

## **0176 Timeliness of Follow-up After Hospital Discharge for Children with a Primary Mental Health Diagnosis – Technical Specifications**

### **A. Description**

This measure reflects one aspect of coordination of care following the discharge of a child who has been hospitalized for a primary diagnosis that is specified as being a mental health diagnosis. This measure describes key attributes regarding the timeliness of follow up after a mental health discharge for children.

When considering follow up care, the literature makes the distinction between coordination across systems of care (in this case the primary care system and the mental health system), and continuity (in this case within the mental health system).

This measure set looks at the timeliness and evidence of the establishment of follow up care subsequent to the day of discharge in both the primary care and mental healthcare systems, with specified combinations to indicate both timely and lack of timely follow up, and the time from first visit to the next in each system. The literature also recognizes the distinction between initiation of follow up and the establishment of follow up and by looking at the time between the first and second visit this measure set addresses aspects of both.

Specific measures in this measure set are listed here. Each measure is specified to be reported as an aggregate for the included age groups (Birth-21 years, with 19-21 optional) and also stratified by age group (Birth–5 years, 6-11 years, 12-18 years, 19-21 years (optional)).

---

<sup>6</sup> Initial Core Set of Children’s Health Care Quality Measures: Technical Specifications and Resource Manual for Federal Fiscal Year 2011 Reporting. Available at <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/InitialCoreSetResourceManual.pdf> and <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/CHIPRA-Initial-Core-Set-of-Childrens-Health-Care-Quality-Measures.html>.

The measures are:

1. Timely Coordination of care, including both mental health (MH) and primary care (PC) clinicians for outpatient follow up visits (percent). This requires meeting criteria for BOTH sub measures a. and b below.
  - a. Timely receipt of initial mental health follow up visit (percent first mental health visit  $\leq$  7 days);
  - b. Timely receipt of initial primary care follow up visit (percent first PCP follow up visit  $\leq$  21 days);
2. Delayed receipt of both mental health and primary care follow up visits (percent).
  - a. Delayed receipt of initial mental health follow up visit (percent first follow up visit with MH provider  $>$  30 days);
  - b. Delayed receipt of initial primary care follow up visit (percent first follow up visit with PCP provider  $>$  30 days);
  - c. Both delayed. Meets criteria for both a and b.
  - d. Either delayed. Meets criteria for either a. or b.
3. Time to initial mental health follow up (continuous: mean, median 25<sup>th</sup>, 75<sup>th</sup>, 90<sup>th</sup>, and 97.5<sup>th</sup> percentile);
4. Time to initial primary care follow up (continuous: mean, median 25<sup>th</sup>, 75<sup>th</sup>, 90<sup>th</sup>, and 97.5<sup>th</sup> percentile);
5. Primary failure to initiate follow up (percent)
  - a. Primary failure to initiate mental health follow up (percent first follow up visit with MH provider  $>$  60 days)
  - b. Failure of timely PCP follow up (percent first follow up visit to PCP  $>$  60 days)
  - c. Primary failure to initiate follow up. Meets criteria for both a and b.
  - d. Primary failure to initiate coordinated follow up care. Meets criteria for either a. or b.
6. Establishment of ongoing follow up care. Times described below are times between first and second visits with PC or MH clinician as indicated.
  - a. Failure to establish follow up care. Failure to establish ongoing follow up (percent without 2 or more MH and PCP visits in the 240 days following discharge)
  - b. Failure to establish *coordinated* follow up care. Failure to establish ongoing follow up (percent without 2 or more MH OR 2 or more PCP visits in the 240 days following discharge)
  - c. Time between first and second MH Visit (continuous: mean, median 25<sup>th</sup>, 75<sup>th</sup>, 90<sup>th</sup> and 97.5<sup>th</sup> percentile)
  - d. Time between first and second PC Visit (continuous: mean, median 25<sup>th</sup>, 75<sup>th</sup>, 90<sup>th</sup> and 97.5<sup>th</sup> percentile)

