DQA
DENTAL QUALITY ALLIANCE™
*Improving Oral Health Through Measurement*

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

# DQA Measure Specifications: Administrative Claims-Based Measures

## Utilization of Dental Services During Pregnancy

**Description:** Percentage of enrolled persons aged 15 through 44 years with live-birth deliveries in the reporting year who received at least one dental service during pregnancy
**Numerator:** Unduplicated number of enrolled persons with live-birth deliveries in the reporting year who received at least one dental service during pregnancy
**Denominator:** Unduplicated number of enrolled persons aged 15 through 44 years with live-birth deliveries in the reporting year
**Rate:** NUM/DEN

**Rationale:**
Oral health may be considered an important part of prenatal care, given that poor oral health during pregnancy can lead to poor health outcomes for the mother and baby.[1] Both the American College of Obstetricians and Gynecologists and the American Dental Association recommend individuals visit a dentist during pregnancy to have their oral health assessed, obtain preventive services, receive any necessary treatment, and receive guidance about good eating and oral hygiene practices.[2,3] Promoting oral health during pregnancy supports the parent's oral and overall health and lays the foundation for optimal oral and overall health of the child. The measure intent is to assess the extent to which pregnant persons are accessing the dental care delivery system.

1. Centers for Disease Control and Prevention. 2022. Pregnancy and Oral Health. Available at: https://www.cdc.gov/oralhealth/publications/features/pregnancy-and-oral-health.html. Accessed July 28, 2023.
2. Oral Health Care During Pregnancy Expert Workgroup. 2012. *Oral Health Care During Pregnancy: A National Consensus.* Washington, DC: National Maternal and Child Oral Health Resource Center. Available at: www.mchoralhealth.org/PDFs/OralHealthPregnancyConsensus.pdf. Accessed July 28, 2023.
3. American College of Obstetricians and Gynecologists, Committee on Health Care for Underserved Women. 2013. Committee Opinion No. 569: Oral health care during pregnancy and through the lifespan. *Obstetrics and Gynecology* 122(2 Pt 1):417–422. Available at: https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2013/08/oral-health-care-during-pregnancy-and-through-the-lifespan. Accessed July 28, 2023.

**AHRQ Domain:** Process[1]

**IOM Aim:** Equity, Effectiveness

**Level of Aggregation:** Program (*NOTE: This measure requires claims data from medical encounters. Consequently, this measure only applies to programs, such as Medicaid, or plans that provide both medical and dental benefits. Use of this measure as a requirement for stand-alone dental benefit plans may result in feasibility issues due to lack of access to necessary data. Use by health plans that provide both medical and dental benefits to a population may be considered after assessment of data element feasibility within the plans' databases.)*

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

[1] **Process (Clinical Quality Measure):** A process of care is a health care-related activity performed for, on behalf of, or by a patient. Process measures are supported by evidence that the clinical process—that is the focus of the measure—has led to improved outcomes. National Quality Measures Clearinghouse: https://www.ahrq.gov/gam/summaries/domain-definitions/index.html. Accessed July 28, 2023.



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**Data Required**: Administrative enrollment and claims data (medical and dental); reporting year and prior year. When using claims data to determine service receipt, include both paid and unpaid claims (including pending, suspended, and denied claims).

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

1. What is the percentage of enrolled persons with a live-birth delivery in the reporting year who received at least one dental service during pregnancy?
2. Does the percentage of enrolled persons who received at least one dental service during pregnancy vary by any of the stratification variables?
3. Over time, does the percentage of enrolled persons who received at least one dental service during pregnancy stay stable, increase or decrease?

