COMPASS | HOSPITAL QUALITY IMPROVEMENT CONTRACTOR

IHC | Kansas Healthcare | MHA HEALTH RESEARCH AND EDUCATIONAL FOUNDATION, INC. | SDAHO HRET

## Compass HQIC

# Metrics + Measurement Toolkit

Version 1.0, April 2021

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# I. Version History

| Date | Version Number | Update History |
|---|---|---|
| April 2021 | V1.0 | + Initial release |

# II. Background

The Hospital Quality Improvement Contractor (HQIC) program supports both the Department of Health and Human Services (HHS) and the Centers for Medicare and Medicaid Services (CMS) in their strategic efforts to improve the effectiveness, efficiency and quality of services delivered to Medicare beneficiaries. HQICs will facilitate healthcare transformation through the identification, use and spread of evidence-based practice through the systematic use of quality improvement science. An agile and responsive approach to improvement will allow hospitals and stakeholders to respond to emerging patient safety issues and rapidly evolve to meet new priorities including population-based data that indicate the need for action and all-cause patient harm that is specific to a particular facility or area of the country.

The HQIC program is designed to support Rural, Critical Access Hospitals and hospitals that are low performing and serve vulnerable populations in achieving measurable outcomes under the rubrics of patient safety, addressing the opioid epidemic and care transitions. HQICs may also provide support to hospitals during public health emergencies and other crises as they arise.

Compass HQIC will facilitate healthcare transformation through the identification, use and spread of evidence-based practice through the systematic use of quality improvement science. As an organization that brings the benefit of a history of strong connectedness to hospital organizations, Compass will support hospitals in committing to challenging goals and remaining in on-going action to adapt and test practices in support of achieving those goals.

- Goal 1: Improve Behavioral Health Outcomes with a focus on decreased opioid misuse
- Goal 2: Increase Patient Safety with a focus on reduction of harm
- Goal 3: Increase the Quality of Care Transitions with a focus on high utilizers in an effort to improve overall utilization

The Compass HQIC Metrics and Measurement Toolkit will provide an overview of program measures, specifications and essential tools to aid hospitals in getting started in measurement and improvement efforts. A comprehensive electronic resource library can be found at: **https://www.ihconline.org/icompass/dashboard/post-list?category=hospital#page=0&posttype=resource**.

# III. Compass Measure Set

## A. Iowa, South Dakota, Mississippi

| Requirement Type | Key |
|---|---|
| **Required**, self-reported | **R**S |
| **Required**, comes from other data sources | **R**O |
| **Optional**, self-reported | **O**S |

| Measure Type | Key |
|---|---|
| Outcome | O |
| Process | P |

| Data Sources | Key |
|---|---|
| Self-Reported | * |
| Administrative Claims | ** |
| NHSN | *** |

| Focus Area | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for IA/SD/MS |
|---|---|---|---|---|---|
| **Adverse Drug Events** *For adults age 18+.* | | | | | |
| *ADE Overall* | | | | | |
| **R**S | **Adverse Drug Event Rate** | O | Number of Acute Care, SNF, Swing Bed and Observation adverse drug events that reach the patient (NCC MERP Scale categories D-I) | Number of Acute Care, SNF, Swing Bed and Observation patient days | * |
| *Opioid Safety* | | | | | |
| **R**O | **Opioid Mortality** | O | Number of opioid-related deaths (include opioid toxicity in a primary or secondary diagnosis) | Number of discharges for Acute Care patients, ≥ 18 y/o | ** |
| **R**O | **Opioid-Related Adverse Drug Event Rate** | O | Number of patients with non-POA secondary ICD10 code(s) for opioid-related adverse drug event | Number of discharges for Acute Care patients, ≥ 18 y/o | ** |
| **O**S | **Stat Naloxone Administration – Emergency Department** | O | Number of doses of a reversal agent (e.g., Naloxone) administered to a patient in the Emergency Department | Number of Emergency Department visits | * |
| **O**S | **Stat Naloxone Administration – Inpatient** | O | Number of doses of a reversal agent (e.g., Naloxone) administered to Acute Care, SNF, Swing Bed and Observation patients | Number of Acute Care, SNF, Swing Bed and Observation patients prescribed opioids | * |
| **R**S | **High-Dose Opioid Prescribing Upon Discharge** | P | Number of patients discharged with an opioid prescription with >90 MME daily, excluding cancer and hospice patients | Number of Acute Care, SNF, Swing Bed and Observation patients discharged with an opioid prescription | * |
| *Glycemic Management* | | | | | |
| **R**S | **Blood Glucose Less Than 50** | O | Number of blood glucose measurements (per lab reports, FSBG, EMR, Charge Data, etc.) for Acute Care, SNF, Swing Bed and Observation patients where blood glucose < 50 | Number of blood glucose measurements (per lab reports, FSBG, EMR, Charge Data, etc.) for Acute Care, Skilled Nursing Care, Swing Bed and Observation patients | * |

| Focus Area | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for IA/SD/MS |
|---|---|---|---|---|---|
| *Anticoagulation Safety* | | | | | |
| **R**S | **INRs Greater Than 5** | O | Number of lab measurements for Acute Care, SNF, Swing Bed and Observation patients on Warfarin where documented INR > 5 | Number of INR lab measurements for Acute Care, SNF, Swing Bed and Observation patients on Warfarin | * |
| **Antibiotic Stewardship** | | | | | |
| **R**O | **Carbapenem-resistant Enterobacteriaceae (CRE) Prevalence** | O | Number of LabID CRE events | Number of Acute Care Inpatient days | *** |
| **R**O | **Standardized Antimicrobial Administration Ratio (SAAR)** | O | Number of observed days of antimicrobial therapy reported by a healthcare facility for a specified category of antimicrobial agents used in a patient care location or group of locations<br><br>*Only applicable for hospitals with an appropriate interface | Number of days of antimicrobial therapy predicted for a healthcare facility's use of a specified category of antimicrobial agents in a patient care location or group of locations, calculated by applying negative binomial regression modeling to nationally aggregated AU data | *** |
| **O**S | **Core Elements** | P | Number of core elements met by the hospital as documented in the NHSN annual facility survey | Total number of core elements (7) | * |
| **O**S | **Antimicrobial Days of Therapy (DOT)** | O | Aggregate sum of antimicrobial days for which any amount of a specific antimicrobial agent was administered to individual patients as documented in the patient record for Acute, SNF, Swing Beds and OB inpatient days | Days present defined as the aggregate number of patients housed in a patient care location or facility anytime throughout a day during a calendar month | * |
| ***Clostridioides difficile*** | | | | | |
| **R**O | **ACS-CDC-CDIFF SIR** | O | Observed number of *C. difficile* infections based on NHSN aggregate data | Expected number of *C. difficile* infections based on NHSN aggregate data | *** |
| **R**O | **Healthcare Facility-Onset *Clostridioides difficile* Infection Rate** | O | Total number of observed hospital-onset *C. difficile* lab-identified events among all inpatients facility-wide, excluding well-baby nurseries and NICUs | Patient days facility wide | *** |
| **R**O | ***Clostridioides difficile* Prevalence** | O | Number of *C. difficile* Lab ID events | Number of Acute Care inpatient admissions | *** |
| **R**S | **Hand Hygiene Compliance** | P | Number of observations where proper handwashing technique was applied | Number of handwashing observations | * |

| Focus Area | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for IA/SD/MS |
|---|---|---|---|---|---|
| **Catheter-Associated Urinary Tract Infection** | | | | | |
| **R**O | **NHSN CAUTI SIR - ICU Units excluding NICU (NQF 0138)** | O | Observed number of CAUTI infections for ICUs excluding NICU based on NHSN aggregate data | Expected number of CAUTI infections for ICUs excluding NICU based on NHSN aggregate data | *** |
| **R**O | **NHSN CAUTI SIR - ICU Units + Other Units (NQF 0138)** | O | Observed number of CAUTI infections for ICUs plus other units based on NHSN aggregate data | Expected number of CAUTI infections for ICUs plus other units based on NHSN aggregate data | *** |
| **R**O | **Catheter-Associated Urinary Tract Infection Rate** | O | Number of hospital-acquired urinary tract infections | Number of Acute Care urinary catheter days | *** |
| **R**O | **Catheter Utilization Ratio - ICU** | P | Number of ICU inpatient days with urinary catheter in place | Number of ICU inpatient days | *** |
| **R**O | **Catheter Utilization Ratio - All Units** | P | Number of Acute Care, SNF and Swing Bed inpatient days with urinary catheter in place | Number of Acute Care, SNF and Swing Bed inpatient days | *** |
| **R**O | **Emergency Department Catheter Utilization** | P | Number of coded Emergency Department indwelling urinary catheter placements in the Emergency Department | Number of Emergency Department visits | ** |
| **O**S | **Unnecessary Urinary Catheters** | P | Number of Acute Care, SNF and Swing Bed inpatients with new indwelling urinary catheters inserted without appropriate indication | Number of Acute Care, SNF and Swing Bed inpatients with new indwelling urinary catheter insertions | * |
| **Central Line-Associated Blood Stream Infection** *Focus area optional depending on hospital services.* | | | | | |
| **R**O | **NHSN CLABSI SIR - ICU Units including NICU (NQF 0139)** | O | Observed number of CLABSI infections for ICUs including NICU based on NHSN aggregate data | Expected number of CLABSI infections for ICUs including NICU based on NHSN aggregate data | *** |
| **R**O | **NHSN CLABSI SIR - ICU Units + Other Units (NQF 0139)** | O | Observed number of CLABSI infections for ICUs plus other units based on NHSN aggregate data | Expected number of CLABSI infections for ICUs plus other units based on NHSN aggregate data | *** |
| **R**O | **Central Line-Associated Blood Stream Infection (CLABSI) Rate** | O | Number of hospital-acquired, central line-associated bloodstream infections | Number of Acute Care central line catheter days | *** |
| **R**O | **CLABSI Utilization Ratio - ICU** | P | Number of ICU central line days | Number of ICU inpatient days | *** |
| **R**O | **CLABSI Utilization Ratio - All Units** | P | Number of central line days | Number of Acute Care, SNF and Swing Bed inpatient days | *** |

| Focus Area | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for IA/SD/MS |
|---|---|---|---|---|---|
| **Patient and Family Engagement** | | | | | |
| **R**S | **Patient and Family Engagement** | | 1. Implementation of a planning checklist for patients known to have a planned admission to the hospital (e.g., for elective surgery)<br>2. Implementation of a discharge planning checklist<br>3. Conducting shift change huddles and bedside reporting with patients and families<br>4. Designation of an accountable leader in the hospital who is responsible for Patient and Family Engagement (PFE)<br>5. Hospitals having an active PFE or other committees where patients are represented and report to the Board | | |
| **Pressure Ulcer** | | | | | |
| **R**O | **Pressure Ulcer Rate, Stage 3+ (AHRQ PSI-03)** | O | Number of patients with non-POA secondary ICD10 code(s) for pressure ulcer AND secondary ICD10 diagnosis code(s) for Stage III, Stage IV or unstageable pressure ulcer | Number of discharges for Acute Care, Skilled Nursing and Swing Bed patients | ** |
| **R**O | **Acute Inpatients with a Hospital-Acquired Pressure Ulcer Stage II** | O | Hospitalized patients with a Secondary ICD-10 diagnosis code of a Stage II pressure ulcer and a POA indicator value of 'N' or 'U' | Acute care inpatients ≥ 18 years old discharged | ** |
| **R**S | **Risk Assessment within 24 hours** | P | Number of inpatients with completed and documented pressure injury risk assessment within 24 hours of admission | Total number of patient admissions | * |
| **O**S | **Skin Assessment within 24 hours** | P | Number of patients with a complete and documented skin assessment within 24 hours of admission | Total number of patient admissions | * |
| **Readmissions** | | | | | |
| **R**S | **Post-Hospital Follow Up Appointment** | P | Number of Acute Care, SNF and Swing Bed inpatient discharges with follow-up appointment scheduled before discharge in accordance with risk assessment | Number of discharges for Acute Care, Skilled Nursing Care and Swing Bed inpatient discharges | * |
| **R**O | **Unplanned All-Cause, 30-Day Readmissions Any Hospital** | O | Number of Acute Care inpatient discharges that meet criteria inclusion as a readmission to any hospital using unplanned, 30-day, all-cause, all-payer methodology | Number of Acute Care inpatient discharges meeting eligibility for inclusion as an index admission | ** |
| **R**O | **Unplanned All-Cause, 30-Day Readmissions Same Hospital** | O | Number of Acute Care inpatient discharges that meet criteria inclusion as a readmission to the same hospital using unplanned, 30-day, all-cause, all-payer methodology | Number of Acute Care inpatient discharges meeting eligibility for inclusion as an index admission | ** |

| Focus Area | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for IA/SD/MS |
|---|---|---|---|---|---|
| **Severe Sepsis and Septic Shock** | | | | | |
| **R**S | **Severe Sepsis and Septic Shock 3-Hour Management Bundle Compliance (NQF 0500)** | P | Number of patients in the denominator population who receive all elements of the 3-hour Severe Sepsis and Septic Shock Management Bundle | Number of patients presenting with severe shock or septic shock (exclude patients comfort care only, where central line cannot be placed or is contraindicated, or where clinical condition precludes total measure completion) | * |
| **R**O | **Postoperative Sepsis Rate (AHRQ PSI 13)** | O | Number of Acute Care elective surgical inpatient discharges with any secondary ICD-10 diagnosis code for sepsis | Number of Acute Care elective surgical inpatient discharges with any listed ICD-10 procedure code for an operating room procedure and admission type recorded as elective | ** |
| **R**O | **Sepsis Mortality** | O | Number of deaths in patients diagnosed with Sepsis or Septic Shock | Patients with diagnosis of Sepsis or Septic Shock | ** |

| Additional Areas of Focus | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for IA/ SD/MS |
|---|---|---|---|---|---|
| **Surgical Site Infection** *Focus area optional depending on hospital services.* | | | | | |
| **R**O | **CDC Harmonized Procedure-Specific SSI SIR - Colon Surgeries (NQF 0753)** | O | Observed number of Colon SSI infections based on NHSN aggregate data | Expected number of Colon SSI infections based on NHSN aggregate data | *** |
| **R**O | **CDC Harmonized Procedure-Specific SSI SIR - Abdominal Hysterectomies (NQF 0753)** | O | Observed number of Abdominal Hysterectomy SSI infections based on NHSN aggregate data | Expected number of Abdominal Hysterectomy SSI infections based on NHSN aggregate data | *** |
| **R**O | **CDC Harmonized Procedure-Specific SSI SIR - Total Hip Replacements (NQF 0753)** | O | Observed number of Total Hip SSI infections based on NHSN aggregate data | Expected number of Total Hip SSI infections based on NHSN aggregate data | *** |
| **R**O | **CDC Harmonized Procedure-Specific SSI SIR - Total Knee Replacements (NQF 0753)** | O | Observed number of Total Knee SSI infections based on NHSN aggregate data | Expected number of Total Knee SSI infections based on NHSN aggregate data | *** |
| **R**O | **Colon Surgical Site Infection Rate** | O | Number of hospital-acquired colon surgical site infections | Number colon surgical episodes | *** |
| **R**O | **Abdominal Hysterectomy Surgical Site Infection Rate** | O | Number of hospital-acquired abdominal hysterectomy surgical site infections | Number abdominal hysterectomy surgical episodes | *** |

