.

This change aligns with the numerator change to number of admissions, which eases hospital burden.

Exclusions differences: The current Hospital Harm – Severe Hypoglycemia measure specifications do not have any denominator exclusions; the previous NQF-endorsed measure excludes admissions with lengths of stay greater than 120 days.

This exclusion was dropped as it is not applicable to the current measure specifications because the measure is not based on patient days.

**S.4. Numerator Statement** (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome). DO NOT include the rationale for the measure.

*IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk‐adjusted outcome should be described in the calculation algorithm (S.14).*

The number of inpatient admissions during which a test for blood glucose with a result less than 40 mg/dL (severe hypoglycemia) where the event follows the administration of an antihyperglycemic medication within 24 hours.

**S.5. Numerator Details** (All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

*IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk‐ adjusted outcome should be described in the calculation algorithm (S.14).*

This is an eCQM, and therefore uses electronic health record data to calculate the measure score. The time period for data collection is during an inpatient hospitalization, beginning at hospital arrival (whether through Emergency Department, observation stay, or directly admitted as inpatient).

All data elements necessary to calculate this measure are defined within value sets available in the VSAC, and listed below.

Glucose tests are represented by LOINC Codes in the value set Glucose Lab Test (2.16.840.1.113762.1.4.1045.134). Codes include laboratory and point-of-care glucose tests, including venous or arterial blood and serum or plasma.

The antihyperglycemic medications are defined by the value set of Hypoglycemics (2.16.840.1.113762.1.4.1179.3). This value set includes medications and insulin capable of causing hypoglycemia in a patient.

To access the value sets for the measure, please visit the Value Set Authority Center (VSAC), sponsored by the National Library of Medicine, at https://vsac.nlm.nih.gov/.

**S.6. Denominator Statement** (Brief, narrative description of the target population being measured)

*IF an OUTCOME MEASURE, state the target population for the outcome. Calculation of the risk‐adjusted outcome should be described in the calculation algorithm (S.14).*

All patients 18 years or older at the start of the encounter with a discharged inpatient hospital admission during the measurement period who were given at least one antihyperglycemic medication during their hospital stay. The measure includes inpatient admissions which began in the Emergency Department or in observational status.

**S.7. Denominator Details** (All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

*IF an OUTCOME MEASURE, describe how the target population is identified. Calculation of the risk‐adjusted outcome should be described in the calculation algorithm (S.14).*

This measure includes all encounters aged 18 years and older at the time of admission, and all payers. Measurement period is one year. This measure is admission-level; only one numerator event is counted per admission.

Inpatient Encounters are represented using the value set of Encounter Inpatient (2.16.840.1.113883.3.666.5.307).

Emergency Department visits are represented using the value set of Emergency Department Visit (2.16.840.1.113883.3.117.1.7.1.292).

Patients whom had observation encounters are represented using the value set of Observation Services (2.16.840.1.113762.1.4.1111.143).

Encounters who were given at least one antihyperglycemic medication are defined by the value set of Hypoglycemics (2.16.840.1.113762.1.4.1179.3), which also defines the numerator medications. This value set includes medications and insulin capable of causing hypoglycemia in a patient.

To access the value sets for the measure, please visit the Value Set Authority Center, sponsored by the National Library of Medicine, at https://vsac.nlm.nih.gov/.

**S.8. Denominator Exclusions** (Brief narrative description of exclusions from the target population)

N/A, there are no denominator exclusions.

**S.9. Denominator Exclusion Details** (All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

N/A

**S.10. Stratification Information** (Provide all information required to stratify the measure results, if necessary, including the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk‐model covariates and coefficients for the clinically‐adjusted version of the measure when appropriate – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b)

N/A; this measure is not stratified.

**S.11. Risk Adjustment Type** (Select type. Provide specifications for risk stratification in measure testing attachment)

No risk adjustment or risk stratification

**S.12. Type of score:**

Proportion

**S.13. Interpretation of Score** (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)

Lower proportion indicates better quality

**S.14. Calculation Algorithm/Measure Logic** (Diagram or describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period of data, aggregating data; risk adjustment; etc.)