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

1. Age (15-18; 19-20; 21-24; 25-29; 30-34; 35-39; 40-44)
2. Payer Type (e.g., Medicaid; private commercial benefit programs)
3. Program/Plan Type (e.g., Traditional FFS; PPO; prepaid dental/DHMO)
4. Geographic Location (e.g., rural; urban)
5. Race
6. Ethnicity
7. Socioeconomic Status (e.g., premium or income category)

## Utilization of Dental Services During Pregnancy Calculation

**Reporting period for identification of delivery dates:** January 1 – December 31 of the calendar year.

**Anchor date:** Date of live-birth delivery

1. Check if the subject meets age criteria:
    a. If person is >=15 and <45 as of December 31st of the reporting year, then proceed to next step.
    b. If age criteria are not met or there are missing or invalid field codes (e.g., date of birth), then STOP processing. This subject is not counted in the denominator.

2. Check for **unduplicated** persons with live-birth deliveries during the reporting period:
    a. Check for procedure codes signifying delivery AND diagnosis codes signifying live birth:
        i. If [ICD-10-PCS PROCEDURE CODE]=any code in Table 1 OR if [CPT PROCEDURE CODE]=any code in Table 2

    **AND**


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ii. If [ICD-10-CM DIAGNOSIS CODE] = any code in Table 3, then proceed to next step.

iii. Both a procedure code from a(i) and a diagnosis code from a(ii) must be present to count as a live-birth delivery.

**Note:** Check all procedure code fields. Check all diagnosis code fields, including admitting diagnosis, principal diagnosis, and additional-listed diagnoses.

**OR**

b. Check for diagnosis codes that signify both delivery and live birth:
If [ICD-10-CM DIAGNOSIS CODE] = O80 or O82, then proceed to next step.

**Note:** Check all diagnosis code fields, including admitting diagnosis, principal diagnosis, and additional-listed diagnoses.

c. If a OR b is met, then proceed to next step.

d. If neither a nor b are met, then STOP processing. This subject is not counted in the denominator.

**Note 1:** The denominator is an unduplicated count of persons with a live-birth delivery during the year.

**Note 2:** If a person has more than one delivery in the reporting year, use the **first delivery date as the anchor date**.

**Note 3:** Delivery dates should be identified using the procedure code dates where possible. If procedure code dates are unavailable, then the admission date may be used.

3. Check if the subject is enrolled in coverage inclusive of dental benefits:
   a. If subject is enrolled on the delivery date, AND
   b. If subject is continuously enrolled for 180 days prior to the delivery date. (**Note:** For programs/plans that verify enrollment on a monthly basis, the continuous enrollment criteria should include the month in which the delivery occurred AND 6 months prior to the month in which the delivery occurred.)
   c. If both a AND b are met, then include in **denominator**; proceed to next step.
   d. If either a OR b is NOT met, then STOP processing. This subject is not included in the denominator.

**YOU NOW HAVE DENOMINATOR (DEN) COUNT: Subjects with live-birth deliveries who meet the age and enrollment criteria**


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4. Check if the subject received any **dental service** during the 270 days prior to the delivery date:
    a. If [CDT CODE] = D0100 – D9999, AND
    b. If [RENDERING PROVIDER TAXONOMY CODE] = any of the NUCC maintained Provider Taxonomy Codes in Table 4 below,[2] AND
    c. If [DELIVERY DATE – DENTAL SERVICE DATE] <= 270 days
    d. If all a AND b AND c are met, then include in **numerator**; proceed to next step.
    e. If any of a OR b OR c is NOT met, then a dental service was not provided in the 270 days prior to delivery; STOP processing. This subject is already included in the denominator but is not included in the numerator.

**Note:** In this step, all **claims** with missing or invalid CDT CODE, missing or invalid NUCC maintained Provider Taxonomy Codes, or NUCC maintained Provider Taxonomy Codes that do not appear in Table 4 should be excluded.

