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Dental Quality Alliance
User Guide for Pediatric Measures Calculated Using
Administrative Claims Data

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1. Background

A. Measure Development

The [Dental Quality Alliance \(DQA\)](#) was formed in 2010 as a multi-stakeholder group to advance oral healthcare performance measurement. The DQA develops aligned, standardized, and validated measures that can be applied in the public and private sectors. DQA Measures include oral healthcare access, process, and outcomes quality measures and related healthcare delivery measures (e.g., utilization and cost of care). Measures developed by the DQA undergo rigorous validation.¹

DQA Measures can be used to:

1. uniformly assess evidence-based quality of care across reporting entities;
2. inform performance improvement projects longitudinally and monitor improvements in care;
3. identify variations in care;
4. develop benchmarks for comparison; and
5. uniformly assess utilization of care.

This User Guide should be reviewed before implementing the administrative claims-based DQA Pediatric Measures designed for use by public programs (e.g., Medicaid and CHIP), state marketplaces, dental benefits administrators (DBAs), and managed care organizations (MCOs). DQA Measures have been formally adopted by the Centers for Medicare and Medicaid Services (CMS), the Health Services and Resources Administration (HRSA), state Medicaid programs, and state Marketplaces.²⁻⁴

B. DQA Measures Summary

Table 1 summarizes validated DQA administrative claims-based pediatric measures as of September 1st, 2021. Detailed specifications are available on the [DQA website](#).⁵ Information on measures currently in development also is available on the [DQA website](#).⁶ DQA measures are reviewed on an annual basis with new versions effective January 1st of each year. This User Guide is updated on the same schedule.

The DQA's initial measure set ("Starter Set"), Dental Caries in Children: Prevention and Disease Management, was approved by the DQA and published in July 2013. These measures were developed for implementation with administrative enrollment and claims data for plan and program level reporting. Two measures of ambulatory care sensitive emergency department visits among children for reasons related to dental caries and subsequent follow-up with a dental provider also were developed for implementation with administrative enrollment and claims data for program level reporting. DQA measures have been endorsed by the National Quality Forum (NQF).

Two measure concepts from the Starter Set that were developed for implementation with electronic health records (EHRs) were approved by the DQA and published in the United States Health Information Knowledgebase in October 2014.^{7,8} For questions on eMeasures, contact the DQA at dqa@ada.org.

C. Measure Specification Updates

The DQA has an annual measure review and maintenance process that includes a 30-day public comment period. The annual measure review reports are available on the [DQA website](#).⁶

Measure specification updates made according to the 2021 annual measure review are summarized in [Appendix 1](#).

Table 1. DQA Administrative Claims-Based PROGRAM and PLAN level Pediatric Measures Summary†

Evaluating Utilization

Measure Abbreviation	Measure Name	Description	NQF #	Data Source	Measure Domains	Level(s) of Measurement
UTL-CH-A	Utilization of Services	Percentage of children under age 21 who received at least one dental service within the reporting year	2511	Administrative enrollment and claims	Access/ Process	Program, Plan
PRV-CH-A	Preventive Services for Children	Percentage of children who received a topical fluoride application and/or sealants within the reporting year		Administrative enrollment and claims	Related Health Care Delivery: Use of Services	Program, Plan
TRT-CH-A	Treatment Services	Percentage of children who received a treatment service within the reporting year		Administrative enrollment and claims	Related Health Care Delivery: Use of Services	Program, Plan
CRD-CH-A	Caries Risk Documentation	Percentage of children under age 21 years who have caries risk documented in the reporting year		Administrative enrollment and claims	Process	Program, Plan

Evaluating Quality of Care

Measure Abbreviation	Measure Name	Description	NQF #	Data Source	Measure Domains	Level of Measurement
OEV-CH-A	Oral Evaluation	Percentage of children under age 21 who received a comprehensive or periodic oral evaluation within the reporting year	2517	Administrative enrollment and claims	Process	Program, Plan
TFL-CH-A	Topical Fluoride for Children	Percentage of children aged 1 through 20 years who received at least 2 topical fluoride applications within the reporting year	2528	Administrative enrollment and claims	Process	Program, Plan
SFM-CH-A	Sealant Receipt on Permanent 1st Molar	Percentage of enrolled children, who have ever received sealants on a permanent first molar tooth: (1) at least one sealant and (2) all four molars sealed by 10th birthdate		Administrative enrollment and claims	Process	Program, Plan

SSM-CH-A	Sealant Receipt on Permanent 2 nd Molar	Percentage of enrolled children, who have ever received sealants on a permanent second molar tooth: (1) at least one sealant and (2) all four molars sealed by the 15th birthdate		Administrative enrollment and claims	Process	Program, Plan
CCN-CH-A	Care Continuity	Percentage of children enrolled in two consecutive years who received a comprehensive or periodic oral evaluation in both years		Administrative enrollment and claims	Process	Program, Plan
USS-CH-A	Usual Source of Services	Percentage of children enrolled in two consecutive years who visited the same practice or clinical entity in both years		Administrative enrollment and claims	Access/Process	Program, Plan
EDV-CH-A	Ambulatory Care Sensitive Emergency Department Visits for Dental Caries in Children	Number of emergency department visits for caries-related reasons per 100,000 member months for all children	2689	Administrative enrollment and claims	Outcome	Program
EDF-CH-A	Follow-Up after Emergency Department Visits for Dental Caries in Children	Percentage of ambulatory care sensitive Emergency Department (ED) visits for dental caries among children 0 through 20 years in the reporting period for which the member visited a dentist within (a) 7 days and (b) 30 days of the ED visit	2695	Administrative enrollment and claims	Process	Program

Evaluating Efficiency and Cost

Measure Abbreviation	Measure Name	Description	NQF #	Data Source	Measure Domain	Level of Measurement
CCS-CH-A	Per Member Per Month Cost of Clinical Services	Total amount that is paid on direct provision of care (reimbursed for clinical services) per member per month for all children during the reporting year		Administrative enrollment and claims	Related Health Care Delivery: Efficiency and Cost	Program, Plan

†The detailed specifications can be found on the DQA website at: <https://www.ada.org/resources/research/dental-quality-alliance/dqa-dental-quality-measures>.

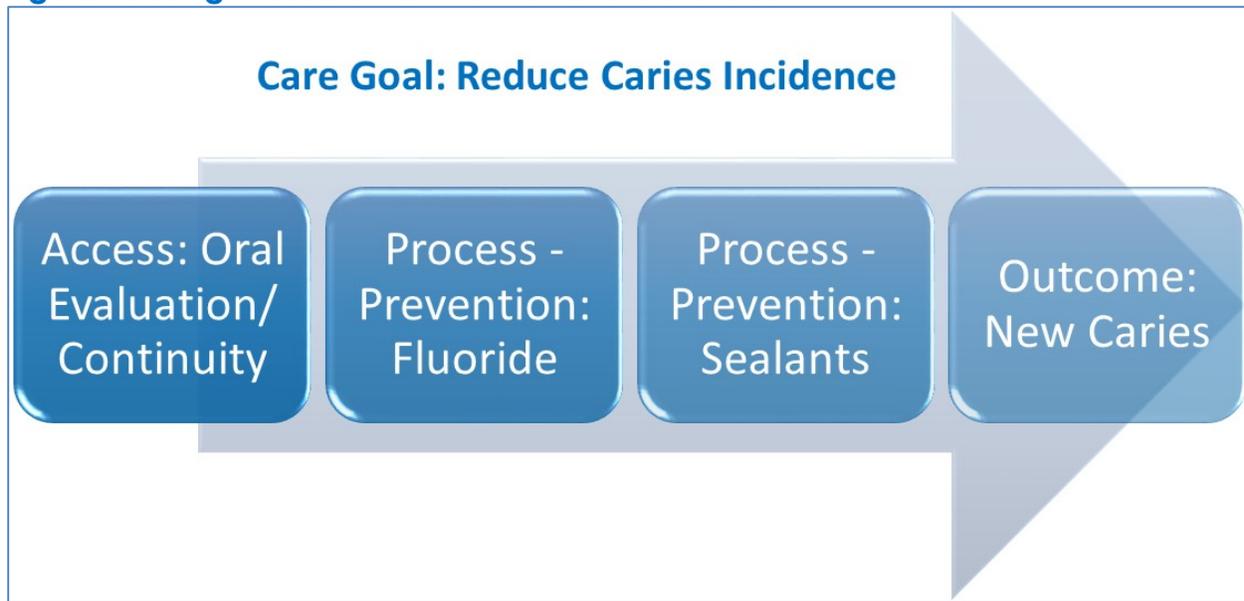
Measure Implementation Considerations

A. Identifying Care Goals and Appropriate Measures

Programs and plans that are considering implementing oral healthcare performance measures should first identify their care goals and then select measures that promote achieving those goals. There is no single “magic” measure. Rather, a set of carefully chosen measures can be used to provide a more complete picture of care, establish baseline performance, identify improvement opportunities, and monitor progress toward achieving the ultimate care goals. A measure set ideally spans the spectrum of access to care, process of care, and outcomes of care measures.

Figure 1 provides a basic illustration of measures that might be included in a measure set focused on the care goal of reducing caries incidence. Receipt of a comprehensive or periodic oral evaluation and continuity of care over time are indicators of **access to care**, or the receipt of timely and appropriate care.⁹ Receipt of professionally applied fluoride and sealants are examples of **process of care** measures – measures that “are supported by evidence that the clinical process” (e.g., fluoride application or sealant placement) “has led to improved outcomes” (e.g., reduction in caries).⁹ Measuring the incidence of new caries is an example of an **outcome measure** – “the health state of a patient resulting from health care.”⁹ Outcome measures most directly indicate whether the care goal is being achieved. Access and process of care measures are important indicators of whether patients are receiving evidence-based care that is positively associated with improved health outcomes. Interventions designed to improve outcomes (i.e., achieve the care goal) are frequently targeted towards improving access to and/or processes of care; therefore, it is important to measure access to and processes of care as well as outcomes.

