

****Please read the DQA Measures User Guide prior to implementing this measure.****

DQA Measure Technical Specifications: Administrative Claims-Based Measures Preventive Services for Children

Description: Percentage of children who received a topical fluoride application and/or sealants within the reporting year

Numerator: Unduplicated number of children who received a topical fluoride application and/or sealants as (a) dental OR oral health services (NUM1), (b) dental services (NUM2), and (c) oral health services (NUM3)

Denominator: Unduplicated number of children

Rates: NUM1/DEN; NUM2/DEN; NUM3/DEN

Rationale: Dental caries is one of the most common chronic diseases in children in the United States (1). For 2015–2016, prevalence of total caries (untreated and treated) was 45.8% and untreated caries was 13.0% among youth aged 2–19 years (2). Identifying caries early is important to reverse the disease process, prevent progression of caries, and reduce incidence of future lesions. In 2014, 52% of all children and 60% of poor children (FPL<100%) did not have a dental visit during the year (3). Evidence-based Clinical Recommendations recommend that sealants should be placed on pits and fissures of children’s primary and permanent teeth (4) and topical fluoride is dose-dependent and should be applied every three to six months, based on risk for dental caries (5, 6).

1. Centers for Disease Control and Prevention. Cavities (Tooth Decay). Available at: <https://www.cdc.gov/oralhealth/conditions/index.html>. Accessed August 29, 2022.
2. Fleming E, Afful J. Prevalence of total and untreated dental caries among youth: United States, 2015–2016. NCHS Data Brief, no 307. Hyattsville, MD: National Center for Health Statistics. 2018.
3. Nasseh K, Vujcic M. Dental care utilization steady among working-age adults and children, up slightly among the elderly. Health Policy Institute Research Brief. American Dental Association. October 2016. Available from: https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/hpibrief_1016_1.pdf. Accessed August 29, 2022.
4. J.T. Wright, J.J. Crall, M. Fontana, E.J. Gillette, B.B. Nový, V. Dhar, K. Donly, E.R. Hewlett, R.B. Quinonez, J. Chaffin, M. Crespín, T. Iafolla, M.D. Siegal, M.P. Tampi, L. Graham, C. Estrich, A. Carrasco-Labra Evidence-based clinical practice guideline for the use of pit-and-fissure sealants: a report of the American Dental Association and the American Academy of Pediatric Dentistry J. Am. Dent. Assoc., 147 (2016), pp. 672-682e12
5. Weyant RJ, Tracy SL, Anselmo TT, Beltrán-Aguilar ED, et al; American Dental Association Council on Scientific Affairs Expert Panel on Topical Fluoride Caries Preventive Agents. Topical fluoride for caries prevention: executive summary of the updated clinical recommendations and supporting systematic review. J Am Dent Assoc. 2013 Nov;144(11):1279-91.
6. U.S. Preventive Services Task Force. Final Recommendation Statement. Prevention of Dental Caries in Children Younger than 5 Years: Screening and Interventions. December 7, 2021 <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/prevention-of-dental-caries-in-children-younger-than-age-5-years-screening-and-interventions1>. Accessed August 29, 2022.

AHRQ Domain: Use of Services¹

IOM Aim: Equity, Effectiveness

Level of Aggregation: Health Plan/Program

¹ **Use of Services (Related Healthcare Delivery Measure):** "Use of services is the provision of a service to, on behalf of, or by a group of persons identified by enrollment in a health plan or through use of clinical services. Use of service measures can assess encounters, tests, or interventions that are not supported by evidence for the appropriateness of the service for the specified individuals." National Quality Measures Clearinghouse. Available at: <https://www.ahrq.gov/gam/summaries/domain-definitions/index.html>. Accessed August 29, 2022.

Improvement Noted As: In general, a higher score indicates better performance. Contextual information relating to the overall health status of the population is also useful in interpreting measure scores. The measure can also be very useful longitudinally to monitor change over time for a particular program or plan.

Data Required: Administrative enrollment and claims data; single year for measurement. When using claims data to determine service receipt, include both paid and unpaid claims (including pending, suspended, and denied claims).

