Calculating the Sealant Receipt on Permanent First Molars Measure in the Child Core Set

Introduction

Oral health access and utilization is a primary focus of Medicaid and the Children’s Health Insurance Program (CHIP) quality improvement efforts and progress in this area is reported by the Centers for Medicare & Medicaid Services (CMS) each year. The Core Set of Children’s Health Care Quality Measures for Medicaid and CHIP (Child Core Set) provides a national- and state-level snapshot of the quality of oral health care provided to children enrolled in Medicaid and CHIP.

In response to stakeholder feedback during the 2021 Core Set Annual Review, CMS added the “Sealant Receipt on Permanent First Molars” (SFM-CH) measure to the 2021 Child Core Set (see Table 1). The dental sealant measure was selected because it assesses the quality and appropriateness of oral health care and is linked to improved outcomes. Specifically, evidence-based clinical practice guidelines recommend sealants as an effective intervention for reducing dental caries in primary and permanent molars in children and adolescents. This measure replaces the “Dental Sealants for 6-9 Year Old Children at Elevated Caries Risk” (SEAL-CH) measure in the Child Core Set, which was retired by the measure steward and therefore removed by CMS from the 2021 Core Set.


4 This technical assistance resource was developed in consultation with the Dental Quality Alliance.

Table 1. Overview of the SFM-CH Measure for Child Core Set Reporting

<table>
<thead>
<tr>
<th>Measure steward</th>
<th>American Dental Association on behalf of the Dental Quality Alliance (ADA/DQA)4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Percentage of enrolled children who have ever received sealants on permanent first molar teeth. Two rates are reported: (1) at least one sealant and (2) all four molars sealed by the 10th birthdate</td>
</tr>
<tr>
<td>Numerators</td>
<td>Numerator for Rate 1 (At Least One Sealant): The unduplicated number of enrolled children who received a sealant on at least one permanent first molar tooth by the 10th birthdate. Numerator for Rate 2 (All Four Molars Sealed): The unduplicated number of enrolled children who received sealants on all four permanent first molars by the 10th birthdate</td>
</tr>
<tr>
<td>Denominator</td>
<td>Children who turn age 10 in the measurement year.</td>
</tr>
<tr>
<td>Exclusions</td>
<td>Beneficiaries who received treatment (restorations, extractions, endodontic, prosthodontic, and other dental treatments) on all four permanent first molars in the 48 months prior to the 10th birthdate</td>
</tr>
<tr>
<td>Data source</td>
<td>Administrative</td>
</tr>
</tbody>
</table>
The new sealant measure will help states monitor appropriate preventive oral health care for children because it promotes sealing all molars by age 10. It is also closely tied to a goal of the CMS oral health initiative, to increase the rate of children receiving a preventive dental service. Successful reporting of the new dental sealant measure will help CMS and states continue to drive quality improvement efforts and monitor progress in oral health care. This technical assistance (TA) resource was developed to help states calculate and report the Sealant Receipt on Permanent First Molars measure as part of the Child Core Set.

**Overview of the Sealant Receipt on Permanent First Molars Measure**

The dental sealant measure is defined as the percentage of enrolled children who have ever received sealants on permanent first molar teeth. The measure includes two rates:

1. At least one sealant on a permanent first molar by the 10th birthdate
2. All four permanent first molars sealed by the 10th birthdate

The measure steward is the American Dental Association (ADA), on behalf of the Dental Quality Alliance (DQA).

For FFY 2021 reporting, the measure should be calculated using Medicaid and CHIP administrative data from calendar year (CY) 2020 (the measurement year) to identify beneficiaries that turned 10 years old in 2020. States should also look back 48 months prior to the beneficiary’s 10th birthdate to assess sealant receipt (the numerator) and to identify services that would exclude the beneficiary from the measure. Table 2 lists the data elements used to calculate the denominator and numerator for the measure.

### Table 2. Data Elements Used to Calculate the Sealant Receipt on Permanent First Molars Measure

<table>
<thead>
<tr>
<th>Beneficiary-Level Data Elements</th>
<th>Claims-Based Data Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Beneficiary ID</td>
<td>• Beneficiary ID</td>
</tr>
<tr>
<td>• Date of Birth</td>
<td>• Service Date of Claim</td>
</tr>
<tr>
<td>• Enrollment Start and End Dates</td>
<td>• Current Dental Terminology (CDT) Code</td>
</tr>
<tr>
<td></td>
<td>• Tooth Number Code</td>
</tr>
<tr>
<td></td>
<td>• Tooth Surface Code</td>
</tr>
</tbody>
</table>

#### Calculating the Denominator

The denominator for the measure is defined as the unduplicated number of enrolled children with their 10th birthdate in the measurement year. The calculation of the denominator involves selecting Medicaid and CHIP beneficiaries with dental benefits who meet criteria based on age, continuous enrollment, and previous dental treatment. States should include paid, pending, suspended, and denied claims.

**Step 1: Age**

Calculate the age for each beneficiary based on the beneficiary’s date of birth. For Child Core Set reporting, include beneficiaries in the denominator if their 10th birthdate occurred in the measurement year. For example, if a beneficiary turned 10 years old between January 1, 2020 and December 31, 2020, he or she would be included in the denominator for FFY 2021 reporting. If the date of birth for a beneficiary is missing, exclude the beneficiary from the denominator.

