



*Improving Oral Health Through Measurement*

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# DENTAL QUALITY ALLIANCE: Practice- and Clinician-Level Quality Measure Development Reports

## **Report 1: Project Introduction, Delphi, and Excluded Measure Concepts**

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JUNE 2023

## Background

The Dental Quality Alliance (DQA) approved a resolution that a workgroup be formed to explore the development of practice- and clinician-level dental quality measures. This workgroup reports to the DQA's Measure Development and Maintenance Committee (MDMC). This report is the first in a series of reports providing updates on measure development activities and findings. This report was approved by the DQA at its meeting on June 16, 2023.

## Report Purpose

The purpose of this report is to **present the measurement concepts that have been excluded from further consideration.**

## Workgroup Charge

- **Resolved**, that a Workgroup reporting to MDMC be convened by the DQA Chair to explore the development of validated practice- and clinician-level quality measures using both clinical and patient-reported data; and be it further,
- **Resolved**, that the Workgroup include partners with access to data that could be used to validate any potential measures developed by the Workgroup.

## Environmental Scan to Identify Measures (DQA Staff)

- Staff conducted an environmental scan of existing metrics, drawing from prior scans of the Dental Quality Alliance,<sup>1,2</sup> National Quality Forum<sup>3</sup> and University of Iowa Public Policy Center<sup>4</sup> and incorporating additional measures such as those within P&R Dental Strategies' DentaQual rating system.  
→530 unduplicated metrics identified.
- Staff reviewed all metrics to streamline the set for workgroup review, removing system (program/plan) level only concepts, standards, CAHPS composite measures, and duplicate concepts.  
→243 measures remained for review.

## Workgroup Starter Set Determinations

- The Workgroup determined that it would first identify a starter set based on **claims-based measures**, because they have the highest feasibility for near-term implementation.
- The Workgroup prioritized creating a **roadmap** for future measure development and implementation to ensure important, but not currently feasible, concepts were not lost.

## Delphi Process to Identify Starter Set of Claims-Based Measures

- **Measures.** From the 243 measures, staff identified 124 potentially implementable with claims.
- **Method.** The workgroup used an adapted Delphi consensus process to rate the 124 measures on **importance** and **feasibility** on a 1-9 point scale. Additionally, the survey included space to provide open-ended comments to explain the rationale for the ratings. Adapting the methodology in the RAND Appropriateness Method:<sup>5</sup>
  - Include if: median rating of 7-9 without disagreement
  - Exclude if: median rating of 1-3 without disagreement
  - Further evaluate if: median rating 4-6 OR any other rating with disagreement
- **Time Frame.** The Delphi survey was conducted November 7, 2022 — December 2, 2022.

## Delphi Results

- **Response rate.** 8 of 10 (80%) workgroup members
- **Quantitative results.**

	7-9 Definitely important/feasible	4-6 Uncertain importance/feasibility	1-3 Not important/feasible
<b>Importance</b>	24	90	10
<b>Feasibility</b>	32	91	1

- **Consensus Discussions.** Given the large number of uncertain concepts (90), the Workgroup held a series of meetings to discuss each of the 124 measure concepts to reach consensus.
- **Determinations to date.**
  - **Excluded** concepts – no further consideration for practice/clinician-based measurement; 61 of 124 measures ([Appendix 1](#))
  - **Roadmap** concepts – important but feasibility challenges ([Appendix 2](#))
  - **Provisional** concepts – undergoing further evaluation to better understand the evidence base and extent of performance gaps ([Appendix 3](#))
  - **Included** concepts – will be specified and tested for a Starter Set of claims-based measures ([Appendix 4](#))

## Reasons for Excluded Concepts

- Insufficient evidence to support link between improvement on measure concept and improvement in care quality or outcomes.
- Limited ability of dental provider/practice to influence measure (i.e., too many other influencing factors; may include measures of population health).
- Cost measures: Not tied to specific quality domains in the DQA's framework.
- Metrics to identify outliers: Not tied to specific quality domains in the DQA's framework without further context.

