

## Encyclopedia of Measures (EOM)

### Program Core Evaluation Measures and Additional Required Measures

#### Version 1.6

Last updated: 5/7/2019

#### Summary of 5/7/2019 changes – Version 1.6

- ADDED MEASURES:
  - None
  
- EDITS TO EXISTING MEASURES:
  - *Clostridium difficile* changed to *clostridioides difficile*
  - Falls (HIIN-Falls-1) baseline updated
  - Updated the PVAP (HIIN-VAE-3) monitoring period
  - PVAP (HIIN-VAE-3) has changed from optional to required (applies only to hospitals submitting this measure to NHSN)
  - Links updated
  - Measure guidance updated to point to HRET HIIN website
  
- REMOVED MEASURES:
  - None

#### Version 1.5

Last updated: 11/30/2018

#### Summary of 11/30/2018 changes – Version 1.5

- ADDED MEASURES:
  - NEW Measure: PVAP
  
- EDITS TO EXISTING MEASURES:
  - Links updated
  - Baselines updated for HIIN Extension i.e. falls, AHRQ measures, NHSN measures
  - Measure names aligned with CMS terms
  - Measures that utilize the CDC NHSN definition: utilize the definition per NHSN specifications that apply at the discharge date of the patient.
  - Standardized wording that varied between measures.
  - Update on which measures are preferred (e.g., PrU-1 and READ-1)
  - For SIR measures, the following was added: NHSN calculates – No work needed if rights conferred
  - Sepsis mortality: added “Number of in-hospital deaths due to severe sepsis and septic shock CMS excludes assignment to comfort/palliative care at or within 6 hours of admission to determine sepsis mortality.”
  - National definition for levels of injury from falls added

- Definition for readmission inclusions and exclusions spelled out
- Removed references to ICD-9
- REMOVED MEASURES:
  - None

#### **Summary of 6/18/2018 changes – Version 1.4**

- The baseline specifications of HIIN-Pru-1, HIIN-Sepsis-1a and HIIN-VTE-1 have been changed.

#### **Summary of 8/21/2017 changes – Version 1.3**

- Updated the specifications link and footnote for Pressure Ulcer Rate, Stage 3+
- Update the AHRQ PSI links to updated v6
- Added clarifying note to the numerator for Readmission within 30 Days (All Cause) Rate

#### **Summary of 11/10/2016 changes – Version 1.2**

- EXISTING Harm Events Related to Workplace Violence measure (HIIN-WS-1c)
  - Updated “data source”
- Updated Pressure Ulcer topic name to Pressure Ulcer/Injury
- EXISTING Hospital-Wide All-Cause Unplanned Readmissions – Medicare measure (HIIN-READ-2)
  - Added a note that clarifies that this measure is a subset of the “Readmission within 30 Days (All Cause) Rate” measure (HIIN-READ-1)

#### **Summary of 10/27/2016 changes – Version 1.1**

- EXISTING Overall Sepsis Mortality Rate measure (HIIN-SEPSIS-1c)
  - Changed name to “Hospital-Onset Sepsis Mortality Rate”
  - Clarified that denominator is limited to hospital-onset sepsis mortality
  - Added note and footnotes defining “hospital-onset”
- NEW Measure Added
  - Overall Sepsis Mortality Rate measure (HIIN-SEPSIS-1d)
  - Denominator includes hospital-onset, post-operative sepsis, and any cases that present with sepsis to the hospital (for example, those cases coming in as transfers, or presenting in the emergency department).
- EXISTING Standardized Infection Ratio (SIR) – MRSA Bacteremia measure (HIIN-MRSA-1)
  - Corrected denominator description
- EXISTING Infection-Related Ventilator-Associated Complication (IVAC) measure (HIIN-VAE-2)
  - Updated “data sources”
- EXISTING Post-Operative Pulmonary Embolism or Deep Vein Thrombosis Rate (HIIN-VTE-1)
  - Corrected applicability verbiage

#### **Summary of 10/17/2016 – Version 1.0**

- Initial Release

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## Measure Applicability

<b>Adverse Drug Events (ADE)</b>	
<a href="#">ADE - Anticoagulation Safety</a>	All hospitals
<a href="#">ADE - Glycemic Management</a>	All hospitals
<a href="#">ADE - Opioid Safety</a>	All hospitals
<b>Catheter-Associated Urinary Tract Infection (CAUTI)</b>	
<a href="#">SIR – All units excluding NICUs</a>	Hospitals <b>reporting to NHSN</b>
<a href="#">SIR – All ICUs excluding NICUs</a>	Hospitals <b>with an ICU and reporting to NHSN</b>
<a href="#">Rate– All units excluding NICUs</a>	All hospitals
<a href="#">Rate – All ICUs excluding NICUs</a>	Hospitals <b>with an ICU</b>
<a href="#">Utilization – All units excluding NICUs</a>	All hospitals
<a href="#">Utilization – All ICUs excluding NICUs</a>	Hospitals <b>with an ICU</b>
<b>Central Line-Associated Bloodstream Infections (CLABSI)</b>	
<a href="#">SIR – All units</a>	Hospitals that <b>place and/or manage central lines and reporting to NHSN</b>
<a href="#">SIR – All ICUs</a>	Hospitals that <b>place and/or manage central lines, with an ICU and reporting to NHSN</b>
<a href="#">Rate – All units</a>	Hospitals that <b>place and/or manage central lines</b>
<a href="#">Rate – All ICUs</a>	Hospitals that <b>place and/or manage central lines, with an ICU</b>
<a href="#">Utilization – All units</a>	Hospitals that <b>place and/or manage central lines</b>
<a href="#">Utilization – All ICUs</a>	Hospitals that <b>place and/or manage central lines, with an ICU</b>
<b>Clostridioides difficile (CDI)</b>	
<a href="#">SIR – All units</a>	Hospitals <b>reporting to NHSN</b>
<a href="#">Rate – All units</a>	All hospitals
<b>Falls</b>	
<a href="#">Falls with injury</a>	All hospitals
<b>Methicillin-resistant Staphylococcus aureus (MRSA)</b>	
<a href="#">SIR</a>	Hospitals <b>reporting to NHSN</b>
<a href="#">Rate</a>	All hospitals
<b>Pressure Ulcers</b>	
<a href="#">Rate</a>	All hospitals (preferred measure)
<a href="#">Prevalence</a>	If not able to do rate
<b>Readmissions</b>	
<a href="#">All-cause, 30-day readmissions</a>	All hospitals (preferred measure)
<a href="#">All-cause, 30-day readmissions, Medicare FFS</a>	