Measure purpose: Examples of questions that can be answered through this measure at each level of aggregation:

1. What percentage of children receive any topical fluoride or sealants?
2. Does the percentage of children who receive any topical fluoride or sealants vary by any of the stratification variables?
3. Are there disparities in the receipt of topical fluoride or sealants among different groups based on the stratification variables?
4. Over time, does the percentage of children who receive topical fluoride or sealants stay stable, increase or decrease?

Applicable Stratification Variables (Optional: Contact Program Official to determine reporting requirement)

1. Age (e.g., <1; 1-2; 3-5; 6-7; 8-9; 10-11; 12-14; 15-18; 19-20)
2. Risk (low risk; elevated risk)
3. Payer Type (e.g., Medicaid; CHIP; private commercial benefit programs)
4. Program/Plan Type (e.g., traditional FFS; PPO; prepaid dental/DHMO)
5. Geographic Location (e.g., rural; suburban; urban)
6. Race
7. Ethnicity
8. Socioeconomic Status (e.g., premium or income category)

Measure Limitations:

- *CDT codes do not distinguish between fluoride gel and fluoride foam. This measure assumes that all modes of topical fluoride application are equally effective*
- *This measure does not take into account alternate home-use fluoride products including supplements.*
- *This measure will not delineate those whose teeth have not erupted, those who already received sealants in prior years, and those with decayed/filled teeth not candidates for sealants.*
- *Stand-alone dental plans will only be able to report on Numerator 2 ("dental" services).*

Preventive Services (Dental or Oral Health Services) Calculation for Children

1. Check if the subject meets age criterion² at the last day of the reporting year:³
 - a. If age criterion is met, then proceed to next step.
 - b. If age criterion is not met or there are missing or invalid field codes (e.g., birth date), then STOP processing. This subject does not get counted.
2. Check if subject is continuously enrolled for at least 180 days during the reporting year:⁴
 - a. If subject meets continuous enrollment criterion, then proceed to next step.
 - b. If subject does not meet enrollment criterion, then STOP processing. This subject does not get counted.

YOU NOW HAVE THE DENOMINATOR (DEN): SUBJECTS WHO MEET THE AGE AND ENROLLMENT CRITERIA

3. Check if subject received topical fluoride or a sealant as a **dental or oral health service** during the reporting year:
 - a. If [SERVICE CODE] = CDT D1206 or CDT D1208⁵ or CPT 99188⁶ or CDT D1351, then include in [numerator 1](#); proceed to next step.
 - b. If a is not met, then STOP processing. This subject is already included in the denominator but will not be included in numerator 1.

Note: In this step, all **claims** with missing or invalid SERVICE CODE should be excluded.

YOU NOW HAVE NUMERATOR 1 (NUM1) COUNT: Subjects who received a preventive service as a dental or oral health service

² **Age:** Medicaid/ CHIP programs use under age 21 (<21); Exchange quality reporting use under age 19 (<19); other programs check with program officials. This criterion should be reported with the measurement score.

³ **Medicaid/CHIP programs should exclude those individuals who do not qualify for dental benefits.** The exclusion criteria should be reported along with the number and percentage of members excluded.

⁴ **Enrollment in "same" plan vs. "any" plan:** At the **state** program level (e.g., Medicaid/CHIP) a criterion of "**any**" plan applies versus at the **health plan** (e.g., MCO) level a criterion of "**same**" plan applies. The criterion used should be reported with the measure score. While this prevents direct aggregation of results from plan to program, each entity is given due credit for the population it serves. Thus, states with multiple MCOs should not merely "add up" the plan level scores but should calculate the state score from their database to allow inclusion of individuals who may be continuously enrolled but might have switched plans in the interim.

⁵ **Topical Fluoride codes:** For reporting years prior to 2013, use CDT codes D1203 or D1204 or D1206.

⁶ **Services provided by medical providers:** CPT 99188 is a dedicated code for "application of topical fluoride varnish by a physician or other qualified health care professional."

