Essential Hospitals Engagement Network (EHEN)
Data Reporting Specification Manual

VERSION 7
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Outcome & Process Metrics

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Introduction

The Essential Hospitals Engagement Network (EHEN), formerly the National Association of Public Hospitals and Health Systems (NAPH) Safety Network (NSN), is one of 27 hospital engagement networks that the Centers for Medicare & Medicaid Services (CMS) funds through the Partnership for Patients (PfP), a national initiative that aims to reduce preventable hospital-acquired conditions by 40 percent and preventable readmissions by 20 percent by December 2014.

To track quality improvement efforts at EHEN participant hospitals, America's Essential Hospitals collects data on select outcome and process metrics on a monthly basis. EHEN improvement coaches use the collected data to help guide their consultation efforts with each EHEN participant. Additionally, data from all EHEN participants is de-identified, aggregated, and transmitted to CMS in support of the PfP's goal of reducing preventable hospital-acquired conditions and readmissions.

Data Reporting Mechanisms

EHEN participant hospitals report data on the nine hospital-acquired conditions and readmissions via three reporting mechanisms:

- Clinical Database (CDB) or Clinical Database Lite (CDB-Lite)
- UHC's Web Data Entry Portal
- The Centers for Disease Control and Prevention's (CDC's) National Healthcare Safety Network (NHSN)

For access and instructions on how to submit data via any of the three mechanisms, please e-mail EHEN@essentialhospitals.org.

Clinical Database (CDB) or Clinical Database Lite (CDB-Lite)

The EHEN subcontracted with UHC to develop a database known as *CDB-Lite* that will serve as the basis for transmitting each hospital's claims and administratively based data for all of the EHEN participating hospitals that are not already part of UHC's larger CDB. The CDB-Lite is the reporting tool for the majority of the outcomes measures selected for EHEN reporting. Those members submitting to the larger CDB will not need to resubmit their claims and administrative data to UHC for purposes of the EHEN.

EHEN staff will have access to aggregate data for each of the nine hospital-acquired conditions and readmissions for all EHEN participants, regardless of the collaboratives in which they participate.

Web Data Entry Portal (Web Portal)

UHC also developed a web-based data entry portal for the submission of measures that can only be collected through chart abstraction. To ease data reporting for these chart-abstracted measures, data is collected in the web data entry portal using only numerators and

denominators. EHEN participants are required to report data on chart-abstracted outcome metrics, regardless of whether or not they have selected to work on them with the EHEN. Process metrics must be submitted only for the conditions they have selected. The Web Portal allows for data to be submitted by race, ethnicity, and language, but it is optional.

CDC's National Healthcare Safety Network (NHSN)

The final source of data for EHEN participants is through the NHSN. The EHEN will use the group function to access NHSN data for each EHEN participant hospital. The NHSN data, which each participant already reports to the CDC, will provide additional outcome data for four of the conditions addressed as part of the EHEN improvement work, including Central Line-Associated Bloodstream Infection (CLABSI), Catheter-Associated Urinary Tract Infection (CAUTI), Ventilator-Associated Events (VAE), and Surgical Site Infection (SSI). For the EHEN to use the data your hospital already reports to the CDC, you must join the America's Essential Hospitals (formerly NAPH/National Public Health and Hospital Institute [NPHHI]) group.

Overview of the EHEN Outcome & Process Metrics

Each EHEN participant will report data on both outcomes and process metrics. Using CDB/CDB-Lite, NHSN, and the web portal, the EHEN will collect data for outcome metrics from all EHEN participants, regardless of the conditions they address. Data for chart-abstracted process metrics will be collected only for the conditions each hospital chooses for participation. For some of the condition collaboratives, the hospital can submit optional process measures.

Updates to Measure Definitions

If there is a conflict in the definition outlined in this document with how the measure is defined by its steward or owner (e.g., Joint Commission or the Agency for Healthcare Research and Quality [AHRQ]), then the steward's definition supersedes.

Sampling Strategies and Measure Collection

Nearly all process measures and a few outcome measures used for the EHEN will be collected using chart abstraction. **If your hospital already collects data on any of these measures, we encourage you to continue using the same sampling and collection methods you currently use**. However, if your hospital is not already collecting data for a particular chart-abstracted measure, we provide example sampling strategies (see Appendix A). Measures collected through CDB/CDB-Lite do not require sampling, as these will be collected using administrative and claims data.

Additionally, for measures where inclusion and exclusion details are not provided, your hospital has the flexibility to determine the inclusion and exclusion criteria. The EHEN takes this approach because for several measures (e.g., utilization of a fall risk assessment) facilities use different methods for conducting risk assessments and collecting data on risk assessment use. We only ask that your inclusion, exclusion, and collection methods be consistent throughout the project so that we can effectively track your progress.

Hospital-Acquired Infection Outcome & Process Measures

KEY:
ALL: ALL EHEN hospitals must report, regardless of participation in that condition's collaborative
M: Mandatory ONLY for hospitals that are participating in that condition's collaborative
O: Optional for hospitals that are participating in that condition's collaborative

Central Line-Associated Bloodstream Infections (CLABSI)		Reporting Requirement	Collection Tool
Outcome Measures	UHC-defined CLABSI event count	ALL	CDB/ CDB-lite
	NHSN: CLABSI rate	ALL	NHSN
	NHSN: CLABSI standardized infection ratio (SIR)	ALL	NHSN
Process Measures*	NHSN: Central line utilization ratio	ALL	NHSN
	Cases with all appropriate maximal barrier precautions used (CLABSI bundle component)	M	Web Portal
	Cases with appropriate skin prep (CLABSI bundle component)	M	Web Portal
	Optimal catheter site selection (CLABSI bundle component)	M	Web Portal
	Cases with daily review of line necessity (CLABSI bundle component)	M	Web Portal
	Full CLABSI bundle compliance	M	Web Portal
	Use of chlorhexidine-impregnated bandage or dressing	O	Web Portal

*Where applicable, a hospital can opt for the EHEN to pull Central Line Insertion Practices (CLIP) bundle adherence data through NHSN

Catheter-Associated Urinary Tract Infection (CAUTI)		Reporting Requirement	Collection Tool
Outcome Measures	UHC-defined CAUTI rate	ALL	CDB/ CDB-lite
	NHSN: CAUTI rate	ALL	NHSN
	NHSN: CAUTI standardized infection ratio	ALL	NHSN
Process Measures	NHSN: Catheter utilization ratio	ALL	NHSN
	Cases with urinary catheter removed on postoperative day 1 (POD 1) or postoperative day 2 (POD 2) (The Joint Commission [JC] Surgical Care Improvement Project [SCIP]-Inf-9)	M	Web Portal
	Cases meeting urinary catheter insertion criteria	O	Web Portal
	Cases with reminder to physicians that catheter is still in place	O	Web Portal
	Cases assessed for ongoing need of catheter	O	Web Portal

Ventilator-Associated Pneumonia (VAP) and Ventilator-Associated Events (VAE)		Reporting Requirement	Collection Tool
Outcome Measures	UHC-defined VAP rate	ALL	CDB/ CDB-lite
	NHSN: Ventilator-associated event rate	ALL	NHSN
Process Measures	Ventilated patients with appropriate head of bed (HOB) elevation (VAP bundle component)	M	Web Portal
	Ventilated patients with appropriate oral care (VAP bundle component)	M	Web Portal
	Ventilated patients with sedation lightened in order to perform a daily wake-up (VAP bundle component)	M	Web Portal
	Ventilated patients with an assessment of readiness to extubate performed (VAP bundle component)	M	Web Portal
	Modified Institute for Healthcare Improvement (IHI) VAP bundle compliance	M	Web Portal
Surgical Site Infections (SSI)		**Reporting Requirement**	**Collection Tool**
Outcome Measures	UHC-defined SSI rate	ALL	CDB/ CDB-lite
	NHSN: SSI rate	ALL	NHSN
	NHSN: SSI standardized infection ratio (SIR)	ALL	NHSN
Process Measures	Prophylactic antibiotic received within one hour prior to surgical incision (JC SCIP-Inf-1)	M	Web Portal
	Prophylactic antibiotic selection for surgical patients (JC SCIP-Inf-2)	M	Web Portal
	Prophylactic antibiotics discontinued within 24 hours after surgery end time (JC SCIP-Inf-3)	M	Web Portal
	Cardiac surgery patients with controlled postoperative blood glucose (JC SCIP-Inf-4)	M	Web Portal
	Surgery patients with appropriate hair removal (JC SCIP-Inf-6)	M	Web Portal

KEY:
ALL: ALL EHEN hospitals must report, regardless of participation in that condition's collaborative
M: Mandatory ONLY for hospitals that are participating in that condition's collaborative
O: Optional for hospitals that are participating in that condition's collaborative

Hospital-Acquired Condition Outcome & Process Measures

KEY:
ALL: ALL EHEN hospitals must report, regardless of participation in that condition's collaborative
M: Mandatory ONLY for hospitals that are participating in that condition's collaborative
O: Optional for hospitals that are participating in that condition's collaborative

