



Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to sub criterion 1b).

Brief Measure Information

NQF #: 0727

Corresponding Measures:

De.2. Measure Title: Gastroenteritis Admission Rate (PDI 16)

Co.1.1. Measure Steward: Agency for Healthcare Research and Quality

De.3. Brief Description of Measure: Admissions for a principal diagnosis of gastroenteritis, or for a principal diagnosis of dehydration with a secondary diagnosis of gastroenteritis per 100,000 population, ages 3 months to 17 years. Excludes cases transferred from another facility, cases with gastrointestinal abnormalities or bacterial gastroenteritis, and obstetric admissions.

[NOTE: The software provides the rate per population. However, common practice reports the measure as per 100,000 population. The user must multiply the rate obtained from the software by 100,000 to report admissions per 100,000 population.]

1b.1. Developer Rationale: The improvement in the measure equates to less hospitalizations for acute gastroenteritis. This essentially means the population is experiencing better management of acute gastroenteritis given the reduction in the complications related to gastroenteritis.

This measure is an avoidable hospitalization/ambulatory care sensitive condition (ACSC) type indicator. ACSC type indicators are not measures of hospital quality, but rather measures of potentially avoidable hospitalization if appropriate outpatient care, other healthcare services or community services were accessed and obtained (i.e., measures of the health care system broadly defined). These measures are designed to assess population access to timely, high quality outpatient and public health services in a particular geographic area, for the purpose of managing chronic disease or diagnosing acute illnesses before progressing to inpatient treatment. These measures are of most interest to comprehensive health care delivery systems, such as some health maintenance organizations (HMOs), accountable care organizations (ACOs) or public health agencies. ACSC indicators correlate with each other and they may be used in conjunction as an overall examination of outpatient care and access to care at a national, regional or county level.

S.4. Numerator Statement: Discharges, for patients ages 3 months through 17 years, with either

- a principal ICD-10-CM diagnosis code for gastroenteritis; or
- any secondary ICD-10-CM diagnosis codes for gastroenteritis and a principal ICD-10-CM diagnosis code for dehydration

S.6. Denominator Statement: Population ages 3 months through 17 years in metropolitan area¹ or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred.

¹The term "metropolitan area" (MA) was adopted by the U.S. Census in 1990 and referred collectively to metropolitan statistical areas (MSAs), consolidated metropolitan statistical areas (CMSAs), and primary metropolitan statistical areas (PMSAs). In addition, "area" could refer to either 1) FIPS county, 2) modified FIPS county, 3) 1999 OMB Metropolitan Statistical Area, or 4) 2003 OMB Metropolitan Statistical Area. Micropolitan Statistical Areas are not used in the QI software.

S.8. Denominator Exclusions: Not applicable

De.1. Measure Type: Outcome

S.17. Data Source: Claims

S.20. Level of Analysis: Population : Community, County or City, Population : Regional and State

IF Endorsement Maintenance – Original Endorsement Date: Jan 17, 2011 **Most Recent Endorsement Date:** Sep 18, 2014

IF this measure is included in a composite, NQF Composite#/title:

IF this measure is paired/grouped, NQF#/title:

De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results? [Not applicable](#)

1. Evidence, Performance Gap, Priority – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. **Measures must be judged to meet all sub criteria to pass this criterion and be evaluated against the remaining criteria.**

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form

[PDI_16_Evidence_Form_February_2014.pdf](#)

1a.1 For Maintenance of Endorsement: Is there new evidence about the measure since the last update/submission?

Do not remove any existing information. If there have been any changes to evidence, the Committee will consider the new evidence. Please use the most current version of the evidence attachment (v7.1). Please use red font to indicate updated evidence.

1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- Disparities in care across population groups.

1b.1. Briefly explain the rationale for this measure (e.g., how the measure will improve the quality of care, the benefits or improvements in quality envisioned by use of this measure)

If a COMPOSITE (e.g., combination of component measure scores, all-or-none, any-or-none), *SKIP this question and answer the composite questions.*

The improvement in the measure equates to less hospitalizations for acute gastroenteritis. This essentially means the population is experiencing better management of acute gastroenteritis given the reduction in the complications related to gastroenteritis.

