

#	Measure	Numerator	Denominator	IOM Quality Domain	Donabedian Framework	Diagnosis Category	Measure Level*	Required Data Elements	Notes /Reference
* (A) Individual Clinician or Group of Clinicians (e.g. nurses, residents, attendings, fellows); (B) Facility (ED); (C) System-Wide Measure									
<b>Initial Care for Every Emergency Department Patient</b>									
1.1	Measuring weight in kilograms for patients <18 years of age	Number of visits by patients <18 years of age with a weight in kilograms documented during the current visit	Number of visits by patients <18 years of age	Effective, Safe	Process	General	A, B	Unique visit identifier Weight	This measure will use the operational definition from the American Academy of Pediatrics-sponsored National Quality Forum measure. The NQF measure allows for weight-based estimation (e.g. Broselow tape) for children who are too ill to use a scale. No other estimations permitted due to inaccuracy.
1.2	Valid pediatric triage tool	Presence of a validated pediatric triage tool (Y/N)	N/A	Effective, Safe, Timely	Structure	General	B		Examples of validated pediatric triage tools include: The Manchester Triage System (MTS), the Emergency Severity Index (ESI), and the Paediatric Canadian Triage and Acuity Score (paedCTAS) Reference at: <a href="http://www.sjtrem.com/content/17/1/38">http://www.sjtrem.com/content/17/1/38</a>
1.3	Patients <18 years of age triaged using a validated pediatric triage tool	Number of visits by patients <18 years of age who are triaged using a validated pediatric triage tool	Number of visits by patients <18 years of age	Effective, Safe	Process	General	B	Unique visit identifier Triage status	(See measure 1.2) Reference at: <a href="http://www.sjtrem.com/content/17/1/38">http://www.sjtrem.com/content/17/1/38</a>
1.4	Measuring vital signs for patients <18 years of age	Number of visits by patients <18 years of age with all 4 vital signs documented (temperature, heart rate, respiratory rate and blood pressure) by the completion of the first nursing assessment (e.g. triage or room placement)	Number of visits by patients <18 years of age	Effective, Safe	Process	General	A, B	Unique visit identifier Temperature Blood pressure Pulse Respiratory Rate Vital sign assessed time	
1.5	Presence of a method to identify age based abnormal pediatric vital signs	Presence of a method to identify age based abnormal pediatric vital signs (Y/N)	N/A	Effective, Safe	Structure	General	B		
1.6	Practitioner notification of abnormal vital signs within 10 minutes	Number of times a practitioner is notified within 10 minutes of an abnormal vital sign (heart rate, respiratory rate, blood pressure) in a patient <18 years of age.	Number of abnormal vital signs (heart rate, respiratory rate, blood pressure) in all patients <18yrs of age.	Effective, Safe, Timely	Process	General	A, B	Unique visit identifier Temperature Blood pressure Pulse Respiratory Rate Vital sign assessed time Abnormal vital sign flag	-All recorded instances of abnormal vital signs are included in the denominator (temp excluded). This can include multiple sets of vital signs per visit. -Abnormal vital signs defined as <5th percentile or >95th percentile. -Practitioner defined as an individual who is able to initiate the diagnostic and/or therapeutic plan, including attending physicians, residents, fellows and nurse practitioners. -Sampling strategy, stratified by admission status, will be defined (e.g. 20 admitted patients and 20 discharged patients/month).