Figure 1: Using Measurement to Achieve Care Goal



A balanced measurement approach that evaluates multiple aspects of care is essential to promoting improved outcomes, understanding disparities, and planning for improved performance. Although it would be ideal to measure all aspects of care, resource constraints may require prioritization. Thus, organizations engaged in oral healthcare performance measurement must first define their care goals and then select an appropriate set of measures for implementation. In addition to selecting measures based on the care goals, measure selection should also take into account the population being measured and the available data sources for measurement.

Quality assessment and performance improvement are ongoing processes, and iterative measurement is essential for identifying, implementing, evaluating, monitoring, and sustaining quality improvement initiatives. Initial measurement can be used to establish baseline performance and to identify potential areas for improvement. Subsequent measurements further inform the identification of performance gaps and disparities in care and can be used to evaluate the effect of improvement efforts and monitor performance over time.

B. Measure Implementation

To implement standardized performance measurement that fosters quality improvement and improved health outcomes, clearly specified, feasible, reliable, and valid measures are required. When standardized measures are implemented across reporting entities, benchmarks can be established, comparisons can be made, and improvement opportunities can be identified.^{10,11} DQA Measures are standardized with detailed specifications and have been validated for feasibility, reliability, usability, and validity. DQA measure specifications are designed such that each measure can be used independently. However, as described above, use of a single measure is not likely to provide a sufficient depiction of care.

Equally important to valid measurement is appropriate implementation of the measures. Measure users should verify that they can feasibly, reliably and validly implement the measures within their own systems of care.¹ This includes assessing the completeness and accuracy of the critical data elements used to calculate the measures, implementing the measures following the detailed measure specifications, and evaluating face validity of the resulting measure scores with individuals who have appropriate local expertise.

Implementing Measures for the Appropriate Reporting Units/Level of Care and Data Sources

Quality of care is assessed at multiple levels, such as practices, MCOs or medical/dental benefits administrators (DBAs), public insurance programs, and public health programs. There often are different measurement considerations at different “levels” of care. The level for which a measure is specified may also be referred to as the “reporting unit.” In addition, different types of data sources (e.g., administrative claims, EHRs, or surveys) have different strengths and limitations. Measure development takes into account both the reporting unit and the data source.

Measures should be reported at the level (e.g., program, plan, or practice) and using the data source (e.g., administrative claims or EHR) for which they were developed and validated. Implementation of measures at different levels or with different data sources than those for which the measure was intended may not be reliable.

Implementing Measures in Accountability Applications

Performance measures are increasingly being used for accountability applications, which include consumer report cards, pay for performance programs, certification, and accreditation.

Before using a measure for accountability purposes, it is strongly recommended that the accountability application be preceded by a period during which reporting entities gain experience with measure implementation, data are collected to establish baseline values, and appropriate benchmarks for comparison and performance goals are identified.

The National Quality Forum advises:

When performance measures are used for accountability applications such as public reporting and pay-for-performance, then purchasers, policymakers and other users of performance measures should assess the potential impact on disadvantaged patient populations and the providers/health plans serving them to identify unintended consequences and to ensure alignment with program and policy goals. Additional actions such as creating peer groups for comparison purposes could be applied. (p. 11)¹²

Incorporating quality measures for accountability applications should be tested using multiple years of measure data to evaluate whether the application achieves the intended goals and whether there are unintended consequences that may undermine quality improvement efforts. It is incumbent upon the users of performance measures to carefully evaluate these impacts prior to implementing the accountability application. Development of benchmarks for quality measures used in any reporting applications should be guided by historical data evaluation for the population being served. When used in pay-for-performance applications, the Medicaid state agency or other organization instituting the program should develop benchmarks using historical data based on the same definition of the measure that the responsible reporting entities (e.g., MCOs, DBAs) will be held accountable to and testing the application prior to implementation. Additionally, benchmarks need to be evaluated for each re-measurement period to avoid undermining the strides in quality improvements.

Implementing measures initially in non-accountability quality improvement initiatives can inform the development of accountability applications. Accountability applications should be considered only after there is experience with measure implementation, careful review and interpretation of the resulting measure rates, and an evaluation of the measure's effectiveness in promoting identified quality improvement and care goals.

3. Data Collection, Preparation, and Reporting for Measures Implemented using Administrative Enrollment and Claims/Encounter Data

A. Defining Reporting Year: Calendar Year versus Federal Fiscal Year

If not otherwise specified, the definition of “reporting year” can be either calendar year (CY) (January 1, 20XX – December 31, 20XX) or federal fiscal year (FFY) (October 1, 20XX through September 30, 20YY). During testing of the DQA Starter Set, the results were similar between these two definitions. Agencies requesting measurement scores should specify the reporting year. The reporting year should be reported with the measurement score. Some measures require data from time periods preceding the reporting year. The measure technical specifications indicate the data collection period required.

B. Level of Measurement/Reporting Unit

Measures using administrative data may be specified for reporting at the program (e.g., Medicaid or CHIP) or plan (e.g., MCO or DBA) level. The technical specifications for each measure specify for which reporting unit the measure was developed and validated. Reporting on the measure for a unit other than that for which the measure was developed may not be reliable.

C. Data Quality

Critical data elements are those without which the measure cannot be calculated (e.g., birth date, date of service, and procedure codes). Stratification data elements are those data elements used for stratification of the measure score by population characteristics (e.g., race, ethnicity, and geographic location). Particularly for critical data elements, reporting entities should identify error thresholds — the maximum percentage of missing or invalid values that will be accepted — prior to adopting a measure. Following guidance from CMS, it is recommended that data element error thresholds be set below 5%.¹³ Reporting entities should have detailed protocols in place for routinely assessing data completeness, accuracy, and quality.

Although reliability and validity of the DQA Measures has been established, ultimate reliability and validity of reported measure scores depend critically on the quality of the data that are used to calculate the measures. The completeness (percentage of missing or invalid values) and

accuracy of all critical data elements should be investigated prior to measurement for the reporting unit and reporting year.

D. Age Eligibility

The technical specifications identify the eligibility criteria for each measure. DQA Measures are developed for alignment and use across public and private sectors. When used for comparisons across Medicaid/CHIP programs, the DQA has defined “children” as individuals aged younger than 21 years (<21 years) to be consistent with Medicaid Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) eligibility. However, if a particular Medicaid or CHIP program has more restrictive age eligibility criteria, the state should include only the ages eligible for program participation in the denominator and indicate the age range used when reporting measures.

When used for reporting within a Health Insurance Marketplace under the Affordable Care Act, plans should include individuals younger than aged 19 years (<19 years) for pediatric measures to be consistent with the age requirements for Essential Dental Benefit coverage.

Entities reporting for other programs or purposes should check with program officials regarding the appropriate age criterion. The age criterion used should be reported with the measurement score.

E. Dental Benefits Eligibility

Many measures are appropriate only for those members eligible for dental benefits. The measure specifications indicate whether enrolled members who are not eligible for dental benefits should be excluded. The number of individuals excluded should be reported.

F. Enrollment Eligibility: Calculating Continuous Enrollment for Reporting at the Plan (“Same” Plan) and Program (“Any” Plan) Levels

Continuous enrollment for measures with 180-day (6-month) enrollment criteria requires that there be no gap in coverage. Continuous enrollment for measures with full-year enrollment criteria allows for a single one-month gap in coverage. At the state program level (e.g., Medicaid or CHIP) a criterion of “any” plan applies when assessing continuous enrollment, whereas at the plan level (e.g., MCO or DBA) a criterion of “same” plan applies. That is, at the program level, all enrollment months are counted regardless of whether the enrollee switched plans during the reporting period; at the plan level, only enrollment months in the particular plan

are counted. The criterion of “any” plan versus “same” plan should be reported with the measure rate. While this prevents direct aggregation of results from plan to program, each entity is given due credit for the population it serves. Thus, programs with multiple MCOs and/or DBAs should not merely “add up” the plan level rates but should calculate the overall program rate (i.e., using the “any” plan criterion) from their databases to allow inclusion of individuals who were continuously enrolled but switched plans during the reporting year. Measure implementers also are encouraged to report the average enrollment duration of all members included in the denominator with the measure rate (total number of months enrolled/total unduplicated members).

G. Paid and Unpaid Claims

The technical specifications for each measure indicate whether only paid claims should be used or whether both paid and unpaid claims (including pending, suspended, and denied claims) should be used. The intent of measures that specify both paid and unpaid claims is to capture whether or not the enrollee received the service that is the focus of the measurement during the reporting period regardless of whether the claim for that service was paid. Paid claims include services covered under a per member per month (PMPM) payment. Only the most recent disposition of adjudicated claims should be used, and implementers should allow for at least three months of claims run-out from the end of the reporting period before calculating the measures. For example, if the reporting period is calendar year 2021, then the measures should not be run before April 1, 2022 to allow sufficient time for claims processing. Implementers should check with program administrators for any requirements related to claims run-out. In the absence of program requirements, implementers should verify that the run-out period is long enough to have sufficiently complete claims for reliable reporting. The claims run-out period should be reported with the measure rate.

H. Identifying Provider Type to Identify “Dental” Services

Note: Stand-alone commercial dental plans that reconcile claims only for dental providers can skip the steps required to check for “dental” services.

Delineating “Dental” vs. “Oral Health” Services

Selected DQA measures include the option to report separate rates for “dental” services and for “oral health” services for reporting entities seeking information on the proportion of services

provided by dental and non-dental providers, respectively. The Code of Federal Regulations¹⁴ defines “dental” services as follows:

§ 440.100 Dental services.

(a) “Dental services” means diagnostic, preventive, or corrective procedures provided by or under the supervision of a dentist in the practice of his profession, including treatment of —

(1) The teeth and associated structures of the oral cavity; and

(2) Disease, injury, or impairment that may affect the oral or general health of the beneficiary.

(b) “Dentist” means an individual licensed to practice dentistry or dental surgery.