## Measure Applicability, continued

<b>Sepsis</b>	
<a href="#">Postoperative Sepsis Rate</a>	Hospitals that <b>perform inpatient surgery</b>
<a href="#">Hospital-Onset Sepsis Mortality Rate</a>	Optional – Other Sepsis measures preferred
<a href="#">Overall Sepsis Mortality Rate</a>	All hospitals
<b>Surgical Site infections (SSI)</b>	
<a href="#">SSI SIR – colon surgeries</a>	Hospitals <b>performing colon surgeries</b> and <b>reporting to NHSN</b>
<a href="#">SSI SIR – abdominal hysterectomies</a>	Hospitals <b>performing abdominal hysterectomies</b> and <b>reporting to NHSN</b>
<a href="#">SSI SIR – total knee replacement surgeries</a>	Hospitals <b>total knee replacement surgeries</b> and <b>reporting to NHSN</b>
<a href="#">SSI SIR – total hip replacement surgeries</a>	Hospitals <b>performing total hip replacement surgeries</b> and <b>reporting to NHSN</b>
<a href="#">SSI rate – colon surgeries</a>	Hospitals <b>performing colon surgeries</b>
<a href="#">SSI rate – abdominal hysterectomies</a>	Hospitals <b>performing abdominal hysterectomies</b>
<a href="#">SSI rate – total knee replacement surgeries</a>	Hospitals <b>total knee replacement surgeries</b>
<a href="#">SSI rate – total hip replacement surgeries</a>	Hospitals <b>performing total hip replacement surgeries</b>
<b>Post-Operative Pulmonary Embolism or Deep Vein Thrombosis (VTE)</b>	
<a href="#">Rate</a>	Hospitals that <b>perform inpatient surgeries</b>
<b>Ventilator-Associated Events (VAE)</b>	
<a href="#">Ventilator Associated Condition (VAC) Rate</a>	Hospitals <b>that use ventilators</b>
<a href="#">Infection-Related Ventilator-Associated Complication (IVAC)</a>	Hospitals <b>that use ventilators</b>
<a href="#">Possible Ventilator-Associated Pneumonia (PVAP)</a>	Hospitals <b>that use ventilators</b>
<b>Culture of Safety: Worker Safety</b>	
<a href="#">Worker harm events related to patient handling</a>	All hospitals
<a href="#">Worker harm events related to workplace violence</a>	All hospitals

Green are measures where all hospitals collect regardless of services.

For information on how to enter in data into the HRET Comprehensive Data System (CDS) go to the Quick Start Guide <http://www.hret-hiin.org/Resources/data/16/CDS-QuickStartGuide-DataEntry.pdf> or email the quality person at your state hospital association.

## Adverse Drug Events: Anticoagulation Safety

ADE: HIIN Evaluation Measure	
Adverse Drug Events: Anticoagulation Safety	
Measure type	Outcome
Numerator	Inpatients experiencing high anticoagulation with warfarin
Denominator	Inpatients receiving warfarin anticoagulation therapy
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 100$
Specifications/definitions	See references below for guidance
Data source (s)	Numerator: incident reporting systems, trigger tools, pharmacists' intervention systems, medical record review Denominator: billing systems
Data Entry/Transfer	CDS
Baseline period	Preferred: Calendar year 2014 Alternate: Oldest 12, 9, 6, or 3 month consecutive period prior to Oct 2016 <i>If measure not tracked prior to HIIN, report monthly as early as possible beginning with October 2016.</i>
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-ADE-1a
AHA/HRET HEN 2.0	HEN2-ADE-1a

The definition of an adverse drug event is any injury resulting from medication use, including physical harm, mental harm or loss of function<sup>1</sup>. Data can be collected through incident reporting, trigger tools, pharmacists' intervention data or administrative data.

The Institute for Healthcare Improvement's (IHI) trigger tool includes a list of known ADE triggers and instructions for measuring the number and degree of harmful medication events. The tool is available online at the following link:

<http://www.ihl.org/resources/Pages/Tools/TriggerToolforMeasuringAdverseDrugEvents.aspx>

For more information on reducing ADE Anticoagulation Safety, please visit the HRET HIIN ADE topic page at <http://www.hret-hiin.org/topics/adverse-drug-events.shtml>.

<sup>1</sup> Bates, D.W., Cullen, D.J., Laird, N., et al. (1995). Incidence of adverse drug events and potential adverse drug events. Implications for prevention. ADE Prevention Study Group. *JAMA*, 274(1), 29-34.

## Adverse Drug Events: Glycemic Management

ADE: HIIN Evaluation Measure	
Adverse Drug Events: Glycemic Management	
Measure type	Outcome
Numerator	Hypoglycemia in inpatients receiving insulin or other hypoglycemic agents
Denominator	Inpatients receiving insulin or other hypoglycemic agents
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 100$
Specifications/definitions	See references below for guidance
Data source (s)	Numerator: incident reporting systems, trigger tools, pharmacists' intervention systems, medical record review Denominator: billing systems
Data entry/transfer	CDS
Baseline period	Preferred: Calendar year 2014 Alternate: Oldest 12-, 9-, 6-, or 3-month consecutive period prior to Oct 2016 <i>If measure not tracked prior to HIIN, report monthly as early as possible beginning with October 2016.</i>
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-ADE-1b
AHA/HRET HEN 2.0	HEN2-ADE-1b

The definition of an adverse drug event is any injury resulting from medication use, including physical harm, mental harm or loss of function<sup>2</sup>. Data can be collected through incident reporting, trigger tools, pharmacists' intervention data or administrative data.

For more information on reducing ADE Anticoagulation Safety, please visit the HRET HIIN ADE topic page at <http://www.hret-hiin.org/topics/adverse-drug-events.shtml>.

<sup>2</sup> Bates, D.W., Cullen, D.J., Laird, N., et al. (1995). Incidence of adverse drug events and potential adverse drug events. Implications for prevention. ADE Prevention Study Group. *JAMA*, 274(1), 29-34.

## Adverse Drug Events: Opioid Safety

ADE: HIIN Evaluation Measure	
Adverse Drug Events: Opioid Safety	
Measure type	Outcome
Numerator	Number of patients treated with opioids who received naloxone
Denominator	Number of patients who received an opioid agent
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 100$
Specifications/definitions	See references below for guidance
Data source (s)	Numerator: incident reporting systems, trigger tools, pharmacists' intervention systems, medical record review Denominator: billing systems
Data entry/transfer	CDS
Baseline period	Preferred: Calendar year 2014 Alternate: Oldest 12, 9, 6, or 3 month consecutive period prior to Oct 2016 <i>If measure not tracked prior to HIIN, report monthly as early as possible beginning with October 2016.</i>
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-ADE-1c
AHA/HRET HEN 2.0	HEN2-ADE-1c

The definition of an adverse drug event is any injury resulting from medication use, including physical harm, mental harm or loss of function<sup>3</sup>. Data can be collected through incident reporting, trigger tools, pharmacists' intervention data or administrative data.

The Institute for Safe Medication Practices has assembled a number of tools related to drug safety, which can be accessed online at the following link: <https://www.ismp.org/guidelines>

The Institute for Healthcare Improvement's (IHI) trigger tool includes a list of known ADE triggers and instructions for measuring the number and degree of harmful medication events. The tool is available online at the following link:

<http://www.ihl.org/resources/Pages/Tools/TriggerToolforMeasuringAdverseDrugEvents.aspx>

For more information on ADE Opioid Safety, please visit the HRET HIIN ADE topic page at <http://www.hret-hiin.org/topics/adverse-drug-events.shtml>.

<sup>3</sup> Bates, D.W., Cullen, D.J., Laird, N., et al. (1995). Incidence of adverse drug events and potential adverse drug events. Implications for prevention. ADE Prevention Study Group. *JAMA*, 274(1), 29-34.