| Additional Areas of Focus | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for IA/ SD/MS |
|---|---|---|---|---|---|
| **R**O | **Hip Replacement Surgical Site Infection Rate** | O | Number of hospital-acquired hip replacement surgical site infections | Number hip replacement surgical episodes | *** |
| **R**O | **Knee Replacement Surgical Site Infection Rate** | O | Number of hospital-acquired knee replacement surgical site infections | Number knee replacement surgical episodes | *** |
| **O**S | **Surgical Safety Checklist Compliance** | P | Number of surgical inpatient procedures in which the surgical safety checklist was used | Number of surgical inpatient operating procedures | * |
| **Venous Thromboembolism** | | | | | |
| **R**O | **Post-Operative Pulmonary Embolism (PE) or Deep Venous Thrombosis (DVT) Rate (AHRQ PSI-12) (NQF 0450)** | O | Number of Acute Care surgical inpatients with secondary ICD-10 code(s) for DVT or PE that were not present on admission | Number of Acute Care surgical inpatient discharges | ** |
| **O**S | **VTE Appropriate Prophylaxis** | P | Number of Acute Care, SNF, Swing Bed and Observation patients who received appropriate VTE prophylaxis or have documentation why no VTE prophylaxis was given | Number of patients admitted to Acute Care, Skilled Nursing Care or Swing Bed with stays of > 48 hours | * |
| **Falls** | | | | | |
| **R**S | **Falls with Injury** | O | Total number of patient falls with an injury level of minor or greater (whether or not assisted by a staff member) (Specifications: NQF 0202) | Patient days by eligible units during the measurement period | * |
| **R**O | **Fall Rate Resulting in Fracture or Dislocation (CMS HAC)** | O | Number of Acute Care inpatient discharges with ICD-10 fracture or dislocation code(s) not present on admission | Number of Acute Care discharges | ** |
| **O**S | **Falls with or without injury** | O | Number of patient falls (Specifications: NQF 0141) | Patient days by eligible units during the measurement period | * |
| **O**S | **Fall Risk Assessment on Admission** | P | Number of Acute Care, SNF, Swing Bed and Observation patients assessed for fall risk on admission | Number of admitted Acute Care, Skilled Nursing Care, Swing Bed and Observation patients | * |
| **Obstetrical Adverse Events** *Focus area optional depending on hospital services* | | | | | |
| **R**O | **Obstetric Trauma Rate - Vaginal Delivery without Instrument (AHRQ PSI 19)** | O | Number of vaginally-delivered, non-instrument-assisted Moms with ICD-10 code(s) for 3rd or 4th degree obstetric trauma | Number of vaginal deliveries without ICD-10 procedure code(s) for non-instrument-assisted delivery | ** |

| Additional Areas of Focus | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for IA/ SD/MS |
|---|---|---|---|---|---|
| **R**O | **Primary Cesarean Delivery Rate, Uncomplicated (IQI 33)** | O | Number of maternal inpatients with either MS-DRG code for Cesarean delivery or any-listed ICD-10 procedure code(s) for Cesarean delivery without any listed ICD-10 procedure code(s) for hysterotomy | Number of deliveries | ** |
| **R**O | **Birth Trauma Rate - Injury to Neonate (AHRQ PSI 17)** | O | Number of Newborns with ICD-10 code(s) for birth trauma | Number of newborns | ** |
| **R**O | **Obstetric Trauma Rate - Vaginal Delivery with Instrument** | O | Number of vaginally-delivered, instrument-assisted Moms with ICD-10 code(s) for 3rd or 4th degree obstetric trauma | Number of vaginal deliveries with ICD-10 procedure code(s) for instrument-assisted delivery | ** |
| **O**S | **Early Elective Delivery** | O | Number of elective maternal deliveries between 37-39 weeks gestation with no medical indication | All deliveries between 37-39 weeks gestation | * |
| **Ventilator-Associated Events** *Focus area optional depending on hospital services* | | | | | |
| **R**O | **Ventilator-Associated Conditions (VAC)** | O | Number of events that meet VAC criteria | Number of ventilator days | *** |
| **R**O | **Infection-Related Ventilator-Associated Complication (IVAC)** | O | Number of events that meet IVAC criteria | Number of ventilator days | *** |
| **R**O | **Possible/Probable Ventilator-Associated Pneumonia** | O | Number of events that meet possible/probable Ventilator-Associated Pneumonia criteria | Number of ventilator days | *** |
| **O**S | **Ventilator Bundle Compliance** | P | Number of ICU patients on mechanical ventilation with full ventilator-associated prevention bundle compliance | Number of ICU patients on mechanical ventilation on day of week sample | * |

# B. Kansas

| Requirement Type | Key |
|---|---|
| **Required**, self-reported | **R**S |
| **Required**, comes from other data sources | **R**O |
| **Optional**, self-reported | **O**S |

| Measure Type | Key |
|---|---|
| Outcome | O |
| Process | P |

| Data Sources | Key |
|---|---|
| Self-Reported | * |
| Administrative Claims | ** |
| NHSN | *** |

| Focus Area | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for KS |
|---|---|---|---|---|---|
| **Adverse Drug Events** | | | | | |
| *ADE Overall* | | | | | |
| **R**S | **Adverse Drug Event Rate** | O | Number of Acute Care, SNF, Swing Bed and Observation adverse drug events that reach the patient (NCC MERP Scale categories D-I) | Number of Acute Care, SNF, Swing Bed and Observation patient days | * |
| *Opioid Safety* | | | | | |
| **R**O | **Opioid Mortality** | O | Number of opioid-related deaths (include opioid toxicity in a primary or secondary diagnosis) | Number of Acute Care, SNF and Swing Bed inpatient days | ** |
| **R**O | **Opioid-Related Adverse Drug Event Rate** | O | Number of patients with non-POA secondary ICD10 code(s) for opioid-related adverse drug event | Number of discharges for Acute Care patients, ≥ 18 y/o | ** |
| **O**S | **Stat Naloxone Administration – Emergency Department** | O | Number of doses a reversal agent (e.g., Naloxone) is administered to a patient in the Emergency Department | Number of Emergency Department visits | * |
| **O**S | **Stat Naloxone Administration – Inpatient** | O | Number of doses of a reversal agent (e.g., Naloxone) administered to Acute Care, SNF, Swing Bed and Observation patients | Number of Acute Care, SNF, Swing Bed and Observation patients prescribed opioids | * |
| **O**S | **High-Dose Opioid Prescribing Upon Discharge** | P | Number of patients discharged with an opioid prescription with >90 MME daily | Number of Acute Care, SNF, Swing Bed and Observation patients discharged with an opioid prescription | * |
| *Glycemic Management* | | | | | |
| **R**S | **Blood Glucose Less Than 50** | O | Number of blood glucose measurements (per lab reports, FSBG, EMR, Charge Data, etc.) for Acute Care, SNF, Swing Bed and Observation patients where blood glucose < 50 | Number of blood glucose measurements (per lab reports, FSBG, EMR, Charge Data, etc.) for Acute Care, Skilled Nursing Care, Swing Bed and Observation patients | * |
| *Anticoagulation Safety* | | | | | |

| Focus Area | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for KS |
|---|---|---|---|---|---|
| **R**S | **INRs Greater Than 5** | O | Number of lab measurements for Acute Care, SNF, Swing Bed and Observation patients on Warfarin where documented INR > 5 | Number of INR lab measurements for Acute Care, SNF, Swing Bed and Observation patients on Warfarin | * |
| **Antibiotic Stewardship** | | | | | |
| **R**O | **Carbapenem-resistant Enterobacteriaceae (CRE) Prevalence** | O | Number of LabID CRE events | Number of Acute Care Inpatient days | *** |
| **R**O | **Standardized Antimicrobial Administration Ratio (SAAR)** | O | Number of observed days of antimicrobial therapy reported by a healthcare facility for a specified category of antimicrobial agents used in a patient care location or group of locations | Number of days of antimicrobial therapy predicted for a healthcare facility's use of a specified category of antimicrobial agents in a patient care location or group of locations, calculated by applying negative binomial regression modeling to nationally aggregated AU data | *** |
| **O**S | **Core Elements** | P | Number of core elements met by the hospital as documented in the annual survey | Total number of core elements (7) | * |
| **O**S | **Antimicrobial Days of Therapy (DOT)** | O | Aggregate sum of antimicrobial days for which any amount of a specific antimicrobial agent was administered to individual patients as documented in the patient record for Acute, SNF, Swing Beds and OB inpatient days | Days present defined as the aggregate number of patients housed in a patient care location or facility anytime throughout a day during a calendar month | * |
| ***Clostrioides Difficile*** | | | | | |
| **R**O | **ACS-CDC-CDIFF SIR** | O | Observed number of *C. difficile* infections based on NHSN aggregate data | Expected number of *C. difficile* infections based on NHSN aggregate data | *** |
| **R**O | **Healthcare Facility-Onset *Clostridioides difficile* Infection Rate** | O | Total number of observed hospital-onset *C. difficile* lab-identified events among all inpatients facility-wide, excluding well-baby nurseries and NICUs | Patient days facility wide | *** |
| **R**O | ***Clostridioides difficile* Prevalence** | O | Number of *C. difficile* Lab ID events | Number of Acute Care inpatient admissions | *** |
| **R**S | **Hand Hygiene Compliance** | P | Number of observations where proper handwashing technique was applied | Number of handwashing observations | * |
| **Catheter-Associated Urinary Tract Infection** | | | | | |

| Focus Area | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for KS |
|---|---|---|---|---|---|
| **R**O | **NHSN CAUTI SIR - ICU Units excluding NICU (NQF 0138)** | O | Observed number of CAUTI infections for ICUs excluding NICU based on NHSN aggregate data | Expected number of CAUTI infections for ICUs excluding NICU based on NHSN aggregate data | *** |
| **R**O | **NHSN CAUTI SIR - ICU Units + Other Units, (NQF 0138)** | O | Observed number of CAUTI infections for ICUs plus other units based on NHSN aggregate data | Expected number of CAUTI infections for ICUs plus other units based on NHSN aggregate data | *** |
| **R**O | **Catheter-Associated Urinary Tract Infection Rate** | O | Number of hospital-acquired urinary tract infections | Number of Acute Care urinary catheter days | *** |
| **R**O | **Catheter Utilization Ratio - ICU** | P | Number of ICU inpatient days with urinary catheter in place | Number of ICU inpatient days | *** |
| **R**O | **Catheter Utilization Ratio - All Units** | P | Number of Acute Care, SNF and Swing Bed inpatient days with urinary catheter in place | Number of Acute Care, SNF and Swing Bed inpatient days | *** |
| **O**S | **Unnecessary Catheter Utilization** | P | Number of Acute Care, SNF and Swing Bed inpatients with new indwelling urinary catheters inserted without appropriate indication | Number of Acute Care, SNF and Swing Bed inpatients with new indwelling urinary catheter insertions | * |
| **Central Line-Associated Blood Stream Infection** *Focus area optional depending on hospital services.* | | | | | |
| **R**O | **NHSN CLABSI SIR - ICU Units including NICU (NQF 0139)** | O | Observed number of CLABSI infections for ICUs including NICU based on NHSN aggregate data | Expected number of CLABSI infections for ICUs including NICU based on NHSN aggregate data | *** |
| **R**O | **NHSN CLABSI SIR - ICU Units + Other Units (NQF 0139)** | O | Observed number of CLABSI infections for ICUs plus other units based on NHSN aggregate data | Expected number of CLABSI infections for ICUs plus other units based on NHSN aggregate data | *** |
| **R**O | **Central Line-Associated Blood Stream Infection (CLABSI) Rate** | O | Number of hospital-acquired, central line-associated bloodstream infections | Number of Acute Care central line catheter days | *** |
| **R**O | **CLABSI Utilization Ratio - ICU** | P | Number of ICU central line days | Number of ICU inpatient days | *** |
| **R**O | **CLABSI Utilization Ratio - All Units** | P | Number of central line days | Number of Acute Care, SNF and Swing Bed inpatient days | *** |
| **Patient and Family Engagement** | | | | | |
| **R**S | **Patient and Family Engagement** | | 1. Implementation of a planning checklist for patients known to have a planned admission to the hospital (e.g., for elective surgery)<br>2. Implementation of a discharge planning checklist<br>3. Conducting shift change huddles and bedside reporting with patients and families<br>4. Designation of an accountable leader in the hospital who is responsible for Patient and Family Engagement (PFE)<br>5. Hospitals having an active PFE or other committees where patients are represented and report to the Board | | |

| Focus Area | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for KS |
|---|---|---|---|---|---|
| **Pressure Ulcer** | | | | | |
| **R**O | **Pressure Ulcer Rate, Stage 3+ (AHRQ PSI-03)** | O | Number of patients with non-POA secondary ICD10 code(s) for pressure ulcer AND secondary ICD10 diagnosis code(s) for Stage III, Stage IV or unstageable pressure ulcer | Number of discharges for Acute Care, Skilled Nursing and Swing Bed patients | ** |
| **R**O | **Acute Inpatients with a Hospital-Acquired Pressure Ulcer Stage II** | O | Hospitalized patients with a Secondary ICD-10 diagnosis code of a Stage II pressure ulcer and a POA indicator value of 'N' or 'U' | Acute care inpatients ≥ 18 years old discharged | ** |
| **R**S | **Risk Assessment within 24 hours** | P | Number of inpatients with completed and documented pressure injury risk assessment within 24 hours of admission | Total number of patient admissions | * |
| **O**S | **Skin Assessment within 24 hours** | P | Number of patients with a complete and documented skin assessment within 24 hours of admission | Total number of patient admissions | * |
| **Readmissions** | | | | | |
| **R**S | **Post-Hospital Follow Up Appointment** | P | Number of Acute Care, SNF and Swing Bed inpatient discharges with follow-up appointment scheduled before discharge in accordance with risk assessment | Number of discharges for Acute Care, Skilled Nursing Care and Swing Bed inpatient discharges | * |
| **R**S | **Unplanned All-Cause, 30-Day Readmissions Same Hospital** | O | Number of Acute Care inpatient discharges that meet criteria inclusion as a readmission to the same hospital using unplanned, 30-day, all-cause, all-payer methodology | Number of Acute Care inpatient discharges meeting eligibility for inclusion as an index admission | * |
| **Severe Sepsis and Septic Shock** | | | | | |
| **R**S | **Severe Sepsis and Septic Shock 3-Hour Management Bundle Compliance (NQF 0500)** | P | Number of patients in the denominator population who receive all elements of the 3-hour Severe Sepsis and Septic Shock Management Bundle | Number of patients presenting with severe shock or septic shock (exclude patients comfort care only, where central line cannot be placed or is contraindicated, or where clinical condition precludes total measure completion) | * |

| Focus Area | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for KS |
|---|---|---|---|---|---|
| **R**O | **Postoperative Sepsis Rate (AHRQ PSI 13)** | O | Number of Acute Care elective surgical inpatient discharges with any secondary ICD-10 diagnosis code for sepsis | Number of Acute Care elective surgical inpatient discharges with any listed ICD-10 procedure code for an operating room procedure and admission type recorded as elective | ** |
| **R**O | **Sepsis Mortality** | O | Number of deaths in patients diagnosed with Sepsis or Septic Shock | Patients with diagnosis of Sepsis or Septic Shock | ** |

| Additional Areas of Focus | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for KS |
|---|---|---|---|---|---|
| **Surgical Site Infection** *Focus area optional depending on hospital services.* | | | | | |
| **R**O | **CDC Harmonized Procedure-Specific SSI SIR - Colon Surgeries (NQF 0753)** | O | Observed number of Colon SSI infections based on NHSN aggregate data | Expected number of Colon SSI infections based on NHSN aggregate data | *** |
| **R**O | **CDC Harmonized Procedure-Specific SSI SIR - Abdominal Hysterectomies (NQF 0753)** | O | Observed number of Abdominal Hysterectomy SSI infections based on NHSN aggregate data | Expected number of Abdominal Hysterectomy SSI infections based on NHSN aggregate data | *** |
| **R**O | **CDC Harmonized Procedure-Specific SSI SIR - Total Hip Replacements (NQF 0753)** | O | Observed number of Total Hip SSI infections based on NHSN aggregate data | Expected number of Total Hip SSI infections based on NHSN aggregate data | *** |
| **R**O | **CDC Harmonized Procedure-Specific SSI SIR - Total Knee Replacements (NQF 0753)** | O | Observed number of Total Knee SSI infections based on NHSN aggregate data | Expected number of Total Knee SSI infections based on NHSN aggregate data | *** |
| **R**O | **Colon Surgical Site Infection Rate** | O | Number of hospital-acquired colon surgical site infections | Number colon surgical episodes | *** |
| **R**O | **Abdominal Hysterectomy Surgical Site Infection Rate** | O | Number of hospital-acquired abdominal hysterectomy surgical site infections | Number abdominal hysterectomy surgical episodes | *** |
| **R**O | **Hip Replacement Surgical Site Infection Rate** | O | Number of hospital-acquired hip replacement surgical site infections | Number hip replacement surgical episodes | *** |
| **R**O | **Knee Replacement Surgical Site Infection Rate** | O | Number of hospital-acquired knee replacement surgical site infections | Number knee replacement surgical episodes | *** |
| **O**S | **Surgical Safety Checklist Compliance** | P | Number of surgical inpatient procedures in which the surgical safety checklist was used | Number of surgical inpatient operating procedures | * |

