# SECTION II.
## DETAILED MEASURE SPECIFICATIONS:

## INFORMED COVERAGE

### II.A. Description

The percentage of time, within an 18-month observation window, eligible children received coverage in Medicaid or CHIP, or either program.

### II.B. Eligible Population

**For both metrics, Coverage PE and PI, used to create Informed Coverage:**

*Age*: Children aged younger than 18 years at the beginning of the 18-month observation window.

*Coverage*: Number of months enrolled over an 18-month window of observation. Eligible months begin from first observation of a child within the 18-month observation window.

*Allowable gap*: Gaps allowed and measured as months without coverage.

*Anchor date*: Beginning of 18-month observation window OR date of birth.

*Benefits*: Medical, pharmacy, dental, long term care

*Event*: Number of months covered over an 18-month window of observation.

### II.C. Definitions

*Covered:* A child is considered to have been covered for a given month if they have greater than 14 days of enrollment in that month.

*S-CHIP:* Separately administered CHIP program

*M-CHIP:* Federally administered CHIP program

# II.D.1. Coverage PE: Detailed Measure Specifications

## II.D.1.a. Coverage PE: CHIP Measure

Administrative Data Specifications

*Denominator for S-CHIP Coverage PE = Total Months of Eligibility*

1. Determine 18-month window of observation (can begin with any month in the year), and the preceding 18 months, also known as the look back, to determine the individuals eligible to contribute months of eligibility to the denominator.

2. Identify all children enrolled in CHIP at any point within the 18-month window of observation AND/OR the 18-month look back, excluding those older than 18 at the beginning of the 18-month observation window.

3. Identify all children who are born within the 18-month window of observation – **for these children, total months of eligibility begin from date of birth**.

4. Identify all children who reach the age of 18 before the end of the 18-month window of observation – **for these children, total months of eligibility end with their 18th birthday**.

5. Identify all children who DO NOT APPEAR as covered at any point within the 18-month look back period ("covered" defined as at least one day of coverage) – **for these children, total months of eligibility begin with their first day of coverage within the 18-month observation window**. (This is to identify those children who are truly newly eligible, such as those whose parents were laid off in an economic downturn).

6. For all other children who do not represent populations described in Steps 2, 3, or 4, **total months of eligibility equals all 18 months in the observation window**.

7. Determine summation of total number of eligible months for all children in eligible population.

*Numerator for S-CHIP Coverage PE measure = Total Months Covered*

1. Identify total number of months covered by CHIP for each child in the eligible population. A month is considered "covered" if the child has greater than 14 days of enrollment in that month.

2. If data available (e.g. a state with a separate CHIP program reporting its CHIP enrollment data to CMS), determine months when a child experiencing a gap in coverage by CHIP was covered by Medicaid or M-CHIP.

3. Determine summation of total number of months covered within the 18-month observation window for all children in the eligible population.

**Compute percentage of months covered within the 18-month observation window.**

## II.D.1.b. Coverage PE: Medicaid/M-CHIP Measure

Administrative Data Specifications

*Denominator for Medicaid/M-CHIP Coverage PE = Months of Eligibility*

1. Determine 18-month window of observation (can begin with any month in the year), and the preceding 18 months, also known as the look back, to determine the individuals eligible to contribute months of eligibility to the denominator.

2. Identify all children enrolled in CHIP at any point within the 18-month window of observation AND/OR the 18-month look back, excluding those older than 18 at the beginning of the 18-month observation window.

3. Identify all children who are born within the 18-month window of observation – **for these children, total months of eligibility begin from date of birth**.

4. Identify all children who reach the age of 18 before the end of the 18-month window of observation – **for these children, total months of eligibility end with their 18th birthday**.

5. Identify all children who DO NOT APPEAR as covered at any point within the 18-month look back period ("covered" defined as at least one day of coverage) – **for these children, total months of eligibility begin with their first day of coverage within the 18-month observation window**. (This is to identify those children who are truly newly eligible, such as those whose parents were laid off in an economic downturn).

6. For all other children who do not represent populations described in Steps 2, 3, or 4, **total months of eligibility equals the total number of months included in the 18-month observation window**.

