Hospital Improvement Innovation Network

Health Research & Educational Trust

Encyclopedia of Measures (EOM)

Program Core Evaluation Measures and Additional Required Measures
Version 1.5
Last updated: 11/30/2018
Summary of 11/30/2018 changes – Version 1.5

- ADDED MEASURES:
  - NEW Measure: PVAP (optional)

- 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 (HIIIN-VTE-1)
    - Corrected applicability verbiage

Summary of 10/17/2016 – Version 1.0

- Initial Release

Contents

Measure Applicability

All measures are applicable to a hospital if they provide that service

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

Measure Applicability, continued

Sepsis	
Postoperative Sepsis Rate	Hospitals that **perform inpatient surgery**
Hospital-Onset Sepsis Mortality Rate	Optional – Other Sepsis measures preferred
Overall Sepsis Mortality Rate	All hospitals
Surgical Site infections (SSI)	
SSI SIR – colon surgeries	Hospitals **performing colon surgeries** and **reporting to NHSN**
SSI SIR – abdominal hysterectomies	Hospitals **performing abdominal hysterectomies** and **reporting to NHSN**
SSI SIR – total knee replacement surgeries	Hospitals **total knee replacement surgeries** and **reporting to NHSN**
SSI SIR – total hip replacement surgeries	Hospitals **performing total hip replacement surgeries** and **reporting to NHSN**
SSI rate – colon surgeries	Hospitals **performing colon surgeries**
SSI rate – abdominal hysterectomies	Hospitals **performing abdominal hysterectomies**
SSI rate – total knee replacement surgeries	Hospitals **total knee replacement surgeries**
SSI rate – total hip replacement surgeries	Hospitals **performing total hip replacement surgeries**
Post-Operative Pulmonary Embolism or Deep Vein Thrombosis (VTE)	
Rate	Hospitals **that perform inpatient surgeries**
Ventilator-Associated Events (VAE)	
Ventilator Associated Condition (VAC) Rate	Hospitals **that use ventilators**
Infection-Related Ventilator-Associated Complication (IVAC)	Hospitals **that use ventilators**
Possible Ventilator-Associated Pneumonia (PVAP) [optional]	Hospitals **that use ventilators**
Culture of Safety: Worker Safety	
Worker harm events related to patient handling	All hospitals
Worker harm events related to workplace violence	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	$\left(\frac{Numerator}{Denominator}\right) x\ 100$
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 *If measure not tracked prior to HIIN, report monthly as early as possible beginning with October 2016.*
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[1]. 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.ihi.org/resources/Pages/Tools/TriggerToolforMeasuringAdverseDrugEvents.aspx

The Partnership for Patients has gathered many resources for ADE prevention and measurement. These resources are catalogued online at the following link:
http://partnershipforpatients.cms.gov/p4p_resources/tsp-adversedrugevents/tooladversedrugeventsade.html

[I] 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	$\left(\frac{Numerator}{Denominator}\right) x\ 100$
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 *If measure not tracked prior to HIIN, report monthly as early as possible beginning with October 2016.*
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[2]. 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.ihi.org/resources/Pages/Tools/TriggerToolforMeasuringAdverseDrugEvents.aspx

The Partnership for Patients has gathered many resources for ADE prevention and measurement. These resources are catalogued online at the following link:
http://partnershipforpatients.cms.gov/p4p_resources/tsp-adversedrugevents/tooladversedrugeventsade.html

[2] 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 Opioids Safety

ADE: HIIN Evaluation Measure	
Adverse Drug Events Opioids 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	$\left(\frac{Numerator}{Denominator}\right) x\ 100$
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 *If measure not tracked prior to HIIN, report monthly as early as possible beginning with October 2016.*
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[3]. 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 Partnership for Patients has gathered many resources for ADE prevention and measurement. These resources are catalogued online at the following link: http://partnershipforpatients.cms.gov/p4p_resources/tsp-adversedrugevents/tooladversedrugeventsade.html

[3] 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) • Measure 1a: CAUTI all units: ICUs (excluding NICUs) + Other Inpatient Units • Measure 1b: CAUTI ICU: ICUs excluding NICUs	
Measure type	Outcome
Numerator	Number of observed infections
Denominator	Number of predicted infections
SIR calculation	$\frac{Numerator}{Denominator}$
Specifications/definitions	CDC NHSN NQF: National Quality Forum (NQF) 0138 Additional resources: CDC
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	**NHSN calculates – No work needed if rights conferred** 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 measures 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: • Measure 2a: CAUTI all units: ICUs (excluding NICUs) + Other Inpatient Units • Measure 2b: CAUTI ICU: ICUs excluding NICUs	
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	$\left(\frac{Numerator}{Denominator}\right) x\ 1{,}000$
Specifications/definitions	CDC NHSN Additional resources: CDC
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 measures 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

