

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

## DQA Measure Technical Specifications: Administrative Claims-Based Measures

### Caries Risk Documentation

**Description:** Percentage of enrolled children under age 21 years who have caries risk documented in the reporting year

**Numerator:** Unduplicated number of children with caries risk documented

**Denominator:** Unduplicated number of enrolled children under age 21 years

**Rate:** NUM/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). Caries risk assessment is the determination of the likelihood of the incidence of caries (i.e., the number of new cavitated or incipient lesions) during a certain time period (3) or the likelihood that there will be a change in the size or activity of lesions already present (4). Identifying caries early is important to reverse the disease process, prevent progression of caries, and reduce incidence of future lesions (4). The American Academy of Pediatric Dentistry states that “the process of determining risk should be a component in the clinical decision-making process.” (4) The American Dental Association notes: “Systematic methods of caries detection, classification, and risk assessment, as well as prevention/risk management strategies, can help to reduce patient risk of developing advanced disease and may even arrest the disease process” (5). Caries risk assessment is recommended for identifying risk factors and developing individualized care plans for prevention and treatment (4-5).

- 1) Centers for Disease Control and Prevention. Oral Health Conditions: Cavities (Tooth Decay). Available at: <https://www.cdc.gov/oralhealth/conditions/index.html>. Accessed July 27, 2023.
- 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) Reich E, Lussi A, Newbrun E. Caries-risk assessment. *Int Dent J* 1999; 49(1):15-26.
- 4) Council on Clinical Affairs, American Academy of Pediatric Dentistry (2022). Guideline on Caries-Risk Assessment and Management for Infants, Children, and Adolescents. Available at: [http://www.aapd.org/media/policies\\_guidelines/g\\_cariesriskassessment.pdf](http://www.aapd.org/media/policies_guidelines/g_cariesriskassessment.pdf). Accessed July 27, 2023.
- 5) Center for Scientific Information, ADA Science Institute. American Dental Association. (2021) Caries Risk Assessment and Management. Available at: <http://www.ada.org/en/member-center/oral-health-topics/caries-risk-assessment-and-management>. Accessed July 27, 2023.

**National Quality Measures Clearinghouse:** Process<sup>1</sup>

**Institute of Medicine Aim:** Equity, Effectiveness

**National Quality Strategy Priority:** Health and Well-Being

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

<sup>1</sup> **Process (measure type):** A process of care is a health care-related activity performed for, on behalf of, or by a patient. Process measures are supported by evidence that the clinical process—that is the focus of the measure—has led to improved outcomes. These measures are generally calculated using patients eligible for a particular service in the denominator, and the patients who either do or do not receive the service in the numerator. NQMC Measure Domain Definitions. Available at: <https://www.ahrq.gov/gam/summaries/domain-definitions/index.html>. Accessed July 27, 2023.

**Improvement Noted As:** A higher score indicates better quality.

**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 have caries risk documented during the reporting period?

### Applicable Stratification Variables

1. Age: < 1; 1-2; 3-5; 6-7; 8-9; 10-11; 12-14; 15-18; 19-20
2. Payer Type (e.g., Medicaid; 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:

*Although the most commonly used caries-risk assessment tools share common elements, there is no evidence that supports one tool over another. As a result, different providers use different risk assessment tools, combined with clinical judgment, to arrive at a caries risk determination. Despite the limited evidence on the relative effectiveness of caries risk prediction using different assessment tools, professional clinical guidelines recommend that providers conduct caries risk assessment and use that information to develop individualized prevention and treatment care planning. Surveys of dentists find that approximately 30% do not conduct caries risk assessment.<sup>i,ii</sup> A substantial percentage of caries risk assessments are not documented.<sup>ii, iii</sup> Consequently, **this measure is designed for use in quality improvement applications** to support quality improvement efforts around caries risk assessment and documentation. In addition, **this measure is designed only to document that the enrollee received a risk assessment. This measure is not designed to be used to assess the health state of the population or to create population risk profiles.***

- i. Riley JL, 3rd, Qvist V, Fellows JL, Rindal DB, Richman JS, Gilbert GH, Gordan VV, et al. Dentists' use of caries risk assessment in children: Findings from the dental practice-based research network. *Gen Dent.* 2010;58(3):230-4.
- ii. Fontana M, Zero DT. Assessing Patients' Caries Risk. *J Am Dent Assoc.* 2006; 137(9):1231-9.
- iii. Trueblood R, Kerins, CA, Seale NS. Caries risk assessment practices among Texas pediatric dentists. *Pediatr Dent.* 2008;30(1):49-53.

## Caries Risk Documentation Calculation

1. Check if the enrollee meets age criterion at the last day of the reporting year:<sup>2</sup>
  - a. If child is <21 years,<sup>3</sup> then proceed to next step.
  - b. If age criterion is not met or there are missing or invalid field codes (e.g., date of birth), then STOP processing. This enrollee is not counted in the denominator.
2. Check if subject is continuously enrolled for at least 180 days in the reporting year:<sup>4</sup>
  - a. If subject meets continuous enrollment criterion, then include in **denominator**; proceed to next step.
  - b. If subject does not meet enrollment criterion, then STOP processing. This enrollee is not counted in the denominator.

