**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 enrolled 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 enrolled 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). In 2009–2010, 14% of children aged 3–5 years had untreated dental caries. Among children aged 6–9 years, 17% had untreated dental caries, and among adolescents aged 13–15, 11% had untreated dental caries (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 when it is determined that the tooth, or the patient, is at risk of experiencing caries (4). Evidence-based Clinical Recommendations suggest that topical fluoride should be applied at least every three to six months in children at elevated risk for caries (5).


**AHRQ Domain:** Use of Services

**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.

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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: 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 enrollee meets age criterion 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 enrollee 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 enrollee 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”:3
   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 enrollees 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 enrollee will not be included in the measure denominator.

YOU NOW HAVE THE DENOMINATOR: Enrollees 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 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.6
   c. If both a AND b are not met, then the service was not a “dental service”; STOP processing. This enrollee is already included in the denominator but will not be included in the numerator.

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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 D1203 or D1204 or D1206.
6 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: Enrollees at “elevated risk” who received a preventive service as a dental service

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

Table 1: CDT Codes to identify “elevated risk”

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

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</table>

*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.***
Check age eligibility

Medicaid/CHIP use < 21; Exchange plans use < 19; others consult program officials.

Child will be counted if any one of the following are present:
1. CDT code for moderate or high risk in the reporting year
2. Treatment code from Table 1 in reporting year
3. Treatment code from Table 1 in any one of the prior three years.
Continuity of enrollment not required in prior years.

Use NUCC codes. Exclude records with missing or invalid codes. Some States may use different file types or custom codes to classify dental and oral health services.

No/ Missing/Invalid Field Codes

Qualifying age at last day of reporting year?

Yes

Continuously enrolled for at least 180 days?

Yes

Elevated risk?

Yes

DEN: enrollees who are at elevated risk

Fluoride or sealants as a Dental Service?

Yes

NUM: enrollees at elevated risk who received preventive services as a dental service

STOP
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