Urinary Catheter Utilization Ratio

CAUTI: HIIN Evaluation Measure	
Urinary Catheter Utilization Ratio • Measure 3a: CAUTI all units: ICUs (excluding NICUs) + Other Inpatient Units • Measure 3b: CAUTI ICU: ICUs excluding NICUs	
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	$\left(\frac{Numerator}{Denominator}\right) x\ 100$
Specifications/definitions	CDC NHSN Additional resources: CDC
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 measures 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

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) • Measure 1: CLABSI all units: ICUs + Other Inpatient Units • Measure 2: CLABSI ICU: ICUs	
Measure type	Outcome
Numerator	Number of observed infections
Denominator	Number of predicted infections
SIR calculation	$\frac{Numerator}{Denominator}$
Specifications/definitions	CDC NHSN NQF information: NQF 0139 Additional resources: CDC
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	**NHSN calculates – No work needed if rights conferred** 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
Notes	This measure will only be collected for hospitals submitting data to NHSN and conferring rights to the HRET HIIN group, or a state group.
AHA/HRET HEN 2.0	HEN2-CLABSI-1a: All Inpatient Units HEN2-CLABSI-1b: All ICUs

This measures 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 • Measure 1: CLABSI all units: ICUs + Other Inpatient Units • Measure 2: CLABSI ICU: ICUs	
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	$\left(\frac{Numerator}{Denominator}\right) x1{,}000$
Specifications/definitions	CDC NHSN Additional resources: CDC
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 measures 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

Central Line Utilization Ratio

CLABSI: HIIN Evaluation Measure	
Central Line Utilization Ratio • Measure 1: CLABSI all units: ICUs + Other Inpatient Units • Measure 2: CLABSI ICU: ICUs	
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	$\left(\frac{Numerator}{Denominator}\right) x100$
Specifications/definitions	CDC NHSN Additional resources: CDC
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 measures 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

Clostridium *difficile* Standardized Infection Ratio (SIR)

***Clostridium difficile*: HIIN Evaluation Measure - NQF 1717**	
Clostridium *difficile* Standardized Infection Ratio (SIR) (C. *difficile*) (CDI)	
Measure type	Outcome
Numerator	Total number of observed hospital-onset *C. difficile* lab identified events among all inpatients facility-wide, excluding well-baby nurseries and NICUs
Denominator	Predicted cases of patients with *C. difficile*
SIR Calculation	$\frac{Numerator}{Denominator}$
Specifications/definitions	CDC NHSN
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	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 – enter in monthly
HIIN CDS Measure ID(s)	HIIN-CDI-1a
AHA/HRET HEN 2.0	HEN2-CDI-1a

This measures 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/nhsn/acute-care-hospital/cdiff-mrsa/index.html

National definition for levels of injury:
Minor: The fall resulted in application of a dressing, treating with ice, cleaning the wound, limb elevation, topical medication, or a bruise or abrasion.
Moderate: The fall resulted in suturing, application of Steri-Strips/skin glue, and splinting, or caused a muscle/joint strain.
Major: The fall resulted in surgery, casting, and/or traction, or it required consultation for neurological injury (such as basilar skull fracture or small subdural hematoma) or internal injury (such as rib fracture or small liver laceration), or receiving blood products (such as patients with coagulopathy).

Clostridium *difficile* Rate

***Clostridium difficile*: HIIN Evaluation Measure**	
Clostridium *difficile* Rate	
Measure type	Outcome
Numerator	Total number of observed hospital-onset *C. difficile* lab identified events among all inpatients facility-wide, excluding well-baby nurseries and NICUs
Denominator	Patient days (facility-wide)
Rate calculation	$\left(\frac{Numerator}{Denominator}\right) x\ 10{,}000$
Specifications/definitions	CDC NHSN
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 measures 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/nhsn/acute-care-hospital/cdiff-mrsa/index.html

Falls with Injury

Falls: HIIN Evaluation Measure (NQF 0202)	
All Documented Patient Falls with an Injury Level of Minor or Greater	
Measure type	Outcome
Numerator	Total number of patient falls of injury level minor or greater (whether or not assisted by a staff member) by eligible hospital unit during the measurement period[4]
Denominator	Patient days in eligible units during the measurement period[5]
Rate calculation	$\left(\frac{Numerator}{Denominator}\right) x\ 1{,}000$
Specifications/definitions	NQF 0202 definition
Data source	Administrative preferred Billing systems, medical records, surveillance systems
Data entry/transfer	Enter into CDS
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-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.

