

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

## DQA Measure Technical Specifications: Administrative Claims-Based Measures Preventive Services for Children at Elevated Caries Risk, Dental Services

**Description:** Percentage of children who are at “elevated” risk (i.e., “moderate” or “high”) who received a topical fluoride application and/or sealants within the reporting year  
**Numerator:** Unduplicated number of children at “elevated” risk (i.e., “moderate” or “high”) who received a topical fluoride application and/or sealants as a dental service  
**Denominator:** Unduplicated number of children at “elevated” risk (i.e., “moderate” or “high”)  
**Rate:** NUM/DEN

**Rationale:** Dental caries is the most common chronic disease 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. Approximately three quarters of children younger than age 6 years did not have at least one visit to a dentist in the previous 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 should be applied at least every three to six months in children at elevated risk for caries (5).

- Centers for Disease Control and Prevention. Hygiene-related diseases: dental caries. Updated September 22, 2016 Available at: [http://www.cdc.gov/healthywater/hygiene/disease/dental\\_caries.html](http://www.cdc.gov/healthywater/hygiene/disease/dental_caries.html). Accessed April 2<sup>nd</sup>, 2019.
- 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.
- Edelstein BL, Chinn CH. Update on disparities in oral health and access to dental care for America’s children. *Acad Pediatr.* 2009;9(6):415-9. PMID: 19945076
- 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. Crespin, 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
- 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.

**AHRQ Domain:** Use of Services<sup>1</sup>

**IOM Aim:** Equity, Effectiveness

**Level of Aggregation:** Health Plan/Program

**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.

<sup>1</sup> **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: <http://www.qualitymeasures.ahrq.gov/about/domain-definitions.aspx>. Accessed August 10, 2015.

**Data Required:** Administrative enrollment and claims data; single year for measurement (prior 3 years needed for risk determination). 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 at elevated risk for dental caries receive any topical fluoride or sealants?
2. Does the percentage of children at elevated caries risk 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. Payer Type (e.g., Medicaid; CHIP; private commercial benefit programs)
3. Program/Plan Type (e.g., traditional FFS; PPO; prepaid dental/DHMO)
4. Geographic Location (e.g., rural; suburban; urban)
5. Race
6. Ethnicity
7. 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.*
- *Some codes (i.e., a few endodontic codes) are included to identify children at elevated risk may also be reported for instances such as trauma and may contribute to some overestimation of children at "elevated risk."*
- *Since the "elevated risk" determination requires an evaluation (to record CDT risk code) or treatment visit (to record a CDT treatment code), children who are enrolled but do not have a visit in the reporting year or a treatment visit in any of the prior three years will not have sufficient information to be included in the measure. While this is a limitation, the intent of this measure is to seek to understand whether children who can be positively identified as being at elevated risk receive the recommended preventive services.*

## Preventive Services (Dental Services) Calculation for Children at Elevated Caries Risk

1. Check if the subject meets age criterion<sup>2</sup> at the last day of the reporting year:<sup>3</sup>
  - 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:<sup>4</sup>
  - 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 COUNT OF THOSE WHO MEET THE AGE AND ENROLLMENT CRITERIA

3. Check if subject is at “elevated risk”:
  - a. If subject meets ANY of the following criteria, then include in **denominator**:
    - i. the subject has a CDT Code among those in Table 1 in the reporting year,  
OR
    - ii. the subject has a CDT Code among those in Table 1 in any of the three years prior to the reporting year, (**NOTE:** The subject does not need to be enrolled in any of the prior three years for the denominator enrollment criteria; this is a “look back” for subjects who do have claims experience in any of the prior three years.)  
OR
    - iii. the subject has a visit with a CDT code = (D0602 or D0603) in the reporting year.
  - b. If the subject does not meet any of the above criteria for elevated risk, then STOP processing. This subject will not be included in the measure denominator.