## Catheter-Associated Urinary Tract Infection (CAUTI) Standardized Infection Ratio (SIR)

CAUTI: HIIN Evaluation Measure – NHSN Reporting Facilities ONLY – NQF 0138	
Catheter-Associated Urinary Tract Infection (CAUTI) Standardized Infection Ratio (SIR)	
<ul style="list-style-type: none"> <li>Measure 1a: CAUTI all units: ICUs (excluding NICUs) + Other Inpatient Units</li> <li>Measure 1b: CAUTI ICU: ICUs excluding NICUs</li> </ul>	
Measure type	Outcome
Numerator	Number of observed infections
Denominator	Number of predicted infections
SIR calculation	$\frac{\text{Numerator}}{\text{Denominator}}$
Specifications/definitions	<a href="#">CDC NHSN</a> NQF: <a href="#">National Quality Forum (NQF) 0138</a> Additional resources: <a href="#">CDC</a>
Data source (s)	Hospitals not reporting to NHSN will not report this measure. Data elements to calculate this ratio will be extracted from NHSN for hospitals that confer rights to the HRET HIIN group or a state group. NHSN-conferring rights required.
Data entry/transfer	<b>NHSN calculates – No work needed if rights conferred</b> NHSN – conferring rights to HRET HIIN group highly recommended
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-CAUTI-1a: ICUs (excluding NICUs) + Other Inpatient Units HIIN-CAUTI-1b: ICUs excluding NICUs
AHA/HRET HEN 2.0 Measure ID	HEN2-CAUTI-1a: ICUs (excluding NICUs) + Other Inpatient Units HEN2-CAUTI-1b: ICUs excluding NICUs

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

## Catheter-Associated Urinary Tract Infection (CAUTI) Rate

CAUTI: HIIN Evaluation Measure	
Catheter-Associated Urinary Tract Infection (CAUTI) rate: <ul style="list-style-type: none"> <li>• Measure 2a: CAUTI all units: ICUs (excluding NICUs) + Other Inpatient Units</li> <li>• Measure 2b: CAUTI ICU: ICUs excluding NICUs</li> </ul>	
Measure type	Outcome
Numerator	Total number of observed healthcare-associated CAUTI among patients in bedded inpatient care locations
Denominator	Total number of indwelling urinary catheter days for each location under surveillance for CAUTI during the data period
Rate Calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$
Specifications/definitions	<a href="#">CDC NHSN</a> Additional resources: <a href="#">CDC</a>
Data source (s)	NHSN-conferring rights recommended
Data entry/transfer	NHSN – conferring rights to HRET HIIN group highly recommended If not possible to enter into NHSN, enter into CDS
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-CAUTI-2a: ICUs (excluding NICUs) + Other Inpatient Units HIIN-CAUTI-2b: ICUs excluding NICUs
AHA/HRET HEN 2.0	HEN2-CAUTI-2a: ICUs (excluding NICUs) + Other Inpatient Units HEN2-CAUTI-2b: ICUs excluding NICUs

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

For hospitals reporting this measure in NHSN and conferring rights to HRET HIIN group and these data elements will be extracted from NHSN and uploaded to HRET. Hospitals that **do not report to NHSN**, or hospitals that have **NOT conferred rights to their NHSN data** must report the numerators and denominators for ICUs excluding NICUs **and** also for ICUs excluding NICUs + Other Inpatient Units, separately, following the CDC specifications to define CAUTI. If a hospital does not have an ICU, report for all other hospital inpatient units for measure 2b.

The Partnership for Patients has also gathered many resources for CAUTI prevention and measurement. These resources are catalogued online at the following link:

[https://partnershipforpatients.cms.gov/p4p\\_resources/tsp-catheterassociatedurinarytractinfections/toolcatheter-associatedurinarytractinfectionscauti.html](https://partnershipforpatients.cms.gov/p4p_resources/tsp-catheterassociatedurinarytractinfections/toolcatheter-associatedurinarytractinfectionscauti.html)

## Urinary Catheter Utilization Ratio

CAUTI: HIIN Evaluation Measure	
Urinary Catheter Utilization Ratio <ul style="list-style-type: none"> <li>• Measure 3a: CAUTI all units: ICUs (excluding NICUs) + Other Inpatient Units</li> <li>• Measure 3b: CAUTI ICU: ICUs excluding NICUs</li> </ul>	
Measure type	Process
Numerator	Total number of indwelling urinary catheter days for bedded inpatient care locations under surveillance (excluding patients in Level II or III NICUs)
Denominator	Total number of patient days for bedded inpatient care locations under surveillance (excluding patients in Level II or III NICUs)
Calculation	$\left( \frac{\text{Numerator}}{\text{Denominator}} \right) \times 100$
Specifications/definitions	<a href="#">CDC NHSN</a> Additional resources: <a href="#">CDC</a>
Data source (s)	NHSN-conferring rights recommended
Data entry/transfer	NHSN – conferring rights to HRET HIIN group highly recommended If not possible to enter into NHSN, enter into CDS
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-CAUTI-3a: ICUs (excluding NICUs) + Other Inpatient Units HIIN-CAUTI-3b: ICUs excluding NICUs
AHA/HRET HEN 2.0	HEN2-CAUTI-3a: ICUs (excluding NICUs) + Other Inpatient Units HEN2-CAUTI-3b: ICUs excluding NICUs

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

For hospitals in an NHSN group, these data elements will be extracted from NHSN and uploaded to HRET. Hospitals that **do not report to NHSN**, or hospitals that have **NOT conferred rights to their NHSN data to HRET HIIN**, must report the numerators and denominators for ICUs excluding NICUs **and** also for ICUs excluding NICUs + Other Inpatient Units, separately, following the CDC specifications to define CAUTI. If a hospital does not have an ICU, report for all other hospital inpatient units for measure 3b.

The Partnership for Patients has also gathered many resources for CAUTI prevention and measurement. These resources are catalogued online at the following link:

[https://partnershipforpatients.cms.gov/p4p\\_resources/tsp-catheterassociatedurinarytractinfections/toolcatheter-associatedurinarytractinfectionscauti.html](https://partnershipforpatients.cms.gov/p4p_resources/tsp-catheterassociatedurinarytractinfections/toolcatheter-associatedurinarytractinfectionscauti.html)

## Central Line-Associated Blood Stream Infection (CLABSI) Standardized Infection Ratio (SIR)

CLABSI: HIIN Evaluation Measure – NHSN Reporting Facilities ONLY – NQF 0139	
Central Line-Associated Bloodstream Infection (CLABSI) Standardized Infection Ratio (SIR) <ul style="list-style-type: none"> <li>Measure 1: CLABSI all units: ICUs + Other Inpatient Units</li> <li>Measure 2: CLABSI ICU: ICUs</li> </ul>	
Measure type	Outcome
Numerator	Number of observed infections
Denominator	Number of predicted infections
SIR calculation	$\frac{\text{Numerator}}{\text{Denominator}}$
Specifications/definitions	<a href="#">CDC NHSN</a> NQF information: <a href="#">NQF 0139</a> Additional resources: <a href="#">CDC</a>
Data source (s)	Hospitals not reporting to NHSN will not report this measure. Data elements to calculate this ratio will be extracted from NHSN for hospitals that confer rights to the HRET HIIN group or a state group. NHSN-conferring rights required.
Data entry/transfer	<b>NHSN calculates – No work needed if rights conferred</b> NHSN – conferring rights to HRET HIIN group highly recommended
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-CLABSI-1a: All Inpatient Units HIIN-CLABSI-1b: All ICUs
AHA/HRET HEN 2.0	HEN2-CLABSI-1a: All Inpatient Units HEN2-CLABSI-1b: All ICUs