Thus, “dental” services refer to oral health services provided by or under the supervision of a dentist, and “oral health” services refer to oral health services not provided by or under the supervision of a dentist.

The Health Care Provider Taxonomy code set maintained by the National Uniform Claim Committee (hereafter referred to as NUCC maintained provider taxonomy codes) can be used to delineate “dental” and “oral health” services.¹⁵ Oral health services rendered by a provider with one of the NUCC maintained provider taxonomy codes in Table 2 below should be categorized as “dental” services. Some states may use custom codes instead of NUCC maintained provider taxonomy codes. The custom codes should be mapped as closely as possible to the NUCC maintained provider taxonomy codes for assignment of “dental” and “oral health” providers.

Note that services provided by a dental hygienist would only be counted as a “dental” service if those services are provided under the supervision of a dentist. Services provided by independently practicing dental hygienists and other such providers would be classified as “oral health” services.ⁱ In cases where the provider is listed as a Federally Qualified Health Center (FQHC) (NUCC Code: 261QF0400X), Rural Health Center (RHC) (NUCC Code: 261QR1300X) or County Health Department, the services would be classified as “dental” services. Qualifying services related to the oral cavity that are billed using CPT codes should be identified as “oral health” services when billed by non-dental providers.

ⁱ Without taxonomy codes that distinguish allied dental professionals practicing independently versus under the supervision of a dentist, administrative claims data may not distinguish whether services are provided under the supervision of a dentist.

“Billing” vs. “Rendering” Provider

For measures that require identification of provider type, provider type classification should be based on the rendering provider (not billing provider) unless otherwise indicated in the specifications. Rendering provider is more likely to capture the individual who actually performed the service. Typically, the claims/encounter database includes both the provider ID (tax ID, NPI, or program assigned ID) as well as the provider type (e.g., using the NUCC maintained provider taxonomy codes). In cases where the provider taxonomy is not available in the claims/encounter database, users should link the provider ID in the claims database to the provider taxonomy in the provider database. When linking to the provider database is necessary to identify the provider taxonomy: if an individual provider ID maps to more than one taxonomy, the service should be counted as a dental service if any of the taxonomies that the provider maps to is within the list presented in Table 2 with the exception of dental hygienist if the dental hygienist is not under the supervision of a dentist. As a last resort, when “rendering” provider information is not available, the billing provider's taxonomy may be used. If the billing provider is used, this should be noted in the performance report.

Table 2: NUCC Maintained Provider Taxonomy Codes

Code	Grouping: Classification	Specialization	Definition
122300000X	Dental Providers: Dentist		A dentist is a person qualified by a doctorate in dental surgery (D.D.S.) or dental medicine (D.M.D.), licensed by the state to practice dentistry, and practicing within the scope of that license. There is no difference between the two degrees: dentists who have a DMD or DDS have the same education. Universities have the prerogative to determine what degree is awarded. Both degrees use the same curriculum requirements set by the American Dental Association's Commission on Dental Accreditation. Generally, three or more years of undergraduate education plus four years of dental school is required to graduate and become a general dentist. State licensing boards accept either degree as equivalent, and both degrees allow licensed individuals to practice the same scope of general dentistry. Additional post-graduate training is required to become a dental specialist.
1223D0001X	Dental Providers: Dentist	Dental Public Health	The science and art of preventing and controlling dental diseases and promoting dental health through organized community efforts. It is that form of dental practice that serves the community as a patient rather than the individual. It is concerned with the dental health education of the public, with applied dental research, and with the administration of group dental care programs as well as the prevention and control of dental diseases on a community basis.
1223D0004X	Dental Providers: Dentist	Dentist Anesthesiologist	A dentist who has successfully completed an accredited postdoctoral anesthesiology residency training program for dentists of two or more years duration, in accord with Commission on Dental Accreditation's Standards for Dental Anesthesiology Residency Programs, and/or meets the eligibility requirements for examination by the American Dental Board of Anesthesiology.
1223E0200X	Dental Providers: Dentist	Endodontics	The branch of dentistry that is concerned with the morphology, physiology and pathology of the human dental pulp and periradicular tissues. Its study and practice encompass the basic and clinical sciences including biology of the normal pulp, the etiology, diagnosis, prevention and treatment of diseases and injuries of the pulp and associated periradicular conditions.
1223G0001X	Dental Providers: Dentist	General Practice	A general dentist is the primary dental care provider for patients of all ages. The general dentist is responsible for the diagnosis, treatment, management and overall coordination of services related to patients' oral health needs.
1223P0106X	Dental Providers: Dentist	Oral and Maxillofacial Pathology	The specialty of dentistry and discipline of pathology that deals with the nature, identification, and management of diseases affecting the oral and maxillofacial regions. It is a science that investigates the causes, processes, and effects of these diseases. The practice of oral and maxillofacial pathology includes research and diagnosis of diseases using clinical, radiographic, microscopic, biochemical, or other examinations.
1223S0112X	Dental Providers: Dentist	Oral and Maxillofacial Surgery	The specialty of dentistry which includes the diagnosis, surgical and adjunctive treatment of diseases, injuries and defects involving both the functional and esthetic aspects of the hard and soft tissues of the oral and maxillofacial region.
1223X0008X	Dental Providers: Dentist	Oral and Maxillofacial Radiology	The specialty of dentistry and discipline of radiology concerned with the production and interpretation of images and data produced by all modalities of radiant energy that are used for the diagnosis and management of diseases, disorders and conditions of the oral and maxillofacial region.
1223X2210X	Dental Providers: Dentist	Orofacial Pain	A dentist who assesses, diagnoses, and treats patients with complex chronic orofacial pain and dysfunction disorders, oromotor and jaw behavior disorders, and chronic head/neck pain. The dentist has successfully completed an accredited postdoctoral orofacial pain residency training program for dentists of two or more years duration, in accord with the Commission on Dental Accreditation's Standards for Orofacial Pain Residency Programs, and/or meets the requirements for examination and board certification by the American Board of Orofacial Pain. Source: American Academy of Orofacial Pain, http://www.aaop.org Additional Resources: American Board of Orofacial Pain, http://www.abop.net

1223X0400X	Dental Providers: Dentist	Orthodontics and Dentofacial Orthopedics	That area of dentistry concerned with the supervision, guidance and correction of the growing or mature dentofacial structures, including those conditions that require movement of teeth or correction of malrelationships and malformations of their related structures and the adjustment of relationships between and among teeth and facial bones by the application of forces and/or the stimulation and redirection of functional forces within the craniofacial complex. Major responsibilities of orthodontic practice include the diagnosis, prevention, interception and treatment of all forms of malocclusion of the teeth and associated alterations in their surrounding structures; the design, application and control of functional and corrective appliances; and the guidance of the dentition and its supporting structures to attain and maintain optimum occlusal relations in physiologic and esthetic harmony among facial and cranial structures.
1223P0221X	Dental Providers: Dentist	Pediatric Dentistry	An age-defined specialty that provides both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs.
1223P0300X	Dental Providers: Dentist	Periodontics	That specialty of dentistry which encompasses the prevention, diagnosis and treatment of diseases of the supporting and surrounding tissues of the teeth or their substitutes and the maintenance of the health, function and esthetics of these structures and tissues.
1223P0700X	Dental Providers: Dentist	Prosthodontics	That branch of dentistry pertaining to the restoration and maintenance of oral functions, comfort, appearance and health of the patient by the restoration of natural teeth and/or the replacement of missing teeth and contiguous oral and maxillofacial tissues with artificial substitutes.
122400000X	Dental Providers: Denturist		Definition to come.
125Q00000X	Dental Providers: Oral Medicinist		A dentist with advanced training specializing in the recognition and treatment of oral conditions resulting from the interrelationship between oral disease and systemic health. The Oral Medicinist manages clinical and non-surgical treatment of non-dental pathologies affecting the oral and maxillofacial region, such as cancer, organ transplants, and acute and chronic pain. Activities include provision of interdisciplinary patient care in collaboration with medical specialists and other dentists in hospitals and outpatient medical clinics in the management of patients with complex medical conditions requiring multidisciplinary healthcare intervention.
124Q00000X	Dental Providers: Dental Hygienist		An individual who has completed an accredited dental hygiene education program, and an individual who has been licensed by a state board of dental examiners to provide preventive care services under the supervision of a dentist. Functions that may be legally delegated to the dental hygienist vary based on the needs of the dentist, the educational preparation of the dental hygienist and state dental practice acts and regulations, but always include, at a minimum, scaling and polishing the teeth. To avoid misleading the public, no occupational title other than dental hygienist should be used to describe this dental auxiliary.
125J00000X	Dental Providers: Dental Therapist		A Dental Therapist is an individual who has completed an accredited or non-accredited dental therapy program and who has been authorized by the relevant state board or a tribal entity to provide services within the scope of their practice under the supervision of a dentist. Functions that may be delegated to the dental therapist vary based on the needs of the dentist, the educational preparation of the dental therapist and state dental practice acts and regulations.
125K00000X	Dental Providers: Advanced Practice Dental Therapist		An Advanced Practice Dental Therapist is: (1) A dental therapist who has completed additional training beyond basic dental therapy education and provides dental services in accordance with state advanced practice dental therapist laws or statutes; or (2) A dental hygienist with a graduate degree in advanced dental therapy prepared for independent and interdependent decision making and direct accountability for clinical judgment across the dental health care continuum. The individual has been authorized by the relevant state board or a tribal entity to provide services under the remote supervision of a dentist. The functions of the advanced practice dental therapist vary based on the needs of the dentist, the educational preparation of the advanced practice dental therapist and state dental practice acts and regulations.
126800000X	Dental Providers: Dental Assistant		An individual who may or may not have completed an accredited dental assisting education program and who aids the dentist in providing patient care services and performs other nonclinical duties in the dental office or other patient care facility. The scope of the patient care functions that may be legally delegated to the dental assistant varies based on the needs of the dentist the educational preparation of the dental assistant and state dental practice acts and regulations. Patient care services are provided under the supervision of a dentist. To avoid

			misleading the public, no occupational title other than dental assistant should be used to describe this dental auxiliary.
204E00000X	Allopathic & Osteopathic Physicians: Oral & Maxillofacial Surgery		Oral and maxillofacial surgeons are trained to recognize and treat a wide spectrum of diseases, injuries and defects in the head, neck, face, jaws and the hard and soft tissues of the oral and maxillofacial region. They are also trained to administer anesthesia, and provide care in an office setting. They are trained to treat problems such as the extraction of wisdom teeth, misaligned jaws, tumors and cysts of the jaw and mouth, and to perform dental implant surgery.
261QD0000X	Ambulatory Health Care Facilities: Clinic/Center	Dental	Definition to come...
261QS0112X	Ambulatory Health Care Facilities: Clinic/Center	Oral & Maxillofacial Surgery	The specialty of dentistry which includes the diagnosis, surgical and adjunctive treatment of diseases, injuries and defects involving both the functional and esthetic aspects of the hard and soft tissues of the oral and maxillofacial region.
261QF0400X	Ambulatory Health Care Facilities: Clinic/Center	Federally Qualified Health Center (FQHC)	Definition to come...
261QR1300X	Ambulatory Health Care Facilities: Clinic/Center	Rural Health	Definition to come...