### YOU NOW HAVE THE DENOMINATOR: Subjects who are at “elevated risk”

4. Check if subject received topical fluoride or a sealant as dental service during the reporting year:
  - a. If [CDT CODE] = D1206 or D1208<sup>5</sup> or D1351, AND
  - b. If [RENDERING PROVIDER TAXONOMY] code = any of the NUCC maintained Provider Taxonomy Codes in Table 2 below, then include in **numerator**; proceed to next step.<sup>6</sup>
  - 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.

---

<sup>2</sup> **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.

<sup>3</sup> **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.

<sup>4</sup> **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.

<sup>5</sup> **Topical Fluoride codes:** For reporting years prior to 2013, use D1203 or D1204 or D1206.

<sup>6</sup> **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.

**Note:** In this step, all **claims** with missing or invalid CDT CODE, missing or invalid NUCC maintained Provider Taxonomy Codes, or NUCC maintained Provider Taxonomy Codes that do not appear in Table 2 should not be included in the numerator.

**YOU NOW HAVE NUMERATOR (NUM) COUNT: Subjects at “elevated risk” who received a preventive service as a dental service**

5. Report
  - a. Unduplicated count of subjects in numerator
  - b. Unduplicated count of subjects in each denominator
  - c. Measure rate (NUM/DEN)

**Table 1: CDT Codes to identify “elevated risk”**

D1352	D2392	D2610	D2710	D2782	D2940	D3330
D1354	D2393	D2620	D2712	D2783	D2941	
D2140	D2394	D2630	D2720	D2790	D2950	
D2150	D2410	D2642	D2721	D2791	D3110	
D2160	D2420	D2643	D2722	D2792	D3120	
D2161	D2430	D2644	D2740	D2794	D3220	
D2330	D2510	D2650	D2750	D2799	D3221	
D2331	D2520	D2651	D2751	D2930	D3222	
D2332	D2530	D2652	D2752	D2931	D3230	
D2335	D2542	D2662	D2753	D2932	D3240	
D2390	D2543	D2663	D2780	D2933	D3310	
D2391	D2544	D2664	D2781	D2934	D3320	

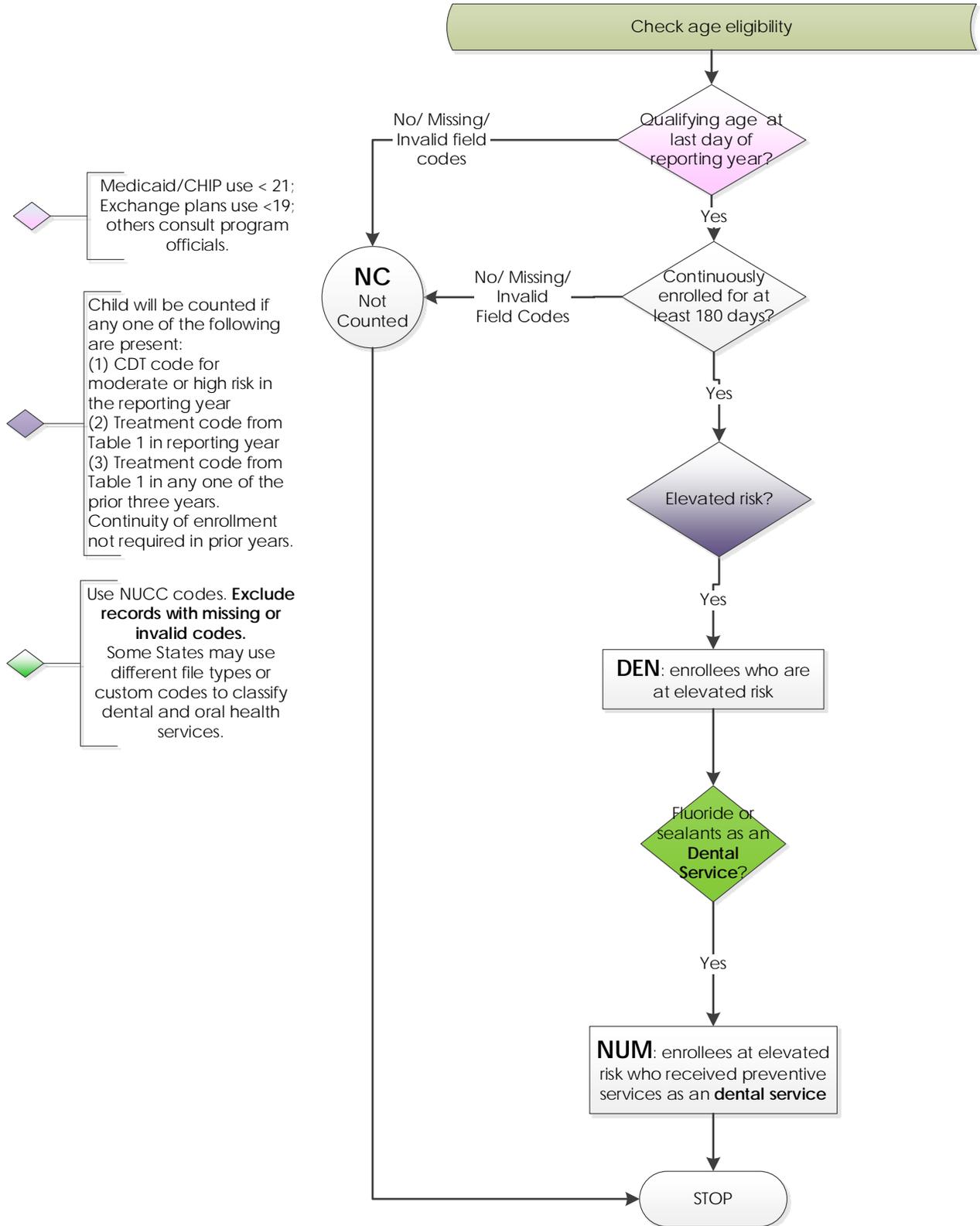
**Table 2: NUCC maintained Provider Taxonomy Codes classified as “Dental Service”\***