7. Determine summation of total number of eligible months for all children in eligible population.
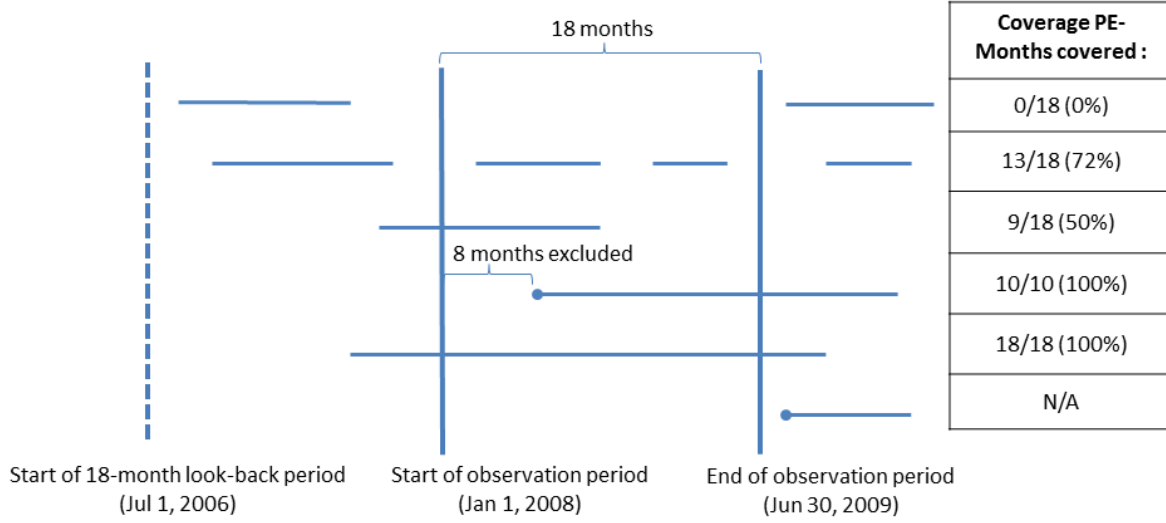
Determine summation of total number of eligible months for all children in the eligible population.

*Numerator for Medicaid/M-CHIP Coverage PE = Months Covered*

1. Identify total number of months covered *by Medicaid/M-CHIP for each child in the eligible population*. A month is considered "covered" if the child has greater than 14 days of enrollment in that month.

2. If data available (e.g. a state with a separate CHIP program reporting its CHIP enrollment to CMS), determine months when a child experiencing a gap in coverage by Medicaid or M-CHIP was covered by S-CHIP.

3. Determine summation of total number of months covered within the 18-month observation window for all children in the eligible population.

**Compute percentage of months covered within the 18-month observation window.**

**Coverage PE illustrated with six child examples:**

| 18 months | Coverage PE-Months covered : |
|---|---|
| | 0/18 (0%) |
| | 13/18 (72%) |
| | 9/18 (50%) |
| 8 months excluded | 10/10 (100%) |
| | 18/18 (100%) |
| | N/A |

Start of 18-month look-back period (Jul 1, 2006)   Start of observation period (Jan 1, 2008)   End of observation period (Jun 30, 2009)

## II.D.2. Coverage PI: Detailed Measure Specifications

### II.D.2.a. Coverage PI: CHIP Measure

Administrative Data Specifications

*Denominator for S-CHIP Coverage PI = Total Months of Eligibility*

1. Determine 18-month window of observation (can begin with any month in the year).

2. Identify all children enrolled in CHIP at any point within the 18-month window of observation, excluding those older than 18 at the beginning of the 18-month observation window.

3. Identify all children who are born within the 18-month window of observation – **for these children, total months of eligibility begin from date of birth**.

4. Identify all children who reach the age of 18 before the end of the 18-month window of observation – **for these children, total months of eligibility end with their 18th birthday**.

5. For all other children who do not represent populations described in Steps 2, 3, or 4, **months of eligibility begins with the first observed enrollment in the observation window and continues for the remainder of the observation window.**

6. Determine summation of total number of eligible months for all children in eligible population.

*Numerator for S-CHIP Coverage PI = Total Months Covered*

1. Identify total number of months covered by CHIP for each child in the eligible population. A month is considered "covered" if the child has greater than 14 days of enrollment in that month.

2. If data available (e.g. a state with a separate CHIP program reporting its CHIP enrollment data to CMS), determine months when a child experiencing a gap in coverage by S-CHIP was covered by Medicaid or M-CHIP.

3. Determine summation of total number of months covered within the 18-month observation window for all children in the eligible population.