Adverse Drug Events (ADE)		Reporting Requirement	Collection Tool
Outcome Measures	UHC-defined Adverse Drug Events (ADE): *Clostridium difficile* due to antibiotic exposure	ALL	CDB/ CDB-lite
	ADE Rate	ALL	Web Portal
Process Measures	Blood sugar labs with results indicating hypoglycemia	M	Web Portal
	International normalized ratio (INR) labs with a result INR > 5	M	Web Portal
	Patients on narcotics receiving a reversal agent during their hospitalization	M	Web Portal
Falls		**Reporting Requirement**	**Collection Tool**
Outcome Measures	Falls & trauma rate (UHC-modified CMS Hospital-Acquired Conditions [HAC])	ALL	CDB/ CDB-lite
	All fall rate (JC Nursing-Sensitive Care [NSC]-4)	ALL	Web Portal
	Falls with injury rate (JC NSC-5)	ALL	Web Portal
Process Measure	Utilization of risk assessment	M	Web Portal
Hospital-Acquired Pressure Ulcers (HAPU)		**Reporting Requirement**	**Collection Tool**
Outcome Measure	Pressure ulcer rate (AHRQ Patient Safety Indicators [PSI]-3)	ALL	CDB/ CDB-lite
Process Measures	Skin assessment completed upon admission	M	Web Portal
	Pressure ulcer risk assessment upon admission to the hospital	M	Web Portal

Venous Thromboembolism (VTE)		Reporting Requirement	Collection Tool
Outcome Measure	Pulmonary embolism or deep vein thrombosis rate (UHC-modified AHRQ PSI-12)	ALL	CDB/ CDB-lite
Process Measures	Venous thromboembolism prophylaxis (JC VTE-1)	M	Web Portal
	Intensive care unit venous thromboembolism prophylaxis (JC VTE-2)	M	Web Portal
	Total knee replacement (TKR) patients who ambulated within 24 hours after surgery	O	Web Portal

KEY:
ALL: ALL EHEN hospitals must report, regardless of participation in that condition's collaborative
M: Mandatory ONLY for hospitals that are participating in that condition's collaborative
O: Optional for hospitals that are participating in that condition's collaborative

Adverse Obstetrical Event and Readmission Outcome & Process Measures

KEY:
ALL: ALL EHEN hospitals must report, regardless of participation in that condition's collaborative
M: Mandatory ONLY for hospitals that are participating in that condition's collaborative
O: Optional for hospitals that are participating in that condition's collaborative

Adverse Obstetrical Events (OB)		Reporting Requirement	Collection Tool
Outcome Measures	Early elective delivery rate (JC Perinatal Care [PC]-01)*	ALL	Web Portal
	Cesarean section rate (JC PC-02)*	ALL	Web Portal
	Episiotomy rate (UHC-modified National Quality Forum [NQF] 0470)	ALL	CDB/ CDB-lite
Process Measure	Birth trauma – injury to neonates (AHRQ PSI-17/NQF 0474)	M	CDB/ CDB-lite

*Although these measures are technically process measures, this rate is a major focus of the PfP and is therefore being treated as an outcome measure

Preventable Readmissions		Reporting Requirement	Collection Tool
Outcome Measure	UHC-defined 30-day all-cause readmission rate	ALL	CDB/ CDB-lite
Process Measures	Documentation of defined and separate lists of discontinued, new, and continued medications in the medical record	M (Choose at least two of four)	Web Portal
	Completion and transmission of discharge summary to post-acute provider within 72 hours		Web Portal
	Documentation of scheduled follow-up appointment within seven days of discharge		Web Portal
	Documentation of follow-up phone call within 72 hours of discharge		Web Portal

KEY:
ALL: ALL EHEN hospitals must report, regardless of participation in that condition's collaborative
M: Mandatory ONLY for hospitals that are participating in that condition's collaborative
O: Optional for hospitals that are participating in that condition's collaborative

Measure Specifications

BY CONDITION

Central Line-Associated Bloodstream Infections (CLABSI)

There are three outcome measures and seven process measures for this condition. The three outcome measures will be collected from all EHEN participants, regardless of their participation in the CLABSI collaborative. Of the seven process measures, central line utilization ratio is required for all hospitals because it is included in NHSN, five are mandatory only for CLABSI collaborative participants, and one is optional.

Outcome Measures

UHC-defined CLABSI event count

Measure Description	CLABSI event count
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in CLABSI collaborative
Numerator	Adult surgical discharges (age ≥ 18) with surgery defined in the Medicare Severity (MS)-diagnosis-related group (DRG) surgical range *Inclusions:* • Cases with any diagnosis code of 999.31 and present on admission (POA)=N, U OR • Cases readmitted (all cause) within 30 days with a principal/secondary diagnosis code of 999.31 with POA=Y (applied to readmit cases) • Length of Stay Outliers, early deaths, medical tourism, prison population *Exclusions:* • Bad data, hospice • Readmission cases exclude: chemotherapy, radiation therapy, rehabilitation, death on first admission, dialysis, delivery/birth, and mental diseases/alcohol and drug use
Denominator	None
Multiplier	Not applicable
Data Source	Electronic administrative and claims data
Data Collection Tool	CDB or CDB-Lite
Sampling Methodology	Not applicable
Improvement Noted By	A decrease in the event count

NHSN: CLABSI rate

Measure Description	CLABSI rate per 1,000 central line days
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in CLABSI collaborative
Numerator	The total number of patients with a laboratory-confirmed CLABSI A laboratory-confirmed bloodstream infection (LCBI) occurs when: • A central line (CL) or umbilical catheter (UC) was in place for more than two calendar days on the date of event, with day of device placement being Day 1, AND • A CL or UC was in place on the date of event or the day before. Note: If a CL or UC was in place for more than two calendar days and then removed, then the LCBI criteria must be fully met on the day of discontinuation or the next day. If the patient is admitted or transferred into a facility with a central line in place (e.g., tunneled or implanted central line), the day of first access is considered to be Day 1.
Denominator	The total number of central line days
Multiplier	1,000
Data Source	Inpatient CLABSI surveillance
Stratification	Data is stratified by Critical Care (excludes neonatal intensive-care unit [NICU]), Step Down, and Inpatient Wards (includes specialty care areas [SCA])
Data Collection Tool	NHSN
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate
For More Information	http://www.cdc.gov/nhsn/PDFs/pscManual/4PSC_CLABScurrent.pdf

NHSN: CLABSI standardized infection ratio (SIR)

Measure Description	Ratio of observed to expected CLASBI
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in CLABSI collaborative
Numerator	Number of observed CLABSI events
Denominator	Number of expected CLABSI events
Multiplier	Not applicable
Data Source	Inpatient CLABSI surveillance

Note	Some locations, like telemetry wards and burn wards, are excluded from CAUTI SIR calculations. Reference NHSN for complete details.
Data Collection Tool	NHSN
Sampling Methodology	Not Applicable
Improvement Noted By	Being below 1 or a decrease in the ratio
For More Information	http://www.cdc.gov/nhsn/PDFs/pscManual/4PSC_CLABScurrent.pdf http://www.cdc.gov/nhsn/PS-Analysis-resources/PDF/CLABSICAUTI_Tips.pdf

Process Measures*

NHSN: Central line utilization ratio – NEW MEASURE

Measure Description	Ratio of central line days to patient days
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in CLABSI collaborative
Numerator	Total number of central line days
Denominator	Total number of patient days
Multiplier	100
Data Source	Inpatient CLABSI surveillance
Data Collection Tool	NHSN
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate
For More Information	http://www.cdc.gov/nhsn/PDFs/pscManual/4PSC_CLABScurrent.pdf

Cases with all appropriate maximal barrier precautions used (CLABSI bundle component)

Measure Description	Documented cases with all appropriate maximal barrier precautions used
Reporting Requirement	Mandatory – Collected for all EHEN hospitals who are participating in the CLABSI collaborative

Numerator	Number of cases with all of the following precautions used and documented on the daily goals sheet and/or central line insertion checklist or patient's medical record: • Hand washing prior to procedure by the person inserting central line • Sterile gloves worn by the person inserting central line • Sterile gown worn by the person inserting central line • Cap worn by the person inserting central line • Mask worn by the person inserting central line • Full body drape to cover the patient
Denominator	Total number of patients with central lines *Exclusions:* Exclude patients younger than 18 years of age at the date of intensive-care unit (ICU) admission, patients outside the ICU, and patients whose lines were not placed in the ICU
Multiplier	100
Data Source	Medical record
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate
For More Information	http://www.ihi.org/knowledge/Pages/Measures/MeasuresPreventCentralLineInfection.aspx

Cases with appropriate skin prep (CLABSI bundle component)

Measure Description	Documented cases with chlorhexidine skin antisepsis used
Reporting Requirement	Mandatory – Collected for all EHEN hospitals that are participating in the CLABSI collaborative
Numerator	Number of cases in which skin was prepared with 2 percent chlorhexidine antiseptic/detergent in 70 percent isopropyl alcohol and allowed to dry completely prior to puncturing the site
Denominator	Total number of patients with central lines *Exclusions:* Exclude patients younger than 18 years of age at the date of ICU admission, patients outside the ICU, and patients whose lines were not placed in the ICU
Multiplier	100
Data Source	Medical record
Data Collection Tool	Web Portal

Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate
For More Information	http://www.ihi.org/knowledge/Pages/Measures/MeasuresPreventCentralLineInfection.aspx

Optimal catheter site selection (CLABSI bundle component)

Measure Description	Documented cases in which the central line was inserted in either the subclavian or jugular vein and not the femoral vein when feasible
Reporting Requirement	Mandatory – Collected for all EHEN hospitals that are participating in the CLABSI collaborative
Numerator	Cases for which optimal central line site selection is documented. Optimal site selection is typically interpreted as the jugular or subclavian vein. If submitting peripherally inserted central catheter (PICC) data, optimal site selection may include other anatomical locations (e.g., upper extremity and lower extremity). If femoral vein is selected, rationale must be documented in order to be in compliance.
Denominator	Total number of patients with central lines *Exclusions:* Exclude patients younger than 18 years of age at the date of ICU admission, patients outside the ICU, and patients whose lines were not placed in the ICU
Multiplier	100
Data Source	Medical record
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate
For More Information	http://www.ihi.org/knowledge/Pages/Measures/MeasuresPreventCentralLineInfection.aspx