I. Bundled Services Reported Using a Single Code on Dental Procedures and Nomenclature (CDT) Code

Some state programs may reimburse a single amount for a bundled set of services – e.g., oral evaluation, topical fluoride, and prophylaxis. In such instances, providers should be encouraged to record all the services rendered on the claim form using the appropriate CDT codes.

For calculating a measure, procedure codes should be interpreted according to the descriptions in the CDT manual. For example, if professionally applied topical fluoride is included as part of a bundled service under a procedure code other than CDT codes D1206 or D1208 and there is no record of D1206 or D1208 on the claim submitted for the bundled service, then it would not be included in the numerator for the Topical Fluoride measure.

J. FQHC Encounter Billing

Some FQHCs may be reimbursed based on an encounter — i.e., they are reimbursed based on each visit and not on the individual services provided during that visit. In such instances, that encounter may be captured in the claims system as a designated procedure/encounter code. Information on the specific services provided during that encounter is not captured. In such cases, that encounter would be captured only in the Utilization of Services measure. Performance reports from programs and plans should note such reimbursement policies and acknowledge the policy's limitation for accurately capturing service provision.

K. Non-FFS Reimbursement

Providers who are reimbursed using payment methods other than fee-for-service (e.g., capitation, salary, and hybrid payment methodologies) should be required to submit information on all rendered services on the encounter form to enable appropriate quality measurement. Programs and plans that reimburse FQHCs on an encounter payment basis may want to consider approaches for capturing information on each rendered service to promote accurate quality measurement.

L. Stratification by Child and Program Characteristics

The DQA encourages the measure results to be stratified by age, race, ethnicity, geographic location, socioeconomic status, payer type, and program/plan type. Certain measures may also benefit from stratification by selected clinical variables, such as being at elevated caries risk or having special health care needs. Measure score stratification enables implementers to identify variations in care by child and program characteristics, which can be used to inform quality improvement initiatives. To stratify the measure results, the denominator population is divided into different subsets based on the characteristic of interest (e.g., age, race, ethnicity, or geographic location) and the rates are reported for each sub-population. General guidance on reporting stratifications includes:

- Each stratification variable should be reported on **mutually exclusive** categories (i.e., each individual in the denominator should be counted in only one stratification category).
- Reporting entities should evaluate the extent to which there is **missing data**. The percentage of missing values should be reported with the stratifications. When missing data exceed 10%, stratifications should be interpreted with caution.

Guidance on reporting on specific stratification variables is provided below.

Race and Ethnicity

To promote consistency in the race/ethnicity categories, measures may be stratified by the following aggregated and **mutually exclusive** race and ethnicity categories:

- Hispanic
- Non-Hispanic White
- Non-Hispanic Black
- Non-Hispanic other race or multiple race

Note: Report the percentage of individuals in the overall measure denominator with unknown/missing values.

Individuals should be assigned to only one of the above categories. Individuals who select Hispanic ethnicity alone, or in combination with any of the race categories, should be classified as Hispanic. Non-Hispanic individuals who select more than one race category should be classified as multiple race.

Sex

- Female
- Male

Note: Report the percentage of individuals in the overall measure denominator with unknown/missing values.

Payer Type

- Private
- Medicaid
- CHIP
- Other Public
- Uninsured

Note: Report the percentage of individuals in the overall measure denominator with unknown/missing values.

Individuals with more than one source of coverage, should be classified into one category based on the primary payer. Individuals who had more than one primary payer type during the year (e.g., because they switched coverage) should be classified according to the payer type with the longest coverage duration.

Geographic Location

- Urban
- Rural

Note: Report the percentage of individuals in the overall measure denominator with unknown/missing values.

Methodology to classify geographic location:

- Use the enrollee's residence zip code.
- Map the zip code to one of Rural-Urban Commuting Areas (RUCA) codes using the 2010 Rural-Urban Commuting Area Codes, ZIP code file available at:
<https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/>.
- Use Categorization D to classify rural versus urban place of residence available at:
<http://depts.washington.edu/uwruca/ruca-uses.php>.

Elevated Risk for Dental Caries

- Identified as being at elevated risk
- Not identified as being at elevated risk

Evidence-based guidelines identify populations at elevated risk for dental caries as a priority for prevention efforts.¹⁶⁻¹⁸ Consequently, some DQA pediatric measures of primary prevention may be stratified by elevated risk status.

Methodology to classify elevated risk:¹⁹

- a. If subject meets **any of the following** then classify the individual as being **at elevated risk** for dental caries:
 - i. the subject has a CDT Code among those in Table 3 in the reporting year

OR

 - ii. the subject has a CDT Code among those in Table 3 below 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 in order to meet the denominator enrollment criteria for these measures; 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 indicating elevated risk (D0602 or D0603) in the reporting year.
- b. If the subject **does not meet any of the above** criteria for elevated risk, then these enrollees should be classified as **not identified as being at elevated risk**.

Notes:

- Because risk assessment finding codes are not consistently in wide use, the validated methodology used to classify individuals as being at elevated risk includes using specific codes indicative of caries treatment in the reporting year and for up to three prior years.
- **Implementers should check for both the risk assessment findings codes and the caries-related treatment codes to identify individuals at elevated risk. These are NOT alternative methodologies; they are complementary methodologies.**
- Children do not have to be enrolled in the prior years. The past history is only a look-back period for available claims.
- Some children who meet enrollment criteria for the measure being stratified by risk status may not have the claims history with the same plan for all three prior years. The stratification

focuses on inclusion of children who can be inferred to be at elevated caries risk using administrative claims data and is not intended to be a prevalence measure of all children at elevated risk. Note that children who are “not identified as being at elevated risk” may be at risk but have insufficient claims/encounter data to identify them as at risk.

Table 3: CDT Codes to identify “elevated caries 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	

Special health care needs (SHCN)

- Special health care needs (CDT code D9997 is recorded)
- No special health care needs

Identifying SHCN individual from claims data is possible through the introduction of CDT code D9997 CDT code (D9997) *dental case management - patients with special health care needs*

Description: Special treatment considerations for patients/individuals with physical, medical, developmental or cognitive conditions resulting in substantial functional limitations, which require that modifications be made to delivery of treatment to provide comprehensive oral health care services.

Note: The absence of CDT D9997 may reflect that a patient does not have special health care needs or missing data (i.e., the provider does not record this code regardless of whether the patient was assessed for special health care needs). This code is best used for stratification in settings that have established consistent screening and recording of special health care needs.

4. Measure Score Interpretation Relative to Overall Utilization

Although each DQA measure can stand alone, no single measure is intended to be a stand-alone indicator of overall program quality. As indicated above, measure implementers should identify a set of measures that will allow them to obtain a more complete picture of care, establish baseline performance, identify improvement opportunities, and monitor progress toward achieving the ultimate care goals. In addition, implementers may want to evaluate variations in performance among sub-groups of enrollees included in the denominator to guide their quality improvement efforts. This section addresses one of the “deeper dives” into the data that programs and plans may find useful in furthering their quality improvement efforts.

The pediatric Starter Set measures do not require receipt of “any dental service” as a requirement to be included in the denominator – that is, the denominator includes all enrollees, both users and non-users of the dental care system, during the reporting period. However, programs and plans may find it useful to evaluate performance in the context of overall dental utilization, which serves as a broad indicator of access to dental care. The measure “Utilization of Services” indicates the number and percentage of members enrolled for at least 180 days who received at least one dental service of any type. Monitoring trends in performance on the other measures over time relative to trends in the measure score for Utilization of Services can provide insight into how overall access to dental care affects performance on the other indicators. Programs and plans may also be interested in examining the measure score specifically among enrollees who have used the dental care system. Table 4 summarizes how to implement this by measure category.

Table 4. Examining Measures for Enrollees Who Received “Any Dental Service”

Single-Year Non-Cost Measures	How to Implement
Oral Evaluation (OEV-CH-A) Treatment Services (TRT-CH-A) Preventive Services (PRV-CH-A) Sealant Receipt in Permanent 1 st Molars (SFM-CH-A) Sealant Receipt on Permanent 2 nd Molars (SSM-CH-A) Topical Fluoride (TFL-CH-A)	After “You now have the denominator (DEN) count” in the measure specifications, check whether the enrollee received “any dental service” during the reporting year: <ol style="list-style-type: none"> a. If [SERVICE-CODE] = D0100 – D9999; AND b. If [RENDERING PROVIDER TAXONOMY] code = any of the NUCC maintained Provider Taxonomy Codes indicated in Table 2 of this user guide. The subset of enrollees who meet the criteria in both a and b represent those who received “any dental service.”

Two-Year Measures	How to Implement
Care Continuity (CCN-CH-A) Usual Source of Services (USS-CH-A)	<p>After “You now have the denominator (DEN) count” in the measure specifications, check whether the enrollee received “any dental service” in the reporting year AND in the prior year:</p> <ul style="list-style-type: none"> a. If [SERVICE CODE] = D0100 – D9999 in the reporting year AND in the prior year; AND b. If [RENDERING PROVIDER TAXONOMY] code = any of the NUCC maintained Provider Taxonomy Codes indicated in Table 2 of this user guide. <p>The subset of enrollees who meet the criteria in both a and b represent those who received “any dental service.”</p>
Cost Measure	How to Implement
Per Member Per Month Cost (CCS-CH-A)	<p>After “You now have the denominator (DEN) count” in the measure specifications, check whether the enrollee received “any dental service” in the reporting year:</p> <ul style="list-style-type: none"> a. If [SERVICE CODE] = D0100 – D9999; AND b. If [RENDERING PROVIDER TAXONOMY] code = any of the NUCC maintained Provider Taxonomy Codes indicated in Table 2 of this user guide. c. If both a AND b are met, then calculate total number of member months by summing the number of months enrolled in dental coverage for all members enrolled at least one month in dental coverage <u>who accessed a dental service</u> during the reporting year to identify the subset of member months associated with members who received “any dental service.”

Note: Calculations of the measure rates for the subset of enrollees who received “any dental service” should be noted as such and not represented as the overall measure score. Any measure rates for the subset of enrollees who received “any dental service” that are calculated for NQF-endorsed measures would not be considered to be NQF endorsed. The NQF endorsement applies only to the endorsed measure as specified in the detailed technical measure specifications.

5. Frequently Asked Questions

A. Sealant Measures: Current and Retired

A1. How do the current sealant measures differ from the retired sealant measures?

The current sealant measures, Sealant Receipt on Permanent 1st Molars and Sealant Receipt on Permanent 2nd Molars, went into effect on January 1, 2020. The current measures are population-based measures that assess whether children have ever received sealants — by the 10th birthday for permanent first molars and by the 15th birthday for permanent second molars. The original DQA sealant measures that were validated and approved in 2013 focused on annual receipt of sealants; these measures were retired effective January 1, 2020. These changes were made pursuant to concerns expressed by stakeholders, including DQA members and the National Quality Forum (NQF), about limitations of the DQA's original sealant measures.ⁱⁱ The retired specifications will not be reviewed and updated on an annual basis. Program that are interested in assessing annual application of sealants to a subset of enrollees inferred to be at elevated risk for dental caries related lesions may continue to use the 2019 versions of these measures.

The table below summarizes the key differences between the retired measures and the current measures.

Comparison of Retired and Current Sealant Measures

Version	RETIRED Sealants for Children (6–9 or 10–14) at Elevated Risk CLAIMS-BASED PROGRAM /PLAN LEVEL MEASURE	CURRENT Sealant Receipt on Permanent 1st and 2nd Molars (by age 10 or by age 15) CLAIMS-BASED PROGRAM/PLAN LEVEL MEASURE
Status	Retired, effective January 1, 2020 (specifications are no longer updated; previous versions may be used at the program's discretion)	Approved for use, effective January 1, 2020
Purpose	Assesses the number of children with at least one sealant placed in the reporting year.	Assesses the number of children in the program who ever received sealants (regardless of caries risk).

ⁱⁱ [Sealants for 6–9 year-old Children at Elevated Risk, Dental Services](#)
[Sealants for 10-14 year-old Children at Elevated Risk, Dental Services](#)

	Encourages the provision of sealants to children inferred to be at elevated risk.	Population-based measure that promotes sealing all molars by specified age for the enrolled population.
Population assessed	Patients enrolled in the program who are inferred to be at elevated risk through provider assessment or prior claims history of caries-related treatment. (Thus, the measures only capture patients who have accessed the dental care system.)	All patients within the specified age ranges, regardless of caries risk status or prior access to the dental care system.
Age	Within the age range of 6–9 years / 10–14 years in the reporting year.	Children who have their 10 th birthdate/15 th birthdate in the reporting year.
Intervention assessed	At least one sealant in reporting year	(1) At least one sealant in the 48 months prior to the birthdate and (2) All four molars ever sealed in the 48 months prior to the birthdate
Exclusions	No specific exclusions; however, children who have had no contact with the dental care system or have not received dental care used to identify elevated risk are not included in the measure.	Excludes children when claims data indicates that all four molars (1 st or 2 nd , depending on the measure) have been previously treated and the child likely has no sealable molars.

A2. The current sealant measures have several changes to the denominator. How will these changes affect measure interpretation and comparisons between programs?

48-month look-back period to identify sealant placement and denominator exclusions

Reporting entities (Medicaid/CHIP programs and plans) may experience significant differences in enrollment duration for individual enrollees, which could affect the availability of complete claims and associated treatment history (due to not having claims data for treatment rendered outside of program enrollment). The lack of claims data related to treatment that may have been provided outside of program enrollment may reduce the ability to consistently identify children who should either be included in the numerator (looking back 48 months for sealant receipt) or excluded from the denominator (looking back 48 months for all four molars being previously treated). The extent of variation in enrollment duration across reporting entities and the potential impact on measure scores should be considered if making comparisons between programs. However, this consideration is not unique to dental measures.

Inclusion of children who have not accessed the oral healthcare system

As a population-based measure, the denominator includes all children meeting the age and enrollment criteria, including those who have not had contact with the care system.

Consideration should be given to interpreting the measure scores in a context that is informed by a review of complementary measures, such as measure scores related to oral health care access (e.g., Oral Evaluation) and treatment (Treatment Services).

Exclusion of children from the denominator who are identified as having no sealable molars

The measure denominator excludes children who can be identified with administrative claims data as having no sealable permanent molars. Thus, differences in measure scores between programs/plans may reflect significant differences in access to treatment services or significant differences in population health. Consequently, before making comparisons between programs (or between plans), measure users should consider evaluating differences in exclusion rates between reporting entities and their impact on measure scores in order to evaluate and address such potential confounding factors.

Removal of elevated caries risk criteria from denominator

The original sealant measures focused on children who could be inferred to be at elevated caries risk based on procedure codes within administrative claims data. The current sealant measures do not restrict the denominator to children identified as being at elevated caries risk. Programs that are interested in understanding the percentage of children receiving sealants by caries risk status, can stratify the current sealant measures by elevated caries risk status using the methodology outlined in Section 3.L. of this User Guide.

B. Topical Fluoride for Children: Why were 2 fluoride applications selected to qualify for the numerator?

Evidence suggests that professionally applied topical fluoride, starting as early as six months of age and applied at least every 3 – 6 months in children at increased caries risk, is beneficial in preventing dental caries.¹⁷ Thus, the minimum recommended frequency of 6 months would be equivalent to two fluoride applications per year for children. Even at this minimum requirement, significant performance gaps were observed in the testing data for all programs, with only 18%-

37% (range across the programs included in the testing) of children at elevated risk for dental caries receiving at least two topical fluoride applications.¹⁹ Programs and plans that wish to further explore receipt of topical fluoride among their enrollees to inform quality improvement efforts may find it useful to evaluate the number and percentage of children who received 0, 1, 2, 3, or 4 or more topical fluoride applications.

C. *Topical Fluoride for Children: For the “oral health” and “dental or oral health” versions of the measure *Topical Fluoride for Children*, can CPT code 99188 (application of topical fluoride varnish by a physician or other qualified health care professional) be counted in the numerator?*

Yes, the measure specifications include CPT code 99188 in the oral health and dental or oral health numerators.

D. *Follow-Up after Emergency Department Visits for Dental Caries in Children: Are the 7-day and 30-day follow up periods for visits with a dentist after a caries-related emergency department visit mutually exclusive?*

No, visits that are captured in the 7-day follow-up visit also will be captured in the 30-day follow-up visit.

E. *Stratifications: Classifying Children at Elevated Caries Risk*

E1. Why did the DQA remove children at elevated caries risk as criteria for inclusion in the denominator for the topical fluoride and sealant prevention measures and change elevated caries risk to an optional stratification?

Although the DQA used a validated methodology to identify children who could be inferred as being at elevated risk based procedure codes contained within administrative claims data, the stakeholder community expressed concern about the limitations of this approach. The measure specifications previously limited the denominator-eligible population to a subset of children who could be inferred to be at elevated risk based on caries risk assessment (CRA) CDT codes and caries-related treatment codes. The frequency of reporting and documenting CRA CDT codes in claims data is limited. As a result, children who are actually at elevated risk, but without a caries-related treatment code nor documented CRA CDT codes, were not included in the

prevention measures' denominators. Specifically, many children at elevated risk may not be captured in the measures' denominators because they are not accessing the dental care system, and lack of access to care itself is a risk factor. Furthermore, it is likely that children may have caries-related lesions that have not progressed to the point of requiring treatment which is a pre-requisite for being considered to be at "elevated risk." The DQA also identified primary prevention as an overriding objective of these measures. Consequently, after testing and validating an alternate methodology for identifying the measures' denominators without the elevated risk criteria, the DQA removed these criteria from the denominators and instead allows for optional stratification by elevated caries risk. The DQA recognizes that removing the elevated risk criteria from the measure denominator could potentially create the perception of moving away from individualized, risk-based care. This is not the intent. The DQA emphasizes that measurement specifications are not care delivery guidelines. Removal of the elevated risk criteria should **not** be construed as a recommendation to move away from caries risk assessment and the development of individualized care plans.

E2. Why does the elevated risk stratification methodology not consider all Medicaid-enrolled children as being at "elevated risk"?

Within the care delivery system, evidence-based guidelines recommend that **patient-level risk assessment** should drive treatment planning and care delivery. Accordingly, the DQA's approach to performance measurement within the care delivery system is based on these patient-centered decisions instead of using broad population level indicators such as socio-economic status. Not every child enrolled in Medicaid is at elevated caries risk. While social determinants play a significant role in influencing outcomes, their impact on each patient needs to be carefully assessed. Encouraging individualized risk-based care, in itself, is a quality improvement activity.