**YOU NOW HAVE NUMERATOR (NUM) COUNT: Subjects who received a dental service**

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

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


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**Table 1: ICD-10-PCS Codes to Identify Deliveries**

| | | |
|---|---|---|
| ICD10PCS | 10D00Z0 | Extraction of Products of Conception, Classical, Open Approach |
| ICD10PCS | 10D00Z1 | Extraction of Products of Conception, Low Cervical, Open Approach |
| ICD10PCS | 10D00Z2 | Extraction of Products of Conception, Extraperitoneal, Open Approach |
| ICD10PCS | 10D07Z3 | Extraction of Products of Conception, Low Forceps, Via Natural or Artificial Opening |
| ICD10PCS | 10D07Z4 | Extraction of Products of Conception, Mid Forceps, Via Natural or Artificial Opening |
| ICD10PCS | 10D07Z5 | Extraction of Products of Conception, High Forceps, Via Natural or Artificial Opening |
| ICD10PCS | 10D07Z6 | Extraction of Products of Conception, Vacuum, Via Natural or Artificial Opening |
| ICD10PCS | 10D07Z7 | Extraction of Products of Conception, Internal Version, Via Natural or Artificial Opening |
| ICD10PCS | 10D07Z8 | Extraction of Products of Conception, Other, Via Natural or Artificial Opening |
| ICD10PCS | 10E0XZZ | Delivery of Products of Conception, External Approach |

**Table 2: CPT Codes to Identify Deliveries**

| | | |
|---|---|---|
| CPT | 59400 | Routine obstetric care including antepartum care, vaginal delivery (with or without episiotomy, and/or forceps) and postpartum care |
| CPT | 59409 | Vaginal delivery only (with or without episiotomy and/or forceps) |
| CPT | 59410 | Vaginal delivery only (with or without episiotomy and/or forceps) including postpartum care |
| CPT | 59510 | Routine obstetric care including antepartum care, cesarean delivery and postpartum care |
| CPT | 59514 | Cesarean delivery only |
| CPT | 59515 | Cesarean delivery only including postpartum care |
| CPT | 59610 | Routine obstetric care including antepartum care, vaginal delivery (with or without episiotomy and/or forceps) and postpartum care, after previous cesarean delivery |
| CPT | 59612 | Vaginal delivery only, after previous cesarean delivery (with or without episiotomy and/or forceps) |
| CPT | 59614 | Vaginal delivery only, after previous cesarean delivery (without or without episiotomy and/or forceps) including postpartum care |
| CPT | 59618 | Routine obstetric care including antepartum care, cesarean delivery and postpartum care, following attempted vaginal delivery after previous cesarean delivery |
| CPT | 59620 | Cesarean delivery only, following attempted vaginal delivery after previous cesarean delivery |
| CPT | 59622 | Cesarean delivery only, following attempted vaginal delivery after previous cesarean delivery including postpartum care |


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**Table 3: ICD-10-CM Codes to Identify Live Births**

| | | |
|---|---|---|
| ICD10CM | Z37.0 | Single live birth |
| ICD10CM | Z37.2 | Twins, both liveborn |
| ICD10CM | Z37.3 | Twins, one liveborn and one stillborn |
| ICD10CM | Z37.50 | Multiple births, unspecified, all liveborn |
| ICD10CM | Z37.51 | Triplets, all liveborn |
| ICD10CM | Z37.52 | Quadruplets, all liveborn |
| ICD10CM | Z37.53 | Quintuplets, all liveborn |
| ICD10CM | Z37.54 | Sextuplets, all liveborn |
| ICD10CM | Z37.59 | Other multiple births, all liveborn |
| ICD10CM | Z37.60 | Multiple births, unspecified, some liveborn |
| ICD10CM | Z37.61 | Triplets, some liveborn |
| ICD10CM | Z37.62 | Quadruplets, some liveborn |
| ICD10CM | Z37.63 | Quintuplets, some liveborn |
| ICD10CM | Z37.64 | Sextuplets, some liveborn |
| ICD10CM | Z37.69 | Other multiple births, some liveborn |

**Table 4: NUCC maintained Provider Taxonomy Codes classified as "Dental Service"***

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

*Services provided by County Health Department dental clinics may also be included as "dental" services.
+Only dental hygienists who provide services under the supervision of a dentist should be classified as "dental" services.