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<b>Emergency Department Infrastructure and Personnel</b>									
2.1	Physician/Advanced Practice Nurse staff hours per presentational case mix	Total number of physician/Advanced Practice Nurse hours of staffing per week. Weight hours: Each Licensed Independent Practitioner hour = 1 Each trainee hour = 0.5	Number of visits per week. Weight each visit by CPT code: 99285 = 5 points 99284 = 4 points 99283 = 3 points 99282 = 2 points 99281 = 1 point Critical care = 5 points/30 minutes	Effective, Safe, Efficient	Process	General	B	Unique visit identifier CPT evaluation and management code MD staffing hours	
2.2	Nursing Staff Hours per presentational case mix	The formula utilizes the following six factors, which form the basis for determining appropriate staffing requirements: (1) patient census (# of patients for each facility level); (2) patient acuity (facility level CPT code); (3) patient length of stay (again for acuity level); (4) nursing time for nursing interventions and activities by patient acuity; (5) skill mix for providing patient care based on nursing interventions that can be delegated to a non-registered nurse; and (6) an adjustment factor for the non-patient care time included in each FTE. To generate an adjustment factor, data on total # of hours of Paid Benefit Time for all RNs over 12 months, Annual Average Number of Paid Educational Hours for one RN, and Total # of paid hours for all RNs (12 months) are needed.	N/A	Effective, Safe, Efficient	Process	General	B	Unique visit identifier CPT evaluation and management code RN staffing hours RN paid time off hours RN paid educational hours per year	-Based upon ENA staffing guideline formula -Compare calculated (or expected) nursing FTEs per year with actual nursing FTEs for the same year
2.3	Pediatric equipment in the ED	Presence of all necessary equipment for the care of pediatric patients as defined by AAP/ACEP (100% of all recommended equipment); report as Yes or No	N/A	Effective, Safe	Structure	General	B		-Drawn from "Policy Statement—Guidelines for Care of Children in the Emergency Department"; Annals of Emergency Medicine and Pediatrics, October 2009: APPENDIX 2:
2.4	Ongoing assessment of pediatric competencies for physician and nursing staff	Policy in place for continued assessment of pediatric provider competency (Y/N)	N/A	Effective, Safe	Process	General	A, B		-From ACEP/AAP: Joint Policy Statement Guidelines for Care of Children in the Emergency Department. Pediatrics, 9/22/09 -Baseline and periodic competency evaluations completed for all ED clinical staff, including physicians, are age specific and include evaluation of skills related to neonates, infants, children, adolescents, and children with special health care needs. -Competencies are determined by each institution's medical staff privileges policy.

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<b>Emergency Department Infrastructure and Personnel</b>									
2.5	Physician Board Certification	Number of physician staff certified in Emergency Medicine (ABEM) or Pediatric Emergency Medicine (ABEM or ABP)	Total number of physicians on staff	Effective, Safe	Structure	General	A, B	Number of MD on staff Number of MD certified in EM or pediatric EM	
2.6	Continuing Education in pediatric emergency topics	Total # CME/CEU credits annually related to pediatric emergency topics for all physicians, advanced practice and staff nurses	Total number of physicians, advanced practice and staff nurses	Effective, Safe	Process	General	A, B	Number of staff (MD/RN) Total number of CME/CEU credits related to pediatric EM	
2.7	Pediatric competencies and simulation training	Number of physicians, advanced practice nurses and staff nurses who participate in teamwork training in a simulated environment involving pediatric topics each year	Total number of physicians, advanced practice and staff nurses	Effective, Safe	Process	General	A, B	Number of staff (MD/RN) Number of staff participating in simulations	
2.8	Presence of on-site pediatric coordinator(s)	a. Presence of a physician pediatric coordinator b. Presence of a nurse pediatric coordinator c. Presence of both a physician and a nurse pediatric coordinator	N/A	Effective, Safe, Patient-Centered	Structure	General	B		-Definitions of coordinators drawn from "Policy Statement—Guidelines for Care of Children in the Emergency Department": Annals of EM and Pediatrics, October 2009:

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<b>Patient-Centered Emergency Department Care</b>									
3.1	Parent/caregiver understanding of discharge instructions	a. Number of parents/caregivers reporting “not at all” difficult to understand what they have to do to take care of their child’s medical problem after discharge b. Number of parents/caregivers reporting “not at all” difficult to understand which symptoms or changes should cause them to return with their child. c. Number of parent/caregivers reporting “not at all” difficult to both questions	Number of parents/caregivers surveyed	Effective, Safe, Patient-Centered	Process	General	A, B	Unique visit identifier Patient disposition Patients/ families surveyed	Use the following questions: a. How difficult was it for you to understand what you have to do to take care of your child’s medical problem? b. How difficult was it for you to understand which symptoms or changes should cause your child to return to the emergency department? Scale- not at all difficult; a little difficult; moderately difficult; quite a bit difficult; extremely difficult -Discharge instructions include all verbal and written communications -Off-site survey - phone, mail, email all acceptable -Time frame – 48 hours to 6 weeks after the ED visit; can be administered with other satisfaction questions
3.2	Use of interpreter services for care	Number of visits by patients <18yrs of age where an interpreter service was utilized	Number of visits by patients <18yrs of age where patient/caregiver language non-English or sign language	Effective, Safe, Patient-Centered	Process	General	A, B		-Bilingual physicians are considered acceptable interpreters -On-site or telephonic services are acceptable -Family member or friend interpretation is not acceptable -Sign-language is included in languages that are applicable
3.3	Parent/caregiver satisfaction with nursing care	Number of parents/caregivers responding in the highest response category (10)	Number of parents/caregivers responding to survey	Patient-Centered	Outcome	General	A, B		Use the following question from the HCAHPS survey: Using any number from 0-10 where 0 is the worst possible care and 10 is the best possible care, what number would you give the care you got from all the nurses who treated you? -Off-site survey (phone, mail, email) all acceptable -Exact question must be used. It may be added to existing survey mechanism -Time frame – 48 hours to 6 weeks after the ED visit; can be administered with other satisfaction questions
3.4	Parent/caregiver satisfaction with physician care	Number of parents/caregivers responding in the highest response category (10)	Number of parents/caregivers responding to survey	Patient-Centered	Outcome	General	A, B		Use the following question from the HCAHPS survey: Using any number from 0-10 where 0 is the worst possible care and 10 is the best possible care, what number would you give the care you got from all the doctors who treated you? -Off-site survey (phone, mail, email) all acceptable -Exact question must be used. It may be added to existing survey mechanism. -Time frame – 48 hours to 6 weeks after the ED visit; can be administered with other satisfaction questions

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<b>Patient-Centered Emergency Department Care</b>									
3.5	Patient-centered care advisory council	Presence of a patient-centered care advisory council that addresses care AND includes family members (Y/N)	N/A	Patient-Centered	Structure	General	B		Purpose/Roles of Family Advisory Council: -Provides a venue for patients and families to provide input into policy and program development -Channels information, needs, and concerns to staff and administration -Actively helps implement changes -Provides a safe venue for patients and family to provide input in a setting where they are receiving care. Reference at: <a href="http://www.ipfcc.org/advance/Advisory_Councils.pdf">http://www.ipfcc.org/advance/Advisory_Councils.pdf</a>
3.6	Patient and family participation in medical decision making	Number of parents/caregivers reporting "yes, definitely" to participation in medical decision-making	Number of parents/caregivers surveyed	Patient-Centered	Process	General	A, B		Use the following question from the HCAHPS survey: "Were you involved in decisions about your child's care and treatment as much as you wanted?" Scale - yes definitely; yes somewhat; no -Off-site survey (phone, mail, email) all acceptable -Exact question must be used. It may be added to existing survey mechanism. -Time frame – 48 hours to 6 weeks after the ED visit; can be administered with other satisfaction questions