- e. Timely establishment of MH follow up (percent <= 30 days)
- f. Timely establishment of PC follow up (percent <= 30 days)
- g. Delayed second MH visit (percent > 60 days)
- h. Delayed second PCP visit (percent > 60 days)
- i. Failure to establish ongoing MH follow up (percent without 2 or more MH visits in the 180 days following discharge)
- j. Failure to establish ongoing PC follow up (percent without 2 or more PCP visits in the 180 days following discharge)

## **B. Eligible Population**

All children from birth through their 21<sup>st</sup> birthday (optionally 18 at the preference of the accountability entity) who are:

- Discharged from an inpatient hospitalization with either a primary mental health ICD9 diagnosis (Primary Diagnosis 290xx through 314xx and 316xx) or any primary diagnosis with a V (62.84) or an E (950xx-959xx) code indicating self- injury, suicide attempt, or suicidal ideation
- Discharged for any diagnosis from place of service 51, 55, or 56.

Six months (180 days) of continuous enrollment is necessary for inclusion in this measure set. For adolescents and children in Medicaid, the specific plan may be changed so long as Medicaid eligibility is continuous. For private insurers, the continuity should be within the health plan or across health plans where an all payer data base is available. In such cases, the applicable limitation regards the availability of data and not attribution. "If a plan touches a patient in the time frame it owns them" for this measure set.

Data are reported overall and stratified by age group: children before their sixth birthday (0-5), children from their sixth birthday and prior to their 12<sup>th</sup> birthday, children from their 12<sup>th</sup> birthday and prior to their 19<sup>th</sup> birthday, and (if included) from their 19<sup>th</sup> birthday until their 21<sup>st</sup> birthday. For this measure set the age of record is the child or adolescent's age at the date of discharge. Eligible diagnoses are shown above.

## **C. Data and Sources**

The preferred data source is a comprehensive encounter and/or billing administrative database, along with enrollment data. Should a comprehensive database not be available, a combination of a discharge abstract and an ambulatory data abstract can be used as an alternate.

General data elements include:

- Age
- Race and ethnicity
- Insurance type (Medicaid, Private, Other)
- ICD9, CPT, Revenue, and Place of Service codes

- Benefit type among insured (HMO, PPO, FFS, Medicaid Primary Care Case Management Plan [PCCM], Other)
- ZIP code or State and County of residence and FIPS where available
- Enrollment status
- Provider type

Administrative data with billing (procedure) codes, diagnosis codes, place of service codes, revenue codes, and provider type codes are used to identify:

- Eligibility, which requires a hospital discharge for a mental health condition as specified;
- Qualifying numerator events such as:
  - o Outpatient visits to a mental health clinician;
  - o Outpatient visits to a primary care clinician;
  - o Specified mental health readmissions.
- Potentially disqualifying events, such as:
  - o Specified mental health readmissions;
  - o Specified non-mental health hospital admissions.
- Date of service should be recorded for all relevant services.
- Insurance benefit type.
- ZIP code or State and County of residence and FIPS where available.
- Race and ethnicity (from hospital administrative data or charts if not in administrative data from plan).

#### **D. Calculation**

- Step 1:** Identify the admission and discharge dates of all hospital discharges that occurred in the reporting year for children in the eligible age groups, using the Codes indicated in Tables Admit 1 – Admit 4. Qualification using any one of the tables is sufficient. That is eligibility may be qualified via Table Admit 1 OR Table Admit 2 OR Table Admit 3 OR Table Admit 4. Admissions should be reviewed and de-duplicated. The basic unit of analysis is the hospital discharge, so children with multiple admissions should be included in the measure distinctly for each admission.
- Step 2:** Group all discharges by patient in chronological order to identify and tally readmissions. Remove from the measure any otherwise qualified discharge for which there is a qualified readmission on the identical date as the date of discharge. Qualified mental health readmissions after each distinct discharge should be identified and tallied and the number of days following each relevant discharge should be noted for each admission-readmission pair.