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

The Partnership for Patients has also gathered many resources for falls prevention and measurement. These resources are catalogued online at the following link: https://partnershipforpatients.cms.gov/p4p_resources/tsp-injuriesandfallsfromimmobility/toolinjuriesandfallsfromimmobility.html

[4] Extracted from NQF Quality Positioning System: http://www.qualityforum.org/QPS/0202

[5] 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)

http://www.qualityforum.org/QPS/0202 Measure History section

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	$\frac{Numerator}{Denominator}$
Specifications/definitions	CDC NHSN
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	**NHSN calculates – No work needed if rights conferred** 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 – enter in the data monthly
HIIN CDS Measure ID(s)	HIIN-MRSA-1
AHA/HRET HEN 2.0	Not Collected

This measures 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

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	$\left(\frac{Numerator}{Denominator}\right) x\ 1{,}000$
Specifications/definitions	CDC NHSN
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 measures 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

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) [6]
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 [7]
Calculation	$\left(\frac{Numerator}{Denominator}\right) x\ 1{,}000$
Specifications/definitions	AHRQ PSI 03
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-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

[6] Extracted from AHRQ: http://www.qualityindicators.ahrq.gov/Modules/PSI_TechSpec.aspx

[7] 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/CritAccessHospfctsht.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[8]
Denominator	All patients, 18 years of age or greater, surveyed for the measurement episode
Rate calculation	$\left(\frac{Numerator}{Denominator}\right) x100$
Specifications/definitions	NQF 0201
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 *If measure not tracked prior to HIIN, report monthly as early as possible.*
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

The Partnership for Patients has also gathered many resources for pressure ulcer prevention and measurement. These resources are catalogued online at the following link:
http://partnershipforpatients.cms.gov/p4p_resources/tsp-pressureulcers/toolpressureulcers.html

[8] 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	$\left(\frac{Numerator}{Denominator}\right) x100$
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 Quality Net. "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 *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-READ-1
AHA/HRET HEN 2.0	HEN2-READ-1

The Partnership for Patients has also gathered many resources for readmissions prevention and measurement. These resources are catalogued online at the following link: http://partnershipforpatients.cms.gov/p4p_resources/tsp-preventablereadmissions/toolpreventablereadmissions.html

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.

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	$\left(\frac{Numerator}{Denominator}\right) x100$
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 *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-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.

The Partnership for Patients has also gathered many resources for readmissions prevention and measurement. These resources are catalogued online at the following link: http://partnershipforpatients.cms.gov/p4p_resources/tsp-preventablereadmissions/toolpreventablereadmissions.html

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. These codes are listed here
Rate Calculation	$\left(\frac{Numerator}{Denominator}\right) x\ 1{,}000$
Specifications/definitions	AHRQ PSI 13
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

The Surviving Sepsis Campaign is a joint collaboration of the Society of Critical Care Medicine and the European Society of Intensive Care Medicine committed to reducing mortality from sepsis worldwide. The campaign provides guidelines, bundles, data collection and other resources: http://www.survivingsepsis.org/Pages/default.aspx

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[9]
Rate calculation	$\left(\frac{Numerator}{Denominator}\right) x\ 1{,}000$
Specifications/definitions	For specific diagnosis codes identifying severe sepsis / septic shock, refer to the numerator specifications for AHRQ PSI-13.
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

The Surviving Sepsis Campaign is a joint collaboration of the Society of Critical Care Medicine and the European Society of Intensive Care Medicine committed to reducing mortality from sepsis worldwide. The campaign provides guidelines, bundles, data collection and other resources: http://www.survivingsepsis.org/Pages/default.aspx.

The Society of Critical Care Medicine has many resources available for data collection related to the identification and management of sepsis and septic shock cases. These resources are available online at the following link: http://www.survivingsepsis.org/Data-Collection/Pages/default.aspx

[9] http://www.surgeryencyclopedia.com/Fi-La/Hospital-Acquired-Infections.html#ixzz4O1GlPiWy, 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[10]
Rate calculation	$\left(\frac{Numerator}{Denominator}\right) x\ 1{,}000$
Specifications/definitions	For specific diagnosis codes identifying severe sepsis / septic shock, refer to the numerator specifications for AHRQ PSI-13.
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

The Surviving Sepsis Campaign is a joint collaboration of the Society of Critical Care Medicine and the European Society of Intensive Care Medicine committed to reducing mortality from sepsis worldwide. The campaign provides guidelines, bundles, data collection and other resources: http://www.survivingsepsis.org/Pages/default.aspx.

The Society of Critical Care Medicine has many resources available for data collection related to the identification and management of sepsis and septic shock cases. These resources are available online at the following link: http://www.survivingsepsis.org/Data-Collection/Pages/default.aspx

[10] 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 • Measure 1a: Colon surgeries • Measure 1b: Abdominal hysterectomies • Measure 1c: Total knee replacements • Measure 1d: Total hip replacements	
Measure type	Outcome
Numerator	Number of observed infections
Denominator	Number of predicted infections
SIR calculation	$\frac{Numerator}{Denominator}$
Specifications/definitions	CDC NHSN Additional resources: CDC
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	**NHSN calculates – No work needed if rights conferred** 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 measures utilizes the CDC NHSN definition. Utilize the definition per NHSN specifications that apply at the discharge date of the patient.