Cases with daily review of line necessity (CLABSI bundle component)

Measure Description	Documented cases with daily assessment of need performed
Reporting Requirement	Mandatory – Collected for all EHEN hospitals that are participating in the CLABSI collaborative
Numerator	Number of cases with daily assessment of need performed

Denominator	Total number of patients with central lines *Exclusions:* Exclude patients younger than 18 years of age at the date of ICU admission, patients outside the ICU, and patients whose lines were not placed in the ICU
Multiplier	100
Data Source	Medical record
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate
For More Information	http://www.ihi.org/knowledge/Pages/Measures/MeasuresPreventCentralLineInfection.aspx

Full CLABSI bundle compliance

Measure Description	Documented cases for which all four components of the IHI CLABSI bundle were performed. This measure is "all or nothing," because all of the listed bundle components must be documented and in place for a patient to be included in the numerator
Reporting Requirement	Mandatory – Collected for all EHEN hospitals that are participating in the CLABSI collaborative
Numerator	Number of cases for which all four components of the IHI CLABSI bundle were performed
Denominator	Total number of patients with central lines *Exclusions:* Exclude patients younger than 18 years of age at the date of ICU admission, patients outside the ICU, and patients whose lines were not placed in the ICU
Multiplier	100
Data Source	Medical record
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling. See Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate
For More Information	http://www.ihi.org/knowledge/Pages/Measures/MeasuresPreventCentralLineInfection.aspx

Use of chlorhexidine-impregnated bandage or dressing

Measure Description	Documented cases with chlorhexidine-impregnated bandage or dressing used
Reporting Requirement	Optional – EHEN participants who are participating in the CLABSI collaborative can choose to submit data for this measure
Numerator	Number of cases with chlorhexidine-impregnated bandage or dressing used
Denominator	Total number of patients with central lines *Exclusions:* Exclude patients younger than 18 years of age at the date of ICU admission, patients outside the ICU, and patients whose lines were not placed in the ICU
Multiplier	100
Data Source	Medical record
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling. See Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

***If your hospital submits CLIP bundle adherence data through the NHSN, you can opt for the EHEN to pull those process measures from your NHSN data. If you wish to choose this method, please email EHEN@essentialhospital.org. For more information on NHSN CLIP adherence, please visit: http://www.cdc.gov/nhsn/PDFs/pscManual/5psc_CLIPcurrent.pdf**

Catheter-Associated Urinary Tract Infections (CAUTI)

There are three outcome measures and five process measures for this condition. The three outcome measures will be collected from all EHEN participants, regardless of their participation in the CAUTI collaborative. Of the five process measures, catheter utilization ratio is required for all hospitals because it comes from NHSN, Joint Commission SCIP-Inf-9 is mandatory only for CAUTI participants, and the remaining are optional.

Outcome Measures

UHC-Defined CAUTI rate

Measure Description	CAUTI rate per 1,000 discharges
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in CAUTI collaborative
Numerator	• Adult discharges (age ≥ 18) with any diagnosis code of 996.64 and POA=N, U AND • Cases readmitted (all cause) within 30 days of discharge with a principal/secondary diagnosis code of 996.64 and POA=Y (applied to readmit cases)
Denominator	Adult discharges (age ≥ 18) *Inclusions:* • Length of Stay Outlier, early death, medical tourism, prison population *Exclusions:* • Bad data, nonviable neonates, hospice patients • Readmission cases exclude chemotherapy, radiation therapy, rehabilitation, death on first admission, dialysis, delivery/birth, and mental diseases/alcohol and drug use
Multiplier	1,000
Data Source	Electronic administrative and claims data
Data Collection Tool	CDB or CDB-Lite
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate

NHSN: CAUTI rate

Measure Description	CAUTI rate per 1,000 catheter days
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in CAUTI collaborative
Numerator	Total number of hospital-acquired CAUTI A CAUTI is a UTI in which: • an indwelling urinary catheter was in place for more than two calendar days on the date of event, with the day of device placement being Day 1, AND • an indwelling urinary catheter was in place on the date of event or the day before. *If an indwelling urinary catheter was in place for more than two calendar days and then removed, then the UTI criteria must be fully met on the day of discontinuation or the next day.
Denominator	Total number of catheter days
Multiplier	1,000
Data Source	Inpatient CAUTI surveillance
Stratification	Data is stratified by Critical Care (excludes NICU), Step Down, and Inpatient Wards (includes specialty care areas)
Data Collection Tool	NHSN
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate
For More Information	http://www.cdc.gov/nhsn/PDFs/pscManual/7pscCAUTIcurrent.pdf

NHSN: CAUTI standardized infection ratio (SIR)

Measure Description	Ratio of observed to expected CAUTI
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in CAUTI collaborative
Numerator	Number of observed CAUTI events
Denominator	Number of expected CAUTI events
Multiplier	Not applicable
Data Source	Inpatient CAUTI surveillance
Data Collection Tool	NHSN

Sampling Methodology	Not Applicable
Improvement Noted By	Ratio less than 1 or a decrease in the ratio
Note	Some locations, like telemetry wards and burn wards, are excluded from CAUTI SIR calculations. Reference NHSN for complete details.
For More Information	http://www.cdc.gov/nhsn/PDFs/pscManual/7pscCAUTIcurrent.pdf http://www.cdc.gov/nhsn/PS-Analysis-resources/PDF/CLABSICAUTI_Tips.pdf

Process Measures

NHSN: Catheter utilization ratio – NEW MEASURE

Measure Description	Ratio of catheter days to patient days.
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in CAUTI collaborative.
Numerator	Total number of catheter days
Denominator	Total number of patient days
Multiplier	100
Data Source	Inpatient CAUTI surveillance
Data Collection Tool	NHSN
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate
For More Information	http://www.cdc.gov/nhsn/PDFs/pscManual/7pscCAUTIcurrent.pdf

Cases with urinary catheter removed on postoperative day 1 (POD 1) or postoperative day 2 (POD 2) (JC SCIP-Inf-9)

Measure Description	Surgical patients with urinary catheter removed on POD 1 or POD 2 with day of surgery being day zero
Reporting Requirement	Mandatory – Collected for all EHEN participants who are participating in the CAUTI collaborative
Numerator	Number of surgical patients whose urinary catheter is removed on POD 1 or POD 2 with day of surgery being day zero
Denominator	All selected surgical patients with a catheter in place postoperatively *Exclusions:*

	• Patients younger than 18 years of age • Patients who have a Length of Stay greater than 120 days • Patients enrolled in clinical trials • Patients who had a urological, gynecological, or perineal procedure performed • Patients whose International Classification of Diseases (ICD)-9-Clinical Modification (CM) principal procedure occurred prior to the date of admission • Patients who expired perioperatively • Patients whose length of stay was less than two days postoperatively • Patients who did not have a catheter in place postoperatively • Patients who had physician/advanced practice nurse (APN)/physician assistant (PA) documentation of a reason for not removing the urinary catheter postoperatively • Patients who had a urinary diversion or a urethral catheter or were being intermittently catheterized prior to hospital arrival
Multiplier	100
Data Source	Administrative data and medical records
Data Collection Tool	Web Portal
Sampling Methodology	Sampling for this measure can be done in accordance with the Joint Commission's SCIP Sample Size Requirements.
Improvement Noted By	An increase in the rate
For More Information	http://www.jointcommission.org/specifications_manual_for_national_hospital_inpatient_quality_measures.aspx

Cases meeting urinary catheter insertion criteria

Measure Description	Documented cases meeting urinary catheter insertion criteria
Reporting Requirement	Optional – EHEN participants who are participating in the CAUTI collaborative can choose to submit data for this measure
Numerator	Number of cases meeting the following criteria for indwelling catheter use: • Patient has acute urinary retention or bladder outlet obstruction • Need for accurate measurement of urinary output in critically ill patients • Perioperative use for selected surgical procedures • To assist in healing of open sacral or perineal wounds in incontinent patients • Patient requires prolonged immobilization to improve comfort for end of life care as needed

Denominator	Total number of cases with indwelling catheter
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

Cases with reminder to physicians that catheter is still in place

Measure Description	Documented cases with an indwelling catheter for which reminders were given to physician that catheter was still in place
Reporting Requirement	Optional – EHEN participants who are participating in the CAUTI collaborative can choose to submit data for this measure
Numerator	Number of cases for which reminders were sent to physician that catheter was still in place
Denominator	Total number of cases with indwelling catheter
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

Cases assessed for ongoing need of catheter

Measure Description	Documented cases with an indwelling catheter that were given an assessment for ongoing need of the catheter
Reporting Requirement	Optional – EHEN participants who are participating in the CAUTI collaborative can choose to submit data for this measure
Numerator	Number of cases that were given an assessment for ongoing need of the catheter
Denominator	Total number of cases with indwelling catheter
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

Ventilator-Associated Pneumonia (VAP) and Ventilator-Associated Event (VAE)

There are two outcome measures and five process measures for this event. The two outcome measures will be collected from all EHEN participants, regardless of their participation in the VAP/VAE collaborative. The process measures will be collected only from hospitals that have chosen to participate in the VAP/VAE collaborative. All five process measures are mandatory for those participants of the VAP/VAE collaborative.