Target population: Inpatient admission encounters, all payer, where individuals are aged 18 years or older at the start of the admission and who were given at least one antihyperglycemic medication during their hospital stay, within the measurement period.

To create the denominator:

1. If the inpatient admission was during the measurement period, go to Step 2. If Not, do not include in measure population.

2. Determine the patient’s age in years. The patient’s age is equal to the admission date minus the birth date. If the patient is 18 years or older, go to Step 3. If less than 18 years old, do not include in the measure population.

3. Determine if there was at least one antihyperglycemic medication (from the Hypoglycemic value set 2.16.840.1.113762.1.4.1179.3) administered during the admission (including in the Emergency Department or observation stay if later converted into an inpatient admission). If No, do not include in the measure population.

To create the numerator, for each encounter identify:

1. Any instance of a test for blood glucose with a result less than 40 mg/dL during the encounter is considered a severe hypoglycemic event, including values from laboratory or from Point of Care (POC) testing

2. For any value less than 40mg/dL, determine if there was an anti-hyperglycemic medication administered by hospital staff within the 24 hours before the event and during the encounter (including emergency department and observation stays contiguous with the admission). If No, do not include in the numerator.

a. The 24-hour timeframe extends from the end of the medication administration to the start of the blood glucose test.

3. For any value less than 40mg/dL, do not include any events (identified in Step 1) if it was followed by a repeat POC test for blood glucose within 5 minutes of the initial test and with a result greater than 80 mg/dL.

a. Rationale: The measure logic does not require a repeat blood glucose test to be performed. The expectation is that in most cases of severe hypoglycemia, the clinical team will be treating the patient and will not immediately repeat the test. However, if the hypoglycemic event is suspected to be spurious, for example if the patient is clinically asymptomatic, and a repeat test is performed to confirm that suspicion, this step will remove false positives that can occur in POC testing to ensure hospitals are not penalized for erroneous results. The 5-minute timeframe extends from the start of the severe hypoglycemic test to the start of the repeat hypoglycemic test.

Only the first qualifying severe hypoglycemic event is counted in the numerator, and only one severe hypoglycemic event is counted per encounter.

**S.15. Sampling** (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)

*IF an instrument-based performance measure (e.g., PRO‐PM), identify whether (and how) proxy responses are allowed.*

N/A; this measure does not use a sample or survey.

**S.16. Survey/Patient‐reported data** (If measure is based on a survey or instrument, provide instructions for data collection and guidance on minimum response rate.) Also, specify calculation of response rates to be reported with performance measure results.

N/A; this measure does not use a sample or survey.

**S.17. Data Source** (Check ONLY the sources for which the measure is SPECIFIED AND TESTED). If other, please describe in S.18.

Claims

Management Data

Electronic Health Data

Assessment Data

Registry data

Paper Medical Records

Electronic Health Records

Instrument-based data

Other

**S.18. Data Source or Collection Instrument** (Identify the specific data source/data collection instrument e.g. name of database, clinical registry, collection instrument, etc., and describe how data are collected.)

*IF instrument-based, identify the specific instrument(s); and standard methods, modes, and languages of administration.*

Hospitals collect EHR data using certified electronic health record technology (CEHRT). The MAT output, which includes the human readable and XML artifacts of the clinical quality language (CQL) for the measure are contained in the eCQM specifications attached. No additional tools are used for data collection for eCQMs.

**S.19. Data Source or Collection Instrument** (available at measure‐specific Web page URL identified in S.1 OR in attached appendix)

Available at measure‐specific web page URL identified in S.1

Available in attached appendix at A.1

No data collection instrument provided

**S.20. Level of Analysis** (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

Other

Integrated Delivery System

Clinician: Individual

Clinician: Group/Practice

Population: Community, County or City

Population: Regional and State

Facility

Health Plan

**S.21. Care Setting** (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

Emergency Department and Services

Outpatient Services

Inpatient/Hospital

Post-Acute Care

Home

**S.22. COMPOSITE Performance Measure** ‐ Additional Specifications (Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)

N/A