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<b>Emergency Department Flow</b>									
4.1	Door to Provider	Time interval between patient presentation and the first time the patient is seen by a provider, excluding triage personnel, who can initiate a diagnostic evaluation or therapeutic plan for all patients <18 years of age (from NQF definition)	Include all visits by patients <18 years of age;  Exclusion: Left Without Being Seen patients	Timely, Patient-Centered	Outcome	General	B, C	Unique visit identifier Patient arrival time Provider evaluation time Triage status	-This measure has the same operational definition as the National Quality Forum Measure "Door to Provider" -Report as median time in minutes -Patient presentation is the first arrival time stamp recorded -Definition of provider who can initiate a diagnostic evaluation or therapeutic plan includes attending, fellow, resident or advanced practice nurse -NQF also stratifies measure by Facility Evaluation and Management Code -Measure may be stratified by validated triage score (e.g. ESI)
4.2	Total Length of Stay	Time from arrival to departure for all patients <18 years of age	Include all visits by patients <18 years of age;  Exclusions: Left Without Being Seen, Left Without Treatment and Left Against Medical Advice	Effective, Timely, Efficient, Patient-Centered	Outcome	General	A, B, C	Unique visit identifier Patient arrival time Patient left ED time Patient disposition	-This measure has the same operational definition as the National Quality Forum Measure "Time from ED Arrival to ED Departure" -Report as median time in minutes -Patient presentation is the first arrival time stamp recorded -Departure time is defined as the time the patient leaves the ED and not the time a discharge order was written. -Stratify by admitted, discharged and transferred
4.3	Left Without Being Seen	Number of visits where a patient <18 years of age left without being seen by a provider, excluding triage personnel, who can initiate a diagnostic and therapeutic plan	Number of visits by patients <18 years of age	Effective, Safe, Patient-Centered	Outcome	General	A, B, C	Unique visit identifier Patient disposition	-This measure has the same operational definition as the National Quality Forum Measure "Left Without Being Seen" -Definition of provider who can initiate a diagnostic evaluation or therapeutic plan includes attending, fellow, resident or advanced practice nurse -Stratify by validated triage score (although many patients may have not completed a formal triage process)
4.4	Laboratory Test Turn Around Time	Time interval between laboratory test ordered and result available to provider for complete blood count, basic chemistry panel (sodium, potassium, chloride, bicarb, BUN, creatinine and glucose), urinalysis, urine pregnancy test and rapid streptococcal antigen of throat respectively.		Timely	Process	Cross-cutting (diagnostic test)	B	Unique visit identifier Test order time Test complete time Test name/type	-Include all laboratory tests performed (complete blood count, basic chemistry panel, urinalysis, urine pregnancy test and rapid streptococcal antigen of throat) on patients <18 years of age -Report as median time in minutes -Point of care testing is included
4.5	Diagnostic Imaging Test Turn Around Time: time to attending radiologist reading	Time interval between imaging test ordered and radiologist reading available to ED provider for CT scans, ultrasound or MRI		Timely	Process	Cross-cutting (diagnostic test)	B	Unique visit identifier Test order time Test complete time Test name/type	-Include all CT scans, ultrasounds or MRIs performed on patients < 18 years of age -Report as median time in minutes -First documented reading by radiology attending, fellow or resident counted

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<b>Emergency Department Flow</b>									
4.6	Plain film imaging turnaround time: time to image available to ED staff	Time interval between plain film order and image available for viewing by ED staff		Timely	Outcome	Cross-cutting (diagnostic test)	B	Unique visit identifier Test order time Test complete time Test name/type	-Include all plain films performed on patients < 18 years of age -Report as median time in minutes

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<b>Pain and Sedation</b>									
5.1	Topical anesthetics for pediatric laceration repair	Number of face or scalp lacerations receiving topical anesthesia prior to suture or staple repair in patients < 18 years of age	Number of facial or scalp lacerations undergoing suture or staple repair in patients < 18 years of age	Effective, Patient-Centered	Process	Cross-cutting (pain), lacerations	A, B	Unique visit identifier Medication name CPT code (for suture/staple procedure) ICD-9 code (identifies laceration patients)	
5.2	Effective pediatric procedural sedation	Number of patients < 18 years of age meeting criteria for effective procedural sedation	Number of procedural sedations performed in patients < 18 years of age	Effective, Patient-Centered	Process	Cross-cutting (pain)	A, B		<b>All</b> of the following criteria must be present for a sedation to be considered effective: a) The patient does not have unpleasant recall of the procedure. b) The patient did not experience sedation-related adverse events resulting in abandonment of the procedure <b>or</b> a permanent complication <i>or</i> an unplanned admission to the hospital or prolonged ED observation c) The patient did not actively resist or require physical restraint for completion of the procedure. The need for minimal redirection of movements should not be considered as active resistance or physical restraint. -Responses to these 3 criteria may be included as part of the ED procedural sedation record. Reference: Roback et al. (2009). Consensus-Based Recommendations for Standardizing Terminology and Reporting Adverse Events for Emergency Department Procedural Sedation and Analgesia in Children. <i>Annals of Emer. Med</i> :53(4)
5.3	Documenting age appropriate pain scores	Number of patients < 18 years of age with an age appropriate pain score documented	Number of patients < 18 years of age presenting to the who screen positive for pain	Effective, Patient-Centered	Outcome	Cross-cutting (pain)	A, B	Unique visit identifier Presence of pain y/n Type of pain scale used Pain score	-Examples of age appropriate pain scores include; NPASS, FLACC, Bieri faces pain scale and verbal analogue scale (VAS).
5.4	Treating and reassessing pain	Number of patients < 18 years of age with a pain intervention and reassessment within 90 minutes of initial age-appropriate positive pain score	Number of patients < 18 years of age presenting to the who screen positive for pain	Effective, Timely, Patient-Centered	Process	Cross-cutting (pain)	A, B	Unique visit identifier Pain score Pain score assessed time Pain intervention documented	-Examples of age appropriate pain scores include; NPASS, FLACC, Bieri faces pain scale and verbal analogue scale (VAS).
5.5	Reducing pain in children with acute fractures	Number of patients < 18 years of age with pain assessed and reassessed using the same age-appropriate pain scale who show documented improvement in pain score within 90minutes of arrival	Number of patients < 18 years of age with acute long-bone fractures	Effective, Timely, Patient-Centered	Process	Cross-cutting (pain), fractures	A, B	Unique visit identifier ICD-9 code Pain score Pain score assessed time	-Examples of age appropriate pain scores include; NPASS, FLACC, Bieri faces pain scale and verbal analogue scale (VAS).