Table Admit 1 (CPT)

Procedure Code	POS	Other Requirements
99221-99233, 99251-99255, 99356-99357	Not needed	<ol style="list-style-type: none"> <li>1. Primary MH diagnosis or suicidality on V or E codes†</li> <li>2. Discharge date is after admission date</li> </ol>
99234-99236	Inpatient as defined in Table POSClass	<ol style="list-style-type: none"> <li>1. Primary MH diagnosis or suicidality on V or E codes*</li> <li>2. Discharge date is after admission date</li> </ol>

Table Admit 2 (HCPCS)

Procedure Code	POS	Other Requirements
H0004, H005, H007,	Inpatient as defined in Table POSClass	<ol style="list-style-type: none"> <li>1. Primary MH diagnosis or suicidality on V or E codes†</li> <li>2. Discharge date is after admission date</li> </ol>
H008, H009, H017	Not Needed	<ol style="list-style-type: none"> <li>1. Primary MH diagnosis or suicidality on V or E codes†</li> <li>2. Discharge date is after admission date</li> </ol>

Table Admit 3 (Revenue)

Procedure Code	POS	Other Requirements
230-235, 360-379, 720-722, 724, 729, 900-907, 910-917, 945	Inpatient as defined in Table POSClass1	<ol style="list-style-type: none"> <li>1. Primary MH diagnosis or suicidality on V or E codes†</li> <li>2. Discharge date is after admission date</li> </ol>
100-113, 117-123, 127-133, 137-143, 147-153, 157-160, 200-203, 206-221, 224,	Not Needed	<ol style="list-style-type: none"> <li>1. Primary MH diagnosis or suicidality on V or E codes†</li> <li>2. Discharge date is after admission date</li> </ol>
114, 116, 124, 126, 134, 136, 144, 146, 154, 156, 204	Not Needed	<ol style="list-style-type: none"> <li>1. Discharge date is after admission date</li> </ol> <p>Note: these are MH regardless of diagnoses codes</p>

Table Admit 4 (POS Codes)

Procedure Code	POS	Other Requirements
ALL	51, 55, 56	<ol style="list-style-type: none"> <li>1. Discharge date is after admission date</li> </ol> <p>Note: these are MH regardless of diagnoses codes</p>
<p>† Discharged from an inpatient hospitalization with either a primary mental health ICD9 diagnosis (Primary Diagnosis 290xx through 314xx and 316xx) or any primary diagnosis with a V (62.84) or an E (950xx-959xx) code indicating self-injury, suicide attempt, or suicidal ideation.</p>		

Table POSClass\* for assessing inpatient or outpatient

Code Type	Codes	Conclusion
POS	21, 25, 31, 51, 55, 56, 61	INPATIENT
REVENUE	100-169, 200-221, 224, 230-235, 656, 720-722, 1000, 1001, 1002	INPATIENT
CPT	99221-99233, 99251-99255, 99356-99357	INPATIENT
POS	04, 05, 07, 11, 12, 13, 14, 15, 18, 22, 50, 52, 53, 57, 62, 71, 72	OUTPATIENT
REVENUE	500, 509, 510, 511, 514, 515, 520-529, 530, 531, 539, 580, 581	OUTPATIENT
CPT	99201-99205, 99212-99215, 99341-99350, 99354-99355, 99510	OUTPATIENT
<p><b>*Decision Algorithm for place of service (POS):</b></p> <ol style="list-style-type: none"> <li>1. If POS or Revenue or CPT codes indicate INPATIENT, classify as INPATIENT. End Algorithm.</li> <li>2. Otherwise, if POS or Revenue or CPT codes indicate OUTPATIENT, classify as OUTPATIENT. End Algorithm</li> </ol> <p>Otherwise, classify as undetermined. End Algorithm.</p>		

**Step 3:** Eliminate from the measure all children and adolescents who have not had at least one eligible mental health discharge (MHD) in the reporting year.

**Step 4:** Create Denominator 1: Consistent with the above, eliminate all MHD for children who are not enrolled continuously for 180 or more days after the MHD. Consider the day of discharge to be Day 0. Eliminate all MHD for which the child/adolescent is readmitted for an MHD on Day 0. The Denominator should be created for all age groups (0 through 18, or 0 to 21) and for each age stratum (0-5, 6-11, 12-18, 19-21).

**Step 5:** Create MHFU numerators. Qualifying events include specified outpatient or inpatient mental health visits, as shown in the POS Table and algorithm. For each numerator, create an appropriate flag in the record regarding qualification status and another variable reporting day post admission of the qualifying event:

- a. Identify qualifying outpatient visits (per POS table) and the days after discharge of the event. Search from post-hospital Day 1 (not including Day 0) forward) Segregate these into those that were to MH provider. Use provider types as used in the data set to identify those visits that were to specified MH clinicians or to PC clinicians. For all that qualify, please identify the first two MH qualified and the first two PH qualified that follow the discharge and record for each the day following discharge on which it occurred. If the first and second PCP or First and second MH visit occurred on the same day of service identify the next appropriate visit that is on a distinct date. The first of each these types of visits is considered the initial and the second is considered the second visit. Calculate time to second visit as day of second visit less the day of the first visit.

<b>Included MH providers</b>
A psychiatrist or child psychiatrist.
A licensed psychologist or child psychologist.
A psychiatric nurse practitioner/advanced practice nurse.
A clinical social worker
A mental health clinic.
A behavioral and developmental pediatrician.
Pediatric Neurologist

Please note that the above Table of MH providers is more specific than for the HEDIS measures and is optimized for child health. As an exemplar implementation of these constructs we include for NY state, provider types (with their local descriptions from the NY data dictionary):

<b>MH PROV_SPECIALTY_CODE</b>	<b>PROV_SPECIALTY_DESC</b>
057	DEVELOPMENT: BEHAVIORAL PEDIATRICS (MC USE ONLY)
191	PSC PSY & NEURO: CHILD PSYCHIATRY
192	PSC PSY & NEURO: PSYCHIATRY (NOT CHILD)
193	PSC PSY & NEURO: CHILD NEUROLOGY
194	PSC PSY & NEURO: NEUROLOGY (NOT CHILD)
195	PSC PSY & NEURO: PSYCHIATRY & NEUROLOGY
197	GERIATRIC PSYCHIATRY (MC USE ONLY)
198	ADDICTION PSYCHIATRY (MC USE ONLY)

281	PSC: CLINICAL SOCIAL WORKER (OBSOLETE)
309	CLN SP CD: MEDICALLY SUPERVISED SUBSTANCE ABUSE
310	CLN SP CD: OMH ADULT CLINIC (STATE OPERATED)
311	CLN SP CD: OMH CHILD CLINIC (STATE OPERATED)
312	CLN SP CD: OMH CONTINUING DAY TRTMT (STATE OPR)
313	CLN SP CD: OMH PARTIAL HOSPITALIZATION (STATE OPR)
314	CLN SP CD: OMH INTEN PSYCH REHAB TRTMT (STATE OPR)
315	CLN SP CD: OMH ADULT CLINIC
316	CLN SP CD: OMH CHILD CLINIC
317	CLN SP CD: OMH CONTINUING DAY TREATMENT
318	CLN SP CD: OMH PARTIAL HOSPITALIZATION
319	CLN SP CD: OMH INTENSIVE PSYCH REHAB TREATMENT
322	OMH COMPREHENSIVE OUTPATIENT PROGRAM (COPS) CLINIC
323	OMH COMP OUTPAT PROG (COPS) CONTINUING DAY TRTMT
325	CLN SP CD: EARLY INTERVENTION
326	OMH/CR ADULT (VOLUNTARY)
327	OMH/CR CHILDREN (VOLUNTARY)
328	OMH FAMILY BASED TREATMENT
329	OMH/CR ADULT (STATE OPERATED)
330	OMH/CR CHILDREN (STATE OPERATED)
331	OMH TEACHING FAMILY HOME
332	OMR/DD CR (STATE OPERATED)
352	PPCP ASSOCIATED COPS
353	PPCP ASSOCIATED OMH CLINICS
354	PPCP ASSOCIATED PSYCHIATRY, GENERAL (DOH CERT)
356	HCBS/TBI WAIVER
357	CLN SP CD:OUTPATIENT CHEMICAL DEPENDENCE WITHDRAWL
358	MC:TBI SERVICES (MC ONLY)
750	MISC SP CD: METHADONE MAINTENANCE

	(PHYSICIAN)
751	MISC SP CD: METHADONE MAINTENANCE PREFERRED PROV
780	MISC SP CD: ALL CLINICAL PSYCHLG (CLMS PROC ONLY)
781	MISC SP CD: ALL CERT SOCIAL WKRS (CLMS PROC ONLY)
922	CLN SP CD: METHADONE MAINTENANCE TREATMENT PROGRAM
938	CLN SP CD: PEDIATRIC NEUROLOGY
945	CLN SP CD: PSYCHIATRY - INDIVIDUAL
946	CLN SP CD: PSYCHIATRY - GROUP
947	CLN SP CD: PSYCHIATRY - HALF DAY CARE
948	CLN SP CD: PSYCHIATRY - FULL DAY CARE
949	CLN SP CD: ALCOHOLISM TREATMENT PROGRAM
959	CLN SP CD: OUTPAT CHEM DEPENDENCY PROG FOR YOUTH
963	CLN SP CD: CHILD PSYCHIATRY
964	CLN SP CD: PSYCHIATRY-GENERAL
971	CLN SP CD: MH CLINIC TREATMENT (STATE OPERATED)
972	CLN SP CD: MH DAY TREATMENT (STATE OPERATED)
973	CLN SP CD: MH CONTINUING TREATMENT (STATE OPR)
974	CLN SP CD: MENTAL HEALTH CLINIC TREATMENT
975	CLN SP CD: MENTAL HEALTH DAY TREATMENT
976	CLN SP CD: MENTAL HEALTH CONTINUING TREATMENT
977	CLN SP CD: MR/DD CLINIC TREATMENT (STATE OPERATED)
979	CLN SP CD: MR/DD CLINIC TREATMENT
981	CLN SP CD: DIAG AND RESEARCH CLINIC MR (STATE OPR)
983	CLN SP CD: SPECIALTY CLINIC - MENTAL RETARDATION
984	CLN SP CD: ALCOHOLISM CLINIC TREATMENT (STATE OPR)
985	CLN SP CD: ALCOHOLISM DAY REHAB (STATE OPERATED)

986	CLN SP CD: ALCOHOLISM CLINIC TREATMENT
987	CLN SP CD: ALCOHOLISM DAY REHABILITATION
988	CLN SP CD: COMPREHENSIVE ALCOHOLISM CARE
989	MEDICALLY SUPERVISED WITHDRAWAL-OUTPATIENT
992	OMH COMPREHENSIVE PSYCHIATRIC EMERGENCY PROG

PC Clinicians are specified to include pediatricians (including medicine-pediatrics physicians), adolescent medicine physicians, family physicians, internists, and advance practice nurses working with any of these.

In New York State we would operationalize these specialties as (and add advance practice nurses working under the license of any of these).

PROV_SPECIALTY_CODE	PROV_SPECIALTY_DESC
050	PSC: FAMILY PRACTICE
060	PSC INT MED: INTERNAL MEDICINE
150	PSC PEDIATRICS
776	MISC SP CD: G/P ONLY - NO SPEC (PROC FILE ONLY)
055	ADOLESCENT MEDICINE: FAMILY MEDICINE (MC USE ONLY)
056	ADOLESCENT MEDICINE: PEDIATRICS (MC USE ONLY)
058	INTERNAL MEDICINE AND PEDIATRICS (MC USE ONLY)
089	PSC OB GYN: OBSTETRICS AND GYNECOLOGY
182	PSC PREV MED: GENERAL PREVENTIVE MEDICINE
914	CLN SP CD: GENERAL MEDICINE
936	CLN SP CD: PEDIATRIC GENERAL MEDICINE
978	CLN SP CD: PREFERRED PRIMARY CARE CLINIC

## Step 6

### Calculate and report the measures as described below

Report Denominator 1's value as "N" for each measure and each Stratum reported.