| Additional Areas of Focus | Measure Name | Measure Type | Numerator Description | Denominator Description | Data Source for KS |
|---|---|---|---|---|---|
| **Venous Thromboembolism** | | | | | |
| **R**O | **Post-Operative Pulmonary Embolism (PE) or Deep Venous Thrombosis (DVT) Rate, (AHRQ PSI-12) (NQF 0450)** | O | Number of Acute Care surgical inpatients with secondary ICD-10 code(s) for DVT or PE that were not present on admission | Number of Acute Care surgical inpatient discharges | ** |
| **O**S | **VTE Appropriate Prophylaxis** | P | Number of Acute Care, SNF, Swing Bed and Observation patients who received appropriate VTE prophylaxis or have documentation why no VTE prophylaxis was given | Number of patients admitted to Acute Care, Skilled Nursing Care or Swing Bed with stays of > 48 hours | * |
| **Falls** | | | | | |
| **R**S | **Falls with Injury** | O | Total number of patient falls with an injury level of minor or greater (whether or not assisted by a staff member) (Specifications: NQF 0202) | Patient days by eligible units during the measurement period | * |
| **R**O | **Fall Rate Resulting in Fracture or Dislocation (CMS HAC)** | O | Number of Acute Care inpatient discharges with ICD-10 fracture or dislocation code(s) not present on admission | Number of Acute Care discharges | ** |
| **O**S | **Falls with or without injury** | O | Number of patient falls (Specifications: NQF 0141) | Patient days by eligible units during the measurement period | * |
| **O**S | **Fall Risk Assessment on Admission** | P | Number of Acute Care, SNF, Swing Bed and Observation patients assessed for fall risk on admission | Number of admitted Acute Care, Skilled Nursing Care, Swing Bed and Observation patients | * |
| **Ventilator-Associated Events** *Focus area optional depending on hospital services* | | | | | |
| **R**O | **Ventilator-Associated Conditions (VAC)** | O | Number of events that meet VAC criteria | Number of ventilator days | *** |
| **R**O | **Infection-Related Ventilator-Associated Complication (IVAC)** | O | Number of events that meet IVAC criteria | Number of ventilator days | *** |
| **R**O | **Possible/Probable Ventilator-Associated Pneumonia** | O | Number of events that meet possible/probable Ventilator-Associated Pneumonia criteria | Number of ventilator days | *** |
| **O**S | **Ventilator Bundle Compliance** | P | Number of ICU patients on mechanical ventilation with full ventilator-associated prevention bundle compliance | Number of ICU patients on mechanical ventilation on day of week sample | * |

# IV. Core Focus Areas

## A. Adverse Drug Events (ADE)

An ADE is an injury resulting from the use of a medication. ADEs in hospitals can be caused by medication errors, such as accidental overdoses or providing a drug to the wrong patient, or by adverse drug reactions, such as allergic reactions or excessive bleeding after treatment with the intended dose of a drug that prevents dangerous blood clots. The following are key resources to assist with the management and prevention of ADEs:

### ADE Overall

- **Health Research + Educational Trust (HRET) Preventing ADEs Change Package**
  This change package is a summary of themes from the successful practices of high performing health organizations across the country. It was developed through clinical practice sharing, organization site visits and subject matter expert contributions. This change package includes a menu of strategies, change concepts and specific actionable items that any hospital can implement based on need or for purposes of improving patient quality of life and care.
- **Institute for Healthcare Improvement (IHI) Resource: High-Alert Medications Require Heightened Vigilance**
  It is hard to imagine medical practice today without the use of painkillers, sedatives and blood thinners. But some of the most powerful drugs prescribed to patients can also cause harm, earning them the dubious distinction of "high-alert medications." This classification is helping those concerned with patient safety draw attention to the risks associated with certain drugs, even when used as intended, and the steps that can be taken to prevent injury.
- **U.S. Department of Health and Human Services (HHS) Webinar to Learn More About Preventing ADEs**
  This webinar discusses how and why the ADE Action Plan was created, 2020 targets and measures, inpatient and outpatient data collection, strategies for addressing ADEs caused by each targeted drug class (opioids, anticoagulants and diabetic agents), and new quality payment incentive from the Centers for Medicare & Medicaid Services (CMS).
  - **ADE Action Plan**

| Adverse Drug Events:<br>Adverse Drug Event Rate | |
|---|---|
| **Numerator** | Number of Acute Care, SNF, Swing Bed and Observation adverse drug events that reach the patient (NCC MERP Scale categories D-I) |
| **Denominator** | Number of Acute Care, SNF, Swing Bed and Observation patient days |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | For adults age 18+; **NCC MERP Scale** |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of performance data |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 20 |
| **Required or Optional Measure** | Required |

## Opioid Safety

Hospitals are on the front lines of the opioid epidemic. Nearly 500,000 people with an opioid use disorder (OUD) are discharged from the hospital each year. Rates of opioid-related emergency department visits and inpatient stays have risen dramatically, as have rates of serious infections such as endocarditis and hepatitis C stemming from opioid use. Total hospital costs related to opioid overdoses have been estimated at $2 billion annually. These stark statistics show the mounting pressure on hospital capacity and resources. But the numbers also reveal the tremendous opportunity hospitals have to influence the opioid epidemic. No other setting provides as many touchpoints to engage people with OUD and connect them with effective treatment. For any hospital, transforming OUD treatment is a challenge. Fortunately, there are a wide array of evidence-based tools and strategies to assist.
***Source:** https://www.healthaffairs.org/do/10.1377/hblog20191217.727229/full/*

+ **CMS Reducing Opioid Misuse**
  Hospitals and health systems are central to the fight against the nation's opioid epidemic. The Centers for Medicare & Medicaid Services (CMS) works closely with Centers for Disease Control and Prevention (CDC) and other federal agencies to develop policies, procedures and resources that promote appropriate opioid prescribing and person-centered pain management.
+ **CDC Guideline for Prescribing Opioids for Chronic Pain**
  Improving the way opioids are prescribed through clinical practice guidelines can ensure patients have access to safer, more effective chronic pain treatment while reducing the number of people who misuse or overdose from these drugs. This publication provides recommendations for the prescribing of opioid pain medication for patients 18 and older in primary care settings. Recommendations focus on the use of opioids in treating chronic pain (pain lasting longer than three months or past the time of normal tissue healing) outside of active cancer treatment, palliative care and end-of-life care.
+ **Reducing Adverse Drug Events related to Opioids (RADEO) Guide**
  This guide provides step-by-step guidance to assist hospital teams in implementing a quality improvement program to improve patient safety and reduce opioid-related adverse events for patients receiving opioids.
+ **Anesthesia Patient Safety Foundation: Using the 2018 Guidelines from the Joint Commission to Kickstart Your Hospital's Program to Reduce Opioid-Induced Ventilatory Impairment (OIVI)**
  This review suggests four specific ways hospitals and their medical staff can implement standards for inpatient pain assessment and management designed to decrease the risk of OIVI. The standards focus on safe opioid prescribing and performance improvement, minimizing treatment risk, and performance monitoring and improvement using data analysis.
+ **San Francisco Department of Public Health: Naloxone for Opioid Safety**
  A provider's guide to prescribing naloxone to patients who use opioids.
+ **U.S. Department of Justice Drug Enforcement Administration Diversion Control Division: National Prescription Drug Take Back Day**
  This web page provides information on safe opioid storage for the household, year-round pharmaceutical disposal locations and safe home disposal methods.
+ **Project Lazarus Community Toolkit**
  This toolkit provides guidance for communities to start their own coalition to fight the epidemic surrounding prescription drug misuse, abuse, diversion and overdose.
+ **University of Florida Pain Assessment and Management Initiative**
  - Learning Modules (some offer CE credits)
  - Nonpharmacologic Toolkit
  - Pain Management Dosing Guide
  - Multimedia Pain Videos providing a variety of tips to help patients safely mange pain after leaving the hospital.

| Adverse Drug Events:<br>Opioid Mortality | |
|---|---|
| **Numerator** | Number of opioid-related deaths (include opioid toxicity in a primary or secondary diagnosis) |
| **Denominator** | Number of discharges for Acute Care patients, ≥ 18 y/o |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Administrative Claims |
| **Data Source - KS** | Administrative Claims |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 20178 |
| **Required or Optional Measure** | Required |

| Adverse Drug Events:<br>Opioid-Related Adverse Drug Event Rate | |
|---|---|
| **Numerator** | Number of patients with non-POA secondary ICD10 code(s) for opioid-related adverse drug event |
| **Denominator** | Number of discharges for Acute Care patients, ≥ 18 y/o |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Administrative Claims |
| **Data Source - KS** | Administrative Claims |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10061 |
| **Required or Optional Measure** | Required |

| Adverse Drug Events:<br>Stat Naloxone Administration – Emergency Department | |
|---|---|
| **Numerator** | Number of doses a reversal agent (e.g., Naloxone) is administered to a patient in the Emergency Department |
| **Denominator** | Number of Emergency Department visits |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | If using an automated medication dispensing system (e.g., Pyxis), exclude dispensed doses that were not actually administered to a patient, if possible |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of performance data |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10059 |
| **Required or Optional Measure** | Optional |

| Adverse Drug Events:<br>Stat Naloxone Administration – Inpatient | |
|---|---|
| **Numerator** | Number of doses of a reversal agent (e.g., Naloxone) administered to Acute Care, SNF, Swing Bed and Observation patients |
| **Denominator** | Number of Acute Care, SNF, Swing Bed and Observation patients prescribed opioids |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | If using an automated medication dispensing system (e.g., Pyxis), exclude dispensed doses that were not actually administered to a patient, if possible. PACU is excluded. |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of performance data |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1714 |
| **Required or Optional Measure** | Optional |

| Adverse Drug Events:<br>High-Dose Opioid Prescribing Upon Discharge | |
|---|---|
| **Numerator** | Number of patients discharged with an opioid prescription with >90 Morphine milligram equivalents (MME) daily |
| **Denominator** | Number of Acute Care, SNF, Swing Bed and Observation patients discharged with an opioid prescription |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | Includes Obstetric patients, excludes cancer and hospice patients |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of performance data |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 10089 |
| **Required or Optional Measure** | Optional |

## Glycemic Management

- **U.S. Department of Health and Human Services (HHS) Webinar: Preventing Adverse Drug Events: Individualizing Glycemic Targets Using Health Literacy Strategies**
  This eLearning course teaches healthcare providers how to reduce hypoglycemic ADEs in patients with diabetes.
- **IHI Resource: Reduce ADEs Involving Insulin**
  Diabetic patients who use insulin are at risk of suffering ADEs if their insulin care is not carefully managed. Hypoglycemic episodes can be sudden and severe and may lead to other complications and harm. Coordinating care processes to properly time monitoring of glucose levels and administration of insulin can help reduce the risk of an ADE. Using standardized tools for dosing insulin and testing blood sugar levels also can help to reduce such events.

| Adverse Drug Events: Blood Glucose Less Than 50 | |
|---|---|
| **Numerator** | Number of blood glucose measurements (per lab reports, FSBG, EMR, Charge Data, etc.) for Acute Care, SNF, Swing Bed and Observation patients where blood glucose < 50 |
| **Adverse Drug Events: Blood Glucose Less Than 50** | |
| **Denominator** | Number of blood glucose measurements (per lab reports, FSBG, EMR, Charge Data, etc.) for Acute Care, Skilled Nursing Care, Swing Bed and Observation patients |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | Only for patients ages 18+ |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of performance data |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1801 |
| **Required or Optional Measure** | Required |

## Anticoagulation Safety

- **Anticoagulation Centers of Excellence (ACE)**
  The ACE website has hundreds of resources and is the leading organization of healthcare professionals working to improve the quality of care for patients taking antithrombotic medications.
- **Cleveland Clinic: Practical Tips for Managing Warfarin**
  Patients on warfarin and their physicians must constantly balance the risks of bleeding and clotting. The Cleveland Clinic offers practical tips for safe and effective warfarin therapy, based on the practices of the Anticoagulation Clinic of the Cleveland Clinic.
- **Johns Hopkins Living with Warfarin Patient Education Video**
  Patient education video that provides information regarding indications, side effects, monitoring, diet, bleeding and thrombotic complications.

| Adverse Drug Events: INRs Greater Than 5 | |
|---|---|
| **Numerator** | Number of lab measurements for Acute Care, SNF, Swing Bed and Observation patients on Warfarin where documented INR > 5 |
| **Denominator** | Number of INR lab measurements for Acute Care, SNF, Swing Bed and Observation patients on Warfarin |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of performance data |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1713 |
| **Required or Optional Measure** | Required |

# B. Antibiotic Stewardship

Antibiotic stewardship, a subset of antimicrobial stewardship, is part of a coordinated program that includes interventions to prevent drug-resistant bacterial infections through specific antibiotic therapy targeted toward susceptible or resistant bacteria and reduce unnecessary or inappropriate antibiotic use. The following are key resources to assist in these efforts:

- CDC Resources:
  - **Core Elements of Antibiotic Stewardship** includes a summary of the core elements and implementation resources for hospitals such as an antibiotic stewardship program assessment tool.
  - **Implementation of Antibiotic Stewardship Core Elements at Small and Critical Access Hospitals** provides guidance on practical strategies to implement antibiotic stewardship programs in small and critical care hospitals as well as suggestions for implementation of all CDC core elements.
  - **Surveillance for Antimicrobial Use and Antimicrobial Resistance Options** training is essential for understanding the National Healthcare Safety Network (NHSN) requirements for Antibiotic Stewardship reporting in NHSN.
  - **NHSN Antimicrobial Use and Resistance (AUR) Module** provides a mechanism for facilities to report and facilities and NHSN Group users to analyze antimicrobial use and/or resistance data to inform benchmarking, reduce antimicrobial resistant infections through antimicrobial stewardship and interrupt transmission of resistant pathogens at individual facilities or facility networks.
- **Agency for Healthcare Research and Quality (AHRQ) Antibiotic Stewardship Toolkit**
  This toolkit offers materials to develop and improve an antibiotic stewardship program, engage frontline staff in improving prescribing behavior, and diagnose and treat patients with common infectious syndromes.
- **HRET Preventing Unnecessary Harm from Antibiotics**
  This change package includes a menu of strategies, change concepts and specific actionable items that any hospital can implement based on need or for purposes of improving patient quality of life and care. This change package is intended to be complementary to literature reviews and other evidence-based tools and resources.
- **National Quality Forum Antibiotic Stewardship in Acute Care Playbook and Fact Sheet**
  This resource offers practical strategies for implementing high-quality antibiotic stewardship programs. The playbook is based on CDC's Core elements of hospital antibiotic stewardship.
- **Antimicrobial Stewardship Program, A Toolkit for Critical Access Hospitals**
  This toolkit for antimicrobial stewardship was designed for Critical Access Hospitals. It provides information on what antimicrobial resistance is and core elements of an antimicrobial stewardship program with suggestions for implementation. The toolkit offers examples of policies and procedures as well as useful tools.
- **Association for Professionals in Infection Control and Epidemiology (APIC)**
  APIC promotes resources to assist organizations and providers implement best practices in driving the appropriate use of antimicrobials.