## Appendix 1: Excluded Measures Grouped by Exclusion Reason

<b>Insufficient Evidence to Support Link between Improvement on Measure and Improvement in Care Quality/Outcomes</b>
1. Personal Dentist Linked to Emergency Exam
2. Retention (of dentists and dental hygienists)
3. The percentage of days of the week that the provider is treating patients
4. Percentage of patients that leave and go to another provider of the same specialty
5. Re-treatment after restorative treatment
6. Percentage of Fillings requiring replacement [within 36 months] of initial placement
7. Of all the patients seen, how many had four quadrants of any scaling and root planing on the same date of service
8. Percentage of Surgical Extractions and/or impactions requiring Closure of Sinus Perforation
<b>Limited Ability of Dental Provider/Practice to Influence Measure (i.e., too many other influencing factors; may include measures of population health)</b>
9. Early Loss of Primary Teeth
10. Extraction Rate
11. Tooth Loss
12. Follow-up After Well-Child Visit
13. Primary Caries Prevention Intervention as Part of Well/Ill Child Care as Offered by Primary Care Medical Providers
14. Radiation oncology: percentage of patients with squamous cell carcinoma (SCC) of the oral cavity, oropharynx, hypopharynx and larynx who wait longer than 6 weeks from their definitive surgery to commencing their radiotherapy, during the 6 month time period
15. First Dental Home Initiative Visit
16. Average per patient (1) charges i.e. billed amounts (2) net revenue after adjustments i.e. paid amounts for the practice
<b>Cost Measures: Not Tied to Specific Quality Domains</b>
17. Gross Charges (production) per Encounter
18. Direct Cost per Visit
19. Submitted Fees per patient
<b>Metrics to Identify Outliers: Not Tied to Specific Quality Domains without Further Context</b>
20. Current/Active sanctions resulting in loss or suspension of license
21. Intraoral Films for New Patients Under Age 18
22. Intraoral Film for 18 – 24 years
23. Intraoral Films for New Patients Age 65 and Older
24. OPG for New Patients Under Age 18
25. OPG for New Patients Age 18-24 years
26. OPG for New Patients Age 65 and Older
27. Percentage of All Fillings involving Direct Pulp Caps

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28. Percentage of All Fillings involving Indirect Pulp Caps
29. Basic Restorative Service Rate
30. Restorative Care
31. Treatment Services, Dental Services
32. Receipt of orthodontic services
33. History of periodontal maintenance
34. Percentage of Surgery Procedures by General Dentist
35. Percentage of each procedure type compared to peers in region (all procedure types)
36. Percentage of each procedure type compared to peers in region (preventive procedure type only)
37. Total Procedures
38. Submitted Procedures per patient
39. Diagnostic and Preventive Procedures
40. Diagnostic Rate
41. Dental Sealant Ratio
42. Filling to Preventive Services Ratio
43. Restorative Procedures
44. Restorative Treatment Ratio
45. Restorations to Extractions Procedure Ratio (Indice)
46. Endodontics to Extractions Procedure Ratio (Indice)
47. Extraction Ratio
48. Percent of Obturations
49. Percentage of Implants Surgically Placed
50. Implants Restored Internally
51. Ambulatory Oral Rehabilitation Surgery
52. Nerve treatment
53. Percentage of patients that receive periodontal treatment after the date of service for prosthetics treatment
54. Percentage of patients that receive debridement after any treatment code performed within 6 months
55. Percentage of Post & Cores requiring recementations
56. Percentage of Implant/Abutment Supported Crowns requiring recementations
57. Prophylaxis
58. Continuing Care (focused on prophylaxis receipt)
59. Percentage of unduplicated patients with at least one prophy in the 12 months following the initial date of service (D1110, D1120, same provider)
60. Oral Health Education Service given by a Dentist or Dental Hygienist
61. Comprehensive Oral Exam and Treatment Plan