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6 The Form CMS-416 (Annual EPSDT Report) also collects information on receipt of dental sealants by children in Medicaid (line 12d). The Core Set measure differs from the Form CMS-416 measure in several ways: (1) the Core Set measure looks at sealant receipt by age 10, while the Form CMS-416 measure is reported for children ages 1 to 20; (2) the Core Set measure has a continuous enrollment criterion of 12 months (with a 45-day allowable gap), while the Form CMS-416 measure has a continuous enrollment criterion of 90 days; (3) the Core Set measure counts sealants on first permanent molars only, while the Form CMS-416 measure counts sealants on all permanent molars; and (4) the measurement period for the Core Set measure is the calendar year, while the Form CMS-416 measure is calculated for the federal fiscal year.
Step 2: Continuous Enrollment

To be eligible for the measure, beneficiaries must be continuously enrolled for at least 12 months prior to the child’s 10th birthdate, with only one gap in coverage of no more than 45 days during the continuous enrollment period. To determine continuous enrollment for a beneficiary for whom enrollment is verified monthly the child may not have more than a 1-month gap in coverage. When calculating a state-level rate, beneficiaries should be assessed for continuous enrollment in “any plan.” A beneficiary who switched health plans (or who moved between fee-for-service and managed care) during the measurement period is still considered continuously enrolled as long as there is no more than one gap in coverage of up to 45 days during the 12-month continuous enrollment period.

Step 3: Exclusion for Previous Dental Treatment

Identify and exclude beneficiaries who received treatment (restorations, extractions, endodontic, prosthodontic, and other dental treatments) on all four permanent first molars in the 48 months prior to the 10th birthdate. Specifically, beneficiaries should be excluded if they meet any of the following criteria for all four permanent first molars (tooth numbers 14, 3, 19 and 30):7

- Beneficiary has preventive resin restoration code (D1352)
- Beneficiary has any restorative code (D2140, D2150, D2160, D2161, D2391, D2392, D2393 or D2394) that includes occlusal tooth surface “O” alone or in combination with other surface codes (e.g., MO or DO or MOD or MODL or MODBL or MOL or DOL or MOB or MOB or DOB or BO or LO)
- Beneficiary has any restorative code (D2410–D2999)
- Beneficiary has any endodontic code (D3110–D3999)
- Beneficiary has any extraction code (D7111–D7250)
- Beneficiary has any prosthodontic code (D6205–D6793)

When assessing whether the restorative code includes the occlusal tooth surface (the second bullet above), note that any surface combination including the occlusal surface “O” should be included irrespective of the position of the “O.” If the tooth surface code is not included on the claim, this specific exclusion criteria is not met, but the beneficiary may still meet other exclusion criteria for that tooth.

Calculating the Numerators

The calculation of the numerators for the two rates for this measure involve identifying beneficiaries from the denominator who received sealants on at least one permanent first molar tooth (Rate 1) and on all four permanent first molars (Rate 2) in the 48 months prior to the 10th birthdate. Services provided on the 10th birthdate are not included in the numerator. All beneficiaries in the numerator must also be included in the denominator and meet the denominator criteria mentioned earlier.

Step 4: Calculate Numerator for Rate 1 (At Least One of the Four Permanent First Molars Sealed)

The numerator for Rate 1 is defined as the unduplicated number of enrolled children who received a sealant on at least one permanent first molar tooth.

To calculate the numerator for Rate 1, check for the receipt of a dental sealant (CDT code D1351) on at least one permanent first molar (identified as tooth numbers 14, 3, 19, or 30)8 in the 48 months prior to the 10th birthdate.

If these criteria are met, then include the beneficiary in the numerator for Rate 1.

Step 5: Calculate Numerator for Rate 2 (All Four Permanent First Molars Sealed)

The numerator for Rate 2 is defined as the unduplicated number of enrolled children who received sealants on all four permanent first molars.

To calculate the numerator for Rate 2, check for receipt of a dental sealant (CDT code D1351) on all four permanent first molars (identified as tooth numbers 14, 3, 19, and 30) in the 48 months prior to the 10th birthdate.

If these criteria are met, then include the beneficiary in the numerator for Rate 2.

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7 The tooth number codes are based on the Universal Numbering System.

8 The tooth number must be included on the claim to count as a qualifying service in the numerator.
Calculating the Rates

Finally, the two rates are calculated based on the unduplicated number of beneficiaries in the numerator and denominator:

- Rate 1: \( \frac{\text{Numerator 1}}{\text{Denominator}} \times 100 \)
- Rate 2: \( \frac{\text{Numerator 2}}{\text{Denominator}} \times 100 \)

Based on the specifications, the denominator is the same for both rates. In addition, Rate 1 should be greater than or equal to Rate 2. The rates should be rounded to one decimal. When reporting each rate, states should note any deviations from the measure specifications (such as measurement year, data source), as well as any eligible populations excluded from the measure. States that do not have 48 months of look-back data should note this as a limitation when reporting and indicate the look-back period that was used to calculate the numerators.

Technical Assistance Resources for Calculating the SFM-CH Measure

Several resources are available to help states calculate the Sealant Receipt on Permanent First Molars measure for Child Core Set reporting:


- The FFY 2021 Child Core Set Measurement Period Table includes the date ranges that should be used for the denominator and numerator for the SFM-CH measure, and is available at https://www.medicaid.gov/medicaid/quality-of-care/downloads/ffy-2021-child-core-set-measurement-periods.pdf.


- Sample programming code is available on request from the TA mailbox at MACQualityTA@cms.hhs.gov. The code should be customized to the state’s administrative data system.


For More Information

For technical assistance related to calculating and reporting the SFM-CH measure, or other Child, Adult, and Health Home Core Set measures, please contact the TA mailbox at MACQualityTA@cms.hhs.gov.