4. Check if subject received topical fluoride or a sealant as a **dental service**⁷ during the reporting year:
 - a. If [CDT CODE] = D1206 or D1208⁸ or D1351, AND
 - b. If [RENDERING PROVIDER TAXONOMY] code = any of the NUCC maintained Provider Taxonomy Codes in Table 1 below, then include in [numerator 2](#); proceed to next step.⁹
 - c. If both a AND b are not met, then the service was not a “dental service”; STOP processing. This subject is already included in the denominator but will not be included in the numerator.

Note: In this step, all **claims** with missing or invalid SERVICE CODE or with missing or invalid NUCC maintained Provider Taxonomy Codes should be excluded.

YOU NOW HAVE NUMERATOR 2 (NUM 2) COUNT: Subjects who received a preventive service as a dental service

5. Check if subject received topical fluoride or a sealant as an **oral health service** during the reporting year:
 - a. If [SERVICE CODE] = CDT D1206 or CDT D1208¹⁰ or CPT 99188¹¹ or CDT D1351 AND
 - b. If [RENDERING PROVIDER TAXONOMY] code is a valid NUCC maintained Provider Taxonomy code but NOT included in the NUCC maintained Provider Taxonomy Codes in Table 1 below, then include in [numerator 3](#); proceed to next step.¹²
 - c. If both a AND b are not met, then the service was not an “oral health” service; STOP processing. This subject is already included in the denominator but will not be included in numerator 3.

Note: In this step, all **claims** with missing or invalid SERVICE CODE or with missing or invalid NUCC maintained Provider Taxonomy Codes should be excluded.

YOU NOW HAVE NUMERATOR (NUM3) COUNT: Subjects who received a preventive service as an oral health service

6. Report
 - a. Unduplicated count of subjects in denominator (DEN)
 - b. Unduplicated count of subjects in NUM1
 - c. Unduplicated number of subjects in NUM2
 - d. Unduplicated number of subjects in NUM3
 - e. Measure rate (NUM 1/DEN)
 - f. Measure rate (NUM2/DEN)
 - g. Measure rate (NUM3/DEN)
 - h. Rate stratified by age
 - i. Rate stratified by caries risk

⁷ Stand-alone dental plans and other commercial dental plans will only be able to report on numerator 2.

⁸ **Topical Fluoride codes:** For reporting years prior to 2013, use D1203 or D1204 or D1206.

⁹ **Identifying “dental” services:** Programs and plans that do not use standard NUCC maintained provider taxonomy codes should use a valid mapping to identify providers whose services would be categorized as “dental” services. Stand-alone dental plans that reimburse ONLY for services rendered by or under the supervision of the dentist can consider all claims as “dental” services.

¹⁰ **Topical Fluoride codes:** For reporting years prior to 2013, use CDT codes D1203 or D1204 or D1206.

¹¹ **Services provided by medical providers:** CPT 99188 is a dedicated code for “application of topical fluoride varnish by a physician or other qualified health care professional.”

¹² **Identifying “dental” services:** Programs and plans that do not use standard NUCC maintained provider taxonomy codes should use a valid mapping to identify providers whose services would be categorized as “dental” services. Stand-alone dental plans that reimburse ONLY for services rendered by or under the supervision of the dentist can consider all claims as “dental” services.