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

## Central Line-Associated Blood Stream Infection (CLABSI) Rate

CLABSI: HIIN Evaluation Measure – All Facilities	
Central Line-Associated Bloodstream Infection (CLABSI) Rates <ul style="list-style-type: none"> <li>• Measure 1: CLABSI all units: ICUs + Other Inpatient Units</li> <li>• Measure 2: CLABSI ICU: ICUs</li> </ul>	
Measure type	Outcome
Numerator	Total number of observed healthcare-associated CLABSI among patients in bedded inpatient care locations
Denominator	Total number of central line days for each location under surveillance for CLABSI during the data period
Rate Calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$
Specifications/definitions	<a href="#">CDC NHSN</a> Additional resources: <a href="#">CDC</a>
Data source (s)	NHSN-conferring rights recommended
Data entry/transfer	NHSN – conferring rights to HRET HIIN group highly recommended If not possible to enter into NHSN, enter into CDS
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-CLABSI-2a: All Inpatient Units HIIN-CLABSI-2b: All ICUs
AHA/HRET HEN 2.0	HEN2-CLABSI-2a: All Inpatient Units HEN2-CLABSI-2b: All ICUs

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

For hospitals in an NHSN group, these data elements will be extracted from NHSN and uploaded to HRET. Hospitals that **do not report to NHSN**, or hospitals that have **NOT conferred rights to their NHSN data to HRET HIIN**, must report the numerators and denominators for All Inpatient Units **and** also for All ICUs separately, following the CDC specifications to define CLABSI.

The Partnership for Patients has also gathered many resources for CLABSI prevention and measurement. These resources are catalogued online at the following link:

[http://partnershipforpatients.cms.gov/p4p\\_resources/tsp-centralline-associatedbloodstreaminfections/toolcentralline-associatedbloodstreaminfectionsclabsi.html](http://partnershipforpatients.cms.gov/p4p_resources/tsp-centralline-associatedbloodstreaminfections/toolcentralline-associatedbloodstreaminfectionsclabsi.html)

## Central Line Utilization Ratio

CLABSI: HIIN Evaluation Measure	
Central Line Utilization Ratio <ul style="list-style-type: none"> <li>• Measure 1: CLABSI all units: ICUs + Other Inpatient Units</li> <li>• Measure 2: CLABSI ICU: ICUs</li> </ul>	
Measure type	Process
Numerator	Total number of central line days for bedded inpatient care locations under surveillance
Denominator	Total number of patient days for bedded inpatient care locations under surveillance
Calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 100$
Specifications/definitions	<a href="#">CDC NHSN</a> Additional resources: <a href="#">CDC</a>
Data source (s)	NHSN-conferring rights recommended
Data entry/transfer	NHSN – conferring rights to HRET HIIN group highly recommended If not possible to enter into NHSN, enter into CDS
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-CLABSI-3a: All Inpatient Units HIIN-CLABSI-3b: All ICUs
AHA/HRET HEN 2.0	HEN2-CLABSI-3a: All Inpatient Units HEN2-CLABSI-3b: All ICUs

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

For hospitals in an NHSN group, these data elements will be extracted from NHSN and uploaded to HRET. Hospitals that **do not report to NHSN**, or hospitals that have **NOT conferred rights to their NHSN data** must report the numerators and denominators for All Inpatient Units **and** also for All ICUs separately, following the CDC specifications to define CLABSI.

The Partnership for Patients has also gathered many resources for CLABSI prevention and measurement. These resources are catalogued online at the following link:

[http://partnershipforpatients.cms.gov/p4p\\_resources/tsp-centralline-associatedbloodstreaminfections/toolcentralline-associatedbloodstreaminfectionsclabsi.html](http://partnershipforpatients.cms.gov/p4p_resources/tsp-centralline-associatedbloodstreaminfections/toolcentralline-associatedbloodstreaminfectionsclabsi.html)

## *Clostridioides difficile* Standardized Infection Ratio (SIR)

<i>Clostridioides difficile</i> : HIIN Evaluation Measure - NQF 1717	
Clostridioides <i>difficile</i> Standardized Infection Ratio (SIR) ( <i>C. difficile</i> ) (CDI)	
Measure type	Outcome
Numerator	Total number of observed hospital-onset <i>C. difficile</i> lab identified events among all inpatients facility-wide, excluding well-baby nurseries and NICUs
Denominator	Predicted cases of patients with <i>C. difficile</i>
SIR Calculation	$\frac{\text{Numerator}}{\text{Denominator}}$
Specifications/definitions	<a href="#">CDC NHSN</a>
Data source (s)	Hospitals not reporting to NHSN will not report this measure. Data elements to calculate this ratio will be extracted from NHSN for hospitals that confer rights to the HRET HIIN group or a state group. NHSN-conferring rights required.
Data entry/transfer	<b>NHSN calculates – No work needed if rights conferred</b> NHSN – conferring rights to HRET HIIN group highly recommended
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Reported quarterly, beginning Oct 2016
Note	For those not conferring NHSN rights to AHA, data should be entered after the end of the quarter from the NHSN data source
HIIN CDS Measure ID(s)	HIIN-CDI-1a
AHA/HRET HEN 2.0	HEN2-CDI-1a

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

The Centers for Disease Control and Prevention (CDC) provides extensive *C. difficile* resources for patients, clinicians, facilities and settings. These resources are available online at the following links:

[http://www.cdc.gov/hai/organisms/cdiff/Cdiff\\_settings.html](http://www.cdc.gov/hai/organisms/cdiff/Cdiff_settings.html)

<http://www.cdc.gov/nhsn/acute-care-hospital/cdiff-mrsa/index.html>

For more information on CDI, please visit the HRET HIIN CDI topic page at <http://www.hret-hiin.org/topics/clostridium-difficile-infection.shtml>.

## *Clostridioides difficile* Rate

<i>Clostridioides difficile</i> : HIIN Evaluation Measure	
Clostridioides <i>difficile</i> Rate	
Measure type	Outcome
Numerator	Total number of observed hospital-onset <i>C. difficile</i> lab identified events among all inpatients facility-wide, excluding well-baby nurseries and NICUs
Denominator	Patient days (facility-wide)
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 10,000$
Specifications/definitions	<a href="#">CDC NHSN</a>
Data source (s)	NHSN-conferring rights recommended
Data entry/transfer	NHSN – conferring rights to HRET HIIN group highly recommended If not possible to enter into NHSN, enter into CDS
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-CDI-1b
AHA/HRET HEN 2.0	HEN2-CDI-1b

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

For hospitals in an NHSN group, these data elements will be extracted from NHSN and uploaded to HRET. Hospitals that **do not report to NHSN**, or hospitals that have **NOT conferred rights to their NHSN data to HRET HIIN**, must report the numerators and denominators, following the CDC specifications to define *c. Difficile*.

The Centers for Disease Control and Prevention (CDC) provides extensive *C. difficile* resources for patients, clinicians, facilities and settings. These resources are available online at the following links:

[http://www.cdc.gov/hai/organisms/cdiff/Cdiff\\_settings.html](http://www.cdc.gov/hai/organisms/cdiff/Cdiff_settings.html)

<http://www.cdc.gov/nhsn/acute-care-hospital/cdiff-mrsa/index.html>

For more information on CDI, please visit the HRET HIIN CDI topic page at <http://www.hret-hiin.org/topics/clostridium-difficile-infection.shtml>.



## Falls with Injury

Falls: HIIN Evaluation Measure (NQF 0202)	
<i>All Documented Patient Falls with an Injury Level of Minor or Greater</i>	
Measure type	Outcome
Numerator	Total number of patient falls of injury level minor or greater (whether or not assisted by a staff member) on eligible hospital unit during the measurement period <sup>4</sup> .
Denominator	Patient days in eligible units during the measurement period <sup>5</sup>
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$
Specifications/definitions	<a href="#">NQF 0202 definition</a>
Data source	Administrative preferred Billing systems, medical records, surveillance systems
Data entry/transfer	Enter into CDS
Baseline period	Preferred: Calendar year 2014  Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2014 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-Falls-1
AHA/HRET HEN 2.0	HEN2-Falls-1

These data elements shall be submitted by all hospitals. The total patient days can be collected from billing systems. The number of patient falls could be collected from electronic clinical data or medical records, fall surveillance systems, injury reports, event tracking systems or other similar sources. See the [Falls with Injury Data Collection Fact Sheet](#) for more details.

The Agency for Healthcare Research & Quality (AHRQ) has developed a comprehensive resource for measuring fall rates and fall prevention practices. The resource is available online at the following link: <http://www.ahrq.gov/professionals/systems/hospital/fallpxtoolkit/index.html>

The American Nurses Association (ANA) has published an article about measuring fall program outcomes. The article is available online at the following link: <http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume122007/No2May07/ArticlePreviousTopic/MeasuringFallProgramOutcomes.html>

<sup>4</sup> Extracted from NQF Quality Positioning System: <http://www.qualityforum.org/QPS/0202>

<sup>5</sup> Includes inpatients, short stay patients, observation patients, and same day surgery patients who receive care on eligible inpatient units for all or part of a day on the following unit types: adult critical care, step-down, medical, surgical, medical-surgical combined, critical access and adult rehabilitation inpatient units.

**Definition of Minor or Greater:**

When the initial fall report is written by the nursing staff, the extent of injury may not yet be known. Hospitals have 24 hours to determine the injury level, e.g., when you are awaiting diagnostic test results or consultation reports.

- None—patient had no injuries (no signs or symptoms) resulting from the fall; if an x-ray, CT scan or other post fall evaluation results in a finding of no injury
- Minor—resulted in application of a dressing, ice, cleaning of a wound, limb elevation, topical medication, pain, bruise or abrasion
- Moderate—resulted in suturing, application of steri-strips/skin glue, splinting, or muscle/joint strain
- Major—resulted in surgery, casting, traction, required consultation for neurological (basilar skull fracture, small subdural hematoma) or internal injury (rib fracture, small liver laceration) or patients with coagulopathy who receive blood products as a result of a fall
  - Death—the patient died as a result of injuries sustained from the fall (not from physiologic events causing the fall)

Reference: [NQF Injury Definitions](#)

**Eligible Units and populations:** Target population is adult, acute care inpatient, short stay, observation and rehabilitation patients. Eligible unit types include adult critical care, step-down, medical, surgical, medical-surgical combined, critical access, adult rehabilitation inpatient.

**Excluded units and populations:** pediatric, psychiatric, obstetrical

For more information on reducing falls with injury, please visit the HRET HIIN falls topic page at <http://www.hret-hiin.org/topics/injuries-from-falls-immobility.shtml>.

## MRSA Bacteremia - Standardized Infection Ratio (SIR)

Methicillin-resistant Staphylococcus aureus (MRSA): HIIN Evaluation Measure	
MRSA Bacteremia - SIR	
Measure type	Outcome
Numerator	Number MRSA LabID Events in inpatient location >3 days after admission to the facility
Denominator	Predicted cases of patients with MRSA bacteremia
SIR Calculation	$\frac{\text{Numerator}}{\text{Denominator}}$
Specifications/definitions	<a href="#">CDC NHSN</a>
Data source (s)	Hospitals not reporting to NHSN will not report this measure. Data elements to calculate this ratio will be extracted from NHSN for hospitals that confer rights to the HRET HIIN group or a state group. NHSN-conferring rights required.
Data entry/transfer	<b>NHSN calculates – No work needed if rights conferred</b> NHSN – conferring rights to HRET HIIN group highly recommended
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Quarterly, beginning Oct 2016
Note	For those not conferring NHSN rights to AHA, data should be entered after the end of the quarter from the NHSN data source
HIIN CDS Measure ID(s)	HIIN-MRSA-1
AHA/HRET HEN 2.0	Not Collected

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

The Centers for Disease Control and Prevention (CDC) provides extensive *MRSA* resources for patients, clinicians, facilities and settings. These resources are available online at the following links:

<http://www.cdc.gov/HAI/organisms/mrsa-infection.html>

<http://www.cdc.gov/nhsn/acute-care-hospital/cdiff-mrsa/index.html>

For more information on reducing MDRO-MRSA, please visit the HRET HIIN MDRO topic page at <http://www.hret-hiin.org/topics/multi-drug-resistant-organisms.shtml>.

## Hospital-onset MRSA Bacteremia Events

Methicillin-resistant Staphylococcus aureus (MRSA) : HIIN Evaluation Measure	
Hospital-onset MRSA bacteremia events	
Measure type	Outcome
Numerator	MRSA bacteremia events
Denominator	Patient days
Calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$
Specifications/definitions	<a href="#">CDC NHSN</a>
Data source (s)	NHSN-conferring rights recommended
Data entry/transfer	NHSN – conferring rights to HRET HIIN group highly recommended If not possible to enter into NHSN, enter into CDS
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-MRSA-2
AHA/HRET HEN 2.0	Not Collected

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

For hospitals in an NHSN group, these data elements will be extracted from NHSN and uploaded to HRET. Hospitals that **do not report to NHSN**, or hospitals that have **NOT conferred rights to their NHSN data** must report the numerators and denominators, following the CDC specifications to *define MRSA bacteremia events*.

The Centers for Disease Control and Prevention (CDC) provides extensive *MRSA* resources for patients, clinicians, facilities and settings. These resources are available online at the following links:

<http://www.cdc.gov/HAI/organisms/mrsa-infection.html>

<http://www.cdc.gov/nhsn/acute-care-hospital/cdiff-mrsa/index.html>

For more information on reducing MDRO-MRSA, please visit the HRET HIIN MDRO topic page at <http://www.hret-hiin.org/topics/multi-drug-resistant-organisms.shtml>.

## Pressure Ulcer Rate, Stage 3+

Pressure Ulcer Rate , Stage 3+: HIIN Evaluation Measure	
Pressure Ulcer Rate, Stages 3+ (preferred pressure ulcer measure)	
Measure type	Outcome
Numerator	Discharges, among cases meeting the inclusion and exclusion rules for the denominator, with any secondary diagnosis codes for pressure ulcer and any secondary diagnosis codes for pressure ulcer stage III or IV (or unstageable) <sup>6</sup>
Denominator	Surgical or medical discharges, for patients ages 18 years and older. Surgical and medical discharges are defined by specific DRG or MS-DRG codes <sup>7</sup>
Calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$
Specifications/definitions	<a href="#">AHRQ PSI 03</a>
Data source	Administrative data
Data entry/transfer	CDS from administrative data
Baseline period	Preferred: October 1, 2015 through September 30, 2016 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between October 2015 through September 2016 <i>If measure not tracked prior to HIIN, report monthly as early as possible.</i>
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-PrU-1
AHA/HRET HEN 2.0	HEN2-PrU-1

These data elements shall be submitted by all hospitals. Data can be collected through incident reporting, hospital discharge or administrative data.