Outcome Measures

UHC-Defined VAP rate

Measure Description	VAP rate per 1,000 discharges
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in VAP collaborative
Numerator	Adult discharges (age ≥ 18) with an ICU stay ≥ 1 day on an invasive mechanical ventilator (ICD-9-CM code 96.70-96.72) with any diagnosis code of 997.31, POA=N, U
Denominator	Adult discharges (age ≥ 18) with an ICU stay ≥ 1 day on an invasive mechanical ventilator (ICD-9-CM code 96.70-96.72) *Inclusions:* • Length of Stay Outlier, early death, medical tourism, prison population *Exclusions:* • Bad data, nonviable neonates, hospice patients
Multiplier	1,000
Data Source	Electronic administrative and claims data
Data Collection Tool	CDB or CDB-Lite
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate

NHSN: Ventilator-associated event (VAE) rate

Measure Description	Ventilator-associated events are identified by using a combination of objective criteria: deterioration in respiratory status after a period of stability or improvement on the ventilator, evidence of infection or inflammation, and laboratory evidence of respiratory infection. **NOTE**: **This measure is replacing VAP events for adult patients beginning with January 2013 hospitalizations.**

Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in VAP collaborative
Numerator	Total number of confirmed VAE
Denominator	Total number of ventilator days
Multiplier	1,000
Data Source	Surveillance for VAE in at least one inpatient location in the health care institution for at least one calendar month
Stratification	Data stratified by ventilator-associated condition (VAC), infection-related ventilator-associated complication (IVAC), possible ventilator-associated pneumonia, and probable ventilator-associated pneumonia
Data Collection Tool	NHSN
Sampling Methodology	Not Applicable
Improvement Noted By	Decrease in the rate
For More Information	http://www.cdc.gov/nhsn/PDFs/pscManual/10-VAE_FINAL.pdf

Process Measures

Ventilated patients with appropriate head of bed (HOB) elevation (VAP bundle component)

Measure Description	ICU patients on mechanical ventilation at time of survey with appropriate HOB elevation
Reporting Requirement	Mandatory – Collected for all EHEN hospitals who are participating in the VAP collaborative
Numerator	Number of ICU patients on mechanical ventilation with HOB elevation of 30 degrees or greater (unless medically contraindicated) noted on two different shifts within a 24-hour period
Denominator	Total number of ICU patients on mechanical ventilation
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate
For More Information	http://www.ihi.org/knowledge/Pages/Changes/ImplementtheVentilatorBundle.aspx

Ventilated patients with appropriate oral care (VAP bundle component)

Measure Description	ICU patients on mechanical ventilation at time of survey that received appropriate oral care
Reporting Requirement	Mandatory – Collected for all EHEN hospitals who are participating in the VAP collaborative
Numerator	Number of ICU patients on mechanical ventilation that received appropriate daily oral care using 0.12 percent chlorhexidine solution
Denominator	Total number of ICU patients on mechanical ventilation
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate
For More Information	http://www.ihi.org/knowledge/Pages/Changes/ImplementtheVentilatorBundle.aspx

Ventilated patients with sedation lightened in order to perform a daily wake-up (VAP bundle component)

Measure Description	ICU patients on mechanical ventilation at time of survey with daily "sedation vacations"
Reporting Requirement	Mandatory – Collected for all EHEN hospitals participating in the VAP collaborative
Numerator	Number of ICU patients on mechanical ventilation that had sedation lightened to perform a daily wake-up
Denominator	Total number of ICU patients on mechanical ventilation
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate
For More Information	http://www.ihi.org/resources/Pages/Changes/ImplementtheVentilatorBundle.aspx

Ventilated patients with an assessment of readiness to extubate performed (VAP bundle component)

Measure Description	ICU patients on mechanical ventilation at time of survey with daily assessments of readiness to extubate performed
Reporting Requirement	Mandatory – Collected for all EHEN hospitals participating in the VAP collaborative
Numerator	Number of ICU patients on mechanical ventilation that daily assessments of readiness to extubate were performed
Denominator	Total number of ICU patients on mechanical ventilation
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate
For More Information	http://www.ihi.org/knowledge/Pages/Changes/ImplementtheVentilatorBundle.aspx

Modified IHI VAP bundle compliance

Measure Description	Percentage of intensive care unit patients on mechanical ventilation at time of survey for whom all four elements of the ventilator bundle are documented and in place. This measure is "all or nothing"; all of the listed bundle components must be documented and in place for a patient to be included in the numerator **Modified to not include compliance with IHI VAP Bundle components of peptic ulcer prophylaxis or deep vein thrombosis (DVT) prophylaxis.**
Reporting Requirement	Mandatory – Collected for all EHEN hospitals participating in the VAP collaborative
Numerator	Number of ICU patients on mechanical ventilation at time of survey for whom all elements of the ventilator bundle are documented and in place. The ventilator bundle elements are: • Appropriate head of bed elevation • Appropriate oral care • Daily "sedation vacation" • Daily assessment of readiness to extubate
Denominator	Total number of ICU patients on mechanical ventilation
Multiplier	100
Data Source	Medical Records

Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate
For More Information	http://www.ihi.org/resources/Pages/Changes/ImplementtheVentilatorBundle.aspx

Surgical Site Infections (SSI)

There are three outcome measures and five process measures for this event. The three outcome measures will be collected from all EHEN participants, regardless of their participation in the SSI collaborative. The process measures will be collected only from hospitals that have chosen to participate in the SSI collaborative. All five process measures are mandatory for those participants of the SSI collaborative.

Joint Commission SCIP measures information aligned with specifications manual for national hospital inpatient quality measures as of January 1, 2014, including retiring measure SCIP-Inf-10 surgery patients with perioperative temperature management.

Outcome Measures

UHC-Defined SSI Rate

Measure Description	SSI rate per 1,000 surgical discharges
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in SSI collaborative
Numerator	Adult discharges (age ≥ 18) with a LOS ≥ two days with principal procedure codes between 0001 and 8699 meeting the following criteria: • Any diagnosis code 998.50-998.59, POA=N or U OR • Cases readmitted within 30 days with any diagnosis code 998.50-998.59, POA=Y (applied to readmit cases)
Denominator	Adult discharges (age ≥ 18) with a LOS ≥ two days with principal procedure codes between 0001 and 8699 *Inclusions:* • Length of Stay Outlier, early death, medical tourism, prison population *Exclusions:* • Bad data, nonviable neonates, hospice patients Readmission cases exclude: chemotherapy, radiation therapy, rehabilitation, death on first admission, dialysis, delivery/birth, and mental diseases/alcohol and drug use
Multiplier	1,000
Data Source	Electronic administrative and claims data
Data Collection Tool	CDB or CDB-Lite
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate

NHSN: All SSI Rate

Measure Description	SSI rate per 1,000 surgical procedures
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in SSI collaborative
Numerator	Total number of patients with a confirmed SSI (Sum of superficial, deep incisional, and organ space SSI)
Denominator	Total number of patients having any of the procedures outlined in the NHSN measures manual (see link in "For More Information" for details)
Multiplier	1,000
Data Source	Inpatient SSI surveillance
Stratification	Data is stratified by colon surgery and abdominal hysterectomy coding. Data is also stratified by tissue level (superficial incisional, deep incisional, and organ/space)
Data Collection Tool	NHSN
Sampling Methodology	Not Applicable
Improvement Noted By	Decrease in the rate
For More Information	http://www.cdc.gov/nhsn/PDFs/pscManual/9pscSSIcurrent.pdf?agree=yes&next=Accept

NHSN: SSI standardized infection ratio (SIR)

Measure Description	Ratio of observed to expected SSI
Reporting Requirement	All– Collected for all EHEN participants, regardless of participation in SSI collaborative.
Numerator	Number of observed SSI events
Denominator	Number of expected SSI events
Multiplier	Not applicable
Data Source	Inpatient SSI surveillance
Data Collection Tool	NHSN
Sampling Methodology	Not Applicable
Improvement Noted By	Being less than 1 or a decrease in the ratio

Note	Measure uses NHSN's All SSI SIR Model. See NHSN reference for more details
For More Information	http://www.cdc.gov/nhsn/PDFs/pscManual/9pscSSIcurrent.pdf?agree=yes&next=Accept http://www.cdc.gov/nhsn/PS-Analysis-resources/PDF/SSI-SIR_Tips.pdf

Process Measures

Prophylactic antibiotic received within one hour prior to surgical incision (JC SCIP-Inf-1)

Measure Description	Surgical patients with prophylactic antibiotics initiated within one hour prior to surgical incision. Patients who received vancomycin or a fluoroquinolone for prophylactic antibiotics should have the antibiotics initiated within two hours prior to surgical incision. Due to the longer infusion time required for vancomycin or a fluoroquinolone, it is acceptable to start these antibiotics within two hours prior to incision time.
Reporting Requirement	Mandatory – Collected for all EHEN participants who are participating in the SSI collaborative
Numerator	Number of surgical patients with prophylactic antibiotics initiated within one hour prior to surgical incision (two hours if receiving vancomycin or a fluoroquinolone).
Denominator	All selected surgical patients with no evidence of prior infection. *Exclusions:* • Patients younger than 18 years of age • Patients who have a length of stay greater than 120 days • Patients who had a hysterectomy and a caesarean section performed during this hospitalization • Patients who had a principal diagnosis suggestive of preoperative infectious diseases • Patients enrolled in clinical trials • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission • Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest • Patients who had other procedures requiring general or spinal anesthesia that occurred within three days (four days for CABG or Other Cardiac Surgery) prior to or after the procedure of interest (during separate surgical episodes) during this hospital stay
Multiplier	100
Data Source	Medical Records