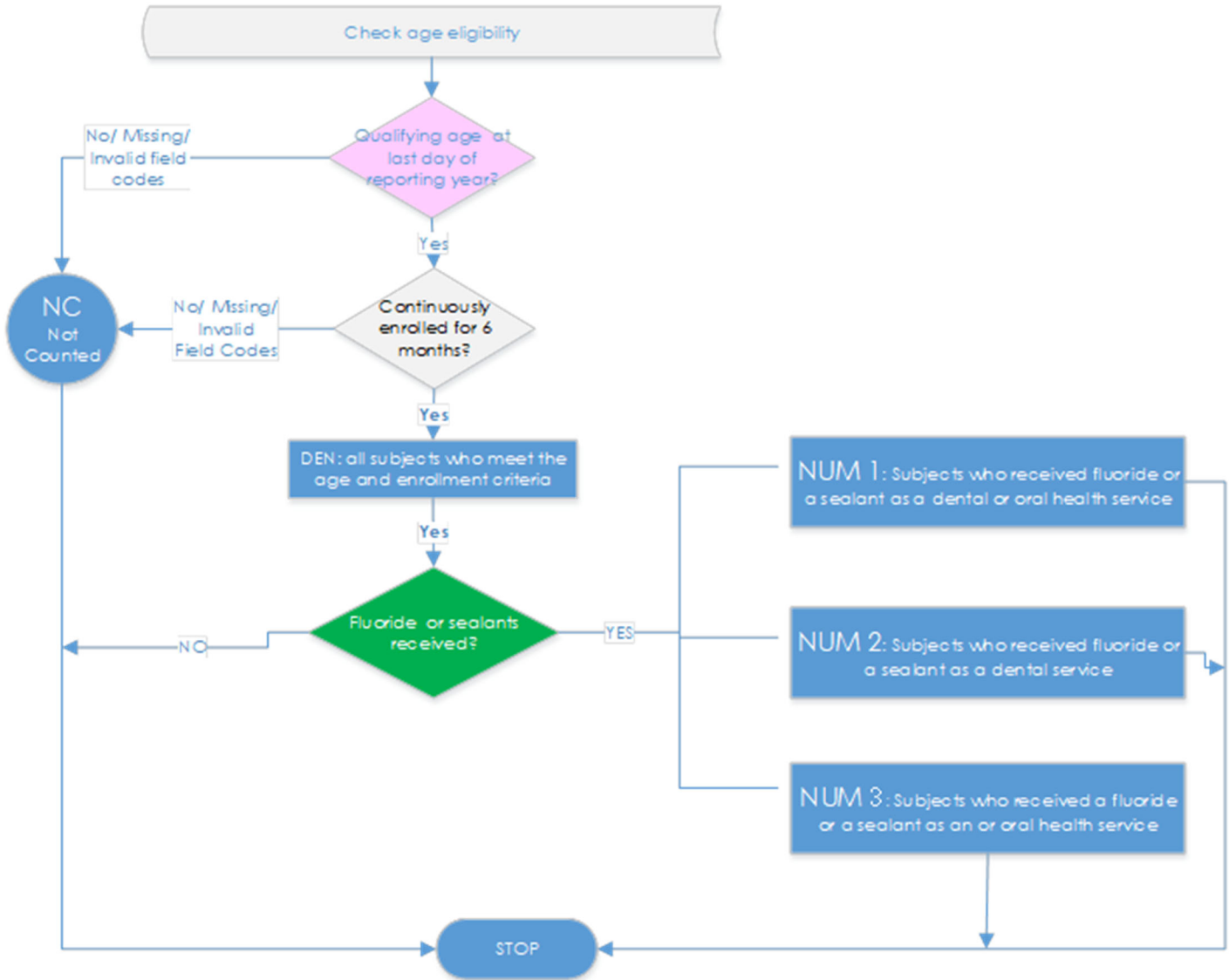
Table 1: NUCC maintained Provider Taxonomy Codes classified as “Dental Service”*

122300000X	1223P0106X	1223X0008X	125Q00000X	126800000X
1223D0001X	1223P0221X	1223X0400X	261QF0400X	261QD0000X
1223D0004X	1223P0300X	124Q00000X+	261QR1300X	204E00000X
1223E0200X	1223P0700X	125J00000X	1223X2210X	261QS0112X
1223G0001X	1223S0112X	125K00000X	122400000X	

*Services provided by County Health Department dental clinics may also be included as “dental” services.

+Only dental hygienists who provide services under the supervision of a dentist should be classified as “dental” services. Services provided by independently practicing dental hygienists should be classified as “oral health” services and are not applicable to this measure.

*** Note: Reliability of the measure score depends on the quality of the data that are used to calculate the measure. The percentages of missing and invalid data for these data elements must be investigated prior to measurement. Data elements with high rates of missing or invalid data will adversely affect the subsequent counts that are recorded. For example, records with missing or invalid CDT CODE to identify topical fluoride or sealants may be counted in the denominator but not in the numerator. These records are assumed to not have had a qualifying service. In this case, a low quality data set will result in a measure score that will not be reliable.***



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