The AHRQ has developed a comprehensive resource for measuring pressure ulcer rates and prevention practices. The resource is available online at the following link:

<http://www.ahrq.gov/professionals/systems/hospital/pressureulcertoolkit/putool5.html>

For more information on reducing pressure ulcers, please visit the HRET pressure ulcer topic page at <http://www.hret-hiin.org/topics/pressure-ulcers.shtml>.

<sup>6</sup> Extracted from AHRQ: [http://www.qualityindicators.ahrq.gov/Modules/PSI\\_TechSpec.aspx](http://www.qualityindicators.ahrq.gov/Modules/PSI_TechSpec.aspx)

<sup>7</sup> The measure specifications exclude stays less than 3 days. While CAHs are required to maintain an annual average length of stay of 96 hours or less (<https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/CritAccessHospfctst.pdf>), CAHs are encouraged to use the AHRQ PSI specifications to track pressure ulcers for appropriate inpatient stays in their facilities, even if the inpatient stay is less than 3 days.

## Hospital-Acquired Pressure Ulcer Prevalence, Stage 2+

Pressure Ulcer/Injury: HIIN Evaluation Measure (NQF 0201)	
Pressure Ulcer Prevalence, Hospital-Acquired-Stage 2+	
Measure type	Outcome
Numerator	Patients that have at least one category/stage II or greater hospital-acquired pressure ulcer on the day of the prevalence measurement episode <sup>8</sup>
Denominator	All patients, 18 years of age or greater, surveyed for the measurement episode
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 100$
Specifications/definitions	<a href="#">NQF 0201</a>
Data source (s)	Surveillance systems
Data entry/transfer	CDS
Baseline period	Preferred: Calendar year 2014 Alternate: Oldest 12, 9, 6, or 3 month consecutive period prior to Oct 2016 <i>If measure not tracked prior to HIIN, report monthly as early as possible.</i>
Monitoring period	Preferred: Monthly, beginning Oct 2016 Alternate: Quarterly, beginning with 4Q 2016 (report in last month of each quarter)
HIIN CDS Measure ID(s)	HIIN-PrU-2
AHA/HRET HEN 2.0	HEN2-PrU-2

These data elements shall be submitted by all hospitals. Data can be collected through incident reporting, medical records, hospital discharge or administrative data. Hospitals are strongly encouraged to report pressure ulcer prevalence monthly.

The AHRQ has developed a comprehensive resource for measuring pressure ulcer rates and prevention practices. The resource is available online at the following link:

<http://www.ahrq.gov/professionals/systems/hospital/pressureulcertoolkit/putool5.html>

For more information on reducing pressure ulcers, please visit the HRET pressure ulcer topic page at <http://www.hret-hiin.org/topics/pressure-ulcers.shtml>.

<sup>8</sup> Extracted from NQF Quality Positioning System: <http://www.qualityforum.org/QPS/0201>

## Readmission within 30 Days (All Cause) Rate

Readmission: HIIN Evaluation Measure	
Readmission within 30 Days (All Cause) (preferred readmission measure)	
Measure type	Outcome
Numerator	Inpatients returning as an acute care inpatient within 30 days of date of an inpatient discharge, to any facility, with the exception of certain planned admissions (Note: Not all hospitals can track readmissions to other facilities. Hospitals should focus on tracking readmissions consistently across time).
Denominator	Total inpatient discharges (excluding discharges due to death)
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 100$
Specifications/definitions	Facilities should follow the CMS definition of a readmission. This definition is explained in the “Frequently asked questions about readmissions” chapter, available on <a href="#">Quality Net</a> . “Chapter 3 – Readmissions Measures,” section “Defining readmissions” beginning on page 7 This is the same definition as is used for Medicare readmission measure but includes all payors.
Data source (s)	Administrative data or billing systems or other tracking systems
Data entry/transfer	CDS
Baseline period	Preferred: Calendar year 2014 Alternate: Oldest 12, 9, 6, or 3 month consecutive period prior to Oct 2016 <i>If measure not tracked prior to HIIN, report monthly as early as possible.</i>
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-READ-1
AHA/HRET HEN 2.0	HEN2-READ-1

The following types of admissions are not considered readmissions in the measures:

1. Planned readmissions as identified by a CMS algorithm. The algorithm is based on three principles:
  - a. A few specific, limited types of care are always considered planned (obstetric delivery, transplant surgery, maintenance chemotherapy/immunotherapy, rehabilitation);
  - b. Otherwise, a planned readmission is defined as a non-acute readmission for a scheduled procedure; and
  - c. Admissions for acute illness or for complications of care are never planned. For the details of the planned readmission algorithm, please refer to the resources posted on the QualityNet website at Hospitals – Inpatient > Claims-Based Measures > Readmission Measures > Measure Methodology;

2. Same-day readmissions to the same hospital for the same condition. However, the readmission measures do consider patients as “readmitted” if they had an eligible readmission to the same hospital on the same day but for a different condition;
3. Observation stays and emergency department (ED) visits. These are not inpatient admissions and therefore are not considered potential readmissions;
4. Admissions to facilities other than short-term acute care hospitals. Facilities such as rehabilitation centers, psychiatric hospitals, hospice facilities, long-term care or long-term acute care hospitals, and skilled nursing facilities do not meet the definition of a short-term acute hospital. Admissions to these facilities are not considered for the readmission outcome;
5. Admissions that occur at eligible short-term acute care hospitals but where the patient is admitted to a separate, non-inpatient unit that bills under a separate CMS Certification Number (CCN), such as separate units for rehabilitation, psychiatric care, hospice care, or long-term care. Such admissions are not inpatient admissions and therefore are not considered as readmissions.

For more information on reducing readmissions, please visit the HRET readmissions topic page at <http://www.hret-hiin.org/topics/readmissions.shtml>.



## Hospital-Wide All-Cause Unplanned Readmissions – Medicare

Readmission: HIIN Evaluation Measure (NQF 1789)	
Hospital-Wide All Cause Unplanned Readmissions	
Measure type	Outcome
Numerator	A Medicare inpatient admission for any cause (with the exception of certain planned readmissions), within 30 days from the date of discharge
Denominator	Medicare patients discharged from the hospital
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 100$
Specifications/definitions	NQF 1789
Data source (s)	Administrative data or billing systems or other tracking systems
Data entry/transfer	CDS
Baseline period	Preferred: Calendar year 2014 Alternate: Oldest 12, 9, 6, or 3 month consecutive period prior to Oct 2016 <i>If measure not tracked prior to HIIN, report monthly as early as possible.</i>
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-READ-2
AHA/HRET HEN 2.0	Not collected

This measure is currently publicly reported by CMS for those 65 years and older who are Medicare FFS beneficiaries admitted to non-federal hospitals. Hospitals are encouraged to report results for all Medicare inpatients, however, the Medicare FFS results are acceptable to report.

**Note: This measure is a subset of the “Readmission within 30 Days (All Cause) Rate” measure (HIIN-READ-1). The only difference between this measure and the “Readmission within 30 Days (All Cause) Rate” is that this measure is limited to Medicare patients. See definition above for more details.**

For more information on reducing readmissions, please visit the HRET readmissions topic page at <http://www.hret-hiin.org/topics/readmissions.shtml>.