Data Collection Tool	Web Portal
Sampling Methodology	Sampling for this measure can be done in accordance with the Joint Commission's SCIP Sample Size Requirements.
Improvement Noted By	An increase in the rate
For More Information	http://www.jointcommission.org/specifications_manual_for_national_hospital_inpatient_quality_measures.aspx

Prophylactic antibiotic selection for surgical patients (JC SCIP-Inf-2)

Measure Description	Surgical patients who received prophylactic antibiotics consistent with current guidelines (specific to each type of surgical procedure)
Reporting Requirement	Mandatory – Collected for all EHEN participants who are participating in the SSI collaborative
Numerator	Number of surgical patients who received prophylactic antibiotics recommended for their specific surgical procedure
Denominator	All selected surgical patients with no evidence of prior infection. *Exclusions:* • Patients less than 18 years of age • Patients who have a Length of Stay greater than 120 days • Patients whose Principal Procedure was on Joint Commission's Table 5.25 • Patients who had a principal diagnosis suggestive of preoperative infectious diseases (as defined in Joint Commission Appendix A, Table 5.09 for ICD-9-CM codes) • Patients enrolled in clinical trials • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission • Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest • Patients who expired perioperatively • Patients who had other procedures requiring general or spinal anesthesia that occurred within three days (four days for CABG or Other Cardiac Surgery) prior to or after the procedure of interest (during separate surgical episodes) during this hospital stay • Patients who did not receive any antibiotics within the timeframe 24 hours before Surgical Incision Date and Time (i.e., patient did not receive prophylactic antibiotics) through discharge • Patients who received antibiotics prior to arrival and did not receive any antibiotics during this hospitalization

	• Patients who received ONLY oral or intramuscular (IM) antibiotics or the route was unable to be determined • Patients who received ALL antibiotics greater than 1440 minutes prior to Surgical Incision Date and Time
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Sampling for this measure can be done in accordance with the Joint Commission's SCIP Sample Size Requirements.
Improvement Noted By	An increase in the rate
For More Information	http://www.jointcommission.org/specifications_manual_for_national_hospital_inpatient_quality_measures.aspx

Prophylactic antibiotics discontinued within 24 hours after surgery end time (JC SCIP-Inf-3)

Measure Description	Surgical patients whose prophylactic antibiotics were discontinued within 24 hours after Anesthesia End Time. The Society of Thoracic Surgeons (STS) Practice Guideline for Antibiotic Prophylaxis in Cardiac Surgery (2006) indicates that there is no reason to extend antibiotics beyond 48 hours for cardiac surgery and very explicitly states that antibiotics should not be extended beyond 48 hours even with tubes and drains in place for cardiac surgery.
Reporting Requirement	Mandatory – Collected for all EHEN participants who are participating in the SSI collaborative
Numerator	Number of surgical patients whose prophylactic antibiotics were discontinued within 24 hours after Anesthesia End Time (48 hours for CABG or Other Cardiac Surgery)
Denominator	• All selected surgical patients with no evidence of prior infection. • Exclusions: • Patients less than 18 years of age • Patients who have a Length of Stay greater than 120 days • Patients whose Principal Procedure was on Joint Commission's Table 5.25 • Patients who had a principal diagnosis suggestive of preoperative infectious diseases (as defined in Joint Commission's Appendix A, Table 5.09) • Patients enrolled in clinical trials • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission

	• Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest • Patients who expired perioperatively • Patients who had other procedures requiring general or spinal anesthesia that occurred within three days (four days for CABG or Other Cardiac Surgery) prior to or after the procedure of interest (during separate surgical episodes) during this hospital stay • Patients who received urinary antiseptics only (as defined in Joint Commission's Appendix C, Table 3.11) • Patients with Reasons to Extend Antibiotics • Patients who received antibiotics prior to arrival and did not receive any antibiotics during this hospitalization • Patients who received ONLY antibiotics with the route unable to be determined (UTD) • Patients who did not receive any antibiotics within the timeframe 24 hours before Surgical Incision Date and Time (i.e., patient did not receive prophylactic antibiotics) through discharge • Patients who received ALL antibiotics greater than 1440 minutes prior to Surgical Incision Date and Time • Patients who received ALL antibiotics greater than three days after Anesthesia End Date OR greater than two days after Anesthesia End Date for Principal Procedures on Joint Commission's Tables 5.03-5.08 • Patients who received ALL antibiotics greater than 4320 minutes after Anesthesia End Time OR greater than 2880 minutes after Anesthesia End Time for Principal Procedures on Joint Commission's Tables 5.03-5.08
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Sampling for this measure can be done in accordance with the Joint Commission's SCIP Sample Size Requirements
Improvement Noted By	An increase in the rate
For More Information	http://www.jointcommission.org/specifications_manual_for_national_hospital_inpatient_quality_measures.aspx

Cardiac surgery patients with controlled postoperative blood glucose (JC SCIP-Inf-4)

Measure Description	Cardiac surgery patients with controlled postoperative blood glucose (≤ 180 mg/dL) in the timeframe of 18 to 24 hours after *Anesthesia End Time*
Reporting Requirement	Mandatory – Collected for all EHEN participants who are participating in the SSI collaborative
Numerator	Cardiac surgery patients with controlled postoperative blood glucose (less than or equal to 180 mg/dL) in the timeframe of 18 to 24 hours after *Anesthesia End Time.*
Denominator	Cardiac surgery patients with no evidence of prior infection. *Exclusions:* • Patients less than 18 years of age • Patients who have a length of stay greater than 120 days • Patients who had a principal diagnosis suggestive of preoperative infectious disease (as defined in Joint Commission's Appendix A, Table 5.09 for ICD-9-CM codes) • Burn and transplant patients (as defined in Joint Commission's Appendix A, Tables 5.14 and 5.15 for ICD-9-CM codes) • Patients enrolled in clinical trials • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission • Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest • Patients who undergo CPR or surgery, discharge, expire, or leave Against Medical Advice (AMA) prior to 24 hours after Anesthesia End Time.
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Sampling for this measure can be done in accordance with the Joint Commission's SCIP Sample Size Requirements
Improvement Noted By	An increase in the rate
For More Information	http://www.jointcommission.org/specifications_manual_for_national_hospital_inpatient_quality_measures.aspx

Surgery patients with appropriate hair removal (JC SCIP-Inf-6)

Measure Description	Surgery patients with appropriate surgical site hair removal. No hair removal, or hair removal with clippers or depilatory is considered appropriate. Shaving is considered inappropriate
Reporting Requirement	Mandatory – Collected for all EHEN participants who are participating in the SSI collaborative
Numerator	Surgery patients with surgical site hair removal with clippers or depilatory or with no surgical site hair removal.
Denominator	All selected surgery patients *Exclusions:* • Patients less than 18 years of age • Patients who have a length of stay >120 days • Patients enrolled in clinical trials • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission • Patients who performed their own hair removal
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Sampling for this measure can be done in accordance with the Joint Commission's SCIP Sample Size Requirements
Improvement Noted By	An increase in the rate
For More Information	http://www.jointcommission.org/specifications_manual_for_national_hospital_inpatient_quality_measures.aspx

Adverse Drug Events (ADE)

There are two outcome measures and three process measures for this event. The two outcome measures will be collected from all EHEN participants, regardless of their participation in the ADE collaborative. The process measures will be collected only from hospitals that have chosen to participate in the ADE collaborative. Hospitals that are participating in the ADE collaborative will be required to report all three process measures.

Outcome Measures

UHC-defined ADE: *Clostridium difficile (C. diff.)* due to antibiotic exposure

Measure Description	*C. diff.* infection per 1,000 patient discharges
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in ADE collaborative
Numerator	Adult patients (age ≥ 18, length of stay [LOS] ≥ two days) that meet the following criteria: • Discharges with any diagnosis of 00845 and POA=N or U OR • Readmissions within 30 days of original discharge with principal/secondary diagnosis code 00845 with POA=Y (applied to readmit cases)
Denominator	Total adult inpatient discharges (age ≥ 18) with LOS ≥ two days *Inclusions:* • LOS outlier, early death, medical tourism, prison population *Exclusions:* • Bad data, nonviable neonates, hospice patients • LOS < two days and ages <18 • Readmission cases exclude chemotherapy, radiation therapy, rehabilitation, death on first admission, dialysis, delivery/birth, and mental diseases/alcohol and drug use
Multiplier	1,000
Data Source	Electronic administrative and claims data
Data Collection Tool	CDB or CDB-Lite
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate

ADE rate

Measure Description	Number of ADEs per 1,000 patient days
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in ADE collaborative.
Numerator	Number of ADEs *Note: Due to variation in definitions of ADEs at EHEN hospitals, the operational definition for an ADE will be left to the hospital to define. Please provide your improvement coach with that operational definition.*
Denominator	Total number of patient days
Multiplier	1,000
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Providing the ADE numerator and denominator for the full population is recommended.
Improvement Noted By	A decrease in the rate

Process Measures

Blood sugar labs with results indicating hypoglycemia

Measure Description	Blood sugar (BS) labs with results indicating hypoglycemia (BS < 50 mg/dL result) and thus a possible ADE related to insulin.
Reporting Requirement	Mandatory – Collected for all EHEN hospitals who are participating in the ADE collaborative
Numerator	Number of blood sugar labs with results of BS < 50 mg/dL *Note: The operational definition of blood sugar labs will be left to the individual hospital; however, we strongly encourage hospitals to define blood sugar labs as labs collected both by lab draws (e.g., venous sticks) and point of care lab draws (e.g., at the bedside using glucometers) if possible. Please provide your improvement coach with that operational definition.*
Denominator	Number of blood sugar labs with any result
Multiplier	1,000
Data Source	Medical Records
Data Collection Tool	Web Portal