This measure is an avoidable hospitalization/ambulatory care sensitive condition (ACSC) type indicator. ACSC type indicators are not measures of hospital quality, but rather measures of potentially avoidable hospitalization if appropriate outpatient care, other healthcare services or community services were accessed and obtained (i.e., measures of the health care system broadly defined). These measures are designed to assess population access to timely, high quality outpatient and public health services in a particular geographic area, for the purpose of managing chronic disease or diagnosing acute illnesses before progressing to inpatient treatment. These measures are of most interest to comprehensive health care delivery systems, such as some health maintenance organizations (HMOs), accountable care organizations (ACOs) or public health agencies. ACSC indicators correlate with each other and they may be used in conjunction as an overall examination of outpatient care and access to care at a national, regional or county level.

1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis. *(This is required for maintenance of endorsement. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*

Data Source described in S.24.

Table 1. Reference Population

Year	Area	Outcome	Pop at Risk	Obs Rate (per 100,000 population)
2011	3,099	49,271	72,962,317	67.530
2010	3,087	47,470	73,176,737	64.870
2009	3,078	67,811	73,135,407	92.720
2008	3,077	68,809	72,983,540	94.280
2007	3,062	88,257	72,633,919	121.510

Performance Score Distribution 2011 Rate per 100,000)

5th	25th	Median	75th	95th
1.980	15.475	42.794	93.414	217.338

Source: HCUP State Inpatient Databases (SID). Healthcare Cost and Utilization Project (HCUP). 2007-2011. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/sidoverview.jsp. (AHRQ QI Software Version 4.5)

1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.

Not applicable.

1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability. (This is required for maintenance of endorsement. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included.) For measures that show high levels of performance, i.e., "topped out", disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.

Data Source described in S.24

Admissions for pediatric gastroenteritis per 100,000 population, ages 3 months to 17 years (PDI 16)

Adjusted rates by patient and hospital characteristics, 2011 (HCUPnet)

Characteristic	Estimate	Std Err	p-value (ref=*)
Total U.S.	63.589	4.466	
Patient characteristic:			
Age groups for pediatric conditions			
0-4*	153.040	10.872	
5-9	48.338	3.630	0.000
10-14	21.249	1.840	0.000
15-17	22.646	1.983	0.000
Gender:			
Male*	66.250	4.625	
Female	60.820	4.410	0.396
Median income of patient's ZIP Code:			
First quartile (lowest income)		84.605	8.147 0.002
Second quartile	62.182	4.813	0.210
Third quartile	54.382	5.149	0.738
Fourth quartile (highest income)*	51.453	7.084	
Location of patient residence (NCHS):			
Large central metropolitan		46.940	8.167 0.463
Large fringe metropolitan*		55.416	8.179
Medium metropolitan	68.706	12.201	0.366
Small metropolitan	73.943	11.220	0.182
Micropolitan	85.434	9.069	0.014
Noncore	115.613	12.103	0.000
Hospital characteristic:			
Location of inpatient treatment:			
Northeast*	87.281	14.005	
Midwest	60.463	8.899	0.106
South	73.539	8.231	0.398
West	35.936	5.139	0.001

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and

Utilization Project, Nationwide Inpatient Sample, 2011, and AHRQ Quality Indicators, version 4.4.

a Consistent with the AHRQ PDI software, gastroenteritis must be the principal diagnosis or a secondary diagnosis with a principal diagnosis of dehydration. Exclusions include admissions with gastrointestinal abnormalities or bacterial gastroenteritis, transfers from other institutions, neonates if age in days is missing, and obstetric admissions.

b Rates are adjusted by age and gender using the total U.S. resident population for 2010 as the standard population; when reporting is by age, the adjustment is by gender only; when reporting is by gender, the adjustment is by age only.

*Reference for p-value test statistics.

NCHS - National Center for Health Statistics designation for urban-rural locations.