**Compute percentage of months covered within the 18-month observation window.**

## II.D.2.b. Coverage PI: Medicaid/M-CHIP Measure

Administrative Data Specifications

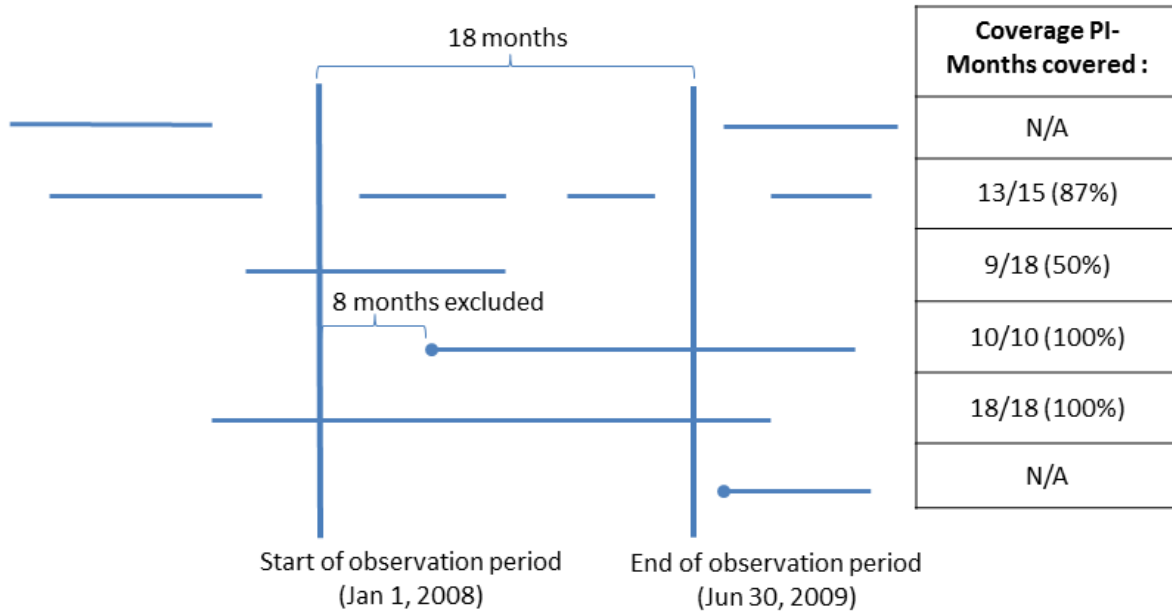*Denominator for Medicaid/M-CHIP Coverage PI = Months of Eligibility*

1. Determine 18-month window of observation (can begin with any month in the year).

2. Identify all children enrolled in Medicaid or M-CHIP at any point within the 18-month window of observation, excluding those older than 18 at the beginning of the 18-month observation window.

3. Identify all children who are born within the 18-month window of observation – **for these children, total months of eligibility begin from date of birth**.

4. Identify all children who reach the age of 18 before the end of the 18-month window of observation – **for these children, total months of eligibility end with their 18$^{th}$ birthday**.

5. For all other children who do not represent populations described in Steps 2, 3, or 4, **months of eligibility begins with the first observed enrollment in the observation window and continues for the remainder of the observation window.**

6. Determine summation of total number of eligible months for all children in eligible population.

*Numerator for Medicaid/M-CHIP Coverage PI = Months Covered*

1. Identify total number of months covered by Medicaid or M-CHIP for each child in the eligible population. A month is considered "covered" if the child has greater than 14 days of enrollment in that month.

2. If data available (e.g. a state with a separate CHIP program reporting its CHIP enrollment to CMS), determine months when a child experiencing a gap in coverage by Medicaid or M-CHIP was covered by S-CHIP.

3. Determine summation of total number of months covered within the 18-month observation window for all children in the eligible population.

**Compute percentage of months covered within the 18-month observation window.**

**Coverage PI illustrated with six child examples:**

## II.D.3 Calculating Informed Coverage

Administrative data specifications

1. **Determine appendectomy coverage rate:**

   *Denominator for appendectomy coverage rate*

   1. For the same 18-month observation window to be used for the metrics:

   2. Identify all children age 2-16 at the start of the observation window

   3. Identify all children with an inpatient admission for either a principal diagnosis of **appendicitis (ICD-9 540-541)** or a principal procedure of **appendectomy (ICD-9 470-470.9, 472).**

   *Numerator for appendectomy coverage rate*

   1. Identify total number of children with preexisting enrollment in Medicaid or CHIP, defined as observed enrollment exactly 4 months prior to their date of admission

   *Compute percentage of appendicitis/appendectomy children with preexisting enrollment in Medicaid or CHIP.*

2. **Calculate whether this rate of preexisting enrollment is closest to the measure presented by Coverage PE, Coverage PI, or the average between the two.**

3. **Utilize the closest metric and present as "Informed Coverage" for a given state.**

## APPENDIX I: Informed Coverage Frequency Tables

### IA: Frequency tables by age group

Informed Coverage rates in 8 states, January 1, 2008-June 30, 2009.

| | All Children Age 0-18 | | Age <12 months | | Ages 1-5 | | Ages 6-12 | | Ages 13-18 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Metric | N | Metric | N | Metric | N | Metric | N | Metric | N |
| IL | 0.9443 (0.9436,0.9450) | 272824 | 0.9280 (0.9274,0.9286) | 493925 | 0.9269 (0.9263,0.9275) | 552727 | 0.9266 (0.9259,0.9273) | 340548 | 0.9443 (0.9436,0.9450) | 272824 |
| LA | 0.8945 (0.8932,0.8957) | 139319 | 0.9459 (0.9452,0.9466) | 217306 | 0.9572 (0.9566,0.9579) | 252534 | 0.9602 (0.9595,0.9610) | 166097 | 0.8945 (0.8932,0.8957) | 139319 |
| MT ^ | 0.8687 (0.8650,0.8724) | | 0.7744 (0.7711,0.7777) | | 0.7939 (0.7907,0.7970) | | 0.7836 (0.7795,0.7877) | | 0.8687 (0.8650,0.8724) | |
| NC | 0.9207 (0.9198,0.9215) | 209978 | 0.7800 (0.7789,0.7811) | 392728 | 0.7942 (0.7932,0.7952) | 428733 | 0.7806 (0.7792,0.7819) | 265034 | 0.9207 (0.9198,0.9215) | 209978 |
| NH | 0.9060 (0.9027,0.9094) | 14979 | 0.8850 (0.8823,0.8877) | 27134 | 0.8928 (0.8904,0.8951) | 34654 | 0.8848 (0.8818,0.8878) | 22328 | 0.9060 (0.9027,0.9094) | 14979 |
| NY | 0.8965 (0.8958,0.8973) | 353994 | 0.8912 (0.8905,0.8918) | 577834 | 0.9021 (0.9015,0.9027) | 606132 | 0.9128 (0.9122,0.9135) | 419995 | 0.8965 (0.8958,0.8973) | 353994 |
| OR^ | 0.8512 (0.8494,0.8529) | | 0.7314 (0.7297,0.7331) | | 0.7633 (0.7617,0.7649) | | 0.7650 (0.7629,0.7671) | | 0.8512 (0.8494,0.8529) | |
| UT | 0.8207 (0.8183,0.8232) | 55656 | 0.5732 (0.5707,0.5758) | 107276 | 0.6242 (0.6215,0.6269) | 91801 | 0.6082 (0.9042,0.6121) | 45492 | 0.8207 (0.8183,0.8232) | 55656 |

*Note Informed Coverage includes Medicaid, M-CHIP, and S-CHIP (when reported into MAX). Among the states above, New York alone does not report enrollment for all programs; NY S-CHIP is not reported.
^MT & OR are designated "Mixed Coverage" (PM), or an average of their PE and PI state rates. Thus, they have no definitive population total.

## IB: Frequency tables by Medicaid/M-CHIP and S-CHIP program

| | Informed Coverage rates in 8 states stratified by public insurance program type, January 1, 2008-June 30, 2009. | | | |
|---|---|---|---|---|
| | **Medicaid/M-CHIP** | | **S-CHIP** | |
| | Metric | N | Metric | N |
| IL | 0.9402 (0.9399,0.9405) | 1517403 | 0.8214 (0.8199,0.8230) | 142621 |
| LA | 0.9436 (0.8432,0.9440) | 773968 | 0.8280 (0.8122,0.8438) | 1288 |
| MT | 0.8545 (0.8526,0.8563) | | 0.8580 (0.8547,0.8612) | |
| NC | 0.8959 (0.8955,0.8964) | 1022882 | 0.8754 (0.8742,0.8766) | 149161 |
| NH | 0.8921 (0.8907,0.8936) | 89593 | 0.8788 (0.8739,0.8837) | 9502 |
| NY | 0.9002 (0.8998,0.9005) | 1957955 | | |
| OR | 0.8241 (0.8232,0.8249) | | 0.8439 (0.8420,0.8457) | |
| UT | 0.7950 (0.7937,0.7963) | 190482 | 0.7979 (0.7954,0.8004) | 51013 |

*Note Informed Coverage includes Medicaid, M-CHIP, and S-CHIP (when reported into MAX). Among the states above, New York alone does not report enrollment for all programs; NY S-CHIP is not reported.
^MT & OR are designated "Mixed Coverage" (PM), or an average of their PE and PI state rates. Thus, they have no definitive population total.