## Appendix 2: Roadmap Measure Concepts: Not Feasible Immediately Using Claims Data

Measure Concept
1. Pregnant Women: Oral Evaluation
2. Smokers: Oral Evaluation
3. Tobacco Use: Screening & Cessation Intervention
4. ECC Patients Seen Last Month with Documented Caries Risk
5. ECC Patients whose Risk Status has Improved
6. Improved Caries Risk Status - Adults
7. Improved Caries Risk Status - Children
8. New Caries at Recall
9. Restored teeth developing subsequent caries
10. GA Use for Caries-Related Treatment
11. Complications Following Extraction
12. Number of opioid doses per 100 patient encounters
13. Frequency of bitewing radiographic exams aligned with ADA/FDA guidelines (% children/adults)
14. Antibiotic Prescriptions based on guidelines
15. Average total cost of procedures per patient by risk classification.

## Appendix 3: Concepts Still Under Review

### Measure Concept

#### More Invasive Procedure Following Initial Procedure Concepts:

These concepts require further discussion regarding:

- What they are measuring (e.g., disease progression indicator, appropriateness of diagnosis, effective care, or technical quality) and how that fits into the quality measurement framework?
- Is the performance gap sufficient to offer an opportunity to improve?
- Would establishing these measures as measures of “quality” result in any HARM? – i.e. we should avoid encouraging more invasive treatment initially that may not be necessary versus repeated cost.

1. Restorations Following Sealant Placement on same tooth/surface within X months
2. Crown/ Partials/ Endodontic or Extractions Following Restorations Placement on same tooth or one or more of the teeth involved in the original restoration within X months.
3. Endodontic treatment following crowns on same tooth within X months
4. Extractions Following Crowns/Endodontic Treatment on same tooth within X months
5. Deciduous Teeth Extracted following Pulp Treatment within X months
6. Percentage of Implants requiring removal within X months

#### Procedure replaced by SAME Procedure Concepts:

These concepts require further discussion regarding:

- What they are measuring (e.g., disease progression indicator, appropriateness of diagnosis, effective care, or technical quality) and how that fits into the quality measurement framework?
- Is the performance gap sufficient to offer an opportunity to improve?

7. Composite fillings replaced by composite fillings within [X months] of initial placement
8. Amalgam fillings replaced by amalgam fillings within [X months] of initial placement
9. Re-treatment after Endodontic Treatment within X months
10. Root Canals requiring retreatment or apicoectomies within X months
11. Periodontal Surgeries requiring revision within X months

#### Recementations

These concepts require further discussion regarding:

- What they are measuring (e.g., disease progression indicator, appropriateness of diagnosis, effective care, or technical quality) and how that fits into the quality measurement framework?
- Is the performance gap sufficient to offer an opportunity to improve?

12. Inlays/ Onlays requiring recementation within X months
13. Crowns requiring recementation within X months
14. Fixed Partial Denture Retainers requiring Rebonding, Recementation and/or Repair within X months

#### Measures with miscellaneous issues yet to be evaluated

Evaluate the evidence, impact of benefits policies, feasibility of measurement.

15. High Caries Risk Patients (by age group) that received an oral evaluation every X months
16. Space Maintainer after primary tooth premature extraction

## Appendix 4: Concepts Included for Starter Set

**Note:** Detailed specifications will be developed as the workgroup makes further progress.

Measure Concept
1. Continuation of Care within Practice
2. Caries Risk Assessment Documentation
3. Sealant on Permanent Second Molar by Age 15
4. Sealant on Permanent First Molar by Age 10
5. Topical Fluoride Application
6. Periodontal Evaluation in Adults with Periodontitis
7. Ongoing Care in Adults with Periodontitis
8. Periodontal maintenance at least [2 or 4?] times in a 12 month period following the most recent periodontal treatment [surgical or non-surgical?] date of service
9. Periodontal maintenance within [9? to 11?] weeks of the most recent [surgical or non-surgical] periodontal treatment
10. Recall Compliance: Patients with Implant/Tooth-borne Restorations/Prosthesis

## References

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