1b.5. If no or limited data on disparities from the measure as specified is reported in 1b.4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in 1b.4

Billings' original study from New York on gastroenteritis reported an 1.87-fold variation in gastroenteritis hospitalization rates for ages 0-64, with a coefficient of variation of 0.438 and 22% of variance explained by household income¹. Millman et al.² reported that low-income zip codes had 1.9 times more pediatric gastroenteritis hospitalizations per capita than high-income zip codes in the same 11 states in 1988. Similarly, a retrospective analysis of the 1995-96 cohort of infants born in Western Australia showed that aboriginal infants were hospitalized for gastroenteritis 8 times more frequently, and readmitted 2.7 times more frequently than their non-Aboriginal peers³. These findings suggest that this indicator may be marker for poor access to outpatient care.

1. Billings J, Zeital L, Lukomnik J, Carey T, Blank A, Newman L. Analysis of variation in hospital admission rates associated with area income in New York City: Unpublished Report.; 1992.

2. Millman M, ed Committee on Monitoring Access to Personal Health Care Services. Washington, D.C.: National Academy Press; 1993. Access to health care in America/ Committee on Monitoring Access to Personal Health Care Services, Institute of Medicine.

3. Gracey M, Lee AH, Yau KK. Hospitalisation for gastroenteritis in Western Australia. Arch Dis Child. Aug 2004;89(8):768-772.

2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. **Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.**

2a.1. Specifications The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

De.5. Subject/Topic Area (check all the areas that apply):

Gastrointestinal (GI), Gastrointestinal (GI) : Gastroenteritis

De.6. Non-Condition Specific(check all the areas that apply):

Primary Prevention

De.7. Target Population Category (Check all the populations for which the measure is specified and tested if any):

Children

S.1. Measure-specific Web Page (Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)

http://www.qualityindicators.ahrq.gov/Modules/pdi_resources.aspx

S.2a. If this is an eMeasure, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

This is not an eMeasure Attachment:

S.2b. Data Dictionary, Code Table, or Value Sets (and risk model codes and coefficients when applicable) must be attached. (Excel or

csv file in the suggested format preferred - if not, contact staff)

Attachment **Attachment:** [PDI_16_Gastroenteritis_Admission_Rate.xlsx](#)

S.2c. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

Attachment:

S.2d. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

S.3.1. For maintenance of endorsement: Are there changes to the specifications since the last updates/submission. If yes, update the specifications for S1-2 and S4-22 and explain reasons for the changes in S3.2.

S.3.2. For maintenance of endorsement, please briefly describe any important changes to the measure specifications since last measure update and explain the reasons.

As standard protocol, the AHRQ QI program annually updates all measures with Fiscal Year coding changes, refinements based on stakeholder input, refinements to improve specificity and sensitivity based on additional analyses, and necessary software changes. In addition, approximately every two years, AHRQ updates the risk adjustment parameter estimates and composite weights based on the most recent year of data (i.e., the most current reference population possible). The refined measures are tested and confirmed to be valid and reliable prior to release of the updated software.

Since the last update, the following changes have been made to the indicator:

- The data upon which to base the reference population was updated. V4.4 uses a 2008 reference population; v4.5 uses a 2010 reference population.
- Updated with 2012 US Census population estimates
- Fiscal Year coding updates

For additional information, see Pediatric Quality Indicator (PDI) Log of ICD-9-CM and DRG Coding Updates and Revisions to PDI Documentation and Software in the supplemental materials and available online at:

http://www.qualityindicators.ahrq.gov/Downloads/Modules/PDI/V45/PDI_Changes_4.5.pdf and in the supporting documents.

S.4. Numerator Statement (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome) DO NOT include the rationale for the measure.

IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Discharges, for patients ages 3 months through 17 years, with either

- a principal ICD-10-CM diagnosis code for gastroenteritis; or
- any secondary ICD-10-CM diagnosis codes for gastroenteritis and a principal ICD-10-CM diagnosis code for dehydration

S.5. Numerator Details (All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Gastroenteritis diagnosis codes: (ACPGASD)

ICD-10-CM	Description
A080	Rotaviral enteritis
A0811	Acute gastroenteropathy due to Norwalk agent
A0819	Acute gastroenteropathy due to other small round viruses
A082	Adenoviral enteritis
A0831	Calicivirus enteritis

A0832 Astrovirus enteritis
A0839 Other viral enteritis
A084 Viral intestinal infection, unspecified
A088 Other specified intestinal infections
A09 Infectious gastroenteritis and colitis, unspecified
K5289 Other specified noninfective gastroenteritis and colitis
K529 Noninfective gastroenteritis and colitis, unspecified