The findings of an [American Dental Association - American Academy of Pediatric Dentistry Caries Risk Assessment Expert Panel](#), which reviewed the current state of science on caries risk assessment and developed guidance on risk categorization, found that current caries risk assessment tools share many common elements to assess risk and affirmed that they have at least dichotomous predictive ability to quantify "low risk" and "elevated risk": "Current tools have derived various methods to categorize risk based on expert consensus. The categorization of risk differs between the tools. However, all tools appear to qualify 'low risk' in a similar manner:

lack of disease and presence of protective factors. Current CRA tools could be effectively used in identifying 'low risk' patients."²⁰ This review affirms the ability of current CRA tools to distinguish elevated risk from low risk.

E3. Why use methodologies that require prior years' data to identify elevated risk, which may impact feasibility?

Based on the best current evidence, the National Institute for Health and Care Excellence (NICE) suggests that "clinical judgment of the dentist and his or her ability to combine risk factors, based on their knowledge of the patient and clinical and socio-demographic information is as good as, or better than, any other method of predicting caries risk."²¹ Therefore, the DQA risk-based measures specifications include the caries-risk assessment CDT codes introduced in 2014. However, these CDT codes are not consistently widely reported currently. Therefore, additional methodology to identify children at elevated risk was included that is based on prior caries experience, which is an established risk factor that can be identified using caries-related treatment codes in administrative claims data.

Evidence from a systematic review indicates that previous caries experience is an important predictor of future disease.²² Thus, past caries history, identifiable through claims data using caries-related treatment codes, is the strongest evidence-based approach to identify children who are most susceptible to new carious lesions using historical administrative data. The DQA "look-back method" uses a tested methodology to identify children whose individual claims history is indicative of caries risk.¹⁹

It is important to note that the methodology used to identify elevated caries risk is not intended as a "risk assessment tool" to be used at the level of individual patients either to assess risk or to define dental benefits or qualification for services for specific groups of children. It is only a model used to identify children who can be inferred to be at "elevated risk" for caries using claims data for the purpose of evaluating program performance by enrollee risk status through measure stratification. This method is not intended to identify every child who may be at elevated risk.

E4. Should children be enrolled in each of the three years to apply the 'look-back method' to stratify by elevated caries risk?

Children do not have to be enrolled in each of the prior three years. The past history is a look-back period for *available* claims. The stratification methodology requires looking for specified caries-indicative codes in the reporting year and three prior years. Some children who meet

enrollment criteria in the reporting year may not have the enrollment and claims history with the same program or plan for prior years. The intent is to identify those children who can be inferred to be at elevated risk based on available claims data; the intent is not to identify all children at elevated risk.

E5. If I am a new plan in Medicaid or am entering a new market and do not have claims from prior years, can I still stratify by elevated caries risk?

If the prior three years claims history is not available, this should be noted within the final reports with an indication of how many years (if any) of data were used. When fewer years of historical data are used, the number of children who are identified as being at elevated caries risk will decrease, which will impact the stratification denominators. Comparisons in stratifications between reporting entities or for the same entity over time may not be valid when the same look-back period is not used.

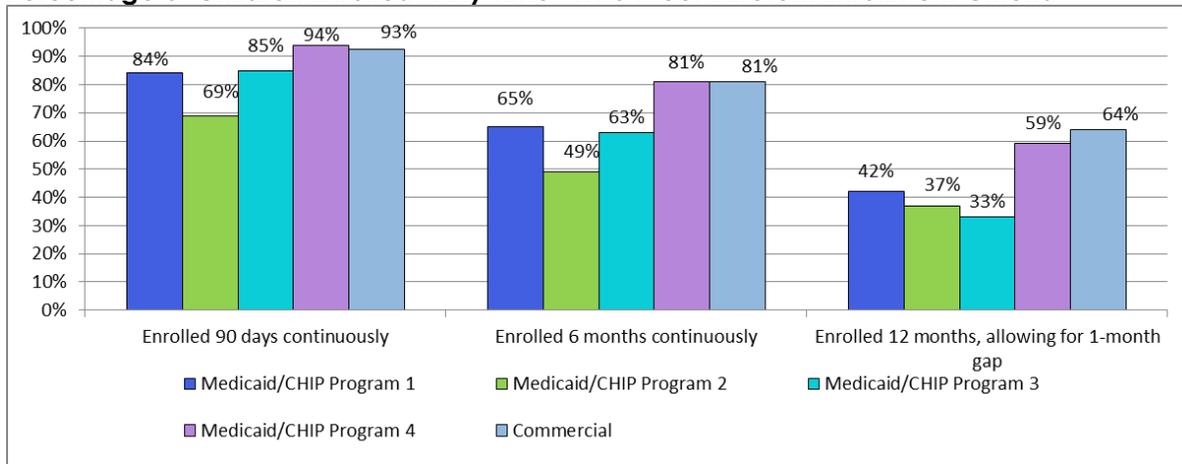
F. Enrollment Requirements: Why isn't there a 90-day enrollment denominator for the Starter Set measures to allow for comparisons to CMS EPSDT Reporting?

Applicable Measures:

- Utilization of Services
- Oral Evaluation
- Treatment Services

During measure testing, the following enrollment intervals were evaluated: a) >30 days; b) >90 days; c) >180 days; and d) 365 days, allowing a single 1-month gap. The figure below illustrates the impact of different denominator requirements on the percentage of enrolled children eligible for measure inclusion. Through evaluation of the data on the measure denominators and overall measure scores, and using a face validity consensus process, the DQA elected to use the 180-day continuous enrollment requirement in order to balance sufficient enrollment duration to allow children adequate time to access care with the number of children who are excluded from the denominator due to stricter enrollment requirements.

Percentage of Children Enrolled “Any Time” Who Meet Different Enrollment Criteria



The final measure specifications originally included an additional 90-day continuous enrollment denominator for three measures (Utilization of Services, Oral Evaluation, and Treatment Services) to allow for historical comparisons to the CMS EPSDT data. The 90-Day enrollment denominator option was eliminated from the NQF-endorsed Utilization of Services and Oral Evaluation measures because the NQF does not permit multiple denominators within a single measure in order to ensure standardization and consistency in quality measure reporting. In keeping with this approach, the 90-day enrollment denominator option also was eliminated from the Treatment Services measure. CMS and other stakeholders (e.g., state Medicaid programs and state Marketplaces) have adopted DQA measures. The 180-day enrollment interval has not been cited as a barrier to implementation although it has been recognized as a distinction from the CMS EPSDT data reporting requirements. The DQA has and will continue to work with the oral healthcare stakeholder community to promote the development and adoption of validated quality measures and alignment in oral healthcare performance measurement across stakeholder groups. Plans and programs interested in continuing to make comparisons to CMS EPSDT data or that are interested in further evaluating the impact of enrollment requirements can conduct their own sensitivity analyses using different enrollment lengths. However, these alternative enrollment lengths should not be reported as the official DQA measure scores.

G. Where can I get more information about implementing DQA eMeasures?

Guidance for implementing eMeasures is contained within the measure metadata in the human readable specifications located on the United States Health Information Knowledgebase website at:

Effective January 1, 2022

<https://usihk.ahrq.gov/QualityMeasuresListing?draft=true&system=dcqm&sortField=570&sortDirection=ascending>. Questions also can be directed to DQA staff at dqa@ada.org.

Please contact DQA staff at dqa@ada.org with additional implementation questions.

Appendix 1: Measure Specification Substantive Updates

2022 Updates: Effective January 1, 2022

General Updates	
<ul style="list-style-type: none"> Updated effective date, copyright, and weblink citations. 	
User Guide Updates	
<ul style="list-style-type: none"> Updated Table 2 NUCC Provider Taxonomy Codes consistent with specifications updates detailed below. Removed separate section on identifying individuals at elevated caries risk as part of denominator criteria. Added guidance in section on stratifications for stratifying measure scores by elevated caries risk. Added and updated general guidance and category specific guidance for implementing stratifications. Moved guidance regarding current and previous sealant measures to FAQs. Removed Appendix 2: International Classification of Diseases, Clinical Modification, Cross Mapping 	
Technical Specifications Updates	
Updates to Existing Measures	
Measure	Change(s)
Topical Fluoride for Children at Elevated Risk for Caries (TFL-CH-A)	Updated the name to Topical Fluoride for Children .
	Removed inferred or reported "elevated risk" as criteria for inclusion in the denominator.
	Streamlined the specification by incorporating the three current specifications, based on rendering provider type, into a single specification with three numerators: dental services, oral health services, and dental or oral health services.
	Clarified age range is 1 through 20 years of age in measure description.
	Formally incorporated CPT 99188 into the oral health and dental or oral health numerators (previously referenced in a footnote).
	Retired the current, three measure specifications for Topical Fluoride for Children at Elevated Risk for Caries (dental, oral health, and dental or oral health).