| **Antibiotic Stewardship: Carbapenem-resistant Enterobacteriaceae (CRE) Prevalence** | |
|---|---|
| **Numerator** | Number of LabID CRE events |
| **Denominator** | Number of Acute Care Inpatient days |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |

| Antibiotic Stewardship: Carbapenem-resistant Enterobacteriaceae (CRE) Prevalence | |
|---|---|
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10020 |
| **Required or Optional Measure** | Required and pulled from NHSN |

| Antibiotic Stewardship: Standardized Antimicrobial Administration Ratio (SAAR) | |
|---|---|
| **Numerator** | Number of observed days of antimicrobial therapy reported by a healthcare facility for a specified category of antimicrobial agents used in a patient care location or group of locations |
| **Denominator** | Number of days of antimicrobial therapy predicted for a healthcare facility's use of a specified category of antimicrobial agents in a patient care location or group of locations, calculated by applying negative binomial regression modeling to nationally aggregated AU data |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov); only applicable for hospitals with an appropriate interface |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10021 |
| **Required or Optional Measure** | Required and pulled from NHSN |

| Antibiotic Stewardship: Core Elements | |
|---|---|
| **Numerator** | Number of core elements met by the hospital as documented in the NHSN annual facility survey |
| **Denominator** | Total number of core elements (7) |
| **Multiplier** | N/A |
| **Link/Notes on measure specifications if applicable** | **Antibiotic Stewardship Core Elements Mapping:** reported annually in December |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on KHC Survey |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 10085 |
| **Required or Optional Measure** | Optional |

| Antibiotic Stewardship:<br>Antimicrobial Days of Therapy (DOT) | |
|---|---|
| **Numerator** | Aggregate sum of antimicrobial days for which any amount of a specific antimicrobial agent was administered to individual patients as documented in the patient record for Acute, SNF, Swing beds and OB inpatient days |
| **Denominator** | Days present defined as the aggregate number of patients housed in a patient care location or facility anytime throughout a day during a calendar month |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of performance data |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10068 |
| **Required or Optional Measure** | Optional |

# *C. Clostridioides difficile* (*C. difficile*)

*C. difficile* infections are increasingly common, and the COVID-19 pandemic may further boost infection rates. Primarily caused by improperly prescribed antibiotics or exposure to contaminated surfaces, *C. difficile* infections are one of the most frequent healthcare-associated infections in the United States. In general, symptoms range from mild diarrhea to fever, cramping and nausea. At worst, *C. difficile* can lead to life-threatening inflammation of the colon and death. During the pandemic, physicians may not be seeing patients in person as often as many visits are via telehealth. As a result, physicians may be erring on the side of prescribing stronger, broad-spectrum antibiotics. That tendency is even more of a reason to have awareness of *C. difficile*. Fortunately, there are a wide array of evidence-based tools and strategies to assist in the prevention of this infection.

**Source: https://doctorsthatdo.osteopathic.org/c-diff-one-of-the-most-common-hospital-infections-explained*

+ **CDC Resources:**
  - **Current NHSN Manual 2021**
    In this NHSN Patient Safety Component Manual, Chapter 12 focuses on *C. difficile*.
  - **NHSN Surveillance for *C. difficile*, MRSA and other multi-drug resistant organisms**
    Website provides training, protocols and FAQs, among other numerous resources to assist in surveillance and infection prevention.
  - **Strategies to prevent *C. difficile* infection in acute care facilities**
    This document provides information on the basic principles and interventions recommended for the prevention of *C. difficile* in acute care facilities.
  - **FAQs regarding *C. difficile* for patients**
    A patient handout that can be used in teaching patients and families about *C. difficile*. The FAQs focus on education, treatment, prevention and control activities.
  - **Hand Hygiene in Healthcare Settings**
    The CDC hand hygiene website offers information on hand hygiene for healthcare providers and patients as well as considerations for fire safety and alcohol-based hand sanitizers and healthcare antiseptics. There are also materials to promote hand hygiene available to download.
  - **Isolation Guidelines per CDC**

+ **AHA/HRET *C. difficile* Infection Change Package**
  This change package provides an overview of *C. difficile*, *C. difficile* driver diagrams, identification and diagnosis of *C. difficile*, prevention strategies, and establishing a hand

hygiene program. The change package also offers tools and resources from other hospitals as well as the *C. difficile* Top Ten Checklist.

+ **Rochester Patient Safety *C. difficile* Prevention Toolkit**
  Toolkit offering *C. difficile* management procedures. Offers NHSN overview for reporting *C. difficile* prevention strategies, transporting *C. difficile* patients, PPE use by visitors, environmental cleaning, patient education, along with tools and resources.
+ **APIC Resources on *C. difficile* prevention for healthcare professionals**
+ **Hand Hygiene Resources**
  - **APICs Observation Tools Library with 19 tools**
  - The **Joint Commission Hand Hygiene resources** related to hand hygiene for healthcare settings.
  - The **World Health Organization** provides a starter kit, template, action plan and implementation tools.

| ***Clostridioides difficile*: ACS-CDC CDIFF SIR** | |
|---|---|
| **Numerator** | Observed number of *C. difficile* infections based on NHSN aggregate data |
| **Denominator** | Expected number of *C. difficile* infections based on NHSN aggregate data |
| **Multiplier** | 1 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10046 |
| **Required or Optional Measure** | Required |

| ***Clostridioides difficile*: Healthcare Facility-Onset *Clostridioides difficile* Infection Rate** | |
|---|---|
| **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 |
| **Multiplier** | 10,000 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10015 |
| **Required or Optional Measure** | Required |

| ***Clostridioides difficile*: *Clostridioides Difficile* Prevalence** | |
|---|---|
| **Numerator** | Number of *C. difficile* Lab ID events |
| **Denominator** | Number of Acute Care inpatient admissions |

| *Clostridioides difficile*: *Clostridioides Difficile* Prevalence | |
|---|---|
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10012 |
| **Required or Optional Measure** | Required |

| *Clostridioides difficile*: Hand Hygiene Compliance | |
|---|---|
| **Numerator** | Number of observations where proper handwashing technique was applied |
| **Denominator** | Number of handwashing observations |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | CDC recommends a minimum of 30 unannounced observations after contact with patients and observed during variety of patient care tasks when possible |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of performance data |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 1825 |
| **Required or Optional Measure** | Required |

# D. Catheter-Associated Urinary Tract Infection (CAUTI)

A urinary tract infection (UTI) is an infection involving any part of the urinary system, including urethra, bladder, ureters and kidney. UTIs are the most common type of healthcare-associated infection reported to NHSN. Among UTIs acquired in the hospital, approximately 75 percent are associated with a urinary catheter. Between 15-25 percent of hospitalized patients receive catheters during their hospital stay. 69 percent of CAUTI may be preventable. About 17 percent of hospital acquired bacteremia are from a urinary source. The most important risk factor for developing a catheter associated UTI (CAUTI) is prolonged use of the urinary catheter*. The following are tools and resources to assist in the prevention and reduction of CAUTI:

*Source: https://www.cdc.gov/hai/ca_uti/uti.html

- **Requirements for the CAUTI National Patient Safety Goal for Critical Access Hospitals**
  The Joint Commission released these requirements for the CAUTI National Patient Safety Goal for Critical Access Hospitals in 2017. Issuance of the standards included implementation of evidence-based practices to prevent indwelling CAUTI.
- **CDC Resources** focused on identifying, measuring and preventing CAUTI:
  - **NHSN CAUTI Guideline**
  - **NHSN Urinary Tract Infection (UTI) Checklist**
  - **CAUTI Guidelines: Appropriate Catheter Insertion**
- **AHRQ Toolkit for Reducing Catheter-Associated Urinary Tract Infections in Hospital Units: Implementation Guide**

These tools are designed to support implementation of evidence-based practices and elimination of catheter associated urinary tract infections in a hospital unit. Resources consist of appropriate catheter use, proper catheter insertion and maintenance and prompt catheter removal.

+ **American Nurses Association (ANA): Nurse-Driven CAUTI Prevention Tool**
  Provides key practice strategies for utilization of fewer catheters, timely removal, insertion, maintenance and post-removal care.
+ **Revised McGeer Criteria for Infection Surveillance Checklist**
  The McGeer Criteria is focused on all common elder infections with UTI with and without catheter criteria.
+ **APIC: The power of 10: Your role in preventing catheter-associated urinary tract infections in nursing homes**
  Patient education resource that describes what a catheter is, why it is sometimes needed, and what a patient or family member can do to prevent CAUTI.

| NHSN CAUTI SIR - ICU Units excluding NICU, (NQF 0138) | |
|---|---|
| **Numerator** | Observed number of CAUTI infections for ICUs excluding NICU based on NHSN aggregate data |
| **Denominator** | Expected number of CAUTI infections for ICUs excluding NICU based on NHSN aggregate data |
| **Multiplier** | 1 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1831 |
| **Required or Optional Measure** | Required |

| NHSN CAUTI SIR - ICU Units + Other Units, (NQF 0138) | |
|---|---|
| **Numerator** | Observed number of CAUTI infections for ICUs plus other units based on NHSN aggregate data |
| **Denominator** | Expected number of CAUTI infections for ICUs plus other units based on NHSN aggregate data |
| **Multiplier** | 1 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1832 |
| **Required or Optional Measure** | Required |

| Catheter-Associated Urinary Tract Infection: Catheter-Associated Urinary Tract Infection Rate | |
|---|---|
| **Numerator** | Number of hospital-acquired urinary tract infections |
| **Denominator** | Number of Acute Care urinary catheter days |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 8 |
| **Required or Optional Measure** | Required |

| Catheter-Associated Urinary Tract Infection: Catheter Utilization Ratio – ICU | |
|---|---|
| **Numerator** | Number of ICU inpatient days with urinary catheter in place |
| **Denominator** | Number of ICU inpatient days |
| **Multiplier** | 10000 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 10013 |
| **Required or Optional Measure** | Required |

| Catheter-Associated Urinary Tract Infection: Catheter Utilization Ratio – All Units | |
|---|---|
| **Numerator** | Number of Acute Care, SNF and Swing Bed inpatient days with urinary catheter in place |
| **Denominator** | Number of Acute Care, SNF and Swing Bed inpatient days |
| **Multiplier** | 10000 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 1703 |
| **Required or Optional Measure** | Required |

| Catheter-Associated Urinary Tract Infection: Emergency Department Catheter Utilization | |
|---|---|
| **Numerator** | Number of coded Emergency Department indwelling urinary catheter placements in the Emergency Department |
| **Denominator** | Number of Emergency Department visits |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | AMA CPT codes to identify catheters inserted in the ED: 51702, 51703 |
| **Data Source - IA/SD/MS** | Administrative Claims |

| Catheter-Associated Urinary Tract Infection: Emergency Department Catheter Utilization | |
|---|---|
| **Data Source - KS** | This measure is not applicable for Kansas hospitals |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 1702 |
| **Required or Optional Measure** | Required |

| Catheter-Associated Urinary Tract Infection: Unnecessary Urinary Catheters | |
|---|---|
| **Numerator** | Number of Acute Care, SNF and Swing Bed inpatients with new indwelling urinary catheters inserted without appropriate indication |
| **Denominator** | Number of Acute Care, SNF and Swing Bed inpatients with new indwelling urinary catheter insertions |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of performance data |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 1701 |
| **Required or Optional Measure** | Optional |

# E. Central Line-Associated Blood Stream Infection (CLABSI)

CLABSI is defined as a laboratory-confirmed bloodstream infection not related to an infection at another site that develops within 48 hours of central line placement. Of all the healthcare-associated infections, CLABSIs are associated with high-cost burden, accounting for approximately $46,000 per case. Most cases are preventable with proper aseptic techniques, surveillance and management strategies*. The following are key resources to assist in these efforts:

*Source: https://pubmed.ncbi.nlm.nih.gov/28613641/#:~:text=A%20central%20line-associated%20bloodstream%20infection%20%28CLABSI%29%C2%A0is%20defined%20as,most%20costly%2C%20accounting%20for%20approximately%20%2446%2C000%20per%20case

- **AHRQ Toolkit for Reducing Central Line-Associated Blood Stream Infections**
  This toolkit was developed based on the experiences of more than 1,000 ICUs that participated in the Agency for Healthcare Research and Quality On the CUSP: Stop BSI project. The toolkit provides specialized tools and resources to help clinical teams in ICUs apply the CUSP method to the problem of CLABSIs.
- **Strategies to Prevent Central Line-Associated Bloodstream Infections in Acute Care Hospitals**
  This SHEA/IDSA Practice Recommendation, updated in 2014, highlights practical recommendations to assist Acute Care Hospitals in implementing and prioritizing their CLABSI-prevention efforts.
- **Practice Guidelines for the Diagnosis and Management of Intravascular Catheter-Related Infection**
  2009 Update by the Infectious Diseases Society of America
- **IHI How-To Guide: Prevent Central Line-Associated Bloodstream Infections**
  This How-to Guide developed in 2012 by the Institute for Healthcare Improvement describes key evidence-based care components of the IHI Central Line Bundle, which has been linked to prevention of CLABIs. The guide describes how to implement these interventions and recommends measures to gauge improvement. The guide was initially developed as part of IHI's 5 Million Lives Campaign.

+ **CDC Resources:**
  - **Central Line Insertion Practices (CLIP) Bundle**
    CLABSIs may be prevented through proper placement and management of the central line. The CDC's Healthcare Infection Control Practices Advisory Committee (CDC/HICPAC) Guidelines for the Prevention of Intravascular Catheter-Related Infections, 2011, recommend evidence-based central line insertion practices known to reduce the risk of subsequent CLABSIs.
  - **CDC/STRIVE Infection Control Training: CLABSI**
    The CDC/STRIVE, States Targeting Reduction in Infections via Engagement, curriculum was developed by national infection prevention experts led by HRET for the CDC. Courses address both the technical and foundational elements of healthcare-associated infection (HAI) prevention.
  - **CDC Guidelines for the Prevention of Intravascular Catheter Related Infections**
    These guidelines have been developed for healthcare personnel who insert intravascular catheters and for persons responsible for surveillance and control of infections in hospital, outpatient and home healthcare settings. Updates and recommendations to the 2011 guidelines are also provided.
  - **Targeted Assessment for Prevention (TAP) CLABSI Implementation Guide**
    The Targeted Assessment for Prevention (TAP) Strategy is a framework for quality improvement developed by the CDC to use data for action to prevent healthcare-associated infections (HAIs). The TAP Strategy consists of three components: 1) Running TAP Reports in NHSN to target healthcare facilities and specific units with an excess burden of HAIs; 2) Administering TAP Facility Assessment Tools to identify gaps in infection prevention in the targeted locations; 3) Accessing infection prevention resources within the TAP Implementation Guides to address those gaps.
  - **CDC Checklist for Prevention of Central Line-Associated Blood Stream Infections**
    A checklist based on the 2011 CDC guideline for prevention of intravascular catheter-associated bloodstream infections and the SHEA/IDSA Strategies to Prevent CLABSI in Acute Care Hospital: 2014 Update
  - **CDC Infection Control Assessment Tools – Acute Care Hospitals**
    The basic elements of an infection prevention program are designed to prevent the spread of infection in healthcare settings. The Infection Control Assessment Tools were developed by the CDC to assist health departments in assessing infection prevention practices and guide quality improvement activities (e.g., by addressing identified gaps). These tools may also be used by healthcare facilities to conduct internal quality improvement audits.

| **NHSN CLABSI SIR - ICU Units including NICU, (NQF 0139)** | |
|---|---|
| **Numerator** | Observed number of CLABSI infections for ICU units including NICU based on NHSN aggregate data |
| **Denominator** | Expected number of CLABSI infections for ICU units including NICU based on NHSN aggregate data |
| **Multiplier** | 1 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1833 |
| **Required or Optional Measure** | Required |

| NHSN CLABSI SIR - ICU Units + Other Units, (NQF 0139) | |
|---|---|
| **Numerator** | Observed number of CLABSI infections for ICU units plus other units based on NHSN aggregate data |
| **Denominator** | Expected number of CLABSI infections for ICU units plus other units based on NHSN aggregate data |
| **Multiplier** | 1 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1834 |
| **Required or Optional Measure** | Required |

| Central Line-Associated Blood Stream Infection: Central Line-Associated Blood Stream Infection (CLABSI) Rate | |
|---|---|
| **Numerator** | Number of hospital-acquired, central line-associated bloodstream infections |
| **Denominator** | Number of Acute Care central line catheter days |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10 |
| **Required or Optional Measure** | Required |

| Central Line-Associated Blood Stream Infection: CLABSI Utilization Ratio – ICU | |
|---|---|
| **Numerator** | Number of ICU central line days |
| **Denominator** | Number of ICU inpatient days |
| **Multiplier** | 10000 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 10014 |
| **Required or Optional Measure** | Required |

| Central Line-Associated Blood Stream Infection: CLABSI Utilization Ratio – All Units | |
|---|---|
| **Numerator** | Number of central line days |
| **Denominator** | Number of Acute Care, SNF and Swing Bed inpatient days |
| **Multiplier** | 10000 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source – IA/SD/MS** | NHSN |
| **Data Source – KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 1821 |
| **Required or Optional Measure** | Required |

# F. Patient and Family Engagement (PFE)

Person and family engagement, sometimes used interchangeably with patient and family engagement, entails recipients of healthcare services, their families or other representatives and healthcare professionals working in an active partnership across the healthcare system to improve the quality and safety of healthcare. Studies show that there are measurable benefits with this type of partnership, including but not limited to: improved patient satisfaction, decreased length of stay, reduced costs, effective transitions of care and decreased readmissions.

Five PFE metrics have been developed to ensure that hospitals have structures and practices that enable active patient and family partnerships at the point of care, during policy and protocol development and organizational governance. The five metrics are collected and reported quarterly beginning March 2021 and in the months June, September, December, and March thereafter.

| PFE Measure | Resources |
|---|---|
| 1. Implemented a planning checklist for patients known to have a planned admission to the hospital (e.g., for elective surgery) | + **AHRQ Communicating to Improve Quality**<br>Documents to encourage patient participation in care<br>+ **NAQC Fostering Successful Patient and Family Engagement: Nursing's Critical Role**<br>What is patient engagement, why is patient engagement a nursing priority? Model and roadmap for nurse contribution to patient engagement |
| 2. Implemented a discharge planning checklist | + **CMS Discharge Planning Checklist**<br>Sample of discharge planning with resources<br>+ **AHRQ Re-Engineered Discharge (RED) Toolkit** |
| 3. Conducts shift change huddles and bedside reporting with patients and families | + **AHRQ Resources**<br>• Family-Centered Rounds Toolkit<br>• AHRQ Strategy 3: Nurse Bedside Shift Report<br>• AHRQ Nurse Bedside Shift Report Implementation Handbook<br>• AHRQ Shift Report Training PowerPoint |
| 4. Designated an accountable leader in the hospital who is responsible for person and family engagement | + **AHRQ Guide to Patient and Family Engagement in Hospital Quality and Safety**<br>Four primary strategies for promoting patient/family engagement in hospital safety and quality of care<br>+ **PFCC Go Shadow**<br>Patient and Family Centered Care Methodology and Practice. Build care teams, develop high-performance care teams, drive change and innovation |
| 5. Have an active PFE committee or other committee where patients are represented and report to the Board | + **AHRQ Guide for Developing a Community-Based Patient Safety Advisory Council**<br>+ **Patient and Family Advisor – Orientation Manual**<br>Responsibilities, expectations and tips for being an engaged advisor<br>+ **The Power of Having the Board on Board**<br>Six crucial activities for boards |

| PFE Measure | Resources |
|---|---|
| | + **H2Pi Effecting Safety Across the Board Through Patient and Family Partnership Councils for Quality and Safety (PEPCQS)**<br>Tools, assessment of an organization, roadmap to success, strategic planning<br>+ **How -to Guide: Governance Leadership (Get Boards on Board)**<br>Guidance on how hospitals can undertake six key governance leadership activities to improve quality and reduce harm<br>+ **Operationalizing your PFAC**<br>KHC instructional video series<br>+ **KHC orientation video series for Patient and Family Advisors** |

# G. Pressure Ulcer and Injury

Hospital-acquired pressure ulcers and injuries result in significant patient harm, including pain, expensive treatments, increased length of institutional stay and, in some patients, premature mortality. It is estimated each year more than 2.5 million patients in U.S. acute-care facilities suffer from pressure ulcer/injuries and 60,000 die from their complications. The cost of treating a single full-thickness pressure ulcer/injury can be as high as $70,000, and total costs for treatment of pressure ulcer/injury in the United States is estimated at $11 billion annually*. The following are tools and resources to assist in the prevention and reduction of pressure ulcer/injury:

*Source: https://www.centerfortransforminghealthcare.org/improvement-topics/hospital-acquired-pressure-ulcers-prevention/

+ **Iowa Healthcare Collaborative (IHC) Resources:**
  - IHC Pressure Ulcer Injury Bundle
  - Standard work and intervention set, that when used together, can prevent the development of pressure ulcers.
  - IHC Skincare Bundle
  - Infographic highlighting the importance of proper skin care in pressure ulcer prevention.
  - IHC Braden Scale
  - Braden Scale Risk Assessment color coded tool can be used during patient assessment to determine the risk for pressure ulcer development.
+ **National Pressure Injury Advisory Panel (NPIAP) Resources:**
  - **Comprehensive Resource Page**
    NPIAP provides interprofessional leadership to improve patient outcomes in pressure injury prevention and management through education, public policy and research. This is a resource list for healthcare facilities for staff education and development.
  - **Wheelchair Seating Guide**
    Utilizing the 2019 Clinical Practice Guidelines, this pocket guide outlines interventions to prevent pressure ulcers for patients utilizing a wheelchair.
+ **AHRQ Resources:**
  - **Preventing Pressure Injury in Hospitals**
    AHRQ descriptions and links to best practices for pressure ulcer prevention in the hospital setting.
  - **Pressure Injury Prevention in Hospitals Training Program**
    Content of the Training Program and supporting materials help hospitals become familiar with each of the components of the Toolkit and learn how to overcome the challenges associated with developing, implementing and sustaining a pressure injury prevention program.
+ **Actionable Patient Safety Solutions: Pressure Ulcers**
  Produced by Patient Safety Movement, this guide includes a leadership checklist, clinical workflow infographic, performance improvement plan and patient and family education regarding pressure ulcer prevention.

| Pressure Ulcer:<br>Pressure Ulcer Rate, Stage 3+ (AHRQ PSI-03) | |
|---|---|
| **Numerator** | Number of patients with non-POA secondary ICD10 code(s) for pressure ulcer AND secondary ICD10 diagnosis code(s) for Stage III, Stage IV or unstageable pressure ulcer |
| **Denominator** | Number of discharges for Acute Care, Skilled Nursing and Swing Bed patients |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2018/TechSpecs/PSI_03_Pressure_Ulcer_Rate.pdf** |
| **Data Source – IA/SD/MS** | Administrative Claims |
| **Data Source – KS** | Administrative Claims |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1717 |
| **Required or Optional Measure** | Required |

| Pressure Ulcer:<br>Acute Inpatients with a Hospital-Acquired Pressure Ulcer Stage II | |
|---|---|
| **Numerator** | Hospitalized patients with a Secondary ICD-10 diagnosis code of a Stage II pressure ulcer and a POA indicator value of 'N' or 'U' |
| **Denominator** | Acute care inpatients ≥ 18 years old discharged |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | See ICD-10-CM Diagnosis table below. |
| **Data Source – IA/SD/MS** | Administrative Claims |
| **Data Source – KS** | Administrative Claims |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10063 |
| **Required or Optional Measure** | Required |

| ICD-10-CM Code | ICD-10-CM Description |
|---|---|
| **L89.002** | Pressure Ulcer of Unspecified Elbow Stage 2 |
| **L89.012** | Pressure Ulcer of Right Elbow Stage 2 |
| **L89.022** | Pressure Ulcer of Left Elbow Stage 2 |
| **L89.102** | Pressure Ulcer Unspecified Part of Back Stage 2 |
| **L89.113** | Pressure Ulcer of Right Upper Back Stage 3 |
| **L89.122** | Pressure Ulcer of Left Upper Back Stage 2 |
| **L89.132** | Pressure Ulcer of Right Lower Back Stage 2 |
| **L89.142** | Pressure Ulcer of Left Lower Back Stage 2 |
| **L89.152** | Pressure Ulcer of Sacral Region Stage 2 |

| ICD-10-CM Code | ICD-10-CM Description |
|---|---|
| **L89.312** | Pressure Ulcer of Right Buttock Stage 2 |
| **L89.322** | Pressure Ulcer of Left Buttock Stage 2 |
| **L89.42** | Pressure Ulcer Contiguous Site Back, Buttock + Hip Stage 2 |
| **L89.502** | Pressure Ulcer of Unspecified Ankle Stage 2 |
| **L89.512** | Pressure Ulcer of Right Ankle Stage 2 |
| **L89.522** | Pressure Ulcer of Left Ankle Stage 2 |
| **L89.602** | Pressure Ulcer of Unspecified Heel Stage 2 |
| **L89.612** | Pressure Ulcer of Right Heel Stage 2 |
| **L89.622** | Pressure Ulcer of Left Heel Stage 2 |

| ICD-10-CM Code | ICD-10-CM Description |
|---|---|
| **L89.202** | Pressure Ulcer of Unspecified Hip Stage 2 |
| **L89.212** | Pressure Ulcer of Right Hip Stage 2 |
| **L89.222** | Pressure Ulcer of Left Hip Stage 2 |
| **L89.302** | Pressure Ulcer of Unspecified Buttock Stage 2 |

| ICD-10-CM Code | ICD-10-CM Description |
|---|---|
| **L89.812** | Pressure Ulcer of Head Stage 2 |
| **L89.892** | Pressure Ulcer of Other Site Stage 2 |
| **L89.92** | Pressure Ulcer of Unspecified Site Stage 2 |

| **Pressure Ulcer: Risk Assessment within 24 Hours** | |
|---|---|
| **Numerator** | Number of inpatients with completed and documented pressure injury risk assessment within 24 hours of admission |
| **Denominator** | Total number of patient admissions |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | Includes OB patients |
| **Data Source – IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source – KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of monthly monitoring data, starting 9/2020 or 1/2021 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 10086 |
| **Required or Optional Measure** | Required |

| **Pressure Ulcer: Skin Assessment within 24 Hours** | |
|---|---|
| **Numerator** | Number of patients with a complete and documented skin assessment within 24 hours of admission |
| **Denominator** | Total number of patient admissions |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | Includes OB patients |
| **Data Source – IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source – KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of performance data |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 10087 |
| **Required or Optional Measure** | Optional |

# H. Readmissions and Care Transitions

Hospitalizations account for nearly one-third of the total $2 trillion spent on healthcare in the United States*. Reducing preventable hospital readmissions is a national priority for payers, providers and policymakers seeking to improve healthcare and lower costs. The following are key resources to assist in these efforts:

*Source: http://www.ihi.org/Topics/Readmissions/Pages/default.aspx*

- **ASPIRE**
  AHRQ commissioned the ASPIRE guide, Designing and Delivering Whole-Person Transitional Care,

to identify ways evidence-based strategies reduce readmissions. It can be adapted or expanded to better address the transitional care needs of the adult Medicaid population. This updated guide offers new tools that can be used in the day-to-day working environment of hospital-based teams and cross-setting partnerships.

+ **Re-Engineered Discharge (RED) Toolkit**
AHRQ supports research on the quality and safety of the hospital discharge process and care transitions. Improvements in these areas can lead to reductions in potentially avoidable readmissions. This page links to the Re-Engineered Discharge (RED) Toolkit, including many resources and tools to improve discharge and transitions of care and reduce readmissions.

+ **Project BOOST®**
The Society of Hospital Medicine (SHM) Center for Quality provides hospitals and care teams with comprehensive resources and implementation tools that enable hospitalists to improve and enhance their care transitions. By initiating the discharge planning process early in a patient's hospital stay, the care team can appropriately identify risks to a successful discharge.

+ **STAAR How-to Guide: Improving Transitions from Hospital to Community Settings to Reduce Avoidable Rehospitalizations**
The STAAR How-to Guide is designed to support hospital-based teams and their community partners in co-designing and reliably implementing improved care processes to ensure that patients who have been discharged from the hospital have an effective transition to either the home or the next community care setting.

+ **The Care Transitions Program®**
Under the direction of Eric A. Colman, MD, MPH, The Care Transitions Program provides insights and tools for how to improve quality and manage risk during care handovers.

+ **CHCS Transforming Complex Care**
Patients with complex needs are a relatively small group of individuals who account for a disproportionate amount of healthcare costs. Transforming Complex Care, supported with a grant from the Robert Wood Johnson Foundation, was a multi-site demonstration aimed at refining and spreading effective care models that addressed the complex medical and social needs of high-need, high-cost patients.

+ **IDEAL Discharge Planning (Implementation Handbook)**
The goal of the IDEAL Discharge Planning strategy is to engage patients and family members in the transition from hospital to home, with the goal of reducing adverse events and preventable readmissions. The IDEAL Discharge Strategy can be used on its own or in conjunction with other initiatives, including RED (Re-engineered Discharge), the Care Transitions program and BOOSTing (Better Outcomes for Older Adults through Safe Transitions) Care Transitions.

+ **CMS Discharge Planning Checklist**
This checklist is for patients and their caregivers preparing to leave a hospital, nursing home or other care setting.

+ **Literature: Development of a Checklist of Safe Discharge Practices for Hospital Patients**
Researchers describe a structured approach to discharge planning, starting at admission and proceeding through discharge, using a standardized checklist of tasks to be performed for each hospitalization day.