Dehydration diagnosis codes: (ACSDEHD)

ICD-10-CM	Description
E860	Dehydration
E861	Hypovolemia
E869	Volume depletion, unspecified

NUMERATOR EXCLUSIONS

Discharges, for patients ages 3 months through 17 years, with either

- with any-listed ICD-10-CM diagnosis codes for gastrointestinal abnormalities
- with any-listed ICD-10-CM diagnosis codes for bacterial gastroenteritis
- transfer from a hospital (different facility)
- transfer from a Skilled Nursing Facility (SNF) or Intermediate Care Facility (ICF)
- transfer from another health care facility
- neonates if age in days is missing
- MDC 14 (pregnancy, childbirth, and puerperium)
- with missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), principal diagnosis (DX1=missing), or county (PSTCO=missing)

See:

Appendix I – Definitions of Neonate, Newborn, Normal Newborn, and Outborn

Appendix J – Admission Codes for Transfers

Gastrointestinal abnormalities diagnosis codes: (ACGDISD)

ICD-10-CM	Description
K5000	Crohns disease of small intestine without complications
K50011	Crohns disease of small intestine with rectal bleeding
K50012	Crohns disease of small intestine with intestinal obstruction
K50013	Crohns disease of small intestine with fistula
K50014	Crohns disease of small intestine with abscess
K50018	Crohns disease of small intestine with other complication
K50019	Crohns disease of small intestine with unspecified complications
K5010	Crohns disease of large intestine without complications
K50111	Crohns disease of large intestine with rectal bleeding
K50112	Crohns disease of large intestine with intestinal obstruction
K50113	Crohns disease of large intestine with fistula
K50114	Crohns disease of large intestine with abscess
K50118	Crohns disease of large intestine with other complication
K50119	Crohns disease of large intestine with unspecified complications
K5080	Crohns disease of both small and large intestine without complications
K50811	Crohns disease of both small and large intestine with rectal bleeding
K50812	Crohns disease of both small and large intestine with intestinal obstruction
K50813	Crohns disease of both small and large intestine with fistula
K50814	Crohns disease of both small and large intestine with abscess
K50818	Crohns disease of both small and large intestine with other complication
K50819	Crohns disease of both small and large intestine with unspecified complications

K5090 Crohns disease, unspecified, without complications
 K50911 Crohns disease, unspecified, with rectal bleeding
 K50912 Crohns disease, unspecified, with intestinal obstruction
 K50913 Crohns disease, unspecified, with fistula
 K50914 Crohns disease, unspecified, with abscess
 K50918 Crohns disease, unspecified, with other complication
 K50919 Crohns disease, unspecified, with unspecified complications
 K5100 Ulcerative (chronic) pancolitis without complications
 K51011 Ulcerative (chronic) pancolitis with rectal bleeding
 K51012 Ulcerative (chronic) pancolitis with intestinal obstruction
 K51013 Ulcerative (chronic) pancolitis with fistula
 K51014 Ulcerative (chronic) pancolitis with abscess
 K51018 Ulcerative (chronic) pancolitis with other complication
 K51019 Ulcerative (chronic) pancolitis with unspecified complications
 K5120 Ulcerative (chronic) proctitis without complications
 K51211 Ulcerative (chronic) proctitis with rectal bleeding
 K51212 Ulcerative (chronic) proctitis with intestinal obstruction
 K51213 Ulcerative (chronic) proctitis with fistula
 K51214 Ulcerative (chronic) proctitis with abscess
 K51218 Ulcerative (chronic) proctitis with other complication
 K51219 Ulcerative (chronic) proctitis with unspecified complications
 K5130 Ulcerative (chronic) rectosigmoiditis without complications
 K51311 Ulcerative (chronic) rectosigmoiditis with rectal bleeding
 K51312 Ulcerative (chronic) rectosigmoiditis with intestinal obstruction
 K51313 Ulcerative (chronic) rectosigmoiditis with fistula
 K51314 Ulcerative (chronic) rectosigmoiditis with abscess
 K51318 Ulcerative (chronic) rectosigmoiditis with other complication
 K51319 Ulcerative (chronic) rectosigmoiditis with unspecified complications
 K5140 Inflammatory polyps of colon without complications
 K51411 Inflammatory polyps of colon with rectal bleeding
 K51412 Inflammatory polyps of colon with intestinal obstruction
 K51413 Inflammatory polyps of colon with fistula
 K51414 Inflammatory polyps of colon with abscess
 K51418 Inflammatory polyps of colon with other complication
 K51419 Inflammatory polyps of colon with unspecified complications
 K5150 Left sided colitis without complications
 K51511 Left sided colitis with rectal bleeding
 K51512 Left sided colitis with intestinal obstruction
 K51513 Left sided colitis with fistula
 K51514 Left sided colitis with abscess
 K51518 Left sided colitis with other complication
 K51519 Left sided colitis with unspecified complications
 K5180 Other ulcerative colitis without complications
 K51811 Other ulcerative colitis with rectal bleeding
 K51812 Other ulcerative colitis with intestinal obstruction
 K51813 Other ulcerative colitis with fistula
 K51814 Other ulcerative colitis with abscess
 K51818 Other ulcerative colitis with other complication
 K51819 Other ulcerative colitis with unspecified complications
 K5190 Ulcerative colitis, unspecified, without complications
 K51911 Ulcerative colitis, unspecified with rectal bleeding
 K51912 Ulcerative colitis, unspecified with intestinal obstruction
 K51913 Ulcerative colitis, unspecified with fistula
 K51914 Ulcerative colitis, unspecified with abscess
 K51918 Ulcerative colitis, unspecified with other complication