- I. **Timely Coordination of care**, including both mental health (MH) and primary care (PC) clinicians for outpatient follow up visits. . Report percent to 2 digits. For all measures percent is calculated by the number of discharges that meet the criterion divided by Denominator 1 and multiplied by 100.  
This requires meeting criteria for BOTH sub measures a. and b below.
  - a. Timely receipt of initial mental health follow up visit (percent first mental health visit  $\leq 7$  days);
  - b. Timely receipt of initial primary care follow up visit (percent first PCP follow up visit  $\leq 21$  days);
  - c. Our primary measure, *Timely receipt of initial coordinated follow up care* requires **BOTH** a and b to be satisfied.
- II. **Delayed initiation of follow up**. Report percent to 2 digits.
  - a. Delayed receipt of initial mental health follow up visit (percent first follow up visit with MH provider  $> 30$  days);
  - b. Delayed receipt of initial primary care follow up visit (percent first follow up visit with MH provider  $> 30$  days);
  - c. Both delayed. Meets criteria for both a and b.
  - d. Either delayed. Meets criteria for either a. or b.
- III. **Time to initial mental health follow up** (continuous, report mean, median 25<sup>th</sup>, 75<sup>th</sup>, 90<sup>th</sup>, and 97.5<sup>th</sup> percentile);
- IV. **Time to initial primary care follow up** (continuous, report mean, median 25<sup>th</sup>, 75<sup>th</sup>, 90<sup>th</sup>, and 97.5<sup>th</sup> percentile);
- V. **Primary failure to initiate follow up**. Report percent to 2 digits.
  - a. Primary failure to initiate mental health follow up (percent first follow up visit with MH provider  $> 60$  days)
  - b. Failure of timely PCP follow up (percent first follow up visit to PCP  $> 60$  days)
  - c. Primary failure to initiate follow up. Meets criteria for both a and b.
  - d. Primary failure to initiate coordinated follow up care. Meets criteria for either a. or b.

- VI. **Establishment of ongoing follow up care.** Times described below are times between first and second visits with PC or MH clinician as indicated.
- a. Failure to establish follow up care. Failure to establish ongoing follow up (percent without 2 or more MH and PCP visits in the 240 days following discharge)
  - b. Failure to establish *coordinated* follow up care. Failure to establish ongoing follow up (percent without 2 or more MH OR 2 or more PCP visits in the 240 days following discharge)
  - c. Time between first and second MH Visit (continuous: mean, median 25<sup>th</sup>, 75<sup>th</sup>, 90<sup>th</sup> and 97.5<sup>th</sup> percentile)
  - d. Time between first and second PC Visit (continuous: mean, median 25<sup>th</sup>, 75<sup>th</sup>, 90<sup>th</sup> and 97.5<sup>th</sup> percentile)
  - e. Timely establishment of MH follow up (percent <= 30 days)
  - f. Timely establishment of PC follow up (percent <= 30 days)
  - g. Delayed second MH visit (percent > 60 days)
  - h. Delayed second PCP visit (percent > 60 days)
  - i. Failure to establish ongoing MH follow up (percent without 2 or more MH visits in the 180 days following discharge)
  - j. Failure to establish ongoing PC follow up (percent without 2 or more PCP visits in the 180 days following discharge)

VII. **Readmission Rates**

- a. 7 day readmission rate: Report the percent of eligible discharges followed by a qualifying readmission on Day 1 through 7, inclusive;
- b. 30 day readmission rate: Report the percent of eligible discharges followed by a qualifying readmission on Day 1 through 30, inclusive;
- c. 60 day readmission rate: Report the percent of eligible discharges followed by a qualifying readmission on Day 1 through 60, inclusive;
- d. 180 day readmission rate: Report the percent of eligible discharges followed by a qualifying readmission on Day 1 through 180, inclusive;