+ **Patient Activation**
Patients who are more "activated" or more involved in their health tend to have better health outcomes and lower costs than those who are less activated.

| Readmissions:<br>Post-Hospital Follow-Up Appointment | |
|---|---|
| **Numerator** | Number of Acute Care, SNF and Swing Bed inpatient discharges with follow-up appointment scheduled before discharge in accordance with risk assessment |
| **Denominator** | Number of discharges for Acute Care, Skilled Nursing Care and Swing Bed inpatient discharges |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of monthly monitoring data, starting 9/2020 or 1/2021 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 3 |
| **Required or Optional Measure** | Required |

| Readmissions:<br>Unplanned All-Cause, 30-Day Readmissions Any Hospital | |
|---|---|
| **Numerator** | Number of Acute Care inpatient discharges that meet criteria inclusion as a readmission to any hospital using unplanned, 30-day, all-cause, all-payer methodology |
| **Denominator** | Number of Acute Care inpatient discharges meeting eligibility for inclusion as an index admission |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Administrative Claims |
| **Data Source - KS** | This measure is not applicable for Kansas hospitals |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1700 |
| **Required or Optional Measure** | Required |

| Readmissions:<br>Unplanned All-Cause, 30-Day Readmissions Same Hospital | |
|---|---|
| **Numerator** | Number of Acute Care inpatient discharges that meet criteria inclusion as a readmission to the same hospital using unplanned, 30-day, all-cause, all-payer methodology |
| **Denominator** | Number of Acute Care inpatient discharges meeting eligibility for inclusion as an index admission |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Administrative Claims |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1845 |
| **Required or Optional Measure** | Required |

# I. Severe Sepsis and Septic Shock

Sepsis is a life-threatening condition caused by infection and represents a substantial global health burden. Recent epidemiological studies showed that sepsis mortality rates have decreased, but the incidence has continued to increase. The early administration of antibiotics and intravenous fluids is considered crucial for the treatment of sepsis and increases the likelihood of survival for patients. Also, performance improvement programs have been associated with a significant increase in compliance with the sepsis bundles and a reduction in mortality. To improve sepsis management and reduce its burden, in 2017, the World Health Assembly and World Health Organization adopted a resolution that urged governments and healthcare workers to implement appropriate measures to address sepsis. Sepsis should be considered a medical emergency and increasing the level of awareness of sepsis is essential*. The following are key resources to assist in these efforts:

*Source: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6304323/

- **Best Practices in the Diagnosis and Treatment of Sepsis**
  AHRQ provides a PowerPoint and a facilitator guide for reviewing approaches to the diagnosis of sepsis, describing approaches to empiric treatment of sepsis and antibiotic therapy duration for sepsis.
- **Surviving Sepsis Campaign**
  Sepsis and septic shock are leading causes of death worldwide. Implementing the Surviving Sepsis Campaign guidelines and the Hour-1 Bundle to be part of the international effort to reduce mortality and morbidity. Also available on the website are resources such as Identifying Sepsis Early on the Wards, Sepsis Campaign App, Bundle information, and a Children's Guideline.
- **Patients and Family Guide During and After Sepsis**
  European Society of Intensive Care Medicine/Society of Critical Care Medicine presents this intensive care guide for sepsis survivors and their families.
- **Hospital Toolkit: For Adult Sepsis Surveillance**
  Toolkit prepares healthcare professionals who are interested in using the sepsis surveillance methodology from the national burden study to track healthcare facility level sepsis incidence and outcomes using an objective definition based on clinical data.
- **The Alphabet Soup**
  Diagnosis of sepsis typically does not take place until the onset of severe symptoms, as the most common scoring systems to diagnose sepsis are not predictive and suspicion of sepsis must already exist. Research now suggests the better way to identify SEPSIS early is through the electronic medical record and recognition of variation in patient vital signs and laboratory testing. If EMR monitoring is not available, one of these tools may be helpful in diagnosing SEPSIS. Each tool is discussed briefly below with links to further information.
  - **Systemic Inflammatory Response Syndrome (SIRS)**
    Coined in 1991, SIRS is one of the earliest definitions for sepsis and comprised of four criteria.
  - **Sequential (Sepsis-Related) Organ Failure Assessment (SORFA)**
    A scoring system where a score of two or more and a suspicion of infection is indicative of sepsis. SOFA is preferred over SIRS since it allows clinicians to identify organ dysfunction and can also account for clinical intervention. Drawbacks to this method include the need for laboratory variables such as creatine and bilirubin levels, and the need for a clinician to suspect sepsis beforehand.
    - **qSOFA or Quick SOFA**
      A shortened version of SOFA and intended for non-ICU patients. A clinician must already suspect sepsis and the following criteria must be met:
      - Respiratory rate greater than or equal to 22 breaths per min
      - Altered Mental Status
      - Systolic blood pressure less than or equal to 100 mmHg

- **Modified Early Warning System (MEWS)**
  A sepsis scoring system that comprises six vital signs – respiratory rate, heart rate, systolic blood pressure, consciousness level, temperature and hourly urine output – that are used to identify patients that are at a high risk of developing sepsis. When a MEWS score is calculated, each vital sign is assigned a value between zero and three. Those values are then summed together to generate a MEWS score. A score greater than or equal to four is often used to call the Rapid Response Team to the bedside. Drawbacks to MEWS include a lack of specificity and sensitivity for sepsis recognition. Source: National Heart, Lung, and Blood Institute.

| **Severe Sepsis and Septic Shock: Severe Sepsis and Septic Shock 3-Hour Management Bundle Compliance (NQF 0500)** | |
|---|---|
| **Numerator** | Number of patients (≥ 18 y/o) in the denominator population who receive all elements of the 3-hour Severe Sepsis and Septic Shock Management Bundle |
| **Denominator** | Number of patients (≥ 18 y/o) presenting with severe sepsis or septic shock (exclude patients comfort care only, where central line cannot be placed or is contraindicated, or where clinical condition precludes total measure completion) |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | **https://www.qualityforum.org/Projects/i-m/Infectious_Disease_Endorsement_Maintenance_2012/0500.aspx** |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 10017 |
| **Required or Optional Measure** | Required |

| **Severe Sepsis and Septic Shock: Postoperative Sepsis Rate (AHRQ PSI 13)** | |
|---|---|
| **Numerator** | Number of Acute Care elective surgical inpatient discharges with any secondary ICD-10 diagnosis code of sepsis |
| **Denominator** | Number of Acute Care elective surgical inpatient discharges with any listed ICD-10 procedure code for an operating room procedure and admission type recorded as elective |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2020/TechSpecs/PSI_13_Postoperative_Sepsis_Rate.pdf** |
| **Data Source - IA/SD/MS** | Administrative Claims |
| **Data Source - KS** | Administrative Claims |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1816 |
| **Required or Optional Measure** | Required |

| **Severe Sepsis and Septic Shock: Sepsis Mortality** | |
|---|---|
| **Numerator** | Number of deaths in patients diagnosed with Sepsis or Septic Shock |
| **Denominator** | Patients with diagnosis of Sepsis or Septic Shock |
| **Multiplier** | 1000 |

| Severe Sepsis and Septic Shock: Sepsis Mortality | |
|---|---|
| **Link/Notes on measure specifications if applicable** | For specific diagnosis codes identifying severe sepsis/septic shock, refer to the numerator specifications for AHRQ PSI 13 |
| **Data Source - IA/SD/MS** | Administrative Claims |
| **Data Source - KS** | Administrative Claims |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 80712 |
| **Required or Optional Measure** | Required |

# V. Additional Focus Areas

## A. Surgical Site Infection (SSI)

SSIs continue to represent a significant portion of healthcare-associated infections. The impact on morbidity, mortality and cost of care has resulted in SSI reduction being identified as a top national priority in the US Department of Health and Human Services Action Plan to Prevent Healthcare-Associated Infections. The majority of SSIs are largely preventable and evidence-based strategies have been available for more than 10 years and implemented in many hospitals*. The following are key resources to assist in these efforts:

*Source: http://www.ihi.org/Topics/SSI/Pages/default.aspx

- **Association of periOperative Registered Nurses (AORN) Guidelines for Perioperative Practice**
  A brief of 2020 updates includes information to clarify issues related to evidence level, attire, double gloving, colored tip protectors and cleaning carts.
- **CDC Guideline for the Prevention of Surgical Site Infection**
  Updated in 2017. The manual can be found through the Journal of American Medical Association.
- **2014 Society for Healthcare Epidemiology of America (SHEA) Compendium**
  Provides evidence-based strategies and implementation frameworks for preventing hospital acquired infections (HAIs).
- **Association for Advancement of Medical Instrumentation (AAMI) and American National Standards Institute (ANSI)**
  Comprehensive Guide to Steam Sterilization and Sterility Assurance In Healthcare Facilities
- **NHSN SSI Event Manual**
  Provides guidelines for hospital tracking of hospital acquired infections.
- **Joint Commission International: Evidence-Based Principles and Practices for Preventing Surgical Site Infections Toolkit**
  Publication features four chapters addressing the theory, science and rationale for proven practices and practical tools to implement evidence-based best practices.
- **The Patient Safety Movement**
  SSI Module through the Actional Patient Safety Solutions (APSS) Program
- **World Health Organization (WHO): Preventing Surgical Site Infections Implementation Approaches for Evidence-Based Recommendations (2018)**

Resource for addressing SSIs with a multi-modal approach. Within the document there are models and checklists to use when implementing a practice change.

| Surgical Site Infection: CDC Harmonized Procedure-Specific SSI SIR – Colon Surgeries (NQF 0753) | |
|---|---|
| **Numerator** | Observed number of Colon SSI infections based on NHSN aggregate data |
| **Denominator** | Expected number of Colon SSI infections based on NHSN aggregate data |
| **Multiplier** | 1 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1835 |
| **Required or Optional Measure** | Required |

| Surgical Site Infection: CDC Harmonized Procedure-Specific SSI SIR – Abdominal Hysterectomies (NQF 0753) | |
|---|---|
| **Numerator** | Observed number of Abdominal Hysterectomy SSI infections based on NHSN aggregate data |
| **Denominator** | Expected number of Abdominal Hysterectomy SSI infections based on NHSN aggregate data |
| **Multiplier** | 1 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1836 |
| **Required or Optional Measure** | Required |

| Surgical Site Infection: CDC Harmonized Procedure-Specific SSI SIR – Total Hip Replacements (NQF 0753) | |
|---|---|
| **Numerator** | Observed number of Total Hip SSI infections based on NHSN aggregate data |
| **Denominator** | Expected number of Total Hip SSI infections based on NHSN aggregate data |
| **Multiplier** | 1 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1837 |
| **Required or Optional Measure** | Required |

| Surgical Site Infection: CDC Harmonized Procedure-Specific SSI SIR – Total Knee Replacements (NQF 0753) | |
|---|---|
| **Numerator** | Observed number of Total Knee SSI infections based on NHSN aggregate data |
| **Denominator** | Expected number of Total Knee SSI infections based on NHSN aggregate data |
| **Multiplier** | 1 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1838 |
| **Required or Optional Measure** | Required |

| Surgical Site Infection: Colon Surgical Site Infection Rate | |
|---|---|
| **Numerator** | Number of hospital-acquired colon surgical site infections |
| **Denominator** | Number colon surgical episodes |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1705 |
| **Required or Optional Measure** | Required |

| Surgical Site Infection: Abdominal Hysterectomy Surgical Site Infection Rate | |
|---|---|
| **Numerator** | Number of hospital-acquired abdominal hysterectomy surgical site infections |
| **Denominator** | Number abdominal hysterectomy surgical episodes |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1706 |
| **Required or Optional Measure** | Required |

| Surgical Site Infection: Hip Replacement Surgical Site Infection Rate | |
|---|---|
| **Numerator** | Number of hospital-acquired hip replacement surgical site infections |
| **Denominator** | Number hip replacement surgical episodes |
| **Multiplier** | 100 |

| Surgical Site Infection: Hip Replacement Surgical Site Infection Rate | |
|---|---|
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1707 |
| **Required or Optional Measure** | Required |

| Surgical Site Infection: Knee Replacement Surgical Site Infection Rate | |
|---|---|
| **Numerator** | Number of hospital-acquired knee replacement surgical site infections |
| **Denominator** | Number knee replacement surgical episodes |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1708 |
| **Required or Optional Measure** | Required |

| Surgical Site Infection: Surgical Safety Checklist Compliance | |
|---|---|
| **Numerator** | Number of surgical inpatient procedures in which the surgical safety checklist was used |
| **Denominator** | Number of surgical inpatient operating procedures |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of monthly monitoring data, starting 9/2020 or 1/2021 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 1843 |
| **Required or Optional Measure** | Optional |

# B. Venous Thromboembolism (VTE)

VTE is a condition in which a blood clot forms most often in the deep veins of the leg, groin or arm (known as deep vein thrombosis, DVT) and travels in the circulation, lodging in the lungs (known as pulmonary embolism, PE). Together, DVT and PE are known as VTE – a dangerous, potentially deadly medical condition. VTE is a leading cause of death and disability worldwide. A survey found that less than half of adults know that blood clots can be prevented. Research suggests that VTEs are often preventable, and evidence-based prevention strategies can stop the development of clots in 'at-risk' individuals*. The following are key resources to assist in these efforts:

*Source: https://www.worldthrombosisday.org/issue/vte/

- **AHRQs Preventing Hospital-Associated Venous Thromboembolism: A Guide for Effective Quality Improvement**
- **Patient Safety Movement: Actionable Patient Safety Solutions (APSS): Venous Thromboembolism**
  This Actionable Patient Safety Solution for VTE is a document that provides the blueprint for successful VTE prevention and includes a summary of evidence-based protocols.
- **Anticoagulation Forum (AC Forum) Resources:**
  - **Anticoagulation Stewardship Program Guide**
  - **Initiation of Oral Anticoagulant for Atrial Fibrillation Order Set**
    This is an order set including risk assessment, drug selection, initiation and dosing, labs, patient education and other considerations. It can be used as a primary document or to integrate decision-making into the EMR system.
  - **Acute VTE Care Transition Order Set (Adult)**
    Created by the AC Forum, this order set includes factors for drug selection, dosing, DOAC and non-DOAC therapies, kidney and liver function labs, as well as shared decision-making and other considerations.
  - **Order Set for Safe initiation of DOAC for patients with CAD/PAD already on guideline directed therapy**
    This order set may be used for patients diagnosed with stable coronary artery disease (CAD) and/or peripheral artery disease (PAD) who are already being treated with guideline directed antiplatelet therapy and require prescription of adjunct direct oral anticoagulant therapy in an inpatient or outpatient setting.
  - **Order Set for VTE prophylaxis for the medically ill patient**
    This order set is intended to facilitate standardized venous thromboembolism (VTE) prophylaxis risk stratification of hospitalized medically ill patients for:
    - Hospital-acquired VTE
    - Prophylaxis-associated bleeding on anticoagulation administration
    - Prescription of risk appropriate VTE prophylaxis
- **American Society of Hematology (ASH) Patient Educations Resources:**
  - **How a DVT can lead to PE video**
  - **Deep Vein Thrombosis Factsheet: Myths vs. Facts**

| **Venous Thromboembolism: Post-Operative Pulmonary Embolism (PE) or Deep Venous Thrombosis (DVT) Rate (AHRQ PSI-12), (NQF 0450)** | |
|---|---|
| **Numerator** | Number of Acute Care surgical inpatients with secondary ICD-10 code(s) for DVT or PE that were not present on admission |
| **Denominator** | Number of Acute Care surgical inpatient discharges (>18 years old) |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2020/TechSpecs/PSI_12_Perioperative_Pulmonary_Embolism_or_Deep_Vein_Thrombosis_Rate.pdf** |
| **Data Source - IA/SD/MS** | Administrative Claims |
| **Data Source - KS** | Administrative Claims |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1728 |
| **Required or Optional Measure** | Required |

| Venous Thromboembolism: VTE Appropriate Prophylaxis | |
|---|---|
| **Numerator** | Number of Acute Care, SNF, Swing Bed and Observation patients who received appropriate VTE prophylaxis or have documentation why no VTE prophylaxis was given |
| **Denominator** | Number of patients admitted to Acute Care, Skilled Nursing Care or Swing Bed with stays of > 48 hours |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 or first three months of monthly monitoring data, starting 9/2020 or 1/2021 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 34 |
| **Required or Optional Measure** | Optional |

# C. Falls

Each year, between 700,000 and 1,000,000 people in the United States fall in the hospital. A fall may result in fractures, lacerations or internal bleeding, leading to increased healthcare utilization. Research shows that close to one-third of falls can be prevented. Fall prevention involves managing a patient's underlying fall risk factors and optimizing the hospital's physical design and environment. These resources focus on overcoming the challenges associated with developing, implementing and sustaining fall prevention.
*Source: https://www.ahrq.gov/patient-safety/settings/hospital/fall-prevention/toolkit/index.html*

- **AHRQ Preventing Falls in Hospitals: A Toolkit for Improving Quality of Care**
  Provides a roadmap, many tools, multiple assessments and resources to guide the implementation and sustainment of a fall prevention program. The entire manual, or individual sections and tools, can be accessed and downloaded for use. The resource list is extensive and contains many useful articles and evidence-based practices.
- **Fall Tailoring Intervention for Patient Safety (TIPS) Model**
  Integrates into the electronic health record and is heavily focused on engaging the patient and family to decrease preventable falls and injuries from falls.
- **Evaluation of a Patient-Centered Fall-Prevention Tool Kit to Reduce Falls and Injuries: A Nonrandomized Controlled Trial**
  A research article by Patricia C. Dykes, et al. from November 2020 demonstrates a significant reduction in patient falls and fall injuries related to the use of the Fall TIPS interventions.
- **CDC Initiative: Stopping Elderly Accidents, Deaths & Injuries (STEADI)**
  The program shares multiple resources and videos for clinicians, pharmacists and patients and family that extend beyond primary care. Printable brochures for family caregivers and a patient self-assessment for fall risk are located on the site.
- **CAPTURE Falls Toolkit**
  The University of Nebraska Medical Center developed fall risk reduction resources as part of the Collaboration and Proactive Teamwork Used to Reduce (CAPTURE) Falls project, initially funded by AHRQ. A key aspect of this program is implementing a multiteam system consisting of interprofessional care, coordinating and contingency teams.
- **U.S. Department of Veterans Affairs Falls Toolkit**
  This toolkit is designed to aid facilities in developing a comprehensive falls prevention program. The toolkit consists of a wide variety of items, including a fall program interventions self-

assessment, instructions, falls team, falls policy, resources, floor mat guide and examples, post-fall huddle tools and more.