K51919 Ulcerative colitis, unspecified with unspecified complications
 K520 Gastroenteritis and colitis due to radiation
 K521 Toxic gastroenteritis and colitis
 K522 Allergic and dietetic gastroenteritis and colitis
 K5281 Eosinophilic gastritis or gastroenteritis
 K5282 Eosinophilic colitis
 K900 Celiac disease
 K901 Tropical sprue
 K902 Blind loop syndrome, not elsewhere classified
 K903 Pancreatic steatorrhea
 K904 Malabsorption due to intolerance, not elsewhere classified
 K9089 Other intestinal malabsorption
 K909 Intestinal malabsorption, unspecified
 K912 Postsurgical malabsorption, not elsewhere classified
 K9281 Gastrointestinal mucositis (ulcerative)

Bacterial gastroenteritis diagnosis codes: (ACBACGD)

ICD-10-CM	Description
A020	Salmonella enteritis
A030	Shigellosis due to <i>Shigella dysenteriae</i>
A031	Shigellosis due to <i>Shigella flexneri</i>
A032	Shigellosis due to <i>Shigella boydii</i>
A033	Shigellosis due to <i>Shigella sonnei</i>
A038	Other shigellosis
A039	Shigellosis, unspecified
A040	Enteropathogenic <i>Escherichia coli</i> infection
A041	Enterotoxigenic <i>Escherichia coli</i> infection
A042	Enteroinvasive <i>Escherichia coli</i> infection
A043	Enterohemorrhagic <i>Escherichia coli</i> infection
A044	Other intestinal <i>Escherichia coli</i> infections
A045	<i>Campylobacter</i> enteritis
A046	Enteritis due to <i>Yersinia enterocolitica</i>
A047	Enterocolitis due to <i>Clostridium difficile</i>
A048	Other specified bacterial intestinal infections
A049	Bacterial intestinal infection, unspecified
A050	Foodborne staphylococcal intoxication
A051	Botulism food poisoning
A052	Foodborne <i>Clostridium perfringens</i> [<i>Clostridium welchii</i>] intoxication
A053	Foodborne <i>Vibrio parahaemolyticus</i> intoxication
A054	Foodborne <i>Bacillus cereus</i> intoxication
A055	Foodborne <i>Vibrio vulnificus</i> intoxication
A058	Other specified bacterial foodborne intoxications
A059	Bacterial foodborne intoxication, unspecified
A060	Acute amebic dysentery
A061	Chronic intestinal amebiasis
A070	Balantidiasis
A071	Giardiasis [lamblia]s]
A072	Cryptosporidiosis
A073	Isosporiasis
A074	Cyclosporiasis
A078	Other specified protozoal intestinal diseases
A079	Protozoal intestinal disease, unspecified
B3782	Candidal enteritis

S.6. Denominator Statement *(Brief, narrative description of the target population being measured)*

Population ages 3 months through 17 years in metropolitan area¹ or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred.

1. The term “metropolitan area” (MA) was adopted by the U.S. Census in 1990 and referred collectively to metropolitan statistical areas (MSAs), consolidated metropolitan statistical areas (CMSAs), and primary metropolitan statistical areas (PMSAs). In addition, “area” could refer to either 1) FIPS county, 2) modified FIPS county, 3) 1999 OMB Metropolitan Statistical Area, or 4) 2003 OMB Metropolitan Statistical Area. Micropolitan Statistical Areas are not used in the QI software.

S.7. Denominator Details *(All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

IF an OUTCOME MEASURE, describe how the target population is identified. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Not Applicable

S.8. Denominator Exclusions *(Brief narrative description of exclusions from the target population)*

Not applicable

S.9. Denominator Exclusion Details *(All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

Not applicable.

S.10. Stratification Information *(Provide all information required to stratify the measure results, if necessary, including the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b.)*

Not applicable.

S.11. Risk Adjustment Type (Select type. Provide specifications for risk stratification in measure testing attachment)

No risk adjustment or risk stratification

If other:

S.12. Type of score:

Rate/proportion

If other:

S.13. Interpretation of Score *(Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)*

Better quality = Lower score

S.14. Calculation Algorithm/Measure Logic *(Diagram or describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period for data, aggregating data; risk adjustment; etc.)*

The observed rate is the number of discharges flagged with the outcome of interest divided by the number of persons in the population at risk. The predicted rate is estimated for each person based on a logistic regression model. The expected rate is the average predicted rate for the unit of interest (i.e. the county of residence). The risk-adjusted rate is calculated using the indirect method as observed rate divided by expected rate multiplied by the reference population rate. The performance score is a weighted average of the risk-adjusted rate and the reference population rate, where the weight is the signal-to-noise ratio.

Currently no risk adjustment is available for v6.0 ICD10 specifications (see response S.14).

S.15. Sampling *(If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)*

IF an instrument-based performance measure (e.g., PRO-PM), identify whether (and how) proxy responses are allowed.

Not applicable.

S.16. Survey/Patient-reported data (If measure is based on a survey or instrument, provide instructions for data collection and guidance on minimum response rate.)

Specify calculation of response rates to be reported with performance measure results.

Not applicable.

S.17. Data Source (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.18.

Claims

S.18. Data Source or Collection Instrument (Identify the specific data source/data collection instrument (e.g. name of database, clinical registry, collection instrument, etc., and describe how data are collected.)

IF instrument-based, identify the specific instrument(s) and standard methods, modes, and languages of administration.

All analyses were completed using data from the Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID), 2007-2011. HCUP is a family of health care databases and related software tools and products developed through a Federal-State-Industry partnership and sponsored by the Agency for Healthcare Research and Quality (AHRQ). HCUP databases bring together the data collection efforts of State data organizations, hospital associations, private data organizations, and the Federal government to create a national information resource of encounter-level health care data. The HCUP SID contain the universe of the inpatient discharge abstracts in participating States, translated into a uniform format to facilitate multi-State comparisons and analyses. Together, the SID encompass about 97 percent of all U.S. community hospital discharges (in 2011, 46 states participated for a total of more than 38.5 million hospital discharges with approximately 5 million pediatric (including births) hospital discharges). As defined by the American Hospital Association, community hospitals are all non-Federal, short-term, general or other specialty hospitals, excluding hospital units of institutions. Veterans hospitals and other Federal facilities are excluded. General and specialty children's hospitals are included in the hospital universe. Taken from the Uniform Bill-04 (UB-04), the SID data elements include ICD-9-CM coded principal and secondary diagnoses and procedures, additional detailed clinical and service information based on revenue codes, admission and discharge status, patient demographics, expected payment source (Medicare, Medicaid, private insurance as well as the uninsured), total charges and length of stay (www.hcup-us.ahrq.gov)

HCUP State Inpatient Databases (SID). Healthcare Cost and Utilization Project (HCUP). 2007-2011. Agency for Healthcare Research and Quality, Rockville, MD. www.ahrq.gov/sidoverview.jsp (AHRQ QI Software Version 4.5, www.qualityindicators.ahrq.gov)

S.19. Data Source or Collection Instrument (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

Available at measure-specific web page URL identified in S.1

S.20. Level of Analysis (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

Population : Community, County or City, Population : Regional and State

S.21. Care Setting (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

Hospital

If other:

S.22. COMPOSITE Performance Measure - Additional Specifications (Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)

Not applicable.

2. Validity – See attached Measure Testing Submission Form

[PDI_16_Measure_Testing_Form_February_2014.pdf](#)

2.1 For maintenance of endorsement

Reliability testing: If testing of reliability of the measure score was not presented in prior submission(s), has reliability testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

2.2 For maintenance of endorsement

Has additional empirical validity testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

2.3 For maintenance of endorsement

Risk adjustment: For outcome, resource use, cost, and some process measures, risk-adjustment that includes social risk factors is not prohibited at present. Please update sections 1.8, 2a2, 2b1,2b4.3 and 2b5 in the Testing attachment and S.140 and S.11 in the online submission form. NOTE: These sections must be updated even if social risk factors are not included in the risk-adjustment strategy. You MUST use the most current version of the Testing Attachment (v7.1) -- older versions of the form will not have all required questions.

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

3a.1. Data Elements Generated as Byproduct of Care Processes.

Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims)

If other:

3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

3b.1. To what extent are the specified data elements available electronically in defined fields (i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields) Update this field for **maintenance of endorsement**.

ALL data elements are in defined fields in electronic claims

3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources. For **maintenance of endorsement**, if this measure is not an eMeasure (eCQM), please describe any efforts to develop an eMeasure (eCQM).

3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL. Please also complete and attach the NQF Feasibility Score Card.

Attachment:

3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

3c.1. Required for maintenance of endorsement. Describe difficulties (as a result of testing and/or operational use of the measure) regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.

IF instrument-based, consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

Because the indicator is based on readily available administrative data and U.S. Census data, feasibility is not an issue

3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm).

Public use SAS and Windows software available at http://qualityindicators.ahrq.gov/modules/pdi_resources.aspx

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

4.1. Current and Planned Use

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Specific Plan for Use	Current Use (for current use provide URL)
Quality Improvement (Internal to the specific organization)	Public Reporting AHRQ Healthcare Cost and Utilization Project (HCUP) http://www.hcup-us.ahrq.gov/ California Office of Statewide Health Planning and Development, Area-Level Quality Indicators, http://www.oshpd.ca.gov/HID/Products/PatDischargeData/AHRQ/ State of Connecticut, Office of Health Care Access, http://www.ct.gov/dph New York State Department of Health, Managed Care Reports http://www.health.ny.gov/health_care/managed_care/reports/

4a1.1 For each CURRENT use, checked above (update for maintenance of endorsement), provide:

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included
- Level of measurement and setting

Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP)

Largest collection of longitudinal hospital care data in the United States, with patient-level data from State data organizations, hospital associations, private data organizations, and the Federal government.

<http://www.hcup-us.ahrq.gov/>

California Office of Statewide Health Planning and Development, Healthcare Information Division

Area-Level Quality Indicators (Preventable Hospitalizations) for California; Racial & Ethnic Disparities in Healthcare in California Report

1999-2011 OSHPD Patient Discharge Data from all hospitals in California, totaling over 4 million records annually

http://www.oshpd.ca.gov/HID/Products/PatDischargeData/AHRQ/pdi_overview.html

State of Connecticut, Office of Health Care Access

Preventable Hospitalizations in Connecticut: A Current Assessment of Access to Community Health Services; and Health Disparities Reports

2004-2009 state- and county-level hospital admission rate data from most hospitals in CT
http://www.ct.gov/dph/lib/dph/ohca/publications/2010/prev_hosp_report01-2010.pdf
http://www.ct.gov/dph/lib/dph/hisr/pdf/2009ct_healthdisparitiesreport.pdf

New York State Department of Health

Managed Care Reports (Potentially Avoidable Hospitalizations, New York State Medicaid Program; Access and Utilization Reports, Hospital Admissions for Ambulatory Sensitive Conditions)

Data are provided for commercial and government-sponsored managed care in the state of New York.

http://www.health.ny.gov/health_care/managed_care/reports/

4a1.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons? (e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?)