Sampling Methodology	If the lab systems at your hospital are automated, it is recommended that the provided numerator and denominator be for the full population of patients with blood sugar labs. If this approach is not possible, please conduct a manual chart review of a representative sample.
Improvement Noted By	A decrease in the rate

INR labs with a result of INR > 5

Measure Description	INR labs with a result of INR > 5, which reflects the risk of bleeding and thus a possible ADE related to anticoagulants.
Reporting Requirement	Mandatory – Collected for all EHEN hospitals who are participating in the ADE collaborative
Numerator	Number of INR labs with a result of INR > 5
Denominator	Number of INR labs with any result
Multiplier	1,000
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	If the lab systems at your hospital are automated, it is recommended that the provided numerator and denominator be for the full population of patients with INR results. If this approach is not possible, please conduct a manual chart review of a representative sample.
Improvement Noted By	A decrease in the rate

Patients on narcotics receiving a reversal agent during their hospitalization

Measure Description	Patients on narcotics who receive a reversal agent during their hospitalization and thus a possible ADE related to narcotics
Reporting Requirement	Mandatory – Collected for all EHEN hospitals who are participating in the ADE collaborative
Numerator	Number of patients who received a narcotic reversal agent *Note: If your hospital has chosen to focus on prevention of ADEs for specific narcotics, you may report only the number of patients who received a narcotic reversal agent for those specific narcotics. Otherwise, provide the number of patients who received any narcotic reversal agent. Please inform your improvement coach of your reporting choice.*
Denominator	Number of patients who received a prescribed narcotic. *Note: If your hospital has chosen to focus on prevention of ADEs for specific narcotics, you may report only the number of patients who received those*

	narcotics. Otherwise, please provide the number of patients who received any narcotic. Please inform your improvement coach of your reporting choice.
Multiplier	1,000
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	If the pharmacy systems at your hospital are automated, it is recommended that the provided numerator and denominator be for the full population of patients receiving prescribed narcotics. If this approach is not possible, please conduct a manual chart review of a representative sample.
Improvement Noted By	A decrease in the rate

Falls

There are three outcome measures and one process measure for this condition. The three outcome measures will be collected for all EHEN participants, regardless of their participation in the falls collaborative. The process measure will be collected only from hospitals that have chosen to participate in the falls collaborative.

Outcome Measures

Falls & trauma rate (UHC-Modified CMS HAC)

Measure Description	Falls and trauma (includes fracture, dislocation, intracranial injury) rate per 1,000 discharges **Modified to exclude burns, crushing injuries, or other injuries**
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in falls collaborative

Numerator	• Number of occurrences of the following diagnosis codes as a secondary diagnosis (diagnoses 2-9 on a claim), with a POA code of 'N' or 'U'
	AND
	• Designated as a 2010 Complication or Comorbidity (CC) or Major Complication or Comorbidity (MCC) with a 'Hospital Acquired Condition Flag of Falls & Trauma' in adult patients (age ≥ 18):
	  • Fracture 800–829 (CC/MCC)
	  • Dislocation 830–839 (CC/MCC)
	  • Intracranial injury 850–854 (CC/MCC)

Denominator	All adult discharges (age ≥ 18) *Inclusions:* • LOS outlier, early death, medical tourism, prison population *Exclusions:* • Bad data, nonviable neonates, hospice patients
Multiplier	1,000
Data Source	Electronic administrative and claims data
Data Collection Tool	CDB or CDB-Lite
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate

All Fall Rate (JC NSC-4)

Measure Description	Falls per 1,000 patient days
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in falls collaborative
Numerator	Number of documented falls with or without injury in eligible units; eligible units include all medical/surgical units and ICUs/critical care units (CCUs). *Inclusions:* • Those occurring while on an eligible unit • Assisted falls • Repeat falls *Exclusions:* • Falls by visitors, students, or staff members • Patients from eligible reporting units who had a fall outside of the eligible unit (e.g., patient falls in radiology department) • Falls on other unit types (e.g., pediatric, obstetrical, rehab, etc.)
Denominator	Total number of patient days *Inclusions:* • Inpatients, short stay patients, observation patients, and same day surgery patients who receive care on eligible inpatient units for all or part of the day • Adult critical care, step-down, medical, surgical, medical-surgical, combined, and mixed-acuity units • Any age patient on an eligible unit is included in the patient day count
Multiplier	1,000
Data Source	Medical records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	A decrease in the rate
Note	National Database of Nursing Quality Indicators (NDNQI) measure is an acceptable alternative
For More Information	http://www.jointcommission.org/assets/1/6/NSC%20Manual.pdf

Falls with injury rate (JC NSC-5)

Measure Description	All documented patient falls with an injury level of minor or greater per 1,000 patient days
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in falls collaborative
Numerator	Number of patient falls in eligible units with an injury level of minor (two) or greater on the following injury level scale: (1) None – patient had no injuries resulting from the fall (2) Minor – results in application of a dressing, ice, cleaning of a wound, limb elevation, or topical medication (3) Moderate – results in suturing, application of steri-strips/skin glue, or splinting (4) Major – results in surgery, casting, traction, or required consultation for neurological or internal injury (5) Death – results in death as a result of the fall Eligible units include all medical/surgical units and ICUs/CCUs *Exclusions:* • Falls by patients from eligible reporting unit; however, patient was not on unit at time of fall (e.g., patient falls in radiology department) • Falls with an injury level of "none" • Falls by persons who are not patients, e.g., hospital staff, visitors. • Falls on other unit types (e.g., pediatric, obstetrical, rehab, etc.)
Denominator	Total number of patient days *Inclusions:* • Inpatients, short-stay patients, observation patients, and same-day surgery patients who receive care on eligible inpatient units for all or part of the day • Adult critical care, step-down, medical, surgical, medical-surgical, combined, and mixed-acuity units Any age patient on an eligible unit is included in the patient day count
Multiplier	1,000
Data Source	Medical records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	A decrease in the rate
Note	NDNQI measure is an acceptable alternative.
For More Information	http://www.jointcommission.org/assets/1/6/NSC%20Manual.pdf

Process Measure

Utilization of risk assessment

Measure Description	Utilization of risk assessment to determine fall risk in patients
Reporting Requirement	Mandatory – Collected for all EHEN hospitals who are participating in the falls collaborative
Numerator	Number of patients for whom there is documentation in the medical record that a risk assessment was used. Risk assessment components include: • Agitation/Delirium – Infection, toxic/metabolic, cardiopulmonary change, central nervous system (CNS), dehydration/blood loss, sleep disturbance • Meds (dose/timing) – Psychotropics, CV agents (digoxin especially), anticoagulants (increased risk of injury), anticholinergic, bowel prep • Orthostatic hypotension, autonomic failure • Frequent toileting • Impaired mobility • Impaired vision, inappropriate use of assistive device/footwear • History of falls (CV/light headed – dizzy, Dysequilibrium – loss of balance with no abnormal motion sensation, Vestibular/Vertigo, Weakness-Musculoskeletal/give way, combination, other) • Psychotropics, digoxin, type 1a antiarrhythmic, diuretic (thiazides>loop diuretics) • Antihistamines/benzodiazipines – withdrawal has shown decrease in falls risk; assess for sleep disorder, avoid routine PRN orders – try non-pharmacological approaches including quiet sleep protocols on units • Antidepressants – Tricyclics are higher risk than selective serotonin re-uptake inhibitors (SSRIs), but SSRIs also have risks, e.g., high level of phenytoin, low-dose amitriptyline affects gate, gabapentin 10-25 percent adverse drug reactions (ADR) • Cardiac drugs/antihypertensives – If orthostatic (drop in systolic > 20 mm in 3 minutes) and symptomatic • Anticoagulants – Subdural hematomas are rare; avoid only in cases of very unstable gait or balance, concurrent use of alcohol or other drugs that interact and increase bleeding, or if non-compliant with regimen or lab follow up • Drugs treating nocturia (consider tamsulosin due to lower risk of orthostasis) **NOTE: The list of components for a risk assessment is not exhaustive. Additionally, the hospital is free to determine the number of components that must be included in the risk assessment.**

Denominator	Total number of patients
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

Hospital-Acquired Pressure Ulcers (HAPU)

There is one outcome measure and two process measures for this event. The one outcome measure will be collected for all EHEN participants, regardless of their participation in the HAPU collaborative. The two process measures are mandatory for only those hospitals participating in the HAPU collaborative.

Outcome Measures

Pressure ulcer rate (AHRQ PSI-3)

Measure Description	Pressure ulcer rate per 1,000 discharges
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in HAPU collaborative
Numerator	All adult (age ≥ 18) discharges with LOS ≥ five days and ICD-9 diagnosis code of pressure ulcer (707.# where # = 0 – 7, 9) in any secondary diagnosis field and ICD-9 code of pressure ulcer stage III, IV, or unstageable (707.23-707.25) in any secondary diagnosis field
Denominator	All adult (age ≥ 18) medical and surgical discharges with LOS ≥ five days Exclude cases • with LOS of less than five days; • with a principal ICD-9-CM diagnosis code for pressure ulcer (see above); • with any secondary ICD-9-CM diagnosis codes for pressure ulcer (see above) present on admission and any secondary ICD-9-CM diagnosis codes for pressure ulcer stage III or IV (or unstageable; see above) present on admission; • with any-listed ICD-9-CM diagnosis codes for hemiplegia, paraplegia, or quadriplegia; • with any-listed ICD-9-CM diagnosis codes for spina bifida or anoxic brain damage; • with any-listed ICD-9-CM procedure codes for debridement or pedicle graft before or on the same day as the major operating room procedure (surgical cases only); • with any-listed ICD-9-CM procedure codes for debridement or pedicle graft as the only major operating room procedure (surgical cases only); • with transfer from a hospital (different facility); • with transfer from a Skilled Nursing Facility (SNF) or Intermediate Care Facility (ICF); • with transfer from another health care facility; • with Major Diagnostic Category (MDC) 9 (skin, subcutaneous tissue, and breast); • with MDC 14 (pregnancy, childbirth, and puerperium); and • with missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), or principal diagnosis (DX1=missing).

Multiplier	1,000
Data Source	Electronic administrative and claims data
Data Collection Tool	CDB or CDB-Lite
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate
For More Information	http://qualityindicators.ahrq.gov/Modules/PSI_TechSpec.aspx

Process Measures

Skin assessment completed upon admission

Measure Description	Completion of skin assessment upon admission
Reporting Requirement	Mandatory – Collected for all EHEN participants who are participating in the HAPU collaborative
Numerator	Cases with documentation in the medical record of first skin assessment completed on the date of admission or the date after admission into the hospital
Denominator	Total number of patients
Multiplier	100
Data Source	Medical records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

Pressure ulcer risk assessment upon admission to the hospital

Measure Description	Completion of PU risk assessment upon admission
Reporting Requirement	Mandatory – Collected for all EHEN participants who are participating in the HAPU collaborative

Numerator	Cases with documentation in the medical record of
	• first Braden pressure ulcer risk assessment completed within one day of admission;
	• first Norton pressure ulcer risk assessment completed within one day of admission; or
	• first pressure ulcer risk assessment completed within one day of admission with all of the following:
	  ○ Sensory perception
	  ○ Skin moisture/incontinence
	  ○ Activity
	  ○ Mental condition
	  ○ Physical condition
	  ○ Mobility
	  ○ Nutrition
	  ○ Friction
	  ○ Shear

Denominator	Total number of patients
Multiplier	100
Data Source	Medical records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

Venous Thromboembolism (VTE)

There is one outcome measure and four process measures for this event. The outcome measure will be collected for all EHEN participants, regardless of their participation within the VTE collaborative. The four process measures are collected only for those hospitals participating in the VTE collaborative. Two of the four process measures are optional for reporting by VTE collaborative participants.

Outcome Measures

Pulmonary embolism or deep vein thrombosis rate (UHC-modified AHRQ PSI-12)

Measure Description	Pulmonary embolism or deep vein thrombosis rate per 1,000 discharges **Modified to include *all* adult discharges (where AHRQ only includes adult surgical discharges)**
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in VTE collaborative
Numerator	All adult discharges ages ≥ 18 among cases meeting the inclusion and exclusion rules for the denominator with ICD-9-CM codes with POA=N, U for deep vein thrombosis or pulmonary embolism in any secondary diagnosis field ICD-9-CM Deep vein thrombosis diagnosis codes: • 451.11 FEMORAL VEIN PHLEBITIS • 451.19 DEEP PHLEBTIS-LEG NEC • 451.2 THROMBOPHLEBITIS LEG NOS • 451.81 ILIAC THROMBOPHLEBITIS • 451.9 THROMBOPHLEBITIS NOS • 453.40 AC DVT/EMBL LOW EXT NOS • 453.41 AC DVT/EMB PROX LOW EXT • 453.42 AC DBT/EMB DISTL LOW EXT • 453.8 OTHER VENOUS EMBOLISM AND THROMBOSIS OF OTHER SPECIFIED VEINS • 453.9 VENOUS THROMBOSIS NOS ICD-9-CM Pulmonary embolism diagnosis codes: • 415.1 PULMONARY EMBOLISM AND INFARCTION • 415.11 IATROGEN PULM EMB/INFARC *Exclusions:* Exclude cases in MDC 14 category
Denominator	All adult discharges ages ≥ 18. *Inclusions:* • LOS outlier, early death, medical tourism, prison population *Exclusions:* • Bad data, nonviable neonates, hospice patients

	• Readmission cases exclude chemotherapy, radiation therapy, rehabilitation, death on first admission, dialysis, delivery/birth, and mental diseases/alcohol and drug use • Patients with principal diagnosis of deep vein thrombosis or pulmonary embolism or secondary diagnosis present on admission • Patients with MDC 14 (pregnancy, childbirth, and puerperium) • Patients with missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1=missing)
Multiplier	1,000
Data Source	Electronic administrative and claims data
Data Collection Tool	CDB or CDB-Lite
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate

Process Measures

Venous thromboembolism prophylaxis (JC VTE-1)

Measure Description	This measure assesses the number of patients who received VTE prophylaxis or have documentation on why no VTE prophylaxis was given the day of or the day after hospital admission or surgery end date for surgeries that start the day of or the day after hospital admission.
Reporting Requirement	Mandatory – Collected for all EHEN participants who are participating in the VTE collaborative
Numerator	Patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given: • the day of or the day after hospital admission • the day of or the day after surgery end date for surgeries that start the day of or the day after hospital admission
Denominator	All patients *Exclusions:* • Patients younger than 18 years of age • Patients who have an LOS of less than two days and greater than 120 days • Patients with Comfort Measures Only documented on day of or day after hospital arrival • Patients enrolled in clinical trials

	• Patients who are direct admits to ICU or transferred to ICU the day of or the day after hospital admission with ICU LOS greater than or equal to one day • Patients with ICD-9-CM Principal Diagnosis Code of Mental Disorders or Stroke as defined in The Joint Commission's Appendix A, Table 7.01, 8.1 or 8.2 of the Specifications Manual for National Hospital Inpatient Quality Measures • Patients with ICD-9-CM Principal or Other Diagnosis Codes of Obstetrics or VTE as defined in The Joint Commission's Appendix A, Table 7.02, 7.03 or 7.04 of the Specifications Manual for National Hospital Inpatient Quality Measures • Patients with ICD-9-CM Principal Procedure Code of Surgical Care Improvement Project (SCIP) VTE selected surgeries as defined in Joint Commission's Appendix A, Tables 5.17, 5.19, 5.20, 5.21, 5.22, 5.23, and 5.24 of the Specifications Manual for National Hospital Inpatient Quality Measures
Multiplier	100
Data Source	Medical records
Data Collection Tool	Web Portal
Sampling Methodology	Sampling for this measure can be done in accordance with The Joint Commission's measure set specific sample size requirements
For More Information	http://www.jointcommission.org/specifications_manual_for_national_hospital_inpatient_quality_measures.aspx
Improvement Noted By	An increase in the rate

Intensive care unit venous thromboembolism prophylaxis (JC VTE-2)

Measure Description	This measure assesses the number of patients who received VTE prophylaxis or have documentation on why no VTE prophylaxis was given the day of or the day after the initial admission (or transfer) to the ICU or surgery end date for surgeries that start the day of or the day after ICU admission (or transfer).
Reporting Requirement	Mandatory – Collected for all EHEN participants who are participating in the VTE collaborative
Numerator	Patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given: • the day of or the day after ICU admission (or transfer) • the day of or the day after surgery end date for surgeries that start the day of or the day after ICU admission (or transfer)
Denominator	Patients directly admitted or transferred to ICU *Exclusions:*

	• Patients younger than 18 years of age • Patients who have a hospital LOS less than two days and greater than 120 days • Patients with Comfort Measures Only documented on day of or day after hospital arrival • Patients enrolled in clinical trials • Patients with ICU LOS less than one day without VTE prophylaxis administered and documentation for no VTE prophylaxis • Patients with ICD-9-CM Principal or Other Diagnosis Code of Obstetrics or VTE as defined in The Joint Commission's Appendix A, Table 7.02, 7.03, or 7.04 of the Specifications Manual for National Hospital Inpatient Quality Measures • Patients with ICD-9-CM Principal Procedure Code of Surgical Care Improvement Project VTE selected surgeries as defined in The Joint Commission's Appendix A, Tables 5.17, 5.19, 5.20, 5.21, 5.22, 5.23, and 5.24 of the Specifications Manual for National Hospital Inpatient Quality Measures that start the day of or the day after ICU admission or transfer
Multiplier	100
Data Source	Medical records
Data Collection Tool	Web Portal
Sampling Methodology	Sampling for this measure can be done in accordance with the Joint Commission's measure set specific sample size requirements
For More Information	http://www.jointcommission.org/specifications_manual_for_national_hospital_inpatient_quality_measures.aspx
Improvement Noted By	An increase in the rate

Total knee replacement (TKR) patients who ambulated within 24 hours of surgery

Measure Description	TKR patients who ambulated in room within 24 hours of surgery (with or without use of cane or walker)
Reporting Requirement	Optional – EHEN participants who are participating in the VTE collaborative can choose to submit data for this measure
Numerator	Number of TKR patients with documentation of ambulation within 24 hours of surgery
Denominator	All TKR patients
Multiplier	100
Data Source	Medical records

Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

Adverse Obstetrical Events (OB)

There are three outcome measures and one process measure for this event. The outcome measures will be collected for all EHEN participants, regardless of their participation within the OB collaborative. The process measure will be mandatory only for those hospitals participating in the OB collaborative.

Outcome Measures

Early elective delivery rate (JC PC-01)

Measure Description	Patients with non-medically indicated, elective vaginal deliveries or elective cesarean sections at ≥ 37 and < 39 weeks of gestation completed
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in OB collaborative
Numerator	Patients with non-medically indicated elective deliveries as identified by one or more of the following ICD-9-CM principal procedure or other procedure codes: • Medical induction of labor (ICD-9-CM Codes 73.01, 73.1, 73.4) • Cesarean section while not in Active Labor or experiencing Spontaneous Rupture of Membranes (74.0, 74.1, 74.2, 74.4, 74.99)
Denominator	Patients delivering newborns with ≥ 37 and < 39 weeks of gestation completed
Multiplier	100
Data Source	Medical records
Data Collection Tool	Web Portal
Sampling Methodology	Sampling for this measure can be done in accordance with The Joint Commission's Perinatal Care Sample Size Requirements.
Improvement Noted By	A decrease in the rate
For More Information	https://manual.jointcommission.org/Manual/WebHome

Cesarean section rate (JC PC-02)

Measure Description	Nulliparous women with a term, singleton baby in a vertex position delivered by cesarean section
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in OB collaborative
Numerator	Patients with cesarean sections as identified by one or more of the following ICD-9-CM principal procedure or other procedure codes: 74.0, 74.1, 74.2, 74.4, or 74.99

Denominator	Nulliparous patients delivered of a live term singleton newborn with 37 weeks or more of gestation completed in vertex presentation (ICD-9-CM V27.0) *Exclusions:* • ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for contraindications to vaginal delivery (as defined in Table 11.09 in the Specifications Manual for The Joint Commission National Quality Measures, v2011A) • Younger than eight years of age • Greater than or equal to 65 years of age • LOS greater than 120 days • Enrolled in clinical trials
Multiplier	100
Data Source	Medical Records
Data Collection Tool	Web Portal
Sampling Methodology	Sampling for this measure can be done in accordance with The Joint Commission's Perinatal Care Sample Size Requirements.
Improvement Noted By	A decrease in the rate
For More Information	https://manual.jointcommission.org/Manual/WebHome

Episiotomy rate (UHC-modified NQF 0470)

Measure Description	Percentage of vaginal deliveries (excluding those with shoulder dystocia) during which an episiotomy is performed **Modified to only look at episiotomies performed for vaginal deliveries in which no instrument is used**
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in OB collaborative
Numerator	Number of episiotomy procedures (ICD-9 code 73.6)
Denominator	All vaginal deliveries without instrument during the analytic period (Diagnosis Related Group [DRG] codes: 774, 775, 767, 768) *Inclusions:* • LOS outlier, early death, medical tourism, prison population *Exclusions:* • Bad data, nonviable neonates, hospice patients • Vaginal deliveries with shoulder dystocia (ICD-9 codes: 660.40, 660.41) or instrument-assisted delivery (ICD-9 codes: 72.0, 72.1, 72.29, 72.31, 72.39, 72.4, 72.51, 72.53, 72.6, 72.71, 72.79, 72.8, 72.9)
Multiplier	100

Data Source	Electronic administrative and claims data
Data Collection Tool	CDB or CDB-lite
Sampling Methodology	Not Applicable
Improvement Noted By	A decrease in the rate

Process Measure

Birth trauma – Injury to neonates (AHRQ PSI-17/NQF 0474)

Measure Description	Birth trauma to neonates
Reporting Requirement	Mandatory – Collected for all EHEN participants who are participating in the OB collaborative
Numerator	Discharges among cases meeting the inclusion and exclusion rules for the denominator with ICD-9-CM codes for birth trauma in any diagnosis field ICD-9-CM Birth trauma diagnosis codes: • 7670 CEREBRAL HEM AT BIRTH • 76711 EPICRANIAL SUBAPO HEMORR • 7673 BONE INJURY NEC AT BIRTH • 7674 SPINAL CORD INJ AT BIRTH • 7675 FACIAL NERVE INJ-BIRTH • 7677 NERVE INJ NEC AT BIRTH • 7678 BIRTH TRAUMA NEC
Denominator	All newborns *Exclusions:* • Preterm infants with a birth weight less than 2,000 grams • Infants with any diagnosis code of injury to brachial plexus • Infants with any diagnosis code of osteogenesis imperfecta • Cases with missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), or principal diagnosis (DX1=missing)
Multiplier	1,000
Data Source	Electronic administrative and claims data
Data Collection Tool	CDB or CDB-Lite
Sampling Methodology	Not Applicable
For More Information	http://qualityindicators.ahrq.gov/Modules/PSI_TechSpec.aspx

Readmissions

There is one outcome measure and four process measures for this event. The outcome measure will be collected for all EHEN participants, regardless of their participation within the readmissions collaborative. Hospitals that are participating in the readmission collaborative will be required to select at least two of the four process measures for reporting.

Outcome Measure

UHC-defined 30-Day, all-cause readmission rate

Measure Description	30-day all-cause readmission rate
Reporting Requirement	All – Collected for all EHEN participants, regardless of participation in readmissions collaborative
Numerator	Number of 30-day readmissions *Exclusions:* • Bad data • Hospice patients • Non-viable neonates • Patients younger than 18 years of age *Readmit case exclusions:* • Chemotherapy • Radiation therapy • Rehabilitation • Death on first admission • Dialysis • Delivery/birth • Mental diseases/alcohol and/or drug use • Neonatology, Normal Newborns, and Obstetrics Service Lines
Denominator	All adult discharges *Exclusions:* • Bad data • Hospice patients • Non-viable neonates • Patients younger than 18 years of age • Neonatology, Normal Newborns, and Obstetrics Service Lines
Multiplier	100
Data Source	Electronic administrative and claims data
Data Collection Tool	CDB or CDB-Lite
Sampling Methodology	Not applicable

Improvement Noted By	A decrease in the rate

Process Measures

Documentation of defined and separate lists of discontinued, new, and continued medications in the medical record

Measure Description	Documented cases for which defined and separate lists of discontinued, new, and continued medications are present in the medical record
Reporting Requirement	Mandatory – EHEN hospitals participating in the readmissions collaborative must report at least two of the four process measures for this event
Numerator	Number of cases with separately listed "discontinued," "new," and "continued" medication lists in the medical record
Denominator	Number of cases audited
Multiplier	100
Data Source	Medical records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

Completion and transmission of discharge summary to post-acute provider within 72 hours

Measure Description	Documented cases for which the discharge summary was completed and transmitted/made available to post-acute provider within 72 hours
Reporting Requirement	Mandatory – EHEN hospitals participating in the readmissions collaborative must report at least two of the four process measures for this event
Numerator	Number of cases with discharge summary completed and transmitted/made available to post-acute provider within 72 hours
Denominator	Number of cases audited
Multiplier	100
Data Source	Medical records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

Documentation of scheduled follow-up appointment within seven days of discharge

Measure Description	Documented cases in which a follow-up appointment (defined as description of date/time/location) was coordinated within seven days of discharge
Reporting Requirement	Mandatory – EHEN hospitals participating in the readmissions collaborative must report at least two of the four process measures for this event
Numerator	Number of cases with documented coordination of a follow-up appointment within seven days of discharge
Denominator	Number of cases audited
Multiplier	100
Data Source	Medical records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

Documentation of follow-up phone call within 72 hours of discharge

Measure Description	Documented cases of a follow-up phone call within 72 hours of discharge
Reporting Requirement	Mandatory – EHEN hospitals participating in the readmissions collaborative must report at least two of the four process measures for this event
Numerator	Number of cases with documented follow-up phone call within 72 hours
Denominator	Number of cases audited
Multiplier	100
Data Source	Medical records
Data Collection Tool	Web Portal
Sampling Methodology	Systematic or block sampling; see Appendix A for IHI Sampling Methodology.
Improvement Noted By	An increase in the rate

Appendix A: IHI Measure Sampling Methodology

Source: IHI Sampling Tool, available here:
http://www.ihi.org/resources/Pages/Tools/Sampling.aspx

Systematic Sampling

Systematic sampling is a method used to collect data at fixed time or count intervals — for example, every hour on the hour or every fourth patient. Systematic sampling is useful for a high-volume process. Use it to gain a general picture of the performance of a process and to sample data over extended periods of time. Systematic sampling reduces the impact of time and sequencing (i.e., queuing effects) on data.

- Decide how much data is needed and how much you can afford to collect. Keep in mind that you can learn a lot about the performance of a process from very small samples of data. For example, if you are trying a new method to streamline transfers from one unit to another, you can learn much from only 10 transfers.
- Estimate the total number of units that will likely occur in the process during the time period being studied. Use short time periods when running Plan-Do-Study-Act (PDSA) cycles. Instead of collecting data for one month, collect it for one week; instead of one week, try just three days; instead of a day, try a few hours. This approach speeds up data collection, gives "good enough" data, and keeps momentum going.
- Calculate the sampling interval. Divide the total number of units by the number of data points you need. For example, if you see 300 patients per week and need 50 data points, collect data on every sixth patient (300 divided by 50).

Block Sampling

Block sampling is a method designed to select sample units in a block of predetermined size. Instead of measuring at a fixed time or count interval, as in systematic sampling, measure a straight sequence within a limited time frame. Block sampling is used to gain a picture of time- or sequence-dependent data. It is helpful when attempting to capture the detailed behavior of the process.

- Decide how much data is needed and how much you can afford to collect. Keep in mind that for PDSA cycles, you can learn from very small samples of data. For example, if you are trying a new method of registering patients, you can learn a great deal from trying the method with the next five to eight patients. You can take what you learn, incorporate it, and try the revised method again with the next 15 patients and so forth, until you feel comfortable implementing the new method for all patients.
- Select the location and the time to begin the data collection.
- Select the first unit at that time and location and every unit that follows until you have the needed number of units. Be sure to preserve the sequence of the data.