+ **IHI How-to Guide: Reducing Patient Injuries from Falls**
  This guide was initially developed as part of the Transforming Care at the Bedside (TCAB) initiative.

| **Falls:<br>Falls with Injury** | |
|---|---|
| **Numerator** | Total number of patient falls with an injury level of minor or greater (whether or not assisted by a staff member) (Specifications: NQF 0202) |
| **Denominator** | Patient days by eligible units during the measurement period |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **https://www.ahrq.gov/patient-safety/settings/hospital/fall-prevention/toolkit/measure-fall-rates.html#5-1** |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10045 |
| **Required or Optional Measure** | Required |

| **Falls:<br>Fall Rate Resulting in Fracture or Dislocation (CMS HAC)** | |
|---|---|
| **Numerator** | Number of Acute Care inpatient discharges with ICD-10 fracture or dislocation code(s) not present on admission |
| **Denominator** | Number of Acute Care discharges |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Administrative Claims |
| **Data Source - KS** | Administrative Claims |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1716 |
| **Required or Optional Measure** | Required |

| **Falls:<br>Falls with or without Injury** | |
|---|---|
| **Numerator** | Number of patient falls (Specifications: NQF 0141) |
| **Denominator** | Patient days by eligible units (all inpatient days) during the measurement period |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **https://www.ahrq.gov/patient-safety/settings/hospital/fall-prevention/toolkit/measure-fall-rates.html#5-1** |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 10044 |
| **Required or Optional Measure** | Optional |

| Falls:<br>Fall Risk Assessment on Admission | |
|---|---|
| **Numerator** | Number of Acute Care, SNF, Swing Bed and Observation patients assessed for fall risk on admission |
| **Denominator** | Number of admitted Acute Care, Skilled Nursing Care, Swing Bed and Observation patients |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 23 |
| **Required or Optional Measure** | Optional |

# D. Obstetrical Adverse Events

Exemption: Obstetrical adverse event measurement and reporting is not applicable for Kansas hospitals participating in the HQIC program

The last few weeks of pregnancy are critical to a baby's health because important organs, including the brain and lungs, are not completely developed until the end of pregnancy. Morbidity and mortality rates are greater among neonates and infants delivered during the early-term period compared with those delivered between 39 weeks and 40 weeks of gestation. Successful implementation of a 39-week induction program can only come from a commitment to providing care that is patient-centered and safe.
*Source: https://www.hqinstitute.org/obstetrics-ob-perinatal-harm*

- **Obstetrical (OB) Harm Top Ten Checklist**
  Checklist of evidenced-based departmental interventions to reduce OAE of all types.
- **2020 MQHP Perinatal Care Guidelines**
  Developed by a collaborative group of healthcare organizations and published by Massachusetts Health Quality Partners. Includes recommended testing and interventions from the first prenatal visit to the postpartum visit.
- **Early Elective Delivery Top Ten Checklist**
  Review previous and current Early Elective Delivery (EED) practices within the organization. Includes interventions to decrease incidence of EED prior to 39 weeks gestation.
- **March of Dimes Patient Education**
  Information that can be provided to patients regarding the importance of the last few weeks of pregnancy. Addresses key talking points as well as answers to frequently asked patient questions regarding early delivery.
- **HQI Toolkit: Eliminating EEDs**
  Includes measure specifications, who to invite to the performance improvement team, tools and success stories to use to increase staff buy-in.
- **Tools to Optimize Outcomes of Labor Safely | BirthTools**
  Birthtools.org provides a variety of tools for optimizing the outcomes of labor safely. Provides information on a variety of topics including quality improvement, unit culture and reducing primary Cesarean.

- **Council on Patient Safety in Women's Health Care**
  Established in 2011 to bring partner, subspecialty and patient organizations together with the goal of improving healthcare for all women. Includes patient safety bundles on a variety of topics that can be printed and utilized.
- **CDC – Maternal Mortality**
  Provides information and education on a variety of maternal and infant health topics including prevention techniques, Enhancing Reviews and Surveillance to Eliminate Maternal Mortality (ERASE MM), and Pregnancy Mortality Surveillance System.

| **Obstetrical Adverse Events: Obstetric Trauma Rate – Vaginal Delivery without Instrument (AHRQ PSI 19)** | |
|---|---|
| **Numerator** | Number of vaginally-delivered, non-instrument-assisted Moms with ICD-10 code(s) for 3rd or 4th degree obstetric trauma |
| **Denominator** | Number of vaginal deliveries without ICD-10 procedure code(s) for non-instrument-assisted delivery |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2018/TechSp ecs/PSI_19_Obstetric_Trauma_Rate-Vaginal_Delivery_Without_Instrument.pdf** |
| **Data Source - IA/SD/MS** | Administrative Claims |
| **Data Source - KS** | N/A |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1725 |
| **Required or Optional Measure** | Required |

| **Obstetrical Adverse Events: Primary Cesarean Delivery Rate, Uncomplicated (IQI 33)** | |
|---|---|
| **Numerator** | Number of maternal inpatients with either MS-DRG code for Cesarean delivery or any-listed ICD-10 procedure code(s) for Cesarean delivery without any listed ICD-10 procedure code(s) for hysterotomy |
| **Denominator** | Number of deliveries |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **https://www.qualityindicators.ahrq.gov/Downloads/Modules/IQI/V2018/TechSp ecs/IQI_33_Primary_Cesarean_Delivery_Rate_Uncomplicated.pdf** |
| **Data Source - IA/SD/MS** | Administrative Claims |
| **Data Source - KS** | N/A |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1720 |
| **Required or Optional Measure** | Required |

| **Obstetrical Adverse Events: Birth Trauma Rate – Injury to Neonate (AHRQ PSI 17)** | |
|---|---|
| **Numerator** | Number of Newborns with ICD-10 code(s) for birth trauma |
| **Denominator** | Number of newborns |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2018/TechSp ecs/PSI_17_Birth_Trauma_Rate-Injury_to_Neonate.pdf** |
| **Data Source - IA/SD/MS** | Administrative Claims |

| Obstetrical Adverse Events: Birth Trauma Rate – Injury to Neonate (AHRQ PSI 17) | |
|---|---|
| **Data Source - KS** | N/A |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1723 |
| **Required or Optional Measure** | Required |

| Obstetrical Adverse Events: Obstetric Trauma Rate – Vaginal Delivery with Instrument (AHRQ PSI 18) | |
|---|---|
| **Numerator** | Number of vaginally-delivered, instrument-assisted Moms with ICD-10 code(s) for 3rd or 4th degree obstetric trauma |
| **Denominator** | Number of vaginal deliveries with ICD-10 procedure code(s) for instrument-assisted delivery |
| **Multiplier** | 1000 |
| **Link/Notes on measure specifications if applicable** | **https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2018/TechSp ecs/PSI_18_Obstetric_Trauma_Rate–Vaginal_Delivery_With_Instrument.pdf** |
| **Data Source - IA/SD/MS** | Administrative Claims |
| **Data Source - KS** | N/A |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1724 |
| **Required or Optional Measure** | Required |

| Obstetrical Adverse Events: Early Elective Delivery | |
|---|---|
| **Numerator** | Number of elective maternal deliveries between 37-39 weeks gestation with no medical indication |
| **Denominator** | All deliveries between 37-39 weeks gestation |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | N/A |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 32 |
| **Required or Optional Measure** | Optional |

# E. Ventilator-Associated Events (VAE)

VAE groups all the conditions that result in a significant and sustained deterioration in oxygenation, defined as a greater than 20 percent increase in the daily minimum fraction of inspired oxygen or an increase of at least 3 cm $H_2O$ in the daily minimum positive end-expiratory pressure (PEEP) to maintain oxygenation. It is imperative to understand that both infectious conditions (such as tracheitis, tracheobronchitis and pneumonia) and noninfectious conditions (such as atelectasis, pulmonary embolism, pulmonary edema, ventilator-induced lung injury and others) may fulfill this VAE definition. The definition is three tiered, as follows:

- Tier 1: ventilator-associated condition (VAC) - the patient develops hypoxemia (as defined above) for a sustained period of more than two days. The etiology of the hypoxemia is not considered.
- Tier 2: infection-related ventilator-associated complication (IVAC) - hypoxemia develops in the setting of generalized infection or inflammation, and antibiotics are instituted for a minimum of four days.
- Tier 3: probable or possible ventilator-associated pneumonia (VAP) - additional laboratory evidence of white blood cells on Gram stain of material from a respiratory secretion specimen of acceptable quality, or (=possible)/and (=probable) presence of respiratory pathogens on quantitative cultures, in patients with IVAC. Additional criteria are also available for use in meeting the possible or probable VAP definitions.

The following are key resources to assist with the management and prevention of VAEs.
*Source: Ventilator-Associated Events: The New Definition | American Journal of Critical Care | American Association of Critical-Care Nurses (aacnjournals.org)*

- **AHRQ Toolkit to Improve Patient Safety for Mechanically Ventilated Patients**
  The Toolkit to Improve Safety for Mechanically Ventilated Patients helps hospitals make care safer for mechanically ventilated patients in intensive care units (ICUs). ICU staff can use the toolkit to apply the proven principles and methods of AHRQ's Comprehensive Unit-based Safety Program (CUSP) to reduce complications for patients on ventilators. Such complications include ventilator-associated pneumonia, which affects as many as 20 percent of patients who are on a ventilator for more than 48 hours. The toolkit includes resources used by hospitals that participated in the AHRQ Safety Program for Mechanically Ventilated Patients project.
- **January 2021 NHSN Patient Safety Component Manual for VAE**
  The manual includes definition, reporting instructions, VAE surveillance algorithm, data analysis, list of antimicrobial agents available for VAC and VAP and VAE frequently asked questions.
- **NHSN Surveillance for VAE Website**
  Site provides NHSN training, protocols, frequently asked questions, data collection forms, supporting materials such as a calculator and worksheets, resources and analysis resources.
- **VAE Core Strategies Checklist/Gap Assessment**
  Core prevention strategies that can be utilized as a checklist/gap assessment when determining core strategies are in place at a facility.
- **Hospital Quality Institute (HQI) VAE toolkit**
  This HQI toolkit will assist hospitals in measuring VAE, VAP, identifying and engaging key stakeholders, providing harm elimination tools that work, and learning through the success of other hospitals. This toolkit is divided into five sections:
  - What to Measure, listing the outcome and process measures focused on in the toolkit
  - Key Improvement Team Members, providing a basic list of who should be involved
  - Tools that Work, a compilation of proven tools and methods
  - Success Stories, highlighting the success of hospitals that used the tools in the toolkit
  - Additional Resources, websites beyond this toolkit that have proven resourceful
- **Society of Critical Care Medicine Intensive Care Unit (ICU) Liberation Bundle**
  The ICU Liberation Bundle (A-F) elements individually and collectively can help reduce delirium, improve pain management and reduce long-term consequences for adult ICU patients. This site highlights ABCDEF with definition and resources. A YouTube Video reviewing the ABCDE and F bundle is also available.

| Ventilator-Associated Events: Ventilator-Associated Conditions (VAC) | |
|---|---|
| **Numerator** | Number of events that meet VAC criteria |
| **Denominator** | Number of ventilator days |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1710 |
| **Required or Optional Measure** | Required |

| Ventilator-Associated Events: Infection-Related Ventilator-Associated Complication (IVAC) | |
|---|---|
| **Numerator** | Number of events that meet IVAC criteria |
| **Denominator** | Number of ventilator days |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1711 |
| **Required or Optional Measure** | Required |

| Ventilator-Associated Events: Possible/Probable Ventilator-Associated Pneumonia | |
|---|---|
| **Numerator** | Number of events that meet possible/probable Ventilator-Associated Pneumonia criteria |
| **Denominator** | Number of ventilator days |
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | **2021 NHSN Patient Safety Component Manual** (cdc.gov) |
| **Data Source - IA/SD/MS** | NHSN |
| **Data Source - KS** | NHSN |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Outcome |
| **HQIC Measure ID** | 1712 |
| **Required or Optional Measure** | Required |

| Ventilator-Associated Events: Ventilator Bundle Compliance | |
|---|---|
| **Numerator** | Number of ICU patients on mechanical ventilation with full ventilator-associated prevention bundle compliance |
| **Denominator** | Number of ICU patients on mechanical ventilation on day of week sample |

| Ventilator-Associated Events: Ventilator Bundle Compliance | |
|---|---|
| **Multiplier** | 100 |
| **Link/Notes on measure specifications if applicable** | N/A |
| **Data Source - IA/SD/MS** | Self-reported on Compass Data Portal |
| **Data Source - KS** | Self-reported on QHI Data Portal |
| **Baseline period** | CY2019 |
| **Outcome or Process** | Process |
| **HQIC Measure ID** | 14 |
| **Required or Optional Measure** | Optional |

# VI. Health Equity Organizational Assessment

Health equity has been defined as the attainment of the highest level of health for all people. Health equity is not the same as health equality, where everyone gets the same opportunities for health. Health equity requires a concerted effort to increase opportunities for everyone to be healthier, including those for whom obstacles are the greatest. This means that efforts must encompass individuals facing poverty, discrimination, or its consequences, and those who lack access to healthcare. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to good health based on their race, ethnicity, religion, socioeconomic status, gender, age, mental health, disability, sexual orientation or gender identity, or other characteristics historically linked to discrimination or exclusion. As a result, we can make progress toward health equity by identifying and addressing health disparities. The following Health Equity Organization Assessment (HEOA) provides the different ways in which health quality can be assessed within an organization and resources to support progress.

## A. Health Assessment Data Category 1: Data Collection

Hospital uses a self-reporting methodology to collect demographic data from the patient and/or caregiver.

Intent:

- Best practice recommendations include the collection of patient demographic data to help hospitals and healthcare systems understand their patient populations and measure patient outcomes to ensure health equity.
- National/State reporting requirements emphasize the need for obtaining REAL and disability information.
- Federal policies govern racial, ethnic and primary language data collection and reporting.
- Meaningful Use Certification Criteria requires the recoding of demographic information including Race and Ethnicity in accordance with the **OMB Standards**.
- Using a self-reporting methodology to collect patient demographic data removes "guess-work" and ensures accurate data is being collected.

| Level of Hospital Implementation: Basic/Fundamental | Level of Hospital Implementation: Mid-Level/Intermediate | Level of Hospital Implementation: Advanced |
|---|---|---|
| Hospital uses self-reporting methodology to collect race, ethnicity and language (REAL) data for all patients.<br><br>All race and ethnicity categories collected should, at a minimum, roll up to the **OMB categories** and should be collected in separate fields. Engage Patient/Family Advisors in the collection of REAL data to gain their insights and feedback. | Hospital meets the basic/ fundamental level of implementation **plus**:<br><br>Hospital collects REAL data for at least 95% of their patients with opportunity for verification at multiple points of care (beyond just registration) to ensure accuracy of the data and to prevent any missed opportunities for data collection (e.g., pre-registration process, registration/admission process, inpatient units, etc.).<br><br>**Race, Ethnicity, Language Data Collection Best Practices Resource** | Hospital meets the basic/ fundamental and mid/ intermediate levels of implementation **plus**:<br><br>Hospital uses self-reporting methodology to collect additional demographic data (beyond REAL) for patients such as disability status, sexual orientation/gender identity (SOGI), veteran status, geography and/or other social determinants of health (SDOH) or social risk factors.<br><br>**SDOH/social risk factors** may include education level, access to housing, food availability, migrant status, income, incarceration history, access to healthcare and employment status, etc.<br><br>**Additional Details** |

# B. Health Assessment Data Category 2: Data Collection Training

Hospital provides workforce training regarding the collection of self-reported patient demographic data.