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<b>Severe Illness</b>									
6.1	Confirming endotracheal tube placement by the End Tidal CO <sub>2</sub> method	Number of patients <18 yrs of age with an endotracheal tube whose placement is confirmed by End Tidal CO <sub>2</sub> method	Number of patients <18yrs of age with an endotracheal tube	Effective, Safe	Process	Cross-cutting (severe illness)	A, B	Unique visit identifier CPT code	-Includes patient whose endotracheal tube was placed in the ED and those arriving with an endotracheal tube in place
6.2	Timely insulin administration for patients in diabetic ketoacidosis	Time from arrival to insulin administration for patients < 18 years of age in diabetic ketoacidosis	N/A	Effective, Timely	Process	Diabetes	A, B	Unique visit identifier ICD-9 code Medication name Patient arrival time Medication receipt time	-Includes all ED patients with a diagnosis of diabetic ketoacidosis as identified by ICD-9 codes -Time reported as median minutes with interquartile range
6.3	Timely administration of fluids in patients with septic shock	Time from arrival to isotonic fluid bolus administration for patients < 18 years of age with suspected septic shock	N/A	Effective, Timely	Process	Cross-cutting (severe illness)	A, B	Unique visit identifier ICD-9 code Medication name Patient arrival time Medication receipt time	-Includes all ED patients with a diagnosis of septic shock as identified by ICD-9 codes -Time reported as median minutes with interquartile range
6.4	Timely treatment with anti-epileptic drugs for patients in status epilepticus	Number of patients < 18 years of age receiving an anti-epileptic drug within 10 minutes of arrival	Number of patients < 18 years of age presenting to the in status epilepticus	Effective, Timely	Process	Seizure	A, B	Unique visit identifier ICD-9 code Medication name Patient arrival time Medication receipt time	-Includes all patients presenting to the ED in status epilepticus as identified by ICD-9 codes
6.5	Epi-Pens for patients with anaphylaxis	Number of patients <18 years of age discharged home with an Epi Pen or a prescription for an EpiPen	Number of patients <18 yrs of age with a discharge diagnosis of anaphylaxis as identified by ICD-9 codes	Effective, Safe	Process	Allergy	A, B	Unique visit identifier ICD-9 code Discharge prescription(s) Patient disposition	

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<b>Trauma</b>									
7.1	Children with minor head trauma receiving a head CT scan	Number of patients <18 years of age receiving a head CT	Number of children <18yrs of age with head trauma and a Glasgow Coma Score of 14 or 15, obtained using an age-appropriate scale at the time of the ED visit.	Safe, Efficient	Process	Head Trauma	A, B	Unique visit identifier Head CT complete time ICD-9 code Glasgow coma scale score	-Target is a lower rate of CT.
7.2	Early definitive airway management in children with head trauma and a GCS < 8	Number of children <18yrs of age with a normal SpO2 (>90%) maintained prior to and after definitive airway management/ rapid sequence intubation  Exclude: initial SpO2 prior to ED intervention.	Number of children <18yrs of age presenting with head trauma and a Glasgow Coma Score < 8 at presentation.  Exclude: GCS >=8	Effective, Safe	Process	Head Trauma	A, B	Unique visit identifier Head CT complete time ICD-9 code CPT code Glasgow coma scale score Intubation time Pulse ox value Pulse ox recorded time	-Exclude those patients who deteriorate in the ED. -Exclude those with chest trauma affecting SpO2.
7.3	Protocol for suspected child abuse in place	Presence of a protocol for suspected child abuse that addresses sexual abuse, physical abuse and child neglect (Y/N)	N/A	Effective, Safe	Structure	Child Abuse	B		
7.4	Presence of pediatric dosing standards for radiation from CT scans and plain films	Presence of pediatric dosing standards for radiation from CT scans and plain films (Y/N)	N/A	Safe	Structure	Cross-cutting (diagnostic test)	B		Reference at: <a href="http://www.pedrad.org/associations/5364/files/Protocols.pdf">http://www.pedrad.org/associations/5364/files/Protocols.pdf</a>
7.5	Timely clearance from backboard for trauma patients	Time from arrival to clearance from backboard.	N/A	Timely	Process	Trauma	A, B	Unique visit identifier Arrival on backboard documented Backboard clearance time Patient arrival time	-Include only patients arriving to ED on a backboard via EMS. -Report as median time with interquartile range.
7.6	Effective wound treatment and management:	<ul style="list-style-type: none"> <li>• Number of times a local anesthetic was used</li> <li>a. Number of times wound irrigation was provided</li> <li>b. Number of times both a local anesthetic and irrigation were used.</li> </ul>	Number of lacerations requiring primary closure (identified by procedure codes for laceration repair) for patients <18yrs of age.	Effective	Process	Laceration	A, B	Unique visit identifier Patient arrival time CPT code Wound irrigation documented Medication name	-Report each of these 3 separately.

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<b>Respiratory Diseases</b>									
8.1	Systemic corticosteroids in asthma patients with acute exacerbation	Number of asthma patients <18yrs of age receiving systemic corticosteroid during visit	Number of patients with a diagnosis of asthma (493.xx,) treated with >1 inhaled B-agonist, age >=2yrs and < 18 years of age	Effective	Process	Asthma	A, B	Unique visit identifier Patient arrival time Patient left ED time Medication name ICD-9 code Medication receipt time	-Inhaled B-agonist includes albuterol and levalbuterol.
8.2	Objective improvement in asthma severity score for patients with acute asthma exacerbations	Number of patients whose objective asthma score at discharge is less than the asthma score at presentation	Number of patients with a diagnosis of asthma (493.xx,) treated with >1 inhaled B-agonist, age >=2yrs and < 18 years of age	Effective, Patient-Centered	Outcome	Asthma	A, B	Unique visit identifier Patient arrival time Patient left ED time Medication name ICD-9 code Medication receipt time Asthma severity score Asthma severity score time	-Numerator value is 0 if only one or no asthma severity scores documented -Numerator value is 0 if discharge asthma severity score is greater than score at presentation Examples of objective asthma scores: 1. Ducharme FM et al. (2008). The Pediatric Respiratory Assessment Measure: A valid clinical score assessing acute asthma severity from toddlers to teenagers. J Pediatr. 152:476-80 2. Gorelick MH et al. (2004). Performance of a novel clinical score, the pediatric asthma severity score (PASS), in the evaluation of acute asthma. Acad Emerg Med.11(1):10-18 3. Smith SR et al. (2002). Validation of the pulmonary score: an asthma severity score for children. Acad Emerg Med. 9(2):99-104
8.3	Timeliness of inhaled B-agonist treatment for patients with acute asthma exacerbations	Time from arrival to first inhaled B-agonist administered	N/A	Effective, Timely	Process	Asthma	A, B	Unique visit identifier Patient arrival time Medication name ICD-9 code Medication receipt time	-Measure includes patients with a diagnosis of asthma (493.xx,) treated with >1 inhaled B-agonist, age >=2yrs -Inhaled B-agonists include albuterol and levalbuterol -Time of administration of inhaled treatment is measured (not time of order).
8.4	Evidence based guideline for bronchiolitis	Presence of an evidence based guideline for bronchiolitis treatment (Y/N)	N/A	Effective, Efficient	Structure	Bronchiolitis	B		Reference at: <a href="http://www.pediatrics.org/cgi/content/full/118/4/1774">http://www.pediatrics.org/cgi/content/full/118/4/1774</a>
8.5	Systemic corticosteroids in patients with croup	Number of croup patients < 18 years of age given a systemic corticosteroid during visit	Number of patients < 18 years of age with a diagnosis of croup (464.4)	Effective	Process	Croup	A, B	Unique visit identifier Patient arrival time Patient left ED time Medication name Medication receipt time ICD-9 code	-Systemic corticosteroid includes IV, IM or oral dexamethasone, oral prednisone, IV or IM methylprednisolone