Preventive Services for Children at Elevated Risk for Caries (PRV-CH-A)	Updated the name to Preventive Services for Children .
	Removed inferred or reported "elevated risk" as criteria for inclusion in the denominator. Added stratification by elevated caries risk with corresponding guidance in User Guide.
	Formally incorporated CPT 99188 into the oral health and dental or oral health numerators (previously referenced in a footnote).
	Streamlined the specification by incorporating the three current specifications, based on rendering provider type, into a single specification with three numerators: dental services, oral health services, and dental or oral health services.
	Retired the current, three measure specifications for Preventive Services for Children at Elevated Risk for Caries (dental, oral health, and dental or oral health).
Utilization of Services, Oral Health Services (UTL-CH-A(OH)) and Dental or Oral Health Services (UTL-CH-A(D/OH))	Formally incorporated CPT 99188 into the oral health and dental or oral health numerators (previously referenced in a footnote).
Sealant Receipt on Permanent 1 st Molars (SFM-CH-A) and Sealant Receipt on Permanent 2 nd Molars (SSM-CH-A)	Clarified enrollment guidance: <ul style="list-style-type: none"> - Child must be enrolled on his/her index birthday. For programs that verify enrollment monthly, the child must be enrolled during the month of his/her index birthday. - For programs that verify enrollment monthly, the child must be enrolled for the 12 months <u>prior</u> to the month in which the index birthday occurs, allowing for no more than a single 1-month gap in enrollment.
	Clarified exclusion criteria: the identification of occlusal tooth surface (in combination with the specified restoration codes) includes [O] alone and in combination with any other surface code.
	Deleted guidance for elevated caries risk stratification, which was incorporated into the User Guide.
Ambulatory Care Sensitive Emergency Department Visits for Dental Caries in Children (EDV-CH-A) and	Add the following ICD-10-CM Diagnosis Codes to Table 1 to identify caries-related ED visits: <ul style="list-style-type: none"> - K08.131: Complete loss of teeth due to caries, class I - K08.132: Complete loss of teeth due to caries, class II - K08.133: Complete loss of teeth due to caries, class III

<p>Follow-Up after Emergency Department Visits for Dental Caries in Children (EDF-CH-A)</p>	<ul style="list-style-type: none"> - KØ8.134: Complete loss of teeth due to caries, class IV - KØ8.139: Complete loss of teeth due to caries, unspecified class - KØ8.431: Partial loss of teeth due to caries, class I - KØ8.432: Partial loss of teeth due to caries, class II - KØ8.433: Partial loss of teeth due to caries, class III - KØ8.434: Partial loss of teeth due to caries, class IV - KØ8.539: Fractured dental restorative material, unspecified
<p>All Measures with NUCC code set to identify “dental” services and User Guide References to NUCC Codes</p> <p>Applicable measures:</p> <ul style="list-style-type: none"> • Caries Risk Documentation • Care Continuity • Oral Evaluation • Preventive Services • Topical Fluoride • Treatment Services • Usual Source of Care • Utilization of Services (all variations) • Follow-up after ED Visits for Dental Caries in Children • Follow-Up after ED Visits for NTDC in Adults • Per Member Per Month Cost of Clinical Services 	<p>The following NUCC codes were added to the identification of “dental” providers for the purposes of distinguishing “dental” services from “oral health” services:</p> <ul style="list-style-type: none"> • 126800000X Dental Providers: Dental Assistant • 122400000X Dental Providers: Denturist • 204E00000X Allopathic & Osteopathic Physicians: Oral & Maxillofacial Surgery • 261QD00000X Clinic/Center: Dental • 261QS0112X Clinic/Center: Oral & Maxillofacial Surgery <p>For detailed descriptions, see Health Care Provider Taxonomy Code Set, Version 21.0, National Uniform Claim Committee: https://nucc.org/index.php/code-sets-mainmenu-41/provider-taxonomy-mainmenu-40/csv-mainmenu-57</p>

2021 Updates: Effective January 1, 2021

General Updates	
<ul style="list-style-type: none"> Updated effective date, copyright, and weblink citations. 	
User Guide Updates	
<ul style="list-style-type: none"> Added guidance for stratifying measure scores by special health care needs 	
Technical Specifications Updates	
Updates to Existing Measures	
Measure	Change(s)
<p>Measures that include elevated risk code set:</p> <ul style="list-style-type: none"> Topical Fluoride measures (adults and children) Preventive Services 	<p>Added the following code to the elevated risk code set:</p> <p style="padding-left: 40px;">D2753: crown – porcelain fused to titanium and titanium alloys</p> <p>Note: D2750-D2752 are currently included in the code set.</p>
<p>All Measures with NUCC code set to identify “dental” services and UG References to NUCC Codes</p> <p>Applicable measures:</p> <ul style="list-style-type: none"> Caries Risk Documentation Care Continuity Oral Evaluation Preventive Services (all variations) Topical Fluoride (all variations) Treatment Services Usual Source of Care Utilization of Services (all variations) Follow-up after ED Visits for Dental Caries in Children Follow-Up after ED Visits for NTDC in Adults Per Member Per Month Cost of Clinical Services 	<p>Added the following NUCC code to the NUCC code set:</p> <p>1223X2210X Dental Providers; Dentist - Orofacial pain</p> <p style="padding-left: 40px;">A dentist who assesses, diagnoses, and treats patients with complex chronic orofacial pain and dysfunction disorders, oromotor and jaw behavior disorders, and chronic head/neck pain. The dentist has successfully completed an accredited postdoctoral orofacial pain residency training program for dentists of two or more years duration, in accord with the Commission on Dental Accreditation's Standards for Orofacial Pain Residency Programs, and/or meets the requirements for examination and board certification by the American Board of Orofacial Pain.</p> <p>Source: American Academy of Orofacial Pain, http://www.aaop.org Additional Resources: American Board of Orofacial Pain, http://www.abop.net</p> <p>Version 19.1 of the NUCC Health Care Provider Taxonomy Codes (http://nucc.org/index.php/code-sets-mainmenu-41/provider-taxonomy-mainmenu-40)</p>

<p>OH versions of measures</p> <p>Applicable measures:</p> <ul style="list-style-type: none"> Preventive Services Topical Fluoride Utilization of Services 	<p>Editorial – updates to footnote regarding identifying “oral health” services</p> <ul style="list-style-type: none"> Updated link to AAP table in footnote: https://www.aap.org/en-us/layouts/15/WopiFrame.aspx?sourcedoc=/en-us/Documents/OralHealthReimbursementChart.xlsx&action=default . Added additional reference to the footnote: https://www.aap.org/en-us/Documents/coding_factsheet_oral_health.pdf
<p>Sealant measures</p>	<p>Editorial update to part 6 of the measure logic.</p> <p>It now reads:</p> <p>YOU NOW HAVE DENOMINATOR (DEN) FOLLOWING EXCLUSIONS FOR TREATMENT: Enrollees who meet the age and enrollment criteria who have NOT had all permanent first (second) molars previously treated (i.e., have at least one permanent first (second) molar that is a candidate for a sealant</p>

2020 Updates: Effective January 1, 2020

<p>General Updates</p>
<ul style="list-style-type: none"> Updated effective date, copyright, and weblink citations.
<ul style="list-style-type: none"> Updated evidence in <i>Rationale</i> section of measures' specifications.
<p>User Guide Updates</p>
<ul style="list-style-type: none"> Added guidance for stratifying measure scores by race/ethnicity, sex, payer type, and geographic location.
<ul style="list-style-type: none"> Added Appendix 2: ICD-10-CM to ICD-9-CM Cross Mapping for the measures Ambulatory Care Sensitive Emergency Department Visits for Dental Caries in Children and Follow-Up after Emergency Department Visits for Dental Caries in Children
<ul style="list-style-type: none"> Removed guidance around the two retired sealant measures, Sealants for 6–9 Year-Old Children at Elevated Caries Risk and Sealants for 10–14 Year-Old Children at Elevated Caries Risk.
<ul style="list-style-type: none"> Added guidance for the two newly developed sealant measures, Sealant Receipt on Permanent 1st Molars and Sealant Receipt on Permanent 2nd Molars
<p>Technical Specifications Updates</p>
<p>New Measures</p>

Sealant Receipt on Permanent 1 st Molars (SFM-A-A)	New measure, effective January 1, 2020.
Sealant Receipt on Permanent 2 nd Molars (SSM-A-A)	New measure, effective January 1, 2020.
Retired Measures	
Sealants for 6–9 year-old Children at Elevated Risk, Dental Services (SL1-CH-A)	<ul style="list-style-type: none"> Retired, effective January 1, 2020. 2019 version may be used at the program's discretion.
Sealants for 10-14 year-old Children at Elevated Risk, Dental Services (SL2-CH-A)	<ul style="list-style-type: none"> Retired, effective January 1, 2020. 2019 version may be used at the program's discretion.
Updates to Existing Measures	
Measure	Change(s)
Ambulatory Care Sensitive Emergency Department Visits for Dental Caries in Children (EDV-CH-A)	Add the following ICD-10-CM Diagnosis Codes to Table 1 to identify caries-related ED visits:
	<ul style="list-style-type: none"> KØ2.52: Dental caries on pit and fissure surface penetrating into dentin KØ2.53: Dental caries on pit and fissure surface penetrating into pulp KØ4.Ø1: Reversible pulpitis KØ4.Ø2: Irreversible pulpitis KØ8.439: Partial loss of teeth due to caries, unspecified class KØ8.89: Other specified disorders of teeth and supporting structures
	Add the following ICD-10-CM Diagnosis Codes to Table 2 to identify caries-related ED visits (must be paired with an additional-listed diagnosis code from Table 1):
	<ul style="list-style-type: none"> LØ3.213: Periorbital cellulitis
	Updated the measure logic within Step 2: former Step 2b ("count only one visit per member per day") is now current Step 2d to allow de-duplication to occur after identifying caries-related ED visits.
	Removed ICD-9-CM diagnosis codes from Tables 1 and 2; ICD-9-CM and ICD-10-CM cross mappings are instead provided in Appendix 2 of this User Guide.
Follow-Up after Emergency Department Visits for Dental Caries in	Add the following ICD-10-CM Diagnosis Codes to Table 1 to identify caries-related ED visits:
	<ul style="list-style-type: none"> KØ2.52: Dental caries on pit and fissure surface penetrating into dentin

Children (EDF-CH-A)	<ul style="list-style-type: none"> - KØ2.53: Dental caries on pit and fissure surface penetrating into pulp - KØ4.Ø1: Reversible pulpitis - KØ4.Ø2: Irreversible pulpitis - KØ8.439: Partial loss of teeth due to caries, unspecified class - KØ8.89: Other specified disorders of teeth and supporting structures
	<p>Add the following ICD-10-CM Diagnosis Codes to Table 2 to identify caries-related ED visits (must be paired with an additional-listed diagnosis code from Table 1):</p> <ul style="list-style-type: none"> - LØ3.213: Periorbital cellulitis
	<p>Updated the measure logic within Step 1: former Step 1c (“count only one visit per member per day”) is now current Step 1e to allow de-duplication to occur after identifying caries-related ED visits.</p>
	<p>Removed ICD-9-CM diagnosis codes from Tables 1 and 2; ICD-9-CM and ICD-10-CM cross mappings are instead provided in Appendix 2 of this User Guide.</p>
Utilization of Services (UTL-CH-A)	Updated <i>Rationale</i> section to clarify measure intent.
Treatment Services (TRT-CH-A)	Updated <i>Measure purpose</i> section to clarify measure intent
Topical Fluoride for Children at Elevated Caries Risk (TFL-CH-A)	Clarified the different types of fluoride captured in the numerator in the Measure Limitations section.
	Added guidance for calculating a practice-level measure derivative.
Care Continuity (CCN-CH-A)	Added guidance for calculating a practice-level measure derivative.