### YOU NOW HAVE THE DENOMINATOR (DEN) COUNT: Subjects who meet the age and enrollment criteria

3. Check if subject has caries risk documented during the reporting year:
  - a. If [CDT CODE] = D0601 or D0602 or D0603, then include in the **numerator**; 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 the numerator.

**Note:** All **claims** with missing or invalid CDT CODE, should not be included in the numerator.

### YOU NOW HAVE THE NUMERATOR (NUM) COUNT: Subjects who have caries risk documented

4. Report
  - a. Unduplicated number of subjects in numerator
  - b. Unduplicated number of subjects in denominator
  - c. Measure rate (NUM/DEN)
  - d. Rate stratified by age

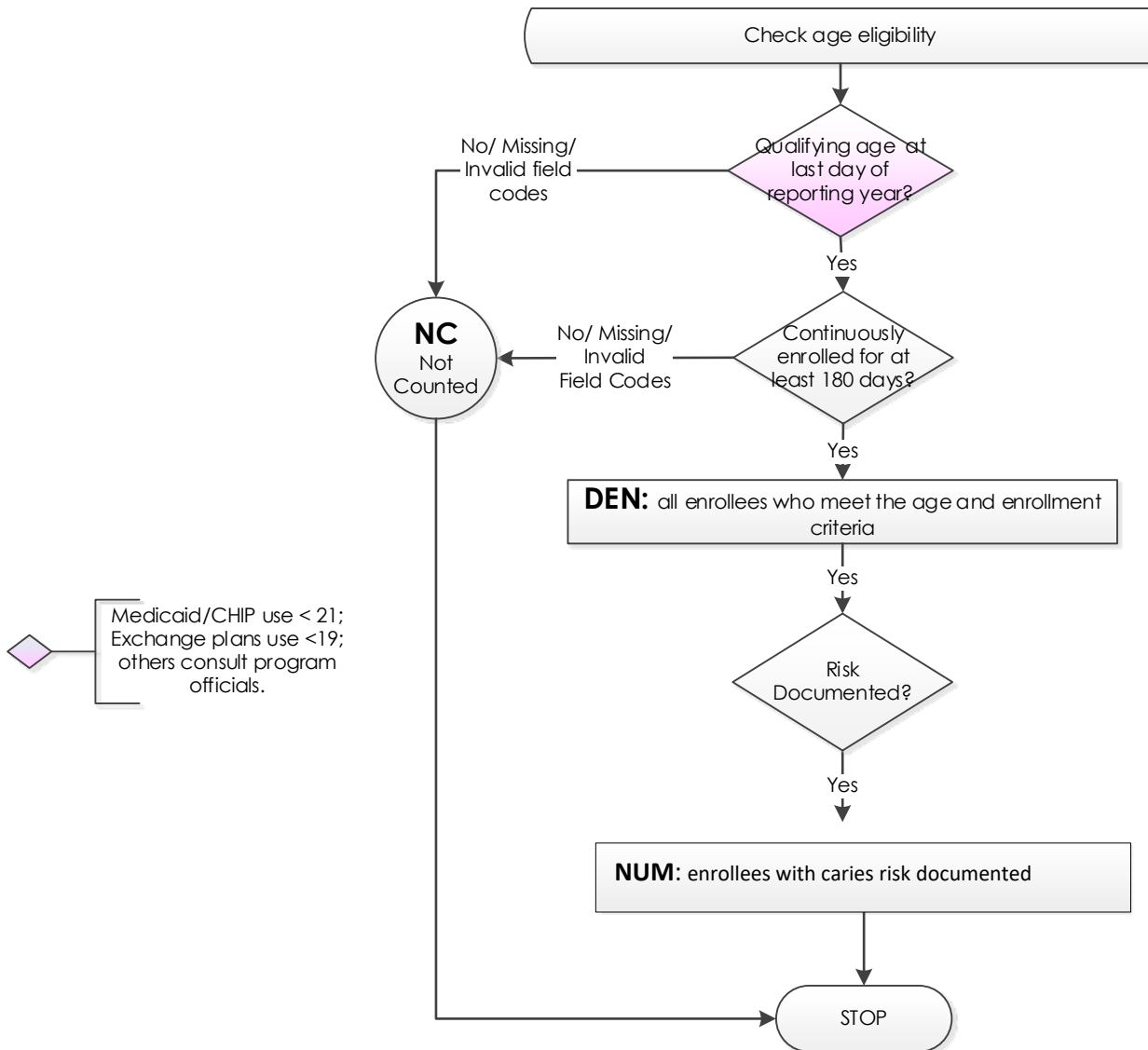
\*\*\* Note: Note: Reliability of the measure score depends on the quality of the data elements that are used to calculate the measure. The percentage of missing or invalid data for each data element used to calculate the measure must be investigated prior to measurement. Data elements with high rates of missing or invalid data will adversely affect the subsequent counts that are recorded. For example, subjects who have records with missing or invalid CDT CODE to identify caries risk documentation 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 low measure score and will not be reliable.\*\*\*

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<sup>2</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>3</sup> **Age:** programs use under age 21 (< 21); Exchange quality reporting use under age 19 (<19); other programs check with program officials. The age criterion should be reported with the measure score .

<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.



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