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<b>Other Conditions</b>									
<b>9.1</b>	Abdominal/pelvic CT scans for patients with suspected appendicitis	Number of abdominal/pelvic CT scans for suspected appendicitis that demonstrate no appendicitis	Number of abdominal/pelvic CT scans performed for suspected appendicitis in patients <18 years of age	Effective, Safe, Efficient	Outcome	Appendicitis	A, B	Unique visit identifier ICD-9 code CT scan order time CT scan result CT indication flag for appendicitis	-Desired direction of this measure is low (but not zero) in order to reduce unnecessary CT scans and associated radiation risks when other diagnostic options are available
<b>9.2</b>	Timeliness of psychiatric evaluation for mental health patients	Time from arrival to arrival of mental health consultant (psychiatrist or social worker)	N/A	Effective, Timely	Outcome	Mental Health	B	Unique visit identifier ICD-9 code Consult called time Consult arrival time	-Includes all patients with a mental health condition for whom a mental health consult is requested

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<b>Childhood Infections</b>									
10.1	Antibiotic treatment for children with sickle cell disease or documented neutropenia	Number of eligible children receiving antibiotics	Number of children <18 years of age with sickle cell disease or documented neutropenia and fever	Effective, Safe	Process	Fever, Immunosuppression	A, B	Unique visit identifier ICD-9 code Temperature Medication name Lab test result	Definitions: -Fever: History or documentation of fever greater than or equal to 38.5°C (101.3°F) anytime within 24 hours prior to presentation or during ED visit -Sickle Cell Disease: Hgb SS, Hgb SC, HgbSβthal (° or +) -Neutropenia: ANC less than or equal to 500
10.2	Time to antibiotic treatment for children with sickle cell disease or documented neutropenia	Time from arrival to administration of first antibiotic	N/A	Effective, Timely	Process	Fever, Immunosuppression	A, B	Unique visit identifier Patient arrival time ICD-9 code Temperature Medication name Lab test result	Sample: Number of patients < 18 years of age with sickle cell disease or neutropenia and fever who received antibiotics Definitions: -Fever: History or documentation of fever greater than or equal to 38.5°C (101.3°F) anytime within 24 hours prior to presentation or during ED visit -Sickle Cell Disease: Hgb SS, Hgb SC, HgbSβthal (° or +) -Neutropenia: ANC less than or equal to 500 Report measure as median time with interquartile range
10.3	Catheterized urine cultures for young children prior to antibiotic therapy	Number of patients with catheterized urine culture obtained prior to antibiotics	Number of patients <24 months of age with a new diagnosis of UTI based on discharge ICD-9 code for UTI who were prescribed or treated with antibiotics	Effective	Process	Urinary Tract Infection	A, B	Unique visit identifier ICD-9 code Medication name Medication receipt time CPT code Procedure time	
10.4	Reducing antibiotic use in children with viral illnesses	Number of eligible patients given antibiotics or discharged with an antibiotic prescription	Number of patients <18yrs of age with an ICD-9 discharge diagnosis of URI, viral illness, viral syndrome, or fever	Effective, Efficient	Process	Viral Illness, URI	A, B	Unique visit identifier ICD-9 code Medication name Medication receipt time Discharge prescription(s)	-Exclude patients with a concomitant bacterial infection diagnosis that requires antibiotics (ICD-9 codes to be provided) -Exclude immunocompromised patients -Goal is for this measure to be low