2019 Updates: Effective January 1, 2019

There were no updates to the measure specifications.

2018 Updates: Effective January 1, 2018

There were no updates to the measure specifications.

2017 Updates: Effective January 1, 2017

Measure	Change
Topical Fluoride for Children at Elevated Caries Risk (TFL-CH-A)	Add CDT code D1354 (interim caries arresting medicament application) to the set of codes in Table 1 of the specifications to identify children at “elevated risk.” This code was introduced in the 2016 CDT.

<p>Sealants for 6–9 Year-Old Children at Elevated Caries Risk (SL1-CH-A)</p>	<p>Add CDT code D1354 (interim caries arresting medicament application) to the set of codes in Table 1 of the specifications to identify children at "elevated risk." This code was introduced in the 2016 CDT.</p>
<p>Sealants for 10–14 Year-Old Children at Elevated Caries Risk (SL2-CH-A)</p>	<p>Add CDT code D1354 (interim caries arresting medicament application) to the set of codes in Table 1 of the specifications to identify children at "elevated risk." This code was introduced in the 2016 CDT.</p>
<p>Preventive Services for Children at Elevated Caries Risk (PRV-CH-A)</p>	<p>Add CDT code D1354 (interim caries arresting medicament application) to the set of codes in Table 1 of the specifications to identify children at "elevated risk." This code was introduced in the 2016 CDT.</p>
<p>Follow-Up after Emergency Department Visit (EDF-CH-A)</p>	<p>Change the full name of the measure from <i>Follow-Up after Emergency Department Visit by Children for Dental Caries</i> to <i>Follow-Up after Emergency Department Visits for Dental Caries in Children</i> for naming consistency with EDV-CH-A.</p>

2016 Updates: Effective January 1, 2016

Measure	Change
Utilization of Services (UTL-CH-A)	Add NUCC code 125Q00000X (added to NUCC code set on 1/1/2015), to the provider taxonomy codes in Table 1 to identify "dental" services.
Oral Evaluation (OEV-CH-A)	Add NUCC code 125Q00000X (added to NUCC code set on 1/1/2015), to the provider taxonomy codes in Table 1 to identify "dental" services.
Topical Fluoride for Children at Elevated Caries Risk (TFL-CH-A)	Add CDT code D2941 (interim therapeutic restoration - primary dentition) to the set of codes in Table 1 of the specifications to identify children at "elevated risk." This code was introduced in the 2014 CDT.
	Add NUCC code 125Q00000X (added to NUCC code set on 1/1/2015), to the provider taxonomy codes in Table 2 to identify "dental" services.
Sealants for 6–9 Year-Old Children at Elevated Caries Risk (SL1-CH-A)	Add CDT code D2941 (interim therapeutic restoration - primary dentition) to the set of codes in Table 1 of the specifications to identify children at "elevated risk." This code was introduced in the 2014 CDT.
	Add Reporting Guidance Table with stratification of measure rates by age (6, 7, 8, and 9 years).
	Add NUCC code 125Q00000X (added to NUCC code set on 1/1/2015), to the provider taxonomy codes in Table 2 to identify "dental" services.
Sealants for 10–14 Year-Old Children at Elevated Caries Risk (SL2-CH-A)	Add CDT code D2941 (interim therapeutic restoration - primary dentition) to the set of codes in Table 1 of the specifications to identify children at "elevated risk." This code was introduced in the 2014 CDT.
	Add Reporting Guidance Table with stratification of measure rates by age (10, 11, 12, 13, and 14 years).
	Add NUCC code 125Q00000X (added to NUCC code set on 1/1/2015), to the provider taxonomy codes in Table 2 to identify "dental" services.
Preventive Services for Children at Elevated Caries Risk (PRV-CH-A)	Add CDT code D2941 (interim therapeutic restoration - primary dentition) to the set of codes in Table 1 of the specifications to identify children at "elevated risk." This code was introduced in the 2014 CDT.
Treatment Services (TRT-CH-A)	Add NUCC code 125Q00000X (added to NUCC code set on 1/1/2015), to the provider taxonomy codes in Table 1 to identify "dental" services.
Care Continuity (CCN-CH-A)	Add NUCC code 125Q00000X (added to NUCC code set on 1/1/2015), to the provider taxonomy codes in Table 1 to identify "dental" services.
Usual Source of Services (USS-CH-A)	Add NUCC code 125Q00000X (added to NUCC code set on 1/1/2015), to the provider taxonomy codes in Table 1 to identify "dental" services.
Per Member Per Month Cost of Clinical Services (CCS-CH-A)	Add NUCC code 125Q00000X (added to NUCC code set on 1/1/2015), to the provider taxonomy codes in Table 1 to identify "dental" services.

End Notes

1. Herndon JB, Crall JJ, Aravamudhan K, et al. Developing and testing pediatric oral healthcare quality measures. *J Public Health Dent*. 2015;75(3):191-201.
2. Centers for Medicare and Medicaid Services. Children's Health Care Quality Measures. 2021; <https://www.medicare.gov/medicaid/quality-of-care/performance-measurement/child-core-set/index.html>. Accessed August 30, 2021.
3. California Health Benefit Exchange. Plan Management and Delivery Systems Reform. 2021; <http://hbex.coveredca.com/stakeholders/plan-management/>. Accessed August 30, 2021.
4. Health Resources and Services Administration. Health Center Program: Uniform Data System Resources. 2021; <https://bphc.hrsa.gov/datareporting/reporting/>. Accessed August 30, 2021.
5. Dental Quality Alliance. Dental Quality Alliance Dental Quality Measures. 2021; <https://www.ada.org/resources/research/dental-quality-alliance/dqa-dental-quality-measures>. Accessed August 30, 2021.
6. Dental Quality Alliance. Dental Quality Alliance Measure Development Reports. 2021; <https://www.ada.org/resources/research/dental-quality-alliance/dqa-dental-quality-measures>. Accessed August 30, 2021.
7. Agency for Healthcare Research and Quality. United States Health Information Knowledgebase. 2021; <https://ushik.ahrq.gov/QualityMeasuresListing?draft=true&system=dcqm&sortField=570&sortDirection=ascending>. Accessed August 30, 2021.
8. Herndon JB, Aravamudhan K, Stephenson RL, et al. Using a stakeholder-engaged approach to develop and validate electronic clinical quality measures. *J Am Med Inform Assoc*. 2017;24(3):503-512.
9. National Quality Measures Clearinghouse. NQMC Measure Domain Definitions. 2018; <https://www.ahrq.gov/gam/summaries/domain-definitions/index.html> Accessed August 30, 2021.
10. Damiano P, Momany ET, Crall JJ. Determining dental utilization rates for children: an analysis of data from the Iowa Medicaid and SCHIP programs. *J Public Health Dent*. 2006;66(2):97-103.
11. Department of Health and Human Services. 2011 Annual Report on the Quality of Care for Children in Medicaid and CHIP. 2011; <http://www.medicare.gov>. Accessed July 15, 2015.
12. National Quality Forum. Risk Adjustment for Socioeconomic Status or Other Sociodemographic Factors. 2014; <http://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=77475>. Accessed August 30, 2021.
13. Centers for Medicare & Medicaid Services. Medicaid and CHIP Statistical Information System (MSIS) File Specifications and Data Dictionary. 2010; <http://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/MSIS/downloads/msisdd2010.pdf>. Accessed August 29, 2018.

14. Code of Federal Regulations. 42 C.F.R. Section 400.100 Dental services. https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=1&SID=41640b21063cde299dc2f65b2e022a3b&ty=HTML&h=L&mc=true&r=SECTION&n=se42.4.440_1100. Accessed August 30, 2021.
15. National Uniform Claim Committee. Health Care Provider Taxonomy Code Set, Version 21.0. 2021; <http://nucc.org/index.php/code-sets-mainmenu-41/provider-taxonomy-mainmenu-40>. Accessed August 30, 2021.
16. Beauchamp J, Caufield PW, Crall JJ, et al. Evidence-based clinical recommendations for the use of pit-and-fissure sealants: a report of the American Dental Association Council on Scientific Affairs. *J Am Dent Assoc.* 2008;139(3):257-268.
17. Weyant RJ, Tracy SL, Anselmo TT, et al. Topical fluoride for caries prevention: Executive summary of the updated clinical recommendations and supporting systematic review. *J Am Dent Assoc.* 2013;144(11):1279-1291.
18. Wright JT, Crall JJ, Fontana M, et al. 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.* 2016;147(8):672-682 e612.
19. Herndon JB, Tomar SL, Catalanotto FA, et al. Measuring quality of dental care: Caries prevention services for children. *J Am Dent Assoc.* 2015;146(8):581-591.
20. Dental Quality Alliance. Guidance on Caries Risk Assessment in Children: A Report of the Expert Panel for Use by the Dental Quality Alliance. 2018; https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/dqa/EducationalResources/CRA_Report.pdf. Accessed August 30, 2021.
21. National Institute for Health and Care Excellence. Clinical Guidelines. CG19: Dental Recall - Recall Interval between Routine Dental Examinations. 2004; <http://guidance.nice.org.uk/CG19>. Accessed August 30, 2021.
22. Zero D, Fontana M, Lennon AM. Clinical applications and outcomes of using indicators of risk in caries management. *J Dent Educ.* 2001;65(10):1126-1132.