**Step 7:**

Create stratification variables

- i. Identify County equivalent of child's residence. If County and State or FIPS code are not in the administrative data, the zip codes can be linked to County indirectly, using the Missouri Census Data Center (<http://mcdc.missouri.edu/>). These data will link to County or County equivalents as used in various states.
- ii. Identify the Urban Influence Code (1) or UIC for the county of child's residence. (2013 urban influence codes available at: <http://www.ers.usda.gov/data-products/urban-influence-codes.aspx#.UZUvG2cVoj8>). Use one of two schema to identify rurality/urbanicity if desired. The former differentiates better various rural communities, while the latter better differentiates different urban settings. One may incorporate aspects of both as shown in C.

Depending on the setting and interests of the accountability entity, all rural areas may be aggregated, although this should not be done to obscure findings in frontier areas:

- a. After Bennett et al (SC Rural research Center):
    - i. UIC 1 & 2 are classified as Urban
    - ii. UIC 3,5,& 8 as micropolitan Rural
    - iii. UIC 4,6,& 7 Rural Adjacent to a metro area
    - iv. UIC 9-12 remote rural
  - b. Modified after Hart (UND Center for Rural Health)
    - i. UIC 1 Large Urban
    - ii. UIC 2 Small Urban
    - iii. UIC 3-8 Rural
    - iv. UIC 9-12 remote rural (may be used to approximate frontier)
  - c. Modified integrated approach:
    - i. UIC 1 Large Urban
    - ii. UIC 2 Small Urban
    - iii. UIC 3,5,& 8 as micropolitan Rural
    - iv. UIC 4,6,& 7 Rural Adjacent to a metro area
    - v. UIC 9-12 remote rural
- iii. Identify the Level of Poverty in the mother's county of residence. The percent of all residents in poverty by county or county equivalent are available from the US Department of Agriculture at <http://www.ers.usda.gov/data-products/county-level-data-sets/download-data.aspx>. Our stratification standards are based on 2011 US population data that we have analyzed with SAS 9.3. Using Mother's state and county of residence (or equivalent) or FIPS code, use the variable PCTPOVALL\_2011 to categorize into one of 5 Strata:
- a. Lowest Quartile of Poverty if percent in poverty is  $\leq 12.5\%$
  - b. Second Quartile of Poverty if percent in poverty is  $> 12.5\%$  and  $\leq 16.5\%$
  - c. Third Quartile of poverty if percent in poverty is  $> 16.5\%$  and  $\leq 20.7\%$
  - d. First Upper Quartile (75th-90th) if percent in poverty is  $> 20.7\%$  and  $\leq 25.7\%$
  - e. Second Upper Quartile ( $> 90$ th percentile)
- iv. Categorize Race/Ethnicity as Hispanic, Non-Hispanic White, Non-Hispanic Black, Non-Hispanic Asian/Pacific Islander, and Non-Hispanic Other
  - v. Categorize Insurance Type as Private (Commercial), Public, None or Other
  - vi. Categorize benefit type as HMO, PPO, FFS, PCCM, or Other

## Step 8

As requested by accountability entity, describe variations in each reported measure. Interquartile range is the preferred method for the continuous

measures and is calculated by subtracting the value of the 25<sup>th</sup> percentile from the value of the 75<sup>th</sup> percentile. Use standard methods for calculating the 95% confidence intervals (CI) of the percents, assuming the binomial distribution form a single sample. Recall that proportions are percents divided by 100. The CI is found as the mean percent plus or minus the product  $1.96 \times [\text{Square root of the } \frac{\text{proportion meeting criterion}}{\text{proportion not meeting the criteria}}]$ .

**Step 9:** Repeat Steps as needed to describe findings by strata—Age category, Race/Ethnicity, UIC or urbanicity, County Poverty Level, Insurance Type, and Benefit Type. Report by Race/Ethnicity within Age strata and repeat that analysis by UIC, and also by County Poverty Level. Report by Insurance Type and Benefit Type within Race/Ethnicity. Additional Cross tabulations are supported by these specifications and may be requested by an accountability entity.