## Postoperative Sepsis Rate

### Facilities that perform inpatient surgeries

Sepsis: HIIN Evaluation – AHRQ PSI-13	
Postoperative sepsis cases (secondary diagnosis) per 1,000 elective surgical discharges for patients ages 18 years and older	
Measure type	Outcome
Numerator	Discharges among cases meeting the inclusion and exclusion rules for the denominator, with any AHRQ designated secondary ICD-10 diagnosis codes for sepsis.
Denominator	Elective surgical discharges for patients ages 18 years and older, with any listed ICD-10-PCS procedure codes for an operating room procedure. <a href="#">These codes are listed here</a>
Rate Calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$
Specifications/definitions	<a href="#">AHRQ PSI 13</a>
Data source(s)	Administrative claims
Data entry/transfer	CDS from administrative data
Baseline period	Preferred: October 1, 2015 through September 30, 2016 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between October 2015 through September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-SEPSIS-1a
AHA/HRET HEN 2.0	HEN2-SEPSIS-1a

For more information on reducing sepsis, please visit the HRET sepsis topic page at <http://www.hret-hiin.org/topics/sepsis.shtml>.

## Hospital-Onset Sepsis Mortality Rate

(Optional measure, prefer one of the other Sepsis measures)

Sepsis: HIIN Evaluation Measure	
In-hospital deaths per 1,000 discharges, among patients ages 18 through 89 years or obstetric patients, with hospital-onset sepsis	
Measure type	Outcome
Numerator	Number of in-hospital deaths due to severe sepsis and septic shock
Denominator	Number of patients with hospital-onset severe sepsis / septic shock. Note: hospital-onset is an infection that appears 48 hours or more after admission <sup>9</sup>
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$
Specifications/definitions	For specific diagnosis codes identifying severe sepsis / septic shock, refer to the numerator specifications for <a href="#">AHRQ PSI-13</a> .
Data source(s)	Administrative claims, medical records
Data entry/transfer	CDS from administrative data
Baseline period	Preferred: October 1, 2015 through September 30, 2016 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between October 2015 through September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-SEPSIS-1c
AHA/HRET HEN 2.0	HEN2-SEPSIS-1c

For more information on reducing sepsis, please visit the HRET sepsis topic page at <http://www.hret-hiin.org/topics/sepsis.shtml>.

<sup>9</sup> <http://www.surgeryencyclopedia.com/Fi-La/Hospital-Acquired-Infections.html#ixzz4OIGiPiWy>,  
<http://bmcmedicine.biomedcentral.com/articles/10.1186/1741-7015-12-40>,  
<https://systematicreviewsjournal.biomedcentral.com/articles/10.1186/s13643-015-0103-6>,  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3470069/>

## Overall Sepsis Mortality Rate

### All facilities

Sepsis: HIIN Evaluation Measure	
In-hospital deaths per 1,000 discharges, among patients ages 18 through 89 years or obstetric patients, with sepsis	
Measure type	Outcome
Numerator	Number of in-hospital deaths due to severe sepsis and septic shock CMS excludes assignment to comfort/palliative care at or within 6 hours of admission to determine sepsis mortality.
Denominator	Number of patients with severe sepsis / septic shock <sup>10</sup>
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$
Specifications/definitions	For specific diagnosis codes identifying severe sepsis / septic shock, refer to the numerator specifications for <a href="#">AHRQ PSI-13</a> .
Data source(s)	Administrative claims, medical records
Data entry/transfer	CDS from administrative data
Baseline period	Preferred: October 1, 2015 through September 30, 2016 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between October 2015 through September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-SEPSIS-1d
AHA/HRET HEN 2.0	Not collected

For more information on reducing sepsis, please visit the HRET sepsis topic page at <http://www.hret-hiin.org/topics/sepsis.shtml>.

<sup>10</sup> This measure includes hospital-onset sepsis cases, post-operative sepsis cases, AND any cases that present with sepsis to the hospital (for example, those cases coming in as transfers, or presenting in the emergency department). This measure focuses on measuring the management of sepsis patients once they are identified.

## Surgical Site Infection (SSI) Standardized Infection Ratio (SIR)

### NHSN Reporting Facilities ONLY

SSI: HIIN Evaluation Measure – NHSN Reporting Facilities ONLY (NQF 0753)	
Surgical Site Infection (SSI) Standardized Infection Ratio (SIR) – separately for each procedure	
<ul style="list-style-type: none"> <li>• Measure 1a: Colon surgeries</li> <li>• Measure 1b: Abdominal hysterectomies</li> <li>• Measure 1c: Total knee replacements</li> <li>• Measure 1d: Total hip replacements</li> </ul>	
Measure type	Outcome
Numerator	Number of observed infections
Denominator	Number of predicted infections
SIR calculation	$\frac{\text{Numerator}}{\text{Denominator}}$
Specifications/definitions	<a href="#">CDC NHSN</a> Additional resources: <a href="#">CDC</a>
Data source (s)	Hospitals not reporting to NHSN will not report this measure. Data elements to calculate this ratio will be extracted from NHSN for hospitals that confer rights to the HRET HIIN group or a state group. NHSN-conferring rights required.
Data entry/transfer	<b>NHSN calculates – No work needed if rights conferred</b> NHSN – conferring rights to HRET HIIN group highly recommended
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-SSI-1a: Colon surgeries HIIN-SSI-1b: Abdominal hysterectomies HIIN-SSI-1c: Total knee replacements HIIN-SSI-1d: Total hip replacements
AHA/HRET HEN 2.0	HEN2-SSI-1a: Colon Surgeries HEN2-SSI-1b: Abdominal hysterectomies HEN2-SSI-1c: Total knee replacements HEN2-SSI-1d: Total hip replacements

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

For more information on reducing SSI, please visit the HRET SSI topic page at <http://www.hret-hiin.org/topics/surgical-site-infection.shtml>.

## Surgical Site Infection (SSI) Rate

### Facilities that perform inpatient surgeries

SSI: HIIN Evaluation Measure	
Surgical Site Infection (SSI) Rate – separately for each procedure <ul style="list-style-type: none"> <li>• Measure 1a: Colon surgeries</li> <li>• Measure 1b: Abdominal hysterectomies</li> <li>• Measure 1c: Total knee replacements</li> <li>• Measure 1d: Total hip replacements</li> </ul>	
Numerator	Total number of surgical site infections based on CDC NHSN definition
Denominator	All patients having any of the procedures included in the selected NHSN operative procedure category(s).
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 100$
Specifications/definitions	<a href="#">CDC NHSN</a> Additional resources: <a href="#">CDC</a>
Data source (s)	NHSN-conferring rights recommended
Data entry/transfer	NHSN – conferring rights to HRET HIIN group highly recommended If not possible to enter into NHSN, enter into CDS
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-SSI-2a: Colon surgeries HIIN-SSI-2b: Abdominal hysterectomies HIIN-SSI-2c: Total knee replacements HIIN-SSI-2d: Total hip replacements
AHA/HRET HEN 2.0	HEN2-SSI-2a: Colon surgeries HEN2-SSI-2b: Abdominal hysterectomies HEN2-SSI-2c: Total knee replacements HEN2-SSI-2d: Total hip replacements

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

For hospitals in an NHSN group, these data elements will be extracted from NHSN and uploaded to HRET. Hospitals that **do not report to NHSN**, or hospitals that have **NOT conferred rights to their NHSN data to HRET HIIN** must report the numerators and denominators for these four specific surgeries separately, following the CDC specifications to define SSI.