Not applicable.

4a1.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement. (Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.)

Not applicable.

4a2.1.1. Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.

How many and which types of measured entities and/or others were included? If only a sample of measured entities were included, describe the full population and how the sample was selected.

The Agency for Healthcare Research and Quality (AHRQ) provides free software, in both SAS and Windows format, to calculate the AHRQ Quality Indicators. Users may use their own hospital administrative data to calculate the QIs using this software.

In addition, AHRQ provides technical assistance to users through a QI User Support email address, QISupport@ahrq.hhs.gov. AHRQ triages, troubleshoots and responds to technical inquiries related to methodology and rationale behind the indicator and general questions related to the use of the software. During a calendar year, AHRQ typically provides technical support to over 1,000 queries.

4a2.1.2. Describe the process(es) involved, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.

The AHRQ QI software is updated annually. Technical support is available on an on-going basis. No data updates are necessary; users apply the AHRQ QIs to their own hospital administrative data.

4a2.2.1. Summarize the feedback on measure performance and implementation from the measured entities and others described in 4d.1.

Describe how feedback was obtained.

Feedback is obtained from users through a variety of channels, in particular through a technical assistance support service described above. In addition, AHRQ incorporates input on QI implementation from technical workgroups convened to support QI development and maintenance, stakeholder committees such as NQF standing committees, and peer-reviewed or other research publications.

4a2.2.2. Summarize the feedback obtained from those being measured.

See the response to 4d2.1.

4a2.2.3. Summarize the feedback obtained from other users

See the response to 4d2.1.

4a2.3. Describe how the feedback described in 4a2.2.1 has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.

The AHRQ Quality Indicators are updated annually, including updating indicator technical specifications in accordance with the latest

coding guidance; suggestions from users and other stakeholders obtained through Technical Assistance, committees, or workgroups; and the latest clinical and scientific research. AHRQ regularly reviews these sources, identifies possible indicator updates, and prioritizes updates for each indicator and software update based on expected impact on users.

Improvement

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4b1. Refer to data provided in 1b but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities and patients included.)

If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

Not applicable.

4b2. Unintended Consequences

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

4b2.1. Please explain any unexpected findings (positive or negative) during implementation of this measure including unintended impacts on patients.

Panelists also noted that areas with hospitals that have short stay units or similar practice patterns (e.g. holding patients in the ER instead of admitting) may appear to have lower rates without actually having higher quality of care.

4b2.2. Please explain any unexpected benefits from implementation of this measure.

5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.

No

5.1a. List of related or competing measures (selected from NQF-endorsed measures)

5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.

5a. Harmonization of Related Measures

The measure specifications are harmonized with related measures;

OR

The differences in specifications are justified

5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):

Are the measure specifications harmonized to the extent possible?

<p>5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.</p>
<p>5b. Competing Measures The measure is superior to competing measures (e.g., is a more valid or efficient way to measure); OR Multiple measures are justified.</p> <p>5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s): Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)</p>

<p>Appendix</p> <p>A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed. Attachment Attachment: PDI_16_Supporting_Documents.pdf</p>
<p>Contact Information</p> <p>Co.1 Measure Steward (Intellectual Property Owner): Agency for Healthcare Research and Quality Co.2 Point of Contact: Pamela, Owens, Pam.Owens@ahrq.hhs.gov, 301-427-1412- Co.3 Measure Developer if different from Measure Steward: Co.4 Point of Contact:</p>
<p>Additional Information</p> <p>Ad.1 Workgroup/Expert Panel involved in measure development Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.</p> <p>Measure Developer/Steward Updates and Ongoing Maintenance Ad.2 Year the measure was first released: 2001 Ad.3 Month and Year of most recent revision: 05, 2013 Ad.4 What is your frequency for review/update of this measure? annual Ad.5 When is the next scheduled review/update for this measure? 08, 2014</p> <p>Ad.6 Copyright statement: Ad.7 Disclaimers:</p> <p>Ad.8 Additional Information/Comments:</p>