#	Measure	Numerator	Denominator	IOM Quality Domain	Donabedian Framework	Diagnosis Category	Measure Level*	Required Data Elements	Notes /Reference
* (A) Individual Clinician or Group of Clinicians (e.g. nurses, residents, attendings, fellows); (B) Facility (ED); (C) System-Wide Measure									
<b>Childhood Infections</b>									
10.5	Blood, urine and cerebrospinal fluid cultures for neonates prior to antibiotic therapy	Number of febrile neonates who received antibiotic therapy AFTER having CSF, blood, AND urine cultures obtained	Number of patients <= to 29 days old with a history or documentation of fever greater than or equal to 38.0°C (100.4°F) anytime within 24 hours prior to presentation or during visit	Effective	Process	Neonatal Fever	A, B	Unique visit identifier ICD-9 code Medication name Medication receipt time Task complete time	Definitions: -Fever: History or documentation of fever greater than or equal to 38.0°C (100.4°F) anytime within 24 hours prior to presentation or during ED visit -Neonate: Less than or equal to 29 days of age

#	Measure	Numerator	Denominator	IOM Quality Domain	Donabedian Framework	Diagnosis Category	Measure Level*	Required Data Elements	Notes /Reference
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<b>Quality and Safe Care for All Patients</b>									
11.1	Hand-washing rates	Number of times hand washing is performed just prior to patient contact	Number of times a care provider enters a room to provide patient care	Safe	Process	General	A, B		-Data obtained from random periods of direct observation and includes all health care providers
11.2	Transfer Agreement for Pediatric Patients	Transfer agreement for pediatric patients in place (Y/N)	N/A	Effective, Safe	Structure	General	B		-Must include components from “Policy Statement—Guidelines for Care of Children in the Emergency Department”; Annals of Emergency Medicine and Pediatrics, October 2009 -Transfer agreements should include: <ul style="list-style-type: none"> <li>• Defined process for initiation of transfer, including roles and responsibilities of referring and referral center</li> <li>• Transport plan for delivering children</li> <li>• Process for selecting appropriate care facility</li> <li>• Process for selecting appropriately staffed transport service</li> <li>• Process for patient transfer</li> <li>• Plan for transfer of patient information</li> <li>• Process for return transfer</li> </ul>
11.3	Return Visits within 48 hours resulting in admission	Number of patients < 18 years of age returning within 48 hours of a prior visit whose return visit results in hospital admission	Total number of visits by patients < 18 years of age	Effective, Safe	Outcome	General	A, B	Unique visit identifier Patient arrival time Patient left ED time	
11.4	Medication error rates	Counts of each of the following types of errors <ul style="list-style-type: none"> <li>• Medication given but not ordered</li> <li>• Medication ordered but not given</li> <li>• Wrong drug given from what was ordered</li> <li>• Wrong dosage</li> <li>• Wrong or inappropriate drug for condition</li> <li>• Wrong administration technique</li> <li>• Wrong route</li> <li>• Wrong dosage form</li> </ul>	Number of patients < 18 years of age with a medication ordered	Safe	Outcome	Cross-cutting (medications)	A, B		-Report rate of each type of error individually as well as total medication error rate Reference: Marcin JP et al. (2007). Medication errors among acutely ill and injured children treated in rural emergency departments. Ann Emerg Med. 50:361-7

#	Measure	Numerator	Denominator	IOM Quality Domain	Donabedian Framework	Diagnosis Category	Measure Level*	Required Data Elements	Notes /Reference
* (A) Individual Clinician or Group of Clinicians (e.g. nurses, residents, attendings, fellows); (B) Facility (ED); (C) System-Wide Measure									
<b>Quality and Safe Care for All Patients</b>									
11.5	Follow up of abnormal tests	a. Number of times patient is contacted and corrective action is taken within 12 hours of notification of x-ray reread Number of times patient is contacted and appropriate treatment is taken within 12 hours of notification of positive culture Number of times patient is contacted and appropriate treatment is taken within 12 hours of notification of abnormal test	Number of times an x-ray (any diagnostic radiology study) reread is relayed to staff Number of times a positive culture is relayed to staff Number of times an abnormal laboratory test is relayed to staff	Effective, Safe	Process	Cross-cutting (diagnostic test)	A, B	Lab order Lab result available time Lab test type Imaging order time Imaging test result time Imaging test type Abnormal imaging test flag Abnormal lab test flag	Report each submeasure individually and report totals as well
11.6	Global sentinel never events	Number of global sentinel never events occurring in the ED in patients < 18 years of age within 1 year	Total number of ED visits by patients < 18 years of age within the same year	Safe	Outcome	General	A, B		See reference at Child Health Corporation of America (CHCA) website under Whole System Measures-Never Events. (Login required)