



## Calculating the Sealant Receipt on Permanent First Molars Measure in the 2022 Child Core Set

### Introduction

Oral health access and utilization is a focus of quality improvement efforts in Medicaid and the Children’s Health Insurance Program (CHIP). 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. Progress in this area is reported by the Centers for Medicare & Medicaid Services (CMS) each year.<sup>1</sup>

In response to stakeholder feedback, CMS added the “Sealant Receipt on Permanent First Molars” (SFM-CH) measure to the 2021 Child Core Set. The dental sealant measure assesses the quality and appropriateness of oral health care and is linked to improved outcomes (see Table 1). Specifically, evidence-based clinical practice guidelines recommend sealants as an effective intervention for reducing dental caries in molars in children and adolescents.<sup>2</sup> Successful reporting of the dental sealant measure will help CMS and states continue to drive quality improvement efforts and monitor progress in oral health care.<sup>3</sup> 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 2022 Child Core Set.

<sup>1</sup> More information about the Child Core Set is available at <https://www.medicaid.gov/medicaid/quality-of-care/performance-measurement/adult-and-child-health-care-quality-measures/childrens-health-care-quality-measures/index.html>.

<sup>2</sup> Wright, John T., et al. Evidence-based clinical practice guideline for the use of pit-and-fissure sealants. *The Journal of the American Dental Association*, vol. 147, no. 8, pp.672–682.e12.

<sup>3</sup> 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

**Table 1. Overview of the SFM-CH Measure in the 2022 Child Core Set**

<b>Measure steward</b>	American Dental Association on behalf of the Dental Quality Alliance (ADA/DQA) <sup>4</sup>
<b>Description</b>	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
<b>Anchor date</b>	Enrolled on the 10th birthdate
<b>Numerators</b>	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
<b>Denominator</b>	Children who turn age 10 in the measurement year.
<b>Exclusions</b>	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
<b>Data source</b>	Administrative

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 permanent first 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.

<sup>4</sup> This technical assistance resource was developed in consultation with the Dental Quality Alliance.

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## 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 2022 reporting, the measure should be calculated using Medicaid and CHIP administrative data from calendar year (CY) 2021 (the measurement year) to identify beneficiaries that turned 10 years old in 2021. 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**

<b>Beneficiary-Level Data Elements</b>	<ul style="list-style-type: none"> <li>• Beneficiary ID</li> <li>• Date of Birth</li> <li>• Enrollment Start and End Dates</li> </ul>
<b>Claims-Based Data Elements</b>	<ul style="list-style-type: none"> <li>• Beneficiary ID</li> <li>• Service Date of Claim</li> <li>• Current Dental Terminology (CDT) Code</li> <li>• Tooth Number Code</li> <li>• Tooth Surface Code</li> </ul>

## Step-by-Step Guide to Calculating the Sealant Receipt on Permanent First Molars Measure

### 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

<sup>5</sup> The tooth number codes are based on the Universal Numbering System.

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, 2021 and December 31, 2021, he or she would be included in the denominator for FFY 2022 reporting. If the date of birth for a beneficiary is missing, exclude the beneficiary from the denominator.

### 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):<sup>5</sup>

- 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 MODB 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 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 molar teeth (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)<sup>6</sup> in the 48 months prior to the 10th birthdate.

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

<sup>6</sup> The tooth number must be included on the claim to count as a qualifying service in the numerator.

<sup>7</sup> If a child has treatments (restorations, extractions, endodontic, prosthodontic, and other dental treatments) on one, two, or three

#### 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.<sup>7</sup>

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

### Calculating and Reporting the Rates

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

- Rate 1 = (Numerator 1/Denominator)\*100
- Rate 2 = (Numerator 2/Denominator) \*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. Note that while the state should use a 48 month look-back period when calculating the numerator, the continuous enrollment criterion only applies to the 12 months prior to the 10th birthdate. A state can use data from the 48 month look-back period even if the child is intermittently enrolled during that time.

permanent first molars before all four permanent first molars receive a dental sealant, this child will count toward the denominator of rate 2 but will never count toward the numerator (all four permanent first molars sealed).

## 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 technical specifications for the SFM-CH measure are in the FFY 2022 Child Core Set Resource Manual, available at <https://www.medicaid.gov/medicaid/quality-of-care/downloads/medicaid-and-chip-child-core-set-manual.pdf>.
- The FFY 2022 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-2022-child-core-set-measurement-periods.pdf>.
- The FFY 2022 Child, Adult, and Health Home Core Set Reporting: Data Quality Checklist for States contains additional guidance to help states improve the completeness, accuracy, consistency, and documentation of the data reported, and is available at <https://www.medicaid.gov/medicaid/quality-of-care/downloads/child-adult-healthhomes-data-quality-checklist.pdf>.
- The DQA User Guide is available at [https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/dqa/dental-quality-measures/2022-measures/2022\\_dqa\\_pediatric\\_measures\\_user\\_guide.pdf?rev=fc85a47aa4234867845bb3d079371843&hash=F8584FD8DA7AFF7F8C2D7AD66ECB77FC](https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/dqa/dental-quality-measures/2022-measures/2022_dqa_pediatric_measures_user_guide.pdf?rev=fc85a47aa4234867845bb3d079371843&hash=F8584FD8DA7AFF7F8C2D7AD66ECB77FC).

- Sample programming code is available on request from the TA mailbox at [MACQualityTA@cms.hhs.gov](mailto:MACQualityTA@cms.hhs.gov). The code should be customized to the state's administrative data system.

Additional Child Core Set resources are available at: <https://www.medicaid.gov/medicaid/quality-of-care/performance-measurement/adult-and-child-health-care-quality-measures/child-core-set-reporting-resources/index.html>.

### 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](mailto:MACQualityTA@cms.hhs.gov).