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

http://partnershipforpatients.cms.gov/p4p_resources/tsp-surgicalsiteinfections/toolsurgicalsiteinfections.html

Surgical Site Infection (SSI) Rate

Facilities that perform inpatient surgeries

SSI: HIIN Evaluation Measure	
Surgical Site Infection (SSI) Rate – separately for each procedure • Measure 1a: Colon surgeries • Measure 1b: Abdominal hysterectomies • Measure 1c: Total knee replacements • Measure 1d: Total hip replacements	
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	$\left(\frac{Numerator}{Denominator}\right) x\ 100$
Specifications/definitions	CDC NHSN Additional resources: CDC
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 measures 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.

The Partnership for Patients has also gathered many resources for SSI prevention and measurement. These resources are catalogued online at the following link:
http://partnershipforpatients.cms.gov/p4p_resources/tsp-surgicalsiteinfections/toolsurgicalsiteinfections.html

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	$\left(\frac{Numerator}{Denominator}\right) x\ 1{,}000$
Specifications/definitions	AHRQ PSI 12
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

The Partnership for Patients has also gathered many resources for venous thromboembolism (VTE) prevention and measurement. These resources are catalogued online at the following link: http://partnershipforpatients.cms.gov/p4p_resources/tsp-venusthromboembolism/toolvenousthromboembolismvte.html

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 (VAP)
Denominator	Number of ventilator days
Calculation	$\left(\frac{Numerator}{Denominator}\right) x\ 1{,}000$
Specifications/definitions	CDC NHSN Additional resources: CDC
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 measures 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.

The Partnership for Patients has also gathered many resources for VAE prevention and measurement. These resources are catalogued online at the following link: http://partnershipforpatients.cms.gov/p4p_resources/tsp-ventilator-associatedpneumonia/toolventilator-associatedpneumoniavap.html

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	$\left(\frac{Numerator}{Denominator}\right) x\ 1{,}000$
Specifications/definitions	CDC NHSN Additional resources: CDC
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 measures 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.

The Partnership for Patients has also gathered many resources for VAE prevention and measurement. These resources are catalogued online at the following link: http://partnershipforpatients.cms.gov/p4p_resources/tsp-ventilator-associatedpneumonia/toolventilator-associatedpneumoniavap.html

Possible Ventilator Associated Pneumonia (PVAP)
(optional measure)

PVAP: HIIN Evaluation Measure	
Possible Ventilator Association Pneumonia (PVAP)	
Measure type	Outcome
Numerator	Number of observed PVAPs
Denominator	Number of ventilator days
Rate calculation	$\frac{Numerator}{Denominator}$ X 1,000 ventilator days
Specifications/definitions	CDC NHSN
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	To be determined
Monitoring period	Monthly, beginning February 2019
HIIN CDS Measure ID(s)	HIIN-VAE-3
AHA/HRET HEN Measure ID	New measure – will be collected during the option year

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	$\left(\frac{Numerator}{Denominator}\right) x\ 100$
Specifications/definitions	Occupational Safety & Health Administration
Data source(s)	Hospital reporting on OSHA form 300
Data entry/transfer	CDS
Baseline period	Preferred: Earliest three month period January 1, 2014 to September 30, 2016 Alternate: Alternate Q4 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-WS-1b
AHA/HRET HEN 2.0	HEN2-WS-1b

The Occupational Safety & Health Administration (OSHA) provides a range of resources to improve safety in the hospital, as well as the case for improvement in worker safety in the hospital. Some of these resources are available online at the following links:
https://www.osha.gov/dsg/hospitals/index.html
https://www.osha.gov/dsg/hospitals/documents/1.2_Factbook_508.pdf

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	$\left(\frac{Numerator}{Denominator}\right) x\ 100$
Specifications/definitions	Occupational Safety & Health Administration
Data source(s)	OSHA Violence Incidence Report Form
Data entry/transfer	CDS
Baseline period	Preferred: Calendar year 2014 Alternate: Oldest 12, 9, 6, or 3 month consecutive period prior to Oct 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-WS-1c
AHA/HRET HEN 2.0	HEN2-WS-1c

The Occupational Safety & Health Administration and The Centers for Disease Control and Prevention (CDC)/the National Institute for Occupational Safety and Health (NIOSH) provide general resources about workplace violence and violence in hospitals:
https://www.osha.gov/SLTC/workplaceviolence/
https://www.osha.gov/dte/library/wp-violence/healthcare/
http://www.cdc.gov/niosh/docs/2002-101/
http://www.cdc.gov/niosh/docs/2006-144/pdfs/2006-144.pdf