For more information on reducing SSI, please visit the HRET SSI topic page at <http://www.hret-hiin.org/topics/surgical-site-infection.shtml>.

## Post-Operative Pulmonary Embolism or Venous Thrombosis (VTE) Rate

### Facilities that perform inpatient surgeries

Post-Operative Pulmonary Embolism or Deep Vein Thrombosis Rate: HIIN Evaluation Measure	
Post-Operative Pulmonary Embolism (PE) or Venous Thrombosis (VTE) Rate	
Measure type	Outcome
Numerator	Number of surgical patients that develop a post-operative PE or DVT
Denominator	All surgical discharges age 18 and older defined by specific DRGs or MS-DRGs and a procedure code for an operating room procedure.
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$
Specifications/definitions	<a href="#">AHRQ PSI 12</a>
Data source	Administrative data
Data entry/transfer	CDS from administrative data
Baseline period	Preferred: October 1, 2015 through September 30, 2016 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between October 2015 through September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-VTE-1
AHA/HRET HEN 2.0	HEN2-VTE-1

For more information on reducing VTE, please visit the HRET VTE topic page at <http://www.hret-hiin.org/topics/venous-thromboembolism.shtml>.



## Ventilator-Associated (VAC)

### Facilities that use ventilators

VAE: HIIN Evaluation Measure	
Ventilator Associated Condition (VAC)	
Measure type	Outcome
Numerator	Number of events that meet the criteria of VAC; including those that meet the criteria for infection-related ventilator-associated complication (IVAC) and possible/probable ventilator-associated pneumonia (PVAP)
Denominator	Number of ventilator days
Calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$
Specifications/definitions	<a href="#">CDC NHSN</a> Additional resources: <a href="#">CDC</a>
Data source (s)	NHSN-conferring rights recommended
Data entry/transfer	NHSN – conferring rights to HRET HIIN group highly recommended If not possible to enter into NHSN, enter into CDS
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-VAE-1
AHA/HRET HEN 2.0	HEN2-VAE-1

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

For hospitals in an NHSN group, these data elements will be extracted from NHSN and uploaded to HRET. Hospitals that **do not report to NHSN**, or hospitals that have **NOT conferred rights to their NHSN data** must report the numerators and denominators following the [CDC specifications for VAE surveillance](#).

For more information on reducing VAC, please visit the HRET VAE topic page at <http://www.hret-hiin.org/topics/ventilator-associated-event.shtml>.

## Infection-Related Ventilator-Associated Complication (IVAC)

### Facilities that use ventilators

VAE: HIIN Evaluation Measure	
Infection-Related Ventilator-Associated Complication (IVAC)	
Measure type	Outcome
Numerator	Number of events that meet the criteria of infection-related ventilator-associated condition (IVAC); including those that meet the criteria for Possible/Probable VAP
Denominator	Number of ventilator days
Calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$
Specifications/definitions	<a href="#">CDC NHSN</a> Additional resources: <a href="#">CDC</a>
Data source (s)	NHSN-conferring rights recommended
Data entry/transfer	NHSN – conferring rights to HRET HIIN group highly recommended If not possible to enter into NHSN, enter into CDS
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-VAE-2
AHA/HRET HEN 2.0	HEN2-VAE-2

This measure utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

For hospitals in an NHSN group, these data elements will be extracted from NHSN and uploaded to HRET. Hospitals that **do not report to NHSN**, or hospitals that have **NOT conferred rights to their NHSN data** must report the numerators and denominators following the [CDC specifications for VAE surveillance](#).

For more information on reducing IVAC, please visit the HRET VAE topic page at <http://www.hret-hiin.org/topics/ventilator-associated-event.shtml>.

## Possible Ventilator Associated Pneumonia (PVAP)

### Facilities that use ventilators

VAE: HIIN Evaluation Measure	
Possible Ventilator Associated Pneumonia (PVAP)	
Measure type	Outcome
Numerator	Number of observed PVAPs
Denominator	Number of ventilator days
Rate calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 1,000$ ventilator days
Specifications/definitions	<a href="#">CDC NHSN</a>
Population	Adult, children, neonates
Data source (s)	NHSN-conferring rights recommended
Data entry/transfer	NHSN – conferring rights to HRET HIIN group highly recommended If not possible to enter into NHSN, enter into CDS
Baseline period	Preferred: Calendar year 2015 Alternate: Oldest 12, 9, 6, or 3 month consecutive period between January 2015 and September 2016 If measure not tracked prior to HIIN, report monthly as early as possible.
Monitoring period	Monthly, beginning October 1, 2016
Note	<b>This measure is not applicable for hospitals that do not submit data to NHSN</b>
HIIN CDS Measure ID(s)	HIIN-VAE-3
AHA/HRET HEN Measure ID	New measure

For more information on reducing PVAP, please visit the HRET VAE topic page at <http://www.hret-hiin.org/topics/ventilator-associated-event.shtml>.

## Harm Events Related to Patient Handling

Worker Safety: HIIN Evaluation Measure	
Number of worker harm events related to patient handling.	
Measure type	Outcome
Numerator	Number of worker harm events related to patient handling
Denominator	Number of full-time equivalents (FTEs)
Calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 100$
Specifications/definitions	<a href="#">Occupational Safety &amp; Health Administration Compliance Assistance Quick Start</a>  <a href="#">Occupational Safety &amp; Health Administration Recordkeeping</a>
Data source(s)	Hospital reporting on <a href="#">OSHA form 300</a>
Data entry/transfer	CDS
Baseline period	Preferred: Earliest three month period January 1, 2014 to September 30, 2016 Alternate: Alternate Q4 2016 <i>If measure not tracked prior to HIIN, report monthly as early as possible.</i>
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-WS-1b
AHA/HRET HEN 2.0	HEN2-WS-1b

For more information on reducing harms related to patient handling, please visit the HRET Culture of Safety topic page at <http://www.hret-hiin.org/topics/culture-of-safety.shtml>.

## Harm Events Related to Workplace Violence

Worker Safety: HIIN Evaluation Measure	
Number of worker harm events related to workplace violence	
Measure type	Outcome
Numerator	Number of associated harm events related to workplace violence
Denominator	Number of full-time equivalents (FTEs)
Calculation	$\left(\frac{\text{Numerator}}{\text{Denominator}}\right) \times 100$
Specifications/definitions	<a href="#">Occupational Safety &amp; Health Administration Compliance Assistance Quick Start</a> <a href="#">CDC NIOSH Workplace Violence Definition</a>
Data source(s)	<a href="#">Occupational Safety &amp; Health Administration Violence Incidence Report Form</a>
Data entry/transfer	CDS
Baseline period	Preferred: Calendar year 2014 Alternate: Oldest 12, 9, 6, or 3 month consecutive period prior to Oct 2016 <i>If measure not tracked prior to HIIN, report monthly as early as possible.</i>
Monitoring period	Monthly, beginning Oct 2016
HIIN CDS Measure ID(s)	HIIN-WS-1c
AHA/HRET HEN 2.0	HEN2-WS-1c

For more information on reducing harms related to workplace violence, please visit the HRET Culture of Safety topic page at <http://www.hret-hiin.org/topics/culture-of-safety.shtml>.