Intent:

- Training must be provided during orientation for staff who collect patient demographic data, the effectiveness of training should be periodically evaluated.
- Annual training updates for staff are highly recommended.
- At a minimum, training is provided to registration/admission staff. Training additional staff in patient self-reported demographic data collection should be completed as needed.
- Standardized procedures are in place to train staff to use patient self-reporting methodologies to collect demographic data, ensuring this data is accurately and consistently collected.

| Level of Hospital Implementation: Basic/Fundamental | Level of Hospital Implementation: Mid-Level/Intermediate | Level of Hospital Implementation: Advanced |
|---|---|---|
| Workforce training is provided to staff regarding the collection of patient self-reported REAL data.<br><br>Examples of training may include role playing, scripts, didactic, manuals, on-line modules or other tools/job aids. Patient/Family Advisors should be included in the development and delivery of workforce training to collect REAL data. | Hospital meets the basic/ fundamental level of implementation **plus**:<br><br>Hospital evaluates the effectiveness of workforce training on an annual basis to ensure staff demonstrate competency in patient self-reporting data collection methodology (e.g., observations, teach back, post-test, etc.) | Hospital meets the basic/fundamental and mid/intermediate levels of implementation **plus**:<br><br>Workforce training is provided to staff regarding the collection of additional patient self-reported demographic data (beyond REAL) such as disability status, sexual orientation/gender identity (SOGI), veteran status, geography and/or other social determinants of health (SDOH) or social risk factors.<br><br>**SDOH/social risk factors** may include education level, access to housing, food availability, migrant status, income, incarceration history, access to healthcare and employment status, etc.<br><br>**Additional Details** |

# C. Health Assessment Data Category 3: Data Validation

Hospital verifies the accuracy and completeness of patient self-reported demographic data.

Intent:

- Hospital has a standardized process in place to evaluate and validate the accuracy of patient self-reported demographic data including percent of "unknown", "unavailable", or "declined" for REAL data (aiming for a cumulative goal of <5%).
    - **Resource on <5% recommendation**
- Hospital evaluates and addresses system-level issues throughout evaluation processes to continually improve the collection of self-reported patient demographic data.

| Level of Hospital Implementation: Basic/Fundamental | Level of Hospital Implementation: Mid-Level/Intermediate | Level of Hospital Implementation: Advanced |
|---|---|---|
| Hospital has a standardized process in place to both evaluate the accuracy and completeness (percent of fields completed) for REAL data **and** a process to evaluate and compare hospital collected REAL data to local demographic community data. | Hospital meets the basic/ fundamental level of implementation **plus**:<br><br>Hospital addresses any system-level issues (e.g., changes in patient registration screens/fields, data flow, workforce training, etc.) to improve the collection of self-reported REAL data.<br><br>Patient/Family Advisors can provide invaluable insights and feedback to address system-level issues regarding the collection of REAL data. | Hospital meets the basic/fundamental and mid/intermediate levels of implementation **plus**:<br><br>Hospital has a standardized process in place to evaluate the accuracy and completeness (percent of fields completed) for additional demographic data (beyond REAL) such as disability status, sexual orientation/gender identity (SOGI), veteran status, geography and/or other social determinants of health (SDOH) or social risk factors - and has a process in place to evaluate and compare hospital collected patient demographic data to local demographic community data.<br><br>**SDOH/social risk factors** may include education level, access to housing, food availability, migrant status, income, incarceration history, access to healthcare, and employment status, etc.<br><br>**Additional Details** |

# D. Health Assessment Data Category 4: Data Stratification

Hospital stratifies patient safety, quality and/or outcome measures using patient demographic data.

Intent:

- Examine patient safety, quality or outcome measures with an equity lens to determine if differences in patient outcomes exist, identify areas in need of quality improvement and targeted interventions.

| Level of Hospital Implementation: Basic/Fundamental | Level of Hospital Implementation: Mid-Level/Intermediate | Level of Hospital Implementation: Advanced |
|---|---|---|
| Hospital stratifies **at least one** patient safety, quality and/or outcome measure by REAL. | Hospital meets the basic/ fundamental level of implementation **plus**:<br><br>Hospital stratifies **more than one (or many)** patient safety, quality and or outcome measure by REAL. | Hospital meets the basic/fundamental and mid/intermediate levels of implementation **plus**:<br><br>Hospital stratifies **more than one (or many)** patient safety, quality and/or outcome measure by REAL and other |

| Level of Hospital Implementation: Basic/Fundamental | Level of Hospital Implementation: Mid-Level/Intermediate | Level of Hospital Implementation: Advanced |
|---|---|---|
| | | demographic data (beyond REAL) such as disability status, sexual orientation/gender identity (SOGI), veteran status, geography and/or other social determinants of health (SDOH) or social risk factors.<br><br>**SDOH/social risk factors** may include education level, access to housing, food availability, migrant status, income, incarceration history, access to healthcare and employment status, etc.<br><br>**Additional Details** |

# E. Health Assessment Data Category 5: Communicate Findings

Hospital uses a reporting mechanism (e.g., equity dashboard) to communicate outcomes for various patient populations.

Intent:

+ Hospital communicates identified gaps in disparities with the intent to create organization – and communitywide awareness of potential differences in patient outcomes and promotes understanding of patient population needs. A regular reporting mechanism (e.g., quarterly, semi-annually, etc.) is in place that leadership can visually assess for potential differences in patient outcomes. This may include equity dashboards, scorecards or reports.

| Level of Hospital Implementation: Basic/Fundamental | Level of Hospital Implementation: Mid-Level/Intermediate | Level of Hospital Implementation: Advanced |
|---|---|---|
| Hospital uses a **reporting** mechanism (e.g., equity dashboard) to routinely communicate patient population outcomes to hospital senior executive leadership (including medical staff leadership) and the Board. | Hospital meets the basic/ fundamental level of implementation **plus**:<br><br>Hospital uses a **reporting mechanism** (e.g., equity dashboard) to routinely communicate patient population outcomes widely within the organization (e.g., quality staff, front line staff, managers, directors, providers, committees and departments or service lines). | Hospital meets the basic/fundamental and mid/ intermediate levels of implementation **plus**:<br><br>Hospital uses a **reporting mechanism** (e.g., equity dashboard) to share/communicate patient population outcomes with patients and families (e.g., PFAC members) and/or other community partners or stakeholders. |

# F. Health Assessment Data Category 6: Address and Resolve Gaps in Care

Hospital implements interventions to resolve differences in patient outcomes.

Intent:

+ Ensure proper provision of resources to resolve differences in patient outcomes.
+ Tailor interventions to resolve differences in patient outcomes and educate staff about gaps in care.
+ To every extent possible, existing teams should be utilized to address gaps in care.

| Level of Hospital Implementation: Basic/Fundamental | Level of Hospital Implementation: Mid-Level/Intermediate | Level of Hospital Implementation: Advanced |
|---|---|---|
| Hospital engages multidisciplinary team(s) to develop and pilot test interventions to address identified disparities in patient outcomes.<br><br>Multidisciplinary teams can include: diversity and inclusion committee, data/analytics, Patient and Family Advisory Councils (PFACs), patient safety committee, information technology, quality/ performance improvement, patient experience, corporate auditing and finance, etc. | Hospital meets the basic/ fundamental level of implementation **plus**:<br><br>Hospital implements interventions (e.g., redesigns processes, conducts system improvement projects and/or develops new services) to resolve identified disparities and educates staff/workforce regarding findings. | Hospital meets the basic/fundamental and mid/ intermediate levels of implementation **plus**:<br><br>Hospital has a process in place for ongoing review, monitoring, recalibrating interventions (as needed) to ensure changes are sustainable. |
| **Level of Hospital Implementation: Basic/Fundamental** | **Level of Hospital Implementation: Mid-Level/Intermediate** | **Level of Hospital Implementation: Advanced** |
| **Practical Example:** Hospital organized a team [nursing, linguistic services, case management, providers and Patient and Family Advisory Council (PFAC) member] to pilot test the mandatory use of in-person interpreters at the point of discharge for all patients/families with limited English proficiency (LEP) for three months and monitor readmission rates. | **Practical Example:** Pilot data shows reduction in readmissions in LEP patients. Due to positive results, linguistic resources were broadened, policy was changed to make in-person interpreter mandatory at discharge and triggers were built in the EHR to alert staff to use in-person interpreters at the point of discharge. | **Practical Example:** Linguistic services and case management keep dashboards to monitor LEP related readmissions, in person interpreter utilization with EHR triggers and report this to leadership on a monthly basis. |

## Practical Example Background/Explanation

Hospital identified a disparity in Readmission rates between patients with limited English proficiency (LEP) and English speaking counterparts.

- Limited English proficiency (LEP) contributes to readmissions due to factors such as (but not limited to) inadequate understanding of discharge diagnosis and instructions, lower rates of outpatient follow-up and use of preventative services and lack of medication adherence.

# G. Health Assessment Data Category 7: Organizational Infrastructure and Culture

Hospital has organizational culture and infrastructure to support the delivery of care that is equitable for all patient populations.

Intent:

- Commitment to effectively deliver services that meet the cultural and linguistic diversity of the population served (according to CLAS standards).
- Designated an individual (or individuals) with leadership responsibility and accountability for health equity efforts (this person or team may wear more than one hat, be full-time or dedicate a portion of their time to equity efforts).
- Actively involves key stakeholders including patients and families and/or community partners in the planning, development and implementation of health equity efforts.
- Explicitly prioritizes equity in organization mission and goals.

| Level of Hospital Implementation: Basic/Fundamental | Level of Hospital Implementation: Mid-Level/Intermediate | Level of Hospital Implementation: Advanced |
|---|---|---|
| Standardized process to train its workforce to deliver culturally competent care and linguistically appropriate services (according to the CLAS standards). | Hospital meets the basic/ fundamental level of implementation **plus**: | Hospital meets the basic/fundamental and mid/ intermediate levels of implementation **plus**: |

| Level of Hospital Implementation: Basic/Fundamental | Level of Hospital Implementation: Mid-Level/Intermediate | Level of Hospital Implementation: Advanced |
|---|---|---|
| Training should routinely involve patient and family input (e.g., Patient and Family Advisory Councils (PFACs)) and can include cultural competency/intelligence regarding racial and ethnic minorities, patients with physical and mental disabilities, veterans, limited English proficient patients, lesbian, gay, bisexual and transgender (LGBT) patients, elderly patients, etc. | Hospital has named an individual (or individuals) who has leadership responsibility and accountability for health equity efforts (e.g., manager, director or Chief Equity, Inclusion and Diversity<br><br>Officer/Council/Committee) who engages with clinical champions, patients and families (e.g., Patient and Family Advisory Councils (PFACs)) and/or community partners in strategic and action planning activities to reduce disparities in health outcomes for all patient populations. Note: This doesn't have to be a member of the C-Suite. | Hospital has made a commitment to ensure equitable healthcare is prioritized and delivered to all persons through written policies, protocols, pledges or strategic planning documents by organizational leadership and Board of Directors (e.g., mission/vision/values reflect commitment to equity and is demonstrated in organizational goals and objectives), e.g., **#123forEquity Pledge** |

# H. Resources to Support Progress – Applicable to Health Equity Metrics

| Resources | Applicable to Data Collection and Training Metric | Applicable to Data Validation Metric | Applicable to Data Stratification Metric | Applicable to Comm-unicate Metric | Applicable to Take Action Metric | Applicable to Infra-structure Metric |
|---|---|---|---|---|---|---|
| **Building and Organizational Response to Health Equity**<br>CMS Office of Minority Health | X | | X | X | X | X |
| **Disparities Action Statement**<br>CMS Office of Minority Health | X | | X | X | X | X |
| **Compendium of Resources for Standardized Demographic and Language Data Collection**<br>CMS Office of Minority Health | X | X | | | | |
| **A Practical Guide to Implementing the National CLAS Standards**<br>CMS Office of Minority Health | | | | | | X |
| **Guide to Preventing Readmissions among Racially and Ethnically Diverse Medicare Beneficiaries**<br>CMS Office of Minority Health | | | | X | X | X |
| **Mapping Medicare Disparities**<br>CMS Office of Minority Health | | | X | | | |

| Resources | Applicable to Data Collection and Training Metric | Applicable to Data Validation Metric | Applicable to Data Stratification Metric | Applicable to Comm-unicate Metric | Applicable to Take Action Metric | Applicable to Infra-structure Metric |
|---|---|---|---|---|---|---|
| **Providing Language Services to Diverse Populations: Lessons from the Field** CMS Office of Minority Health | | | | | | X |
| **Guide to Developing a Language Access Plan** CMS Office of Minority Health | | | | | | X |
| **Sexual and Gender Minority Clearinghouse** CMS Office of Minority Health | X | | | | | |
| **OMB Categories for Data Collection** HHS implementation guidance on data collection standards for race, ethnicity, sex, primary language and disability status | X | | | | | |
| **Advancing Effective Communication, Cultural Competence, and Patient- and Family-Centered Care: A Roadmap for Hospitals** The Joint Commission 2010 | X | | | | | X |
| **Advancing Effective Communication, Cultural Competence, and Patient- and Family-Centered Care for the Lesbian, Gay, Bisexual and Transgender (LGBT) Community** The Joint Commission 2014 | X | | | | | X |
| **American Society of Healthcare Risk Management Equity of Care Assessment Tool** ASHRM 2015 | X | | X | | | X |
| **Reducing Health Care Disparities: Collection and Use of Race, Ethnicity and Language Data** Equity of Care AHA/HRET Aug 2013 | X | | X | | | |
| **A Framework for Stratifying Race, Ethnicity and Language Data** Equity of Care AHA/HRET 2014 | | X | X | | | |
| **Equity of Care: A Toolkit for Eliminating Health Care Disparities** Equity of Care AHA/HRET 2015 | X | | X | X | X | X |
| **#123forEquity Pledge to Act to Eliminate Health Care Disparities** Equity of Care AHA/HRET | | | | X | X | X |
| **Improving Health Equity Through Data Collection AND Use: A Guide for Hospital Leaders** Equity of Care AHA/HRET 2011 | X | | X | | | |
| **Becoming a Culturally Competent Health Care Organization** Equity of Care AHA/HRET 2013 | | | | | | X |
| **Eliminating Health Care Disparities: Implementing the National Call to Action Using Lessons Learned** Equity of Care AHA/HRET 2012 | X | | X | X | X | X |
| **The Role of the Chief Diversity Officer in Academic Health Centers** | | | | | | X |

| Resources | Applicable to Data Collection and Training Metric | Applicable to Data Validation Metric | Applicable to Data Stratification Metric | Applicable to Comm-unicate Metric | Applicable to Take Action Metric | Applicable to Infra-structure Metric |
|---|---|---|---|---|---|---|
| Institute for Diversity in Health Management, HRET 2012 | | | | | | |
| **Health Equity and Race and Ethnicity Data: The Colorado Trust** The Colorado Trust Sept 2013 | X | X | X | | | |
| **Building a Culturally Competent Organization: The Quest for Equity in Health Care** | X | | X | | | X |
| **Guide to Demographic Data Collection in Healthcare Settings** Ontario Central Local Health Integrated Network-Sinai Health System, 2017 | X | X | X | | | X |
| **New York State Toolkit to Reduce Health Care Disparities: Improving Race and Ethnicity Data** NY State Department of Health 2014 | X | | | | | |
| **A Toolkit for Collecting Data on Sexual Orientation and Gender Identity in Clinical Settings** Fenway Institute | X | | | | | |
| **Improving Patient Safety Systems for Patients With Limited English Proficiency: A Guide for Hospitals** AHRQ/Disparities Solution Center 2012 | | | X | | | X |
| **Commissioned Paper: Healthcare Disparities Measurement** Disparities Solution Center 2011 | X | | X | | | |
| **Improving Quality and Achieving Equity: A Guide for Hospital Leaders** Disparities Solution Center 2015 | X | | X | X | X | X |
| **Race, Ethnicity, Language Data Collection Best Practices** Greater Cincinnati Health Council, 2012 | X | X | | | | |