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


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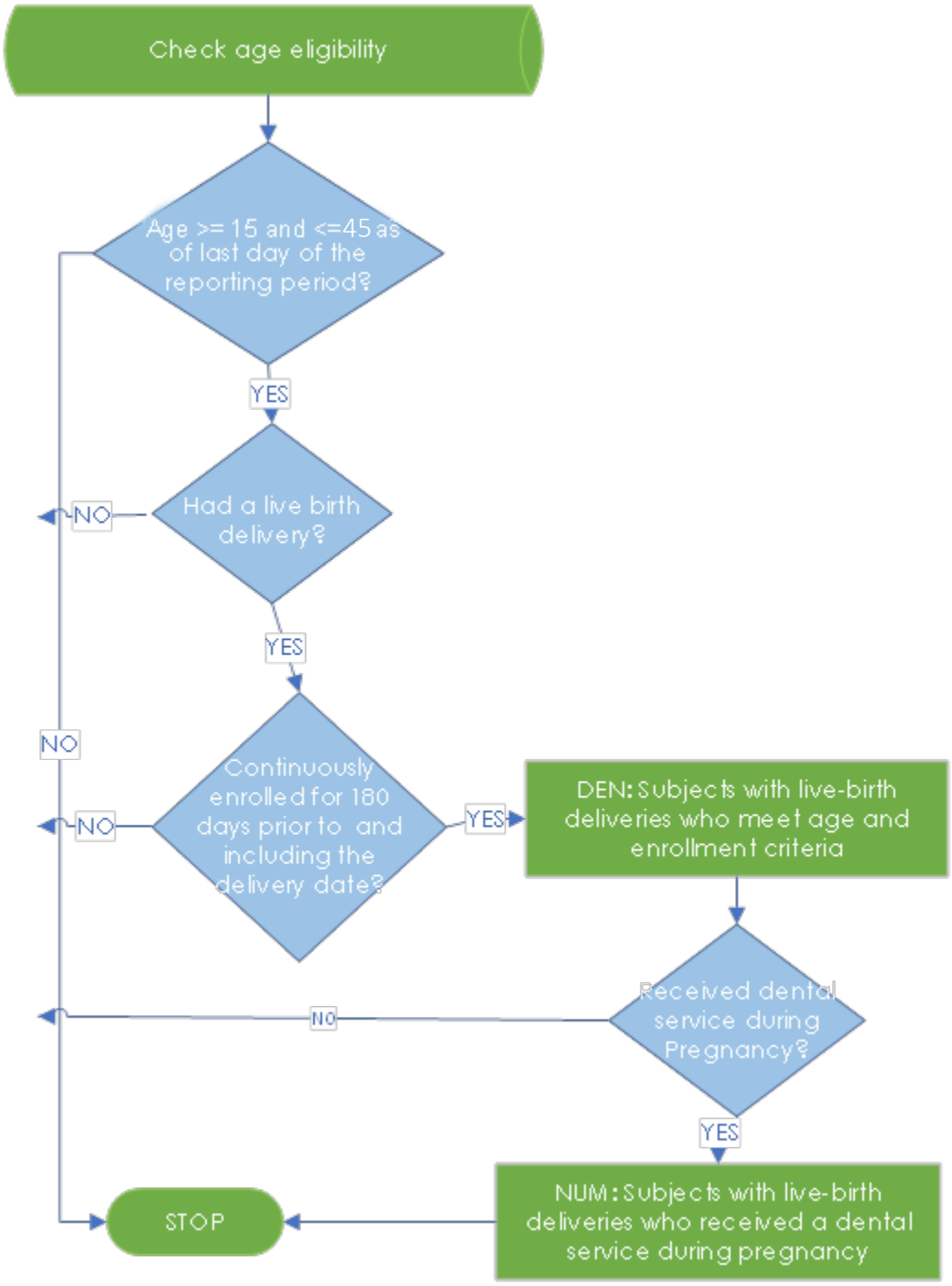



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