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

\*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.\*\*\*



2021 American Dental Association on behalf of the Dental Quality Alliance (DQA) ©. All rights reserved. Use by individuals or other entities for purposes consistent with the DQA's mission and that is not for commercial or other direct revenue generating purposes is permitted without charge.

Dental Quality Alliance Measures (Measures) and related data specifications, developed by the Dental Quality Alliance (DQA), are intended to facilitate quality improvement activities. These Measures are intended to assist stakeholders in enhancing quality of care. These performance Measures are not clinical guidelines and do not establish a standard of care. The DQA has not tested its Measures for all potential applications. Measures are subject to review and may be revised or rescinded at any time by the DQA. The Measures may not be altered without the prior written approval of the DQA. The DQA shall be acknowledged as the measure steward in any and all references to the measure. Measures developed by the DQA, while copyrighted, can be reproduced and distributed, without modification, for noncommercial purposes. Commercial use is defined as the sale, license, or distribution of the Measures for commercial gain, or incorporation of the Measures into a product or service that is sold, licensed or distributed for commercial gain. Commercial uses of the Measures require a license agreement between the user and DQA. Neither the DQA nor its members shall be responsible for any use of these Measures.

THE MEASURES ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND

Limited proprietary coding is contained in the Measure specifications for convenience.

For Proprietary Codes:

The code on Dental Procedures and Nomenclature is published in Current Dental Terminology (CDT), Copyright © 2020 American Dental Association (ADA). All rights reserved.

This material contains National Uniform Claim Committee (NUCC) Health Care Provider Taxonomy codes ([http://www.nucc.org/index.php?option=com\\_content&view=article&id=14&Itemid=125](http://www.nucc.org/index.php?option=com_content&view=article&id=14&Itemid=125)). Copyright © 2020 American Medical Association. All rights reserved.

Users of the proprietary code sets should obtain all necessary licenses from the owners of these code sets. The DQA, American Dental Association (ADA), and its members disclaim all liability for use or accuracy of any terminologies or other coding contained in the specifications.

THE SPECIFICATIONS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND.