JUNE 2019

Quality Measurement in Dentistry

A Guidebook

DQA

DENTAL QUALITY ALLIANCE®

Improving Oral Health Through Measurement

DENTAL QUALITY ALLIANCE

JUNE 2019

QUALITY MEASUREMENT IN DENTISTRY

Purpose

This Guidebook was developed by the **DQA Education Committee** and serves as the basis for developing standardized messages regarding performance and quality measurement in dentistry. It can be used as a source document by those developing messages, resources, and tools to educate various audiences about quality measures.

For more information on the DQA, please access www.ada.org/dqa or contact dqa@ada.org.

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INTRODUCTION

Continuing rises in national expenditures on healthcare have created an urgent need to accurately assess quality and efficiency of care. Establishing measures to identify and monitor innovative strategies to reduce incidence of oral disease, while simultaneously improving effectiveness and efficiency of care through a focus on prevention, is an important national priority. Data for measurement can be obtained from administrative sources (encounters and claims), patient records, and surveys. In dentistry, data gets routinely collected through the claims process. Such data are currently proprietary to the payers, who use it to make policy decisions, conduct research, and increasingly to provide performance and quality measurement information to providers, employers, and consumers. Although measuring the health status of a patient based on clinical records is best predictive of quality, given the lack of standardized dental information systems to document clinical records, administrative and claims data remain the only data that can be aggregated in dentistry today. The ultimate goal of self-evaluation by the profession is to improve oral health and must be undertaken in a collaborative manner by all stakeholders in the dental profession.

The dental profession has a vested interest and activity in self-evaluation, quality assessment, and performance management. Health entities outside of dentistry are now developing programmatic indicators for defining and measuring quality. Group practices, commercial payers, and other dental stakeholder groups are building quality dashboards to address the different utilization and cost parameters in quality measurement. Paramount measures of self-evaluation are needed nationally to assure the quality of oral health care delivery and the appropriateness of the evaluation.

To that end, the Dental Quality Alliance (DQA) has assumed the leadership role in the dental profession through the active collaboration of its many and diverse partners representing its communities of interest within and outside the profession.

WHY MEASURE?

Healthcare providers work hard to deliver skilled, thoughtful care. Measures pave the way for providers, showing where systems are breaking down and where they are succeeding to help patients get and stay well.[1] Measurement forms the basis of evaluation and has become one of the foundations of current efforts to improve healthcare quality. Performance measures are tools to assess healthcare against recognized standards and are of importance to providers, patients, payers and policy makers. Quality measures drive improvement by allowing healthcare providers to review their own performance and make adjustments, share successes and probe for causes when progress comes up short- all on the road to improved patient health outcomes. Quality measures allow us to quantify the care provided to patients and gauge how improvement activities are indeed improving care or outcomes for certain conditions in various settings or during a specific timeframe.[1] When used in healthcare practice or performance improvement activities, measures help determine how well care is provided for certain aspects of care, for certain conditions, or for various populations or communities.[1] There are many forms and functions of measures. Their common feature is that they seek to improve healthcare outcomes by improving quality of care.

NATIONAL INTEREST IN QUALITY MEASURES

As national expenditures on healthcare continue to rise, the need to accurately assess quality and efficiency of care has become more meaningful. The science of measuring healthcare performance has made enormous progress over the last decade, and it continues to evolve. Studies have documented treatment reporting variations across providers, care settings, and

[1] National Quality Forum. Retrieved from The ABCs of Measurement on April 2nd, 2019.

geographic regions. [2, 3, 4, 5, 6, 7] Measuring the quality of healthcare and using those measurements to promote improvements in the delivery of care are now commonplace.[8]

Faced with a national need for change, an Institute of Medicine (IOM) Committee on the Quality of Health Care in America released several reports to address quality improvement. One report, *Crossing the Quality Chasm* (2001) focuses more broadly on how the health system can be reinvented to foster innovation and improve the delivery of care. Toward this goal, the committee defined six important aims for quality improvement: safe, timely, equitable, efficient, effective and patient-centered.[9]

- ***Safe*** — avoiding injuries to patients from the care that is intended to help them.
- ***Timely*** — reducing waits and sometimes harmful delays for both those who receive and those who give care.
- ***Effective*** — providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse, respectively).
- ***Efficient*** — avoiding waste, including waste of equipment, supplies, ideas, or energy.

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[2] Shugars DA, Bader JD. Cost implications of differences in dentists' restorative treatment decisions. J Public Health Dent. 1996 Summer;56(4):219-22.

[3] Shugars DA, Hayden WJ Jr, Crall JJ, et al. Variation in the use of crowns and their alternatives. J Dent Educ. 1997 Jan;61(1):22-8.

[4] Bader JD, Shugars DA. Variation in dentists' clinical decisions. J Public Health Dent.1995 Summer;55(3):181-8.

[5] Quality of Care for Children in Medicaid and CHIP: Findings from the 2017 Child Core Set. September 2018.

[6] Okunseri C, Szabo A, Garcia RI, et al. Provision of fluoride varnish treatment by medical and dental care providers: variation by race/ethnicity and levels of urban influence. J Public Health Dent. 2010 Summer;70(3):211-9.

[7] Kateeb ET1, Warren JJ, Gaeth GJ, Momany ET, Damiano PC. Understanding Pediatric Dentists' Dental Caries Management Treatment Decisions: A Conjoint Experiment. JDR Clin Trans Res. 2016 Apr;1(1):86-94. doi: 10.1177/2380084416636589. Epub 2016 Feb 29.

[8] Chassin MR, Loeb JM, Schmaltz SP, et al. "Accountability Measures - Using Measurement to Promote Quality Improvement." The New England Journal of Medicine (2010): 683-88. Print.

[9] Institute of Medicine (IOM). Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, D.C: National Academy Press; 2001.

- ***Equitable*** — providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.
- ***Patient-centered*** — providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.

Evolving regulatory priorities of the Centers for Medicare and Medicaid Services (CMS), the leading agency within the Department of Health and Human Services (DHHS), clearly prioritize the need to prove and measure improvements in the quality of health care in both the public and private sectors. Following the IOM's reports, several legislative and regulatory actions have promoted the national interest on quality issues. These include:

The Affordable Care Act (National Quality Strategy)

The Affordable Care Act required HHS to establish a National Strategy for Quality Improvement in Health Care (the National Quality Strategy) that pursues three broad aims including better care, healthy people/healthy communities and affordable care. These aims are used to guide and assess local, state, and national efforts to improve health and the quality of healthcare.

HHS Strategic Plan FY 2018-2022 (HHS Strategy)

HHS Strategic Plan 2018-2022 identifies 5 strategic goals and 20 strategic objectives that focus on the major functions of HHS and outcomes the Department aims to achieve that include emphasis on reformation and modernization of the healthcare system, accountability for promoting healthier lifestyle for the population; economy and social wellbeing of the population while promoting and fostering advances in science and effective, efficient management and stewardship. The full HHS Strategic Plan for FY 2018-2022 is located here.

MACRA

The Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) is a bipartisan legislation signed into law on April 16, 2015. MACRA created the Quality Payment Program. This legislation repealed the sustainable growth rate (SGR) formula that calculated payment cuts for physicians and created a new framework for rewarding physicians for providing higher quality care by establishing alternative payment mechanisms for providers that placed value over volume.

HiTECH Act (Health Information Technology for Economic and Clinical Health Act)

The HITECH Act ushered in the era of the adoption and meaningful use of health information technology by addressing the privacy and security concerns associated with the electronic transmission of health information.

Passage of the Affordable Care Act (ACA) in 2010 has emphasized the importance of the Triple Aim and is shifting the focus from volume-based reimbursement to payment models that emphasize quality and value. The National Quality Strategy (NQS) was developed as part of the ACA to "improve the delivery of health care services, patient health outcomes, and population

health." [10] A central goal of the NQS is to build a consensus on how to measure quality so that stakeholders can align their efforts for maximum results by improving the overall quality of care, improving the health of the population and communities and making healthcare more affordable. The strategy also established six priority areas to help focus efforts by public and private partners. These priorities fall under the domains of **patient and family engagement, patient safety, effective communication and care coordination, population and public health, efficient use of healthcare resources, and clinical processes/effectiveness.**[11] There is significant movement among the federal agencies to align with the NQS.

PLAYERS IN THE DENTAL QUALITY MEASURES LANDSCAPE

The terms "quality measures" and "performance measurement" have been largely elusive in dentistry. IOM defines "quality of care" as "the degree to which healthcare services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge".[12] IOM reports have identified a lack of quality

[10] National Quality Strategy. http://www.ahrq.gov/workingforquality/. Accessed 2019.

[11] About the National Quality Strategy. Content last reviewed March 2017. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/workingforquality/about/index.html

[12] Institute of Medicine, 2001; Lohr & Committee to Design a Strategy for Quality Review and Assurance in Medicare, 1990

measures as a barrier to improving oral health and reducing oral health disparities. [13], [14] The role of a dental and oral health measure developer has long been occupied by entities that are not traditionally from the dental industry. These activities within dentistry, until recently, have been limited to the federal agencies such as the CMS, Health Resources and Services Administration (HRSA), the Agency for Healthcare Research and Quality (AHRQ), commercial private purchasers/payers, data analytics companies supporting these commercial health plans, and leading health plan accreditation agencies such as National Commission on Quality Assurance (NCQA), which are all engaging in developing measures for the purpose of program management.

As the single largest payer of health services for children in the United States, CMS plays a pivotal role in working with States and other partners in implementing quality measurement and improvement strategies Furthermore, greater emphasis is placed on patient-centered, coordinated, and integrated care and accountability that forms the basis for growing demands for measuring quality, performance, and value pursuant to the ACA. CMS Measurement upholds public trust and provides consumer information by the establishment of core measures designed to be meaningful to patients, consumers, and physicians. The alignment of these core measure sets aid in the promotion of measurement that is evidence-based while generating valuable information for quality improvement, consumer decision-making and value-based payment and

[13] Institute of Medicine of the National Academies, Committee on an Oral Health Initiative. Advancing Oral Health in America. Washington, DC: National Academies Press; 2011.

[14] Institute of Medicine and National Research Council, Committee on Oral Health Access to Services. Improving Access to Oral Health Care for Vulnerable and Underserved Populations. Washington, DC: National Academies Press; 2011.

purchasing while reducing the variability in measure selection and decreasing provider collection burden and cost. The process of developing such transparency should be carefully implemented. The mandate to publicly report quality scores for plans on public exchanges went into effect in 2016. The Quality Reporting System (QRS) proposed for the federally facilitated marketplaces requires qualified health plans that include an embedded pediatric benefit to report on the 'Annual Dental Visit' measure of dental service utilization. CMS also fields a Qualified Health Plan (QHP) Enrollee Experience Survey that gauges consumer satisfaction with plans sold on the marketplaces, including dental plans. CMS star rating systems such as the Physician Compare, Hospital Compare, and Dialysis Facility Compare have become common place. The Quality Payment Program (QPP), implemented pursuant of the passage of MACRA, rewards value and outcome through the Merit Based Incentive Program (MIPS). Currently, there are two dental measures included in the MIPS for evaluating eligible dentists. In March 2017, CMS launched the Children's Oral Health Initiative (OHI) Value-Based Payment (VBP) that allowed selected state Medicaid programs to select, design, and test value-based payment approaches to sustain care delivery models that demonstrate improvement in children's oral health outcomes such as increasing outreach and services coordination to preventing childhood caries.

States are individually promoting the usage of quality measures by incorporating these into various reporting requirements such as for payment for performance (P4P) program by Texas Health and Human Services Pay-for-Quality (P4Q) Program and Massachusetts Delivery System Reform Incentive Payment Program; public reporting by the California Health Exchange (Covered California); and internal quality improvement within individual Medicaid programs.

The Health Center Program administered by the Health Resources and Services Administration (HRSA), provides a safety net for direct healthcare services and is collecting, analyzing, and benchmarking quality and cost data from health center members at the State level to drive improvement in patient care and outcomes. Currently, HRSA collects data through the Uniform Data System (UDS) system. Health Centers now report on the DQA dental sealants for 6-9 year olds eMeasure as part of their reporting on the UDS.

The National Quality Forum (NQF) is a private, not-for-profit organization, that works towards improving the quality of healthcare by building consensus on national priorities and goals for performance improvement and working in partnership to achieve them, endorsing national consensus standards for measuring and publicly reporting on performance, and promoting the attainment of national goals through education and outreach programs. An NQF endorsement reflects rigorous scientific and evidence-based review, input from patients and their families, and the perspectives of individuals throughout the healthcare industry.

Commercial health plans have long been engaged in developing measures for the purpose of program management and have used administrative data analyses to assess various quality or performance-related aspects of dentists in their network. In 2017, 49 percent of Americans received their health insurance through their employers[15]. Large employers purchasing health benefits for their workforce are in a strong position to influence the health care marketplace and routinely make health plan purchasing decisions on measurable quality and member

[15] Kaiser Family Foundation. http://kff.org/other/state-indicator/total-population/. Accessed 2019.

satisfaction.[16] By making quality of care a purchasing criterion and requiring evidence of quality, large purchasers also can use their power to create competition on the basis of quality and outcomes.

Plans have created various types of provider 'profiles' for internal use. These are now beginning to appear within provider directories to enable consumer choice. Most metrics are based on "out-of pocket" costs with limited focus on quality. For example, in a pilot program, Delta Dental of Massachusetts (DD of MA) has created "Prevention Report for At-Risk Children" report cards to help providers track children at higher risk for caries and a similar report for adults at high risk for periodontal disease to make sure each group receives adequate preventive care. [17] Such reports are also being developed for employers, enabling companies to easily track healthcare trends among their employees. DD of MA hopes these efforts will make a significant difference in the quality of healthcare by motivating providers and employers to become more active participants. [17] DentaQuest has a program called "Preventistry"[18] that seeks to incentivize providers to place sealants soon after tooth eruption. Similarly, United Healthcare also has a quality improvement program in New Jersey directed towards pediatricians who complete a

[16] Robst, John and Rost, Kathryn and Marshall, Donna, Do Employers Know the Quality of Health Care Benefits They Purchase?: Factors Related to Employer Knowledge of HEDIS Depression Scores for Health Plans (November 21, 2012).

[17] Institute of Oral Health Whitepaper on "Critical Issues and Innovative Solutions to Advance Quality in Dental Care Treatment and Delivery" 2009 Conference October 15-16, 2009 - San Jose, CA IOH Whitepaper on November 6, 2011.

[18] DentaQuest Preventistry Program. Accessed 2019.

referral to a dentist for high risk patients.[19] Delta Dental of Arkansas has a pay-for-performance programs that provides financial reward to participating dentists who demonstrate a pattern of delivering appropriate evidence-based preventive oral health care based on certain measures demonstrated to improve oral health. [20] Organizations like National Network of Oral Health Access (NNOHA)[21] as well as multi-site group practices have long been using complex quality measurement programs within their practices and developing "quality dashboards" that are made available to dentists that are sometimes paired with pay-for-performance programs. [22]

An increasing variety of stakeholders are demanding accurate measures of quality to determine whether high-quality care is being provided consistently across the healthcare delivery system. A 2012 report outlines an approach to expand the oral health quality improvement effort through data collection, accountability, and new ways of delivering oral health care. [23] A growing number of quality measures and reporting initiatives have resulted in a proliferation of measures that are often duplicative and unduly burdensome on healthcare providers and increase the potential for confusion among the public.[24] Measures of the same phenomenon also vary in specification and application, leading to confusion and inefficiency that make health care more

[19] Hunt, R. J. and Aravamudhan, K. Quality Movement in Oral Health Care: Who will lead? JADA 2014;145(5):421-423 10.14219/jada.2013.54

[20] Per email communication with Delta Dental of Arkansas Staff

[21] National Network of Oral Health Access. The Dental Dashboard. Accessed 2019.

[22] Snyder, John. Quality Measurement Models. 2015 DQA Conference. Accessed 2019.

[23] Glassman P, Oral Health Quality Improvement in the Era of Accountability. W.K. Kellogg Foundation and DentaQuest Institute, 2012.

[24] CMS Measures Management System. Accessed at CMS MMS November 15, 2011.

expensive and undermine the very purpose of measurement, namely, to facilitate improvement.[25] Not uncommonly, a health care organization delivering primary care to a typical population is asked to report and collect hundreds of measures aimed at dozens of conditions.[25]

CHALLENGES FOR MEASUREMENT IN DENTISTRY

Although a wide variety of entities have independently pursued quality measure development in dentistry, an environmental scan conducted by the DQA demonstrated a significant lack of standardized set of measures between public and private sectors and across communities, state, and national levels.[26] The measures that are routinely used are duplicative across different organizations (e.g., risk assessments, treatment planning, sealant and fluoride placement), lacking information on detailed specification with numerator and denominator descriptions and an excess of process measures rather than more outcome focused measurements.[26, 27, 28] Further, a balanced approach is needed that evaluates all aspects of care to better understand disparities and adequately plan for improved quality.[26] The development of and the use of valid, reliable, feasible and useable measures in dentistry remain challenging for many reasons.[26]

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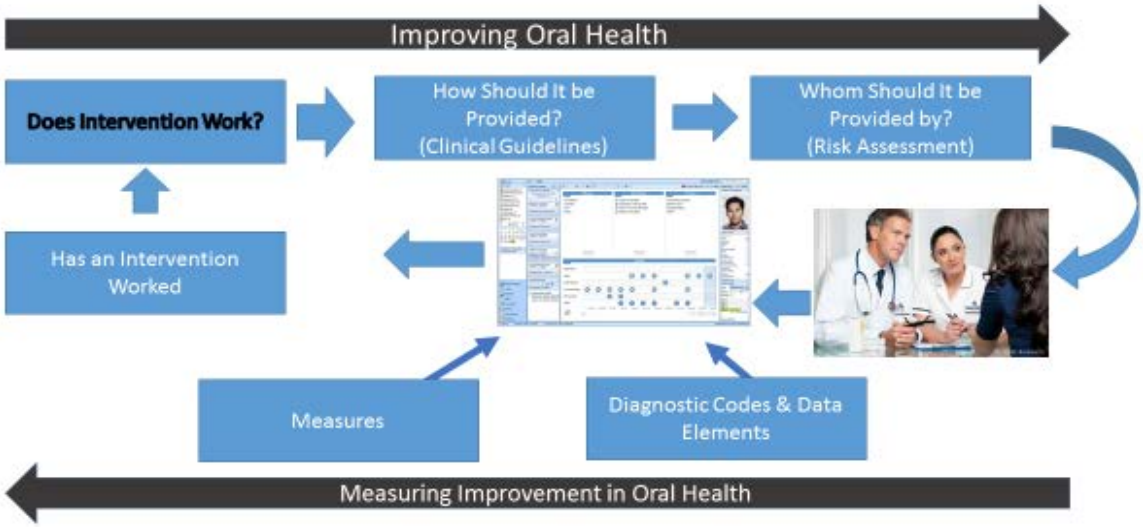
[25] D. Blumenthal and J. M. McGinnis., "Measuring Vital Signs: An IOM Report on Core Metrics for Health and Health Care Progress," Journal of the American Medical Association Viewpoint, published online April 28, 2015.

[26] Dental Quality Alliance, (2012). Pediatric Oral Health Quality and Performance Measures Concept Set: Achieving Standardization and Alignment. Accessed 2019.

[27] Dental Quality Alliance, (2015), Environmental Scan: Practice Based Measures

[28] Maternal and Child Oral Health Resource Center, (2018), Oral Health Quality Indicators for the Maternal and Child Health Population: Environmental Scan

- Limited availability of clear specifications
- Lack of standardization in measurement, with many duplicates
- Limited evidence to support many of the measures currently available
- Limited measurement of all aspects of care
- Lack of an organized system relating disease risk to diagnostic measures
- Limited availability of measures of patient safety
- Limited measures across multiple care delivery systems including medical, dental, and public health
- Limited accessibility of claims data



Although dentistry has recognized the need to adopt evidence based principles in the delivery of care, often they may be of limited value due to insufficient or inconclusive evidence. There are very few high-quality prospective clinical trials on oral health therapies. There is limited knowledge of true oral health outcomes, partly because dentistry does not have a tradition of formally reporting specific

diagnoses or associating such diagnoses with specific services,[29] especially through the claims process. Further, most dental practices and dental plans lack information systems capable of capturing and transmitting the information necessary for measurement.[30] Although retrospective claims data have many limitations, they continue to be the only data that are aggregated in dentistry today. Yet, limited availability of freely accessible claims data is also a significant challenge in measuring quality and performance. **Ultimately, dentistry needs a cost-effective measurement system that can be easily implemented on a routine basis in small practices, measures factors under the control of the practitioner, and yields meaningful information that can be acted upon for improvement.**

SUMMARY

In summary, the need to measure is rooted in the basic responsibility to assure that the public receives optimal benefits from available knowledge and effective care. Steeply rising costs and inconsistent quality of medical care have culminated in the national priority to deliberately seek value from healthcare. To assure that we are providing the highest quality patient-centered dental care, dentistry must measure what works and what doesn't and make changes needed to improve health outcomes. Not only are many measures imperfect, but they are proliferating at a rapid rate, increasing the data burden and blurring the ability to focus on issues most important to better health and health care. In an effort to curb any inappropriate quality measures being implemented across oral health delivery system, the Dental Quality Alliance is now leading the dental profession into a paradigm of standardized measuring and reporting for the purpose of quality improvement of oral healthcare.

[29] Bader JD, Shugars DA. Variation, treatment outcomes, and practice guidelines in dental practice. J Dent Educ 1995, 59: 61-96.

[30] Bader JD, Shugars DA, Hayden WJ Jr., et al. A health plan report card for dentistry. J Am Coll Dent 1996; 63:29-38.

DENTAL QUALITY ALLIANCE

The Dental Quality Alliance (DQA) was established in 2008 by the American Dental Association (ADA) upon request from the Centers for Medicare and Medicaid Services (CMS), to have an authoritative leadership role in the development of quality measures. Following input from internal and external stakeholders, the ADA Board of Trustees established the DQA and approved its operating rules in 2010. Many major dental professional societies, payers, educators, and a member from the general public have come together as an Alliance to further the DQA mission. The DQA currently has 37 organizations as members, including federal agencies who serve as its technical advisors. This strong participation by all stakeholders, in dentistry along with the volunteerism that generates the work products for the DQA, are paramount to its success.

The current members of the DQA are:

1. Academy of General Dentistry
2. ADA/ Board of Trustees
3. ADA/ Council on Advocacy for Access and Prevention
4. ADA/ Council on Dental Benefit Programs
5. ADA/ Council on Dental Practice
6. ADA/ Council on Government Affairs
7. Agency for Healthcare Research and Quality
8. America's Health Insurance Plans
9. American Academy of Oral & Maxillofacial Pathology
10. American Academy of Pediatric Dentistry
11. American Academy of Periodontology
12. American Association for Dental Research
13. American Association of Endodontists
14. American Association of Oral & Maxillofacial Radiology
15. American Association of Oral & Maxillofacial Surgeons
16. American Association of Orthodontists
17. American Association of Public Health Dentistry
18. American Board of Pediatric Dentistry
19. American College of Prosthodontics
20. American Dental Education Association
21. American Dental Hygienists' Association
22. Benevis Practice Services
23. Centers for Disease Control and Prevention
24. Centers for Medicare and Medicaid Services
25. D4C Dental Brands
26. Delta Dental Plan Association
27. DentaQuest
28. Health Resources and Services Administration
29. Managed Care of North America (MCNA) Dental
30. Medicaid | Medicare | CHIP Services Dental Association
31. National Association of Dental Plans
32. National Network for Oral Health Access
33. Physician Consortium for Performance Improvement
34. PreViser Corporation
35. Public Member
36. The Joint Commission
37. Veterans Health Administration

MISSION

The mission of the Dental Quality Alliance is to advance performance measurement as a means to improve oral health, patient care, and safety through a consensus-building process.

OBJECTIVES

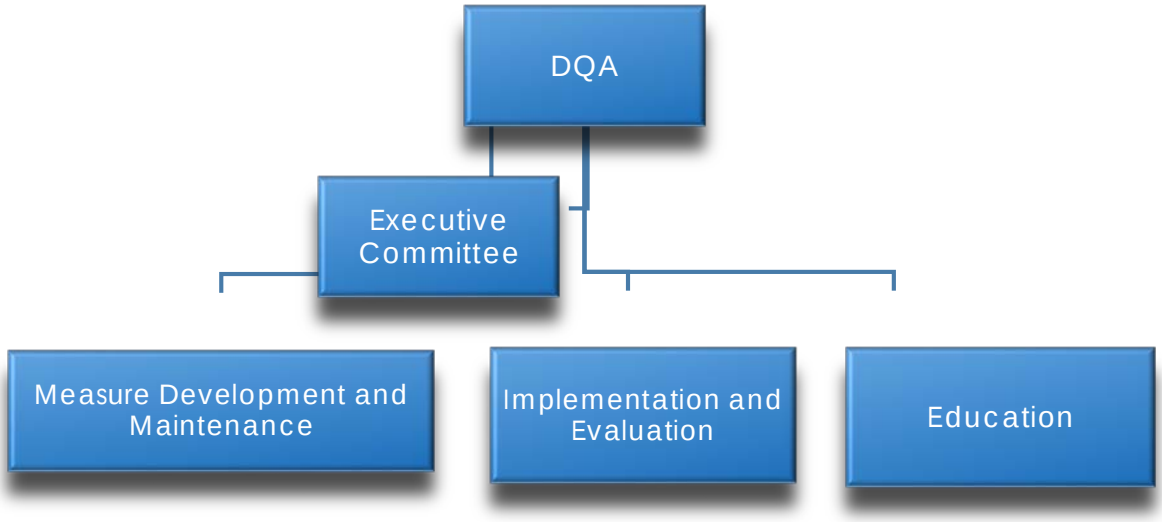
1. To identify and develop evidence-based oral health care performance measures and measurement resources.
2. To advance the effectiveness and scientific basis of clinical performance measurement and improvement.
3. To foster and support professional accountability, transparency, and value in oral health care through the development, implementation, and evaluation of performance measurement.

STRUCTURE AND COMMITTEES

The **DQA Executive Committee** oversees the governance, finance, structure, and operations of the DQA. The Executive Committee is composed of the following organizational members: ADA Board of Trustees, ADA Council on Government Affairs, ADA Council on Dental Practice, ADA Council on Dental Benefit Programs, ADA Council on Advocacy, Access and Prevention, the American Academy of Pediatric Dentistry, the Academy of General Dentistry, the National Association of Dental Plans, the American Dental Education Association, the American Academy of Periodontology and the CMS.

The DQA has three standing advisory committees that are organized to advance the field of performance and quality measurement by supporting the development, maintenance, implementation of measures as well as educating the different communities of interest.

The structure of the DQA is as follows:



The Measures Development and Maintenance Committee (MDMC) is charged with the development and maintenance of dental performance measures. This includes identifying concepts that are evidence-based, the development of the rationale and specifications of the measure and validating the concepts to satisfy the criteria set forth by the NQF. The MDMC also has an annual measure review to ensure timely assessment of the evidence and the properties of the measures.

The Education Committee (EC) is charged with identifying objectives and strategies for educating and communicating with the dental profession and other interested parties regarding performance measures and performance measurement. This Committee enables effective communication on quality and performance measures, as well as the DQA and its structure and function.

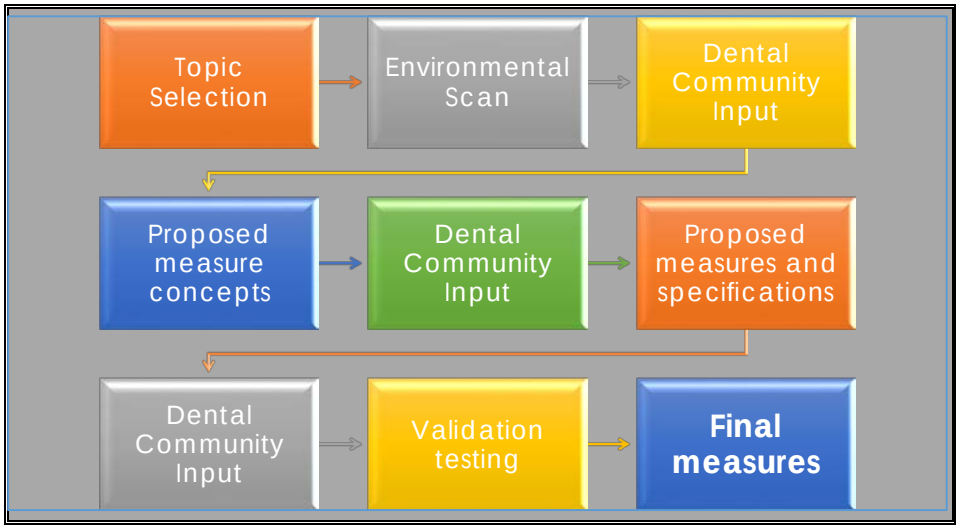
The Implementation and Evaluation Committee (IEC) is charged with developing resources to enable use of DQA measures within quality/performance improvement projects; looking into the data infrastructure in dentistry for measure implementation and quality improvement; and determining pathways to help establish a continuous learning health system for dentistry. The IEC is charged with overseeing the work of the Medicaid Quality Improvement Learning Academy (MeQILA) workgroup.

The Medicaid Quality Improvement Learning Academy (MeQILA) Workgroup is charged with overseeing the planning, development and establishment of a Medicaid Quality Improvement Learning Academy (MeQILA) to promote system-wide improvement in oral health. MeQILA brings together key stakeholders in oral health and is designed to impact system-level improvement at the state-level for Medicaid beneficiaries.

DQA MEASURE DEVELOPMENT

DQA undertakes a comprehensive approach to measure development that is collaborative, transparent, and meaningful. The process entails scanning the environment to identify existing oral health performance and quality measure concepts. The detailed scan is released to the dental community for input. Based on the feedback received, the DQA proposes specific measure concepts and releases those to the dental community for further comment. This transparent approach results in proposed measures and their draft specifications. Following a comprehensive and a competitive Request for Proposal (RFP) process, the DQA selects a capable research team to conduct validation testing. Throughout the testing process, the DQA engages the stakeholders continuously to solicit feedback and input. This process is discussed in detail in the DQA Measure Development Manual.[31]

[31] Dental Quality Alliance (2016). Procedure Manual for Performance Measure Development: A Voluntary Consensus Process. Accessed 2019.



SYSTEMS (PROGRAM/ PLAN) LEVEL DENTAL QUALITY MEASURE SET

In order to advance its mission of advancing performance measures and quality improvement in oral health, the DQA has developed and approved to date a total of 13 pediatric (Appendix A). Targeted at the goal of addressing "Dental Caries in Children: Prevention and Disease Management", these measures fall under the AHRQ's domains of use of services, process, access, and cost of care and address utilization, cost, and quality of dental services for children enrolled in public (Medicaid, CHIP) and private (commercial) insurance programs. In addition, DQA has also developed three adult dental quality measures that address utilization and quality of dental services for adults enrolled in public (Medicaid) and private (commercial) programs (Appendix A). DQA measures have been developed through extensive testing for validity, reliability, feasibility, usability, and clear specification, and with the intent of evaluating dental health services to allow dental plans and programs to monitor these services.

PRACTICE LEVEL DENTAL QUALITY MEASURES

The DQA has published measure specifications to support quality improvement (QI) at the practice level aligned with the program/plan level measures. In addition, the DQA has released a comprehensive guidance on implementation of practice-based quality measures to encourage payers to use appropriate measures when they engage in measuring practices.

Following CMS guidance, DQA began submitting its measures for endorsement to the NQF. NQF endorsement is the gold standard for healthcare quality and an important criterion for quality measure selection among public and private payers. NQF endorsed measures are evidence-based and valid, and in tandem with the delivery of care and is an important criterion for quality measure selection among many public and private payers.[32] Five DQA measures are currently endorsed by the NQF.

As measures are developed and endorsed, the DQA is placing significant focus on their implementation. User Guides have been developed by the DQA to provide guidance on the appropriate use of the DQA measures.[33] To maintain the integrity of its measures as well as to comply with the NQF's endorsement agreement, DQA has established a comprehensive measure maintenance protocol. Per the Annual Measure Review, the DQA measures and the User Guide are reviewed on an annual basis.

[32] National Quality Forum. Health and Well-Being Measures. Washington, CC: National Quality Forum; 2015. Accessed 2019.

[33] Dental Quality Alliance Program/Plan Level Dental Quality Measures. Accessed 2019.

DQA measures are currently implemented across both public and private sectors. These include marketplaces[34], public entities like the CMS[35] and HRSA[36] and individually by states.[37] As more entities implement these measures across different systems, a standardized, balanced approach towards measurement is achievable. In an effort to facilitate implementation, DQA provides technical assistance to users of DQA measures by conducting webinars and workshops, developing technical briefs and reports to educate the dental community at large to facilitate the appropriate implementation of these measures.

IMPROVEMENT ACTIVITIES

Medicaid Quality Improvement Learning Academy: The DQA has launched a multi-phased initiative to serve as a platform for peer to peer learning among multi-disciplinary teams from states to achieve sustainable quality improvement. This initiative brings together key stakeholders in oral health within a state including representatives from the state Medicaid program, dental Medicaid program, state oral health program, managed care oversight team, state dental association, managed care organization and state oral health coalition to collaborate with national experts in oral health to learn about, and design, oral health quality improvement projects to improve the health and well-being of enrollees in participating state Medicaid managed care programs.

Quality Innovators Spotlight (QIS): The DQA series titled Quality Innovator Spotlight highlights champions in the quality improvement arena. These QIS's summarize quality improvement projects

[34] Ann Milar. California making strides in dental care measurement. CDA Update. Vol. 27 Issue 9 September 2015

[35] 2019 Core Set of Children's Health Care Quality Measures for Medicaid and CHIP (Child Core Set). Accessed 2019.

[36] Health Services and Resources Administration (HRSA), March 2019. Approved Uniform Data System Changes for Calendar Year 2019.

[37] Texas Health and Human Services Medicaid and CHIP Programs - for payment program, public reporting, and quality improvement. Accessed 2019; Oregon Health Authority- for payment program, – Michigan Healthy Kids Dental – for quality improvement. Accessed 2019; Florida Medicaid – for public reporting and quality improvement.

and outcomes so others can use the strategies and program examples to create their own quality improvement project. The projects highlighted through the QIS series can be found on the DQA website.

EDUCATIONAL ACTIVITIES

As the measure development and implementation activities progress, the DQA is also very sensitive to the fact that all sectors of the profession that impact the oral health of our population must be educated on the need for quality and performance measurement. DQA maintains extensive educational resources on its webpage including journal articles and publication of whitepapers. DQA holds a conference on "quality measurement" every two years with the intent of training thought leaders in dentistry to spread knowledge and information about quality measurement. DQA, in partnership with the Institute of Healthcare Improvement (IHI), developed an online course specific to dentistry that will provide tools to identify key areas for improvement, then drive toward meaningful change. The DQA is continuously developing educational resources for various target audiences to promote the value of standardized measurement.

THE SCIENCE BEHIND MEASUREMENT

More than 40 years ago, a physician named Avedis Donabedian proposed a model for assessing healthcare quality based on structures, processes, and outcomes.[38]

He defined structure as the environment in which healthcare is provided, process as the method by which healthcare is provided, and outcome as the consequence of the healthcare provided. Since then, measurement of healthcare quality has evolved considerably and today many organizations, like the Joint Commission and the American Medical Association-convened Physician Consortium for Performance Improvement, lead the way in developing quality and performance measures in medicine. Over the past few decades, providers in the various realms of healthcare have adopted the principles of evidence based care. Evidence based clinical guidelines now form the basis for measures that allow clinicians and programs to identify opportunities for improvement and create performance improvement plans to improve the quality of care.

A list of definitions applicable to the field of measurement is available in Appendix D .

[38] Donabedian A. Evaluating the quality of medical care. Milbank Memorial Fund Quarterly 1966;44:166-206.

DOMAIN OF MEASURES

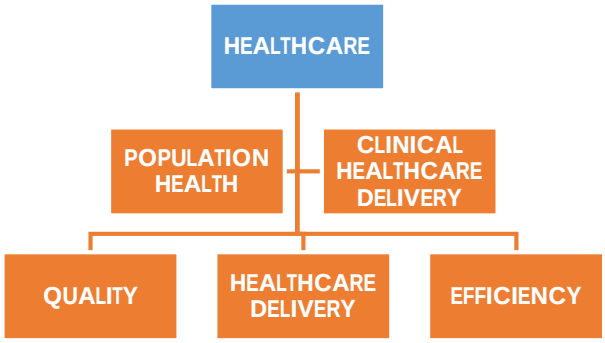
There are many dimensions of performance related to clinical healthcare delivery and population health within which measures can be developed.[39]

This classification of measures developed by the National Quality Measures Clearinghouse (NQMC) [39] is based on the following rationales:

- Keep the organization of measures consistent with historical conventions and extend those conventions
- Clarify the purpose and use of measures for developers and users
- Accommodate the expanding range of measure types over time, beyond the common focus on Process, Outcome, Access, and Structure.

Appendix G lists definitions of the NQMC domains of quality. Measurement can occur at different levels of healthcare. At the highest level, healthcare can be divided into two separate and different systems. Measures can apply to the population- based health system (e.g., through community-based programs such as water fluoridation, school sealant program, etc.) or to the clinical healthcare delivery system.[39] Clinical healthcare delivery measures are applicable to clinicians, clinical delivery teams, delivery organizations, or health insurance plans.[39] Health care delivery measures and population health measures can each be classified into three parallel sub-groups: quality measures, related measures and efficiency measures. [39]

[39] National Quality Measures Clearinghouse. https://www.qualitymeasures.ahrq.gov/about/domain-framework.aspx. Accessed 2019.



Clinical quality measures assess the performance of individual clinicians, clinical delivery teams, delivery organizations, or health insurance plans in the provision of care to their patients or enrollees. These measures are supported by evidence demonstrating that they indicate better or worse care.

Related healthcare delivery measures assess the non-quality aspects of performance of individual clinicians, clinical delivery teams, delivery organizations, or health insurance plans in the provision of care to their patients or enrollees. These measures are not supported by evidence demonstrating that they indicate better or worse care. (Note: non-quality refers to aspects of performance that addresses elements other than clinical quality).

Clinical efficiency measures assess efficiency directly (e.g., by comparing a measure of quality to a measure of resource use) or indirectly (e.g., by measuring the frequency with which healthcare processes are implemented that have been demonstrated by evidence to be efficient).

HALLMARKS OF A GOOD MEASURE

The process of developing measures includes clarifying the purpose of a measure and how it is to be applied; identifying a topic for measurement; writing the measure with its specifications; testing validity, reliability, usability and feasibility of the measure; and supporting implementation. A good measure is developed through a systematic process with input from many collaborators following a transparent,

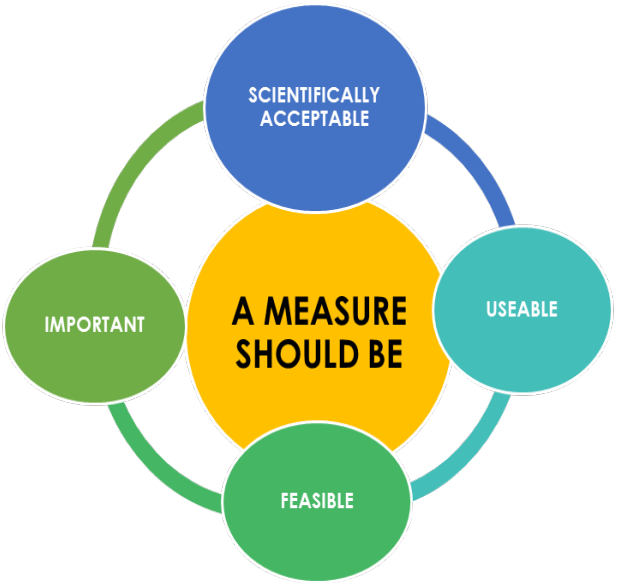
objective, and meaningful mechanism. The details of this process are listed out in the DQA's Measures Development Manual. [31] A good measure is one that[40]:

1. covers an important clinical area,
2. is scientifically acceptable (valid and reliable),
3. is useable,
4. is feasible.

Important measures are those that address, for example, unexplained variations in care; known or suspected problems with the quality of care; specific national healthcare goals or priorities; disease that causes high mortality or severe morbidity or affects large segments of the population; clinical processes and outcomes that are supported by strong evidence; or business practices that lead to increased efficiency.

Scientific acceptability includes reliability and validity of a measure. A measure should be well defined and precisely specified so that it can be implemented consistently within and across organizations and allow for comparability. Reliability testing demonstrates the measures results are repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period. Validity testing demonstrates that the measure reflects the quality of care provided, adequately identifying differences in quality.

[40] National Quality Forum. Measure Evaluation Criteria. Accessed 2019.



The measure must also be refined so that it is useable and relevant to those who will use the data generated by the measurement process and that those who will use the data can understand the results of the measure. The measure should also be one for which data can be collected and the required data are readily available, are retrievable without undue burden, and can be implemented for quality improvement i.e. be feasible for implementation. For clinical measures, the required data elements should be ones that are routinely generated during the process of delivering care or as a result of care delivery. Data elements that are already in electronic form or can easily be put into electronic form are preferable. In order to successfully measure to improve healthcare, measures need to be easily implemented on a routine basis in practices and yield meaningful information that can be acted upon.

LEVELS OF MEASUREMENT

Quality of care is assessed at multiple levels, such as practices, managed care organizations or medical/dental benefits administrators, public insurance programs, and public health programs. There often are different measurement considerations at different "levels" of care or "reporting unit" as well as across different types of data sources (e.g., administrative claims, EHRs, or surveys). 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.

As Medicaid programs and managed care organizations are increasingly held accountable for performance on these measures, they in turn hold their contracted practices accountable. Because practice-level measurement is often driven vertically (from program to plan to practice), practice-level measures will be most effective when aligned with program- and plan-level measurement. Standardized measurement that is aligned across public and private sectors and harmonized across different levels of reporting aggregation can help pave the way to improvement. Starting with broad populations, national goals guide the development of program-level measures, which are then used to derive practice- and clinician-level measures such that the underlying care improvement goals remain unchanged and the derivative measures are relevant to the populations served at each level. As part of quality improvement, this entity may provide benchmarks or other targets to encourage individual providers and institutions to undertake quality improvement.

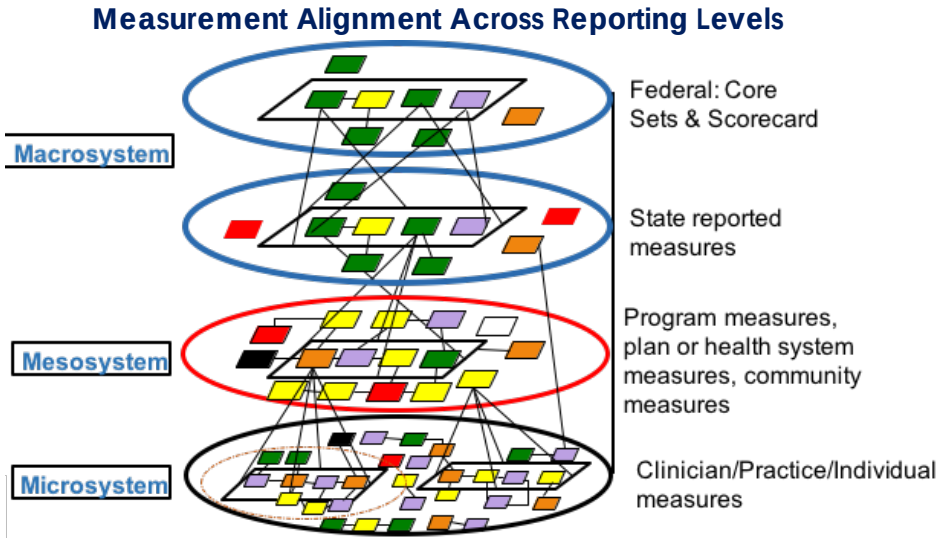


Figure source: Mary S. Applegate (Medicaid Medical Director, Ohio), adapted from Bojestig, M; Jonkoping County Council, Sweden. (2011). *Making system wide improvement in health care.* [PowerPoint slides]. Retrieved from http://www3.ha.org.hk/haconvention/hac2011/proceedings/pdf/Plenary%20Sessions/P3.2.pdf.

The level of accountability that an entity should have depends on whether the entity being evaluated has had an adequate opportunity to affect the aspect of quality that is being measured.

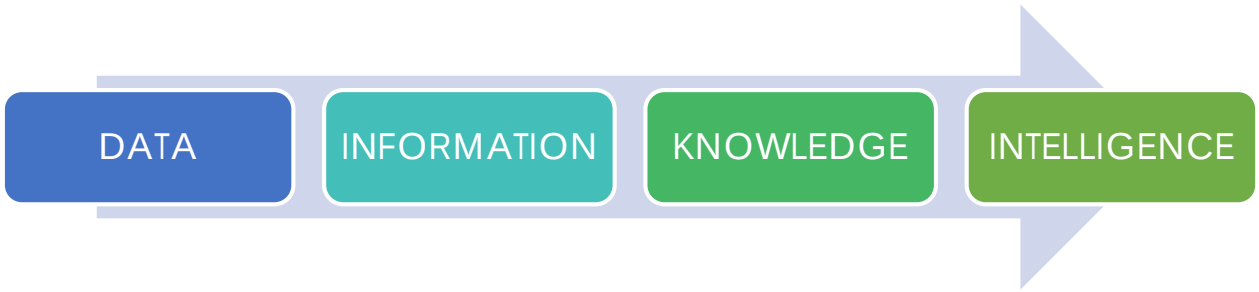
There is always a shared responsibility for treatment decisions between a doctor and patient. Providers can increase the likelihood that their patients will adhere to clinical recommendations, but there are no perfect interventions, and some patients will always choose not to follow recommendations. In choosing which aspects of quality to measure, which risk factors to adjust for, and which performance benchmarks to set, decisions should be made explicitly about how to distribute responsibility. Information about the disease course or risk-adjustment methods must be used to establish reasonable standards of accountability to distinguish between individual and health system responsibility.[41] The DQA has evaluated the concepts of "risk adjustment" in the context of dental quality measures and published a discussion document titled Risk Adjustment in Dental Quality Measurement.

MEASURING FOR IMPROVEMENT

Measures are primarily intended for improving the quality of care, accountability, or research. Data generated through measurement needs to be translated into information and knowledge and then used

[41] Health Affairs, 16, no.3 (1997):7-21 Six challenges in measuring the quality of health care. Accessed at Challenges for Measurement, 2011.

to make intelligent decisions on improving processes and outcomes of care. Improving quality of care can be conducted as either an internal process or through an external process.[39, 42]



Laying the Groundwork for Quality Improvement

The AHRQ defines Quality Improvement (QI) in health care, as "the framework we use to systematically improve the ways care is delivered to patients. Processes have characteristics that can be measured, analyzed, improved, and controlled. QI entails continuous efforts to achieve stable and predictable process results, that is, to reduce process variation and improve the outcomes of these processes both for patients and the health care organization and system. Achieving sustained QI requires commitment from the entire organization, particularly from top-level management."[43]

Considerations to Foster Improvement:

A phased and structured approach with one sustainable improvement built on another is essential to achieving a high quality system. Some key considerations to foster improvement within an organizations are as follows:

Engage all stakeholders in the change process

[42] Medicare: A Strategy for Quality Assurance, Volume I (1990) Institute of Medicine (IOM).

[43] Module 4. Approaches to Quality Improvement. Content last reviewed May 2013. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/professionals/prevention-chronic-care/improve/system/pfhandbook/mod4.html.

A broader stakeholder group should be identified and engaged at its earliest stages to identify common care improvement goals and ongoing engagement throughout the quality improvement cycle to ensure alignment in quality improvement efforts are critical to achieving meaningful and sustainable change.[44]

Understanding Baseline and Improvement Opportunities

Also called the root-cause analysis, this step in the planning process in essential to ensuring an appropriate **Aim** is established for the quality improvement project. Improvement is best achieved when a collaborative approach is taken. Most QI efforts in dentistry have focused on individual process goals rather than a comprehensive coordinated approach with a focus on health outcomes. Thus, having a multi-disciplinary team that champions key stakeholder engagement to understand ongoing improvement opportunities will be key to successful improvement efforts.

Resource to facilitate Improvement

Sustainable improvement takes planning, time and resources: identifying these resources that target different, yet complementary, aspects of care is key to achieving meaningful, high-impact change. Alignment and synergy across these resources targeting common goals avoid duplicative or fragmented initiatives.

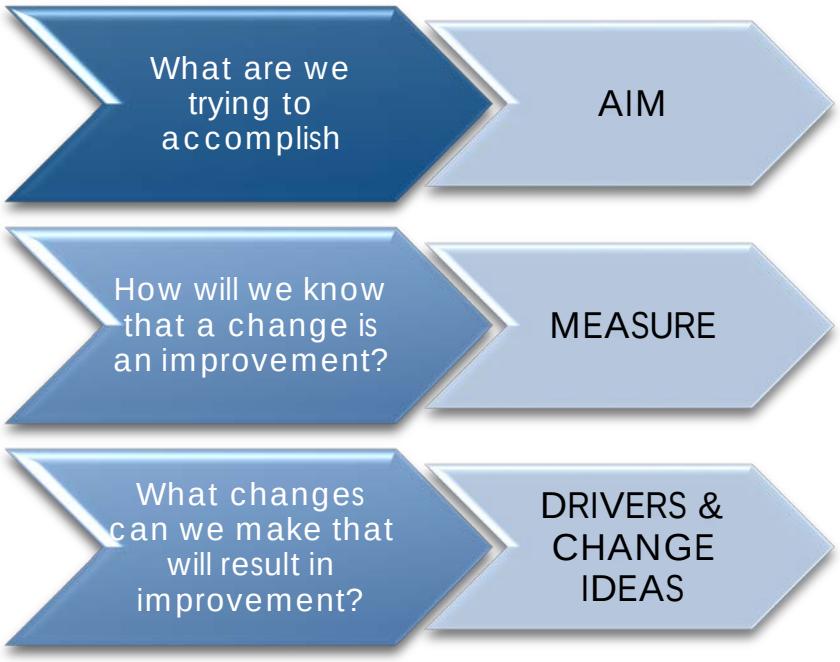
Institute for Healthcare Improvement (IHI) Model for Improvement

The Model for Improvement (MFI)[45] is the most commonly used QI approach in health care and was developed by the Institute for Healthcare Improvement (IHI) in 1996 and published in The Improvement

[44] Engaging Stakeholders to Improve the Quality of Children's Health Care. Content last reviewed March 2019. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/policymakers/chipra/demoeval/what-we-learned/implementation-guides/implementation-guide1/index.html.

[45] Langley GL, Moen R, Nolan KM, Nolan TW, Norman CL, Provost LP. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance (2nd edition). San Francisco: Jossey-Bass Publishers; 2009. Accessed from: The Institute for HealthCare Improvement. 2019.

Guide: A Practical Approach to Enhancing Organizational Performance (1996).[44] The MFI uses a rapid cycle process called Plan Do Study Act (PDSA) cycles to test the effects of small changes, make them, and ultimately spread the effective changes through the practice or organization.



Planning for Change

MFI emphasizes the following steps for accelerating improvement[46]:

- Forming the Team: A Quality Improvement Team should be formed that includes individuals with complementary areas of expertise needed to develop, implement and lead an effective improvement strategy. If critical areas of expertise are lacking within the organization, external advisors or consultants should be sought to fills those gaps.[47]

[46] Institute for Healthcare Improvement. How to Improve. Accessed 2019.

[47] Institute for HealthCare Improvement. Science of Improvement: Forming the Team. Accessed 2019.

- Setting Aims: Next having a clearly, articulated **Aim** that is specific, measureable, and time-bound that also identifies the population that is the target of improvement is key to successful improvement strategy.
- Establishing Measures: Identification of measures that enables to monitoring of progress over time – to identify whether the desired improvement has occurred. Measures may be of **outcome measures** (e.g., percentage of children ages 0-5 with early childhood caries), **process measures** (e.g., percentage of children 0-5 who received a fluoride varnish application), or **access measures** (e.g., percentage of children 0-5 who had a comprehensive or periodic oral evaluation). The IHI recommends using a balanced set of measures.
- Selecting Changes: An effective model of change comes from the IHI that creates a framework to meet a specific aim. After identifying a specific, measureable, and time-bound Aim, the **primary drivers of change** are selected, which are system components or factors which contribute directly to achieving the aim. Next, **secondary drivers** are selected, which are lower level and more actionable components necessary to influence the primary driver. Finally, the **change idea** is a specific action or intervention identified which will support achievement of change in the secondary and primary drivers.
- Testing Changes: Testing changes allows one to assess if a change leads to an improvement. The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method, used for action-oriented learning.[48]
- Implementing Changes: Implementation is a permanent change to the way work is done and, as such, involves building the change into the organization or scaling it up. It may affect

[48] Institute for Healthcare Improvement. Science of Improvement: Testing. Available at: http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementTestingChanges.aspx. Accessed 2019.

documentation, written policies, hiring, training, compensation, and aspects of the organization's infrastructure that are not heavily engaged in the testing phase. Implementation also requires the use of the PDSA cycle.[49]

- Spreading Changes: Spread is the process of taking a successful implementation process from a pilot unit or pilot population and replicating that change or package of changes in other parts of the organization or other organizations.[50]

The Golden Rules of Measurement for Improvement

- **Measure to gauge process in achieving aims**: Measures should be selected that inform progress toward reaching the ultimate care goal. Each specific aim should have corresponding performance measures. Some measures may address more than one aim.

- **Measure over time:** Baseline measurement provides the starting point from which opportunities for improvement can be identified and progress can be assessed. **Repeated measurement** over time is necessary to monitor for change. It is important to recognize that some measures, such as process of care measures, may show more immediate improvement. In contrast, some outcome measures may not show improvement until after several aims have been implemented and have had time to take effect at the population level. Set realistic time frames for achieving intermediate and longer-run goals.

- **Maintain a Population Health Focus:** Keep eyes on the prize! The program should examine "outcomes" at the population level and include measures that ensure that the true care goal is

[49] Institute for Healthcare Improvement. Science of Improvement: Implementing Changes. Accessed 2019.

[50] Institute for Healthcare Improvement. Science of Improvement: Spreading Changes. Accessed 2019.

being met without unintended adverse consequences. For example, focusing measurement on only the subset of enrollees that seek dental care will miss a significant component of the population.

APPENDIX A: LIST OF DQA PEDIATRIC AND ADULT MEASURES

Evaluating Utilization

Measure Abbreviation	Measure Name	Description
UTL-CH-A	Utilization of Services‡	Percentage of all enrolled children under age 21 who received at least one dental service within the reporting year.
PRV-CH-A	Preventive Services for Children at Elevated Caries Risk‡	Percentage of all enrolled children who are at "elevated" risk (i.e., "moderate" or "high") who received a topical fluoride application and/or sealants within the reporting year.
TRT-CH-A	Treatment Services	Percentage of all enrolled children who received a treatment service within the reporting year.
PEV-A-A	Periodontal Evaluation in Adults with Periodontitis	Percentage of enrolled adults aged 30 years and older with history of periodontitis who received a comprehensive or periodic oral evaluation or a comprehensive periodontal evaluation within the reporting year.

Evaluating Quality of Care

Measure Abbreviation	Measure Name	Description
OEV-CH-A	Oral Evaluation	Percentage of enrolled children under age 21 who received a comprehensive or periodic oral evaluation within the reporting year.
TFL-CH-A	Topical Fluoride for Children at Elevated Caries Risk‡	Percentage of enrolled children aged 1–21 years who are at "elevated" risk (i.e., "moderate" or "high") who received at least 2 topical fluoride applications within the reporting year.
SL1-CH-A	Sealants for 6–9 Year-Old Children at Elevated Caries Risk‡	Percentage of enrolled children in the age category of 6–9 years at "elevated" risk (i.e., "moderate" or "high") who received a sealant on a permanent first molar tooth within the reporting year.
SL2-CH-A	Sealants for 10–14 Year-Old Children at Elevated Caries Risk	Percentage of enrolled children in the age category of 10–14 years at "elevated" risk (i.e., "moderate" or "high") who received a sealant on a permanent second molar tooth within the reporting year.
CCN-CH-A	Care Continuity	Percentage of all children enrolled in two consecutive years who received a comprehensive or periodic oral evaluation in both years.
USS-CH-A	Usual Source of Services	Percentage of all children enrolled in two consecutive years who visited the same practice or clinical entity in both years.
EDV-CH-A	Ambulatory Care Sensitive Emergency Department Visits for	Number of emergency department visits for caries-related reasons per 100,000 member months for all enrolled children

	Dental Caries in Children	
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 0–20 years in the reporting period for which the member visited a dentist within (a) 7 days and (b) 30 days of the ED visit.
POC-A-A	Ongoing Care in Adults with Periodontitis	Percentage of enrolled adults aged 30 years and older with a history of periodontitis who received an oral prophylaxis OR scaling/root planing OR periodontal maintenance visit at least 2 times within the reporting year.
TFL-A-A	Topical Fluoride for Adults at Elevated Caries Risk	Percentage of enrolled adults aged 18 years and older who are at "elevated" risk (i.e., "moderate" or "high") who received at least 2 topical fluoride applications within the reporting year.
EDV- A-A	Ambulatory Care Sensitive Emergency Department Visits for Non-Traumatic Dental Related Reasons in Adults	Number of emergency department (ED) visits for ambulatory care sensitive dental conditions per 100,000 member months for enrolled adults
EDF-A-A	Follow-up after Emergency Department Visits for Non-Traumatic Dental Related Reasons in Adults	The percentage of ambulatory care sensitive dental condition emergency department visits among adults aged 18 years and older in the reporting period for which the member visited a dentist within (a) 7 days and (b) 30 days of the ED visit
DOE-A-A	Adults with Diabetes – Oral Evaluation	Percentage of enrolled adults with diabetes who received a comprehensive or periodic oral evaluation or a comprehensive periodontal evaluation within the reporting year

Evaluating Efficiency and Cost

Measure Abbreviation	Measure Name	Description
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 enrolled children during the reporting year.

[†]The detailed specifications can be found on the DQA website at: https://www.ada.org/en/science-research/dental-quality-alliance/dqa-measure-activities/measures-medicaid-and-dental-plan-assessments.

APPENDIX B: USEFUL LINKS & RESOURCES

Below are some links that provide more detailed information on measurement.

Oxford Journal Method to Develop Measures
This link from Oxford Journals describes the methods to develop measures.

National Quality Forum
This link to the NQF website provides information on NQF endorsed measures including the endorsement methods.

AHRQ Child Health Toolbox
This link from AHRQ provides information on concepts, tips, and tools for evaluating the quality of health care for children.

Institute for Healthcare Improvement (IHI) Educational Resources
This link to the Institute for Healthcare Improvement website offers tools, change ideas, measures to guide improvement, IHI white papers, audio and video, improvement stories, and more to help with improvement efforts.

Donabedian Paper on Quality
Avedis Donabedian's 1966 publication on defining quality.

HRSA Oral Health Mainpage
This is the HRSA Oral Health page which explores the identification of five key oral health domains and associated core clinical competencies.

Medicaid Innovation Acceleration Project – Oral Health
This resource list provides hyperlinks and brief descriptions of relevant Value-Based Payment articles and toolkits.

APPENDIX C: FREQUENTLY ASKED QUESTIONS

1. Why should the dental profession measure quality?

The need for measurement is rooted in the basic responsibilities to assure that the public receives optimal benefits from available knowledge and effective care. Changing regulatory priorities set forth by the Affordable Care Act (ACA) and ongoing activities of the Centers for Medicare and Medicaid Services (CMS) clearly prioritize the need to improve the quality of health care in both the public and private sectors. To ensure that the profession is providing the highest quality patient-centered dental care, dentistry should be able to measure what works and what doesn't in terms of a patient's health and make changes needed to improve the outcomes of care. Establishing measures to identify and monitor innovative approaches to reduce incidence of oral disease, while simultaneously improving effectiveness and efficiency of care through a focus on prevention, is an important national priority. The ultimate goal for measurement is to improve; and measurement must be undertaken in a collaborative manner by all stakeholders in quality within the profession.

2. Why is it important for the dental leadership to support and advocate for quality measures?

As policy decisions in the payer and regulatory community take root, it is important for the dental leadership to engage with all stakeholders to provide feedback into these decisions, i.e., what should be measured and how the results should be interpreted so as to positively and meaningfully influence change. The profession should be the entity that informs these decisions, since they are the most knowledgeable regarding clinical care, technical ability, and most effective delivery models.

3. What are the implications of measurement?

The ultimate goal of measurement is to improve the quality of oral healthcare. Creating, measuring, and analyzing the resultant data serves as a powerful tool to identify areas for quality improvement. Besides direct quality improvement, assessment upholds public trust and provides consumer information and accountability to policy makers, payers, and others who purchase care. Measurement further demonstrates that funding provided for healthcare services is being used for its stated purpose and is

producing effective results. Thus, measures are intended to improve quality of care, accountability, or program management.

4. What is the potential burden for introducing measurement into a practitioner's day to day activities?

Data for measurement can be obtained from administrative sources (encounters and claims), patient records and surveys. In dentistry, data are already being collected through the claims process. Such data are currently proprietary to the payers who use it to make policy decisions, conduct research, and increasingly to provide performance and quality measures information to providers, employers, and consumers. In the future, dentists may be required to report diagnostic codes and other data elements required for specific measures, either on a claim form or through a medical record. Quality measurement does not place an additional burden beyond reporting these additional data elements.

5. What is "quality of care" and a "quality measure"?

The Institute of Medicine (2000) defines "quality of care" as "the degree to which healthcare services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." The IOM defines quality measures as "the mechanisms that enable the user to quantify the quality of a selected aspect of care by comparing it to an evidence-based criterion that specifies what better quality is." (NQMC).

6. What is "performance measurement"? Why should my performance as a provider be measured?

Performance measures help identify the areas that can be improved to achieve goals for optimum health. Dentists often think measuring their performance is the same as determining the quality of the restoration's margins or the technical excellence of the crown. However, as a measure, those qualities tell very little about the impact of the restoration or crown on the actual health of the patient. Instead, performance measures are those supported by evidence that the subject of the measure has led to

improved outcomes.[51] For example, measuring whether sealants have been provided to a patient at high-risk for caries to reduce the incidence of caries or if surgical instruments have been autoclaved prior to each use to prevent infections is indicative of performance.

7. Is there evidence for improved oral health based on existing quality measures?

Although there are a number of randomized controlled trials that demonstrate the efficacy of preventive services such as fluoride and sealants, there are only a few peer-reviewed studies[52,53, 54,55,56, 57, 58, 59] that document treatment outcomes following provision of these services. Payers with access to claims data have demonstrated these improvements in health (e.g., fewer restorations needed for children who received sealants). Limited availability of such data to health service researchers, however, hinders their progress in the quality measurement field. To gather such evidence, all stakeholders must embrace transparency and accountability in helping overcome these challenges.

Note: In efficacy trials (explanatory trials), researchers aim to determine whether an intervention produces the expected result under ideal circumstances. In effectiveness trials (pragmatic trials), researchers

[51] Institute of Oral Health Whitepaper on "Critical Issues and Innovative Solutions to Advance Quality in Dental Care Treatment and Delivery" 2009 Conference October 15-16, 2009 - San Jose, CA

[52] Weintraub JA, Stearns SC, Rozier RG, et al. Am Treatment outcomes and costs of dental sealants among children enrolled in Medicaid. J public Health. 2001 Nov;91(11):1877-81.

[53] Dasanayake AP, Li Y, Kirk K, et al. Restorative cost savings related to dental sealants in Alabama Medicaid children. Pediatr Dent. 2003 Nov-Dec;25(6):572-6.

[54] Bhuridej P, Kuthy RA, Flach SD, et al. Four-year cost-utility analyses of sealed and nonsealed first permanent molars in Iowa Medicaid-enrolled children. J Public Health Dent. 2007 Fall;67(4):191-8.

[55] Bhuridej P, Damiano PC, Kuthy RA, et al. Natural history of treatment outcomes of permanent first molars: a study of sealant effectiveness. J Am Dent Assoc. 2005 Sep;136(9):1265-72.

[56] Gale TJ, Hanes CM, Myers DR, et al. Performance of sealants applied to first permanent molars in a dental school setting. Pediatr Dent. 1998 Sep- Oct;20(5):341-4.

[57] Dennison JB, Straffon LH, Smith RC. Effectiveness of sealant treatment over five years in an insured population.J Am Dent Assoc. 2000 May;131(5):597-605.

[58] Robison VA, Rozier RG, Weintraub JA, et al. The relationship between clinical tooth status and receipt of sealants among child Medicaid recipients. J Dent Res. 1997 Dec;76(12):1862-8.

[59] Pahel BT, Rozier RG, Stearns SC, et al. Effectiveness of preventive dental treatments by physicians for young Medicaid enrollees. Pediatrics. 2011 Mar;127(3):e682-9.

measure the degree of beneficial effect in real-world clinical settings. Analysis of retrospective claims data has the potential to provide some evidence to this effect.

8. How are measures developed and evaluated?

Measurement always starts with an established goal for quality improvement. Once a goal for improvement, e.g., "reduce caries among all school children" has been identified, there are some standard steps to develop measures. These steps include activities such as developing specifications, identifying data sources, addressing data quality issues, sampling, and testing for validity and reliability, followed by field testing to ensure meaningful use of the measure to help identify areas for quality improvement. Data for measurement are usually obtained from dental encounters or claims, patient records, and surveys. Thus, the process of developing and testing is rigorous and can take significant time before a measure can be implemented.

9. Who will "measure" and "report"? How will they do it?

Quality assessment is of interest to organizations that are accountable for the quality of care delivered across systems of care, such as the CMS interest in assessing care that is delivered under the Medicare and Medicaid programs. All health delivery organizations whether direct providers like the hospitals, medical and dental practices, or indirect providers like the health/ dental plans, , preferred provider organizations, and other systems may be interested in doing internal assessment of the quality of care.

The assessment is generally done as part of a routine reporting and analysis schedule. As part of quality improvement, the organization sponsoring the assessment program usually provides benchmarks or other targets to encourage individual providers and institutions to undertake internal quality improvement.

10. Who will use the results and for what?

The results can be used by the profession itself, government programs, and third party payers to better assess the value of oral health care and how it can be improved. Results are also useful to employers who manage wellness programs for their workforce and to consumers to make educated choices in their own

healthcare. The ultimate goals of measurement are quality improvement, accountability, and program management. Payers and regulators have started paying attention to evidence-based interventions to determine which population is better served when deciding how to spend limited healthcare dollars. Plans have created various types of provider 'profiles' for internal use. It is anticipated that practice-level or clinician-level measurement will be used increasingly by payers to create 'selective' or 'high-value' networks.

11. What is the role of the Dental Quality Alliance in the field of measurement?

In recent years, a growing number of quality measure and reporting initiatives have resulted in a proliferation of measures that are often duplicative and unduly burdensome on healthcare providers. In an effort to curb any inappropriate quality measures being implemented across oral health delivery system, the DQA, established by the ADA, through the active collaboration of its many and diverse partners representing its communities of interest within and outside the dental profession, is now leading the dental profession into a paradigm of standardized measuring and reporting for the purpose of quality improvement of oral healthcare. The DQA has developed a complete set of twelve pediatric measures for evaluation of programs and plans. Of these, five measures have been endorsed by the National Quality Forum (NQF). NQF is the gold standard for quality measure development and attests to the caliber of the DQA's measurement development process. The credibility that the DQA has established for itself guarantees that for the foreseeable future any government agency looking for program/plan level measures will turn to the DQA.

12. What are the difference between ICD and SNODENT codes? How do these codes relate to performance/quality measures?

The World Health Organization's International Classification of Diseases or ICD is universally accepted as a codified system used to describe diagnosis of disease. Code sets such as SNOMED-CT (Systematized Nomenclature of Medicine–Clinical Terminology), and its subset of dental terminology, termed SNODENT, are designed to codify the clinical information captured in an electronic health record during the course of patient care. For more information on Snodent, please access the following link.

In terms of quality, recording diagnostic codes can prevent miscommunication on diagnoses and provide the ability to compare the specific treatments and the outcomes of these treatments in patients with similar diagnoses. In 2009, HIPAA regulations designated ICD-10 as the official transactional code set for medical/dental claims adjudication. More information on ICD can be found here.

However, as of now, the validity of reporting these codes across delivery systems is yet to be determined so the current quality measures are still dependent upon CDT procedure codes rather than any diagnostic codes.

13. What is the difference between "programmatic" and "clinical" measures?

Clinical healthcare delivery measures are applicable to clinical delivery teams, delivery organizations, clinicians or health insurance plans.[34] In general, data are collected at the clinician level for any clinical performance measure. The individual performance of clinicians, however, can be aggregated and reported for different accountable entities such as clinical delivery teams, hospitals, health insurance plans, or other programs associated with healthcare delivery. These aggregated clinical performance measures become programmatic measures for that accountable entity. As part of quality improvement, this entity may provide benchmarks or other targets to encourage individual providers and institutions to undertake quality improvement.

14. What is the link between evidenced-based dentistry and quality measures?

Evidence-based care recognizes a continuum of increasing rigor of scientific evidence in which randomized controlled clinical trials provide the highest level of evidence of clinical efficacy of a certain treatment. A study published in the Journal of the American Dental Association demonstrated sealant effectiveness using the Iowa Medicaid claims data by showing that children who received sealants received less subsequent restorative treatment than did those without sealants. The Institute of Medicine defines quality measures as "the mechanisms that enable the user to quantify the quality of a selected aspect of care by comparing it to an evidence-based criterion that specifies what is better quality."

Quality measurement employs outcomes data secondarily from dental claims, medical/dental records, or patient surveys to determine whether evidence- based interventions, when implemented at the clinician or program level, are effective in improving oral health of patients. For example, many randomized controlled trials have demonstrated the efficacy of sealants under controlled conditions.

15. What is still needed in dentistry to implement meaningful measurement and improve quality?

Even today there remain very few evidence-based guidelines on which measures can be based. There is a lack of knowledge of true health outcomes, which occurs in part because dentistry does not have a tradition of formally recording specific diagnoses or associating such diagnoses with specific services.[36] Further, most dental practices and dental plans lack information systems capable of capturing the information necessary for measurement.[37] Lastly, limited availability of freely accessible claims data is a significant limitation for health service researchers to track progress on oral health quality.

APPENDIX D: DEFINITION OF KEY TERMS

While one-single comprehensive glossary of standard terms does not exist, the DQA Education Committee has compiled a list from different sources, cited below. Please note some terms have multiple definitions.

Quality of Care: "The degree to which healthcare services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." (IOM) According to the HRSA Office of Health Information Technology and Quality, "Quality healthcare is the provision of appropriate services to individuals and populations that are consistent with current professional knowledge, in a technically competent manner with good communication, shared decision-making and cultural sensitivity. (HRSA)

Quality Management: "A body of coordinated activities designed to direct and control an organization with respect to quality. Such activities typically include establishing quality policies, quality objectives, quality planning, quality control, quality measurement and quality assurance and quality improvement." (IHI)

Quality Improvement – "A set of techniques for continuous study and improvement of the processes of delivering healthcare* services and products to meet the needs and expectations of the customers of those services and products. It has three basic elements: customer knowledge, a focus on processes of healthcare delivery*, and statistical approaches that aim to reduce variations in those processes". (IOM)

**Note: "Process" does not refer to "quality of the margins of a restoration" or the "quality of the cavity preparation". A "process" at the clinician level refers to the care that the provider chooses to deliver based on his or her clinical evaluation of the patient. Such care should be consistent with the current knowledge for effectiveness. For example, the "process of care" for a patient with a history of treated chronic periodontitis would be provision of periodontal maintenance service for those at risk for chronic*

periodontitis. Note that a "process" of care can also apply to system level processes that could affect the delivery of care. For example, within a system, a child who received emergency care must then be successfully placed into follow-up care by a dentist.

Quality Assessment: "Is the measurement of the technical and interpersonal aspects of healthcare and the outcomes of that care. Assessment is expressly a measurement activity." (IOM)

Quality Measurement: "The use of tools that help us measure or quantify healthcare processes, outcomes, patient perceptions, and organizational structure and/or systems that are associated with the ability to provide high-quality health-care and/or that relate to one or more quality goals for healthcare". (CMS)

Quality Measures: "The mechanisms that enable the user to quantify the quality of a selected aspect of care by comparing it to an evidence-based criterion that specifies what is better quality." (NQMC)

Performance Measure: "A mechanism for assessing the degree to which a provider competently and safely delivers the appropriate clinical services to the patient within the optimal time period". (NQMC) A performance measure describes a patient need that, when successfully addressed, can lead to a better health outcome within a specific time frame. (MCHB).

Note: Dentists often think measuring their performance is the same as determining the quality of the restoration's margins or the technical excellence of the crown. As a measure, however, these qualities tell us very little about the actual health of the patient.[38] *Instead, performance measures are those supported by evidence that the subject of the measure has led to improved health outcomes. For example, if sealants have been provided to a patient at high-risk for caries to reduce the incidence of caries or if surgical instruments have been autoclaved prior to each use to*

An extended glossary of the terms defined above is available at AHRQ Glossary and NQMC Glossary.

Note on some common terms:

"Metrics": Attribute being measured; e.g., "quality of care" is a metric.

"Measure": Operation of assigning a number to a metric; e.g., "the percentage of higher risk kids in the Medicaid program that received dental sealants" is a measure of "quality".

"Measurement": Resultant number after analysis of the data; e.g., "30%" is the measurement. "Domain": Metrics can be further divided into domains to classify measure.

APPENDIX E: COMMONLY USED ACRONYMS

CAHPS: Consumer Assessment of Healthcare Providers & Systems is a public-private initiative to develop standardized surveys of patients' experiences with ambulatory and facility-level care. (AHRQ)

CDT: Current Dental Terminology is the ADA reference manual that contains the Code on Dental Procedures and Nomenclature and other information pertinent to patient record keeping and claim preparation by a dental office; (ADA)

CPT: Current Procedural Terminology is a listing of descriptive terms and identifying codes developed by the American Medical Association (AMA) for reporting practitioner services and procedures to medical plans and Medicare. (ADA)

HEDIS: Healthcare Effectiveness Data and Information Set is a tool used by more than 90 percent of America's health plans to measure performance on important dimensions of care and service. This measure set was developed and is maintained by NCQA. (NCQA)

HIPAA: Health Insurance Portability and Accountability Act of 1996 is a federal law intended to improve the portability of health insurance and simplify healthcare administration. HIPAA sets standards for electronic transmission of claims-related information and for ensuring the security and privacy of all individually identifiable health information. (HRSA)

HIT: Health Information Technology is the application of information processing involving both computer hardware and software that deals with the storage, retrieval, sharing, and use of healthcare information, data, and knowledge for communication and decision making. (HRSA)

ICD-10: International Classification of Disease- 10th Revision is an international disease classification system developed by the World Health Organization (WHO) that provides a detailed description of known diseases and injuries. The classification system is used worldwide for morbidity and mortality statistics, reimbursement systems, and automated decision support in medicine. (HRSA)

SNODENT: Systematized Nomenclature of Dentistry is a tool for capturing detailed diagnostic information in a dental EHR environment; clinical findings, anatomic sites, morphologies, etiologies, and diagnoses are encoded and organized in hierarchies for purposes of data capture, aggregation, and analysis designed to support quality assessment, quality improvement, evidence based practices, public health, and patient safety

APPENDIX F: ACRONYMS FOR ORGANIZATIONS

ACHS: The Australian Council on Healthcare Standards is a private, non-profit organization that is the leading accreditation body in Australia. It provides quality assessment for healthcare organizations such as hospitals, ambulatory care clinics, specialty services, and other provider organizations.

AHRQ: Agency for Healthcare Research & Quality is a US federal agency charged with improving the quality, safety, efficiency, and effectiveness of healthcare for all Americans.

ASQ: American Society for Quality is the global quality leader that offers memberships, tools, training, certifications, books, and more on topics around quality assurance and improvement.

CAHMI: Child and Adolescent Health Measurement Initiative is a group based in the Oregon Health and Science University Department of Pediatrics, dedicated to advancing consumer-centered healthcare for children, youth and families.

CMS: Centers for Medicare and Medicaid Services is a US federal agency which administers Medicare, Medicaid, and the Children's Health Insurance Program.

HRSA: Health Resources and Services Administration is the primary US federal agency for improving access to healthcare services for people who are uninsured, isolated, or medically vulnerable.

HMD: The Health and Medicine Division (HMD), previously known as the Institute of Medicine (IOM), is a division of the National Academies of Sciences, Engineering, and Medicine. HMD's aim is to help those in government and the private sector make informed health decisions by providing evidence upon which they can rely.

MCHB: Maternal and Child Health Bureau provides a foundation for ensuring the health of the Nation's mothers, women, children and youth, including children and youth with special healthcare needs, and their families.

NCQA: National Committee on Quality Assurance is a non-profit organization dedicated to improving healthcare quality, and a central figure in driving improvement throughout the healthcare system, helping to elevate the issue of healthcare quality to the top of the national agenda. NCQA accredits and certifies a wide range of healthcare organizations.

NQF: National Quality Forum promotes change through development and implementation of a national strategy for healthcare quality measurement and reporting. It builds consensus on national priorities and goals for performance improvement and working in partnerships to achieve them; endorses national consensus standards for measuring and publicly reporting on performance; and promotes the attainment of national goals through education and outreach programs.

NQMC: National Quality Measures Clearinghouse is a database for information on specific evidence-based healthcare quality measures and measure sets maintained by the AHRQ.

APPENDIX G: DEFINITIONS OF THE DOMAINS OF QUALITY

Access: Access to care is the attainment of timely and appropriate health care by patients or enrollees of a health care organization or clinician (or of a public health intervention by a population). Access measures are supported by evidence that an association exists between the measure and the outcomes of or satisfaction with care.[60]
Behavior Modifications: Evidence-Based interventions to positively influence health behaviors. Behavior change requires attention to individuals (e.g., personal health behaviors), families (e.g., family stress, social support), health care professionals (e.g., appropriate counseling techniques), the environment (e.g., accessibility to oral health care, status of community water fluoridation), and cross-cutting issues (e.g., racial and ethnic health disparities, cultural preferences).[61]
Clinical Efficiency Measures: Measures that may be used to assess efficiency directly (e.g., by comparing a measure of quality to a measure of resource use) or indirectly (e.g., by measuring the frequency with which health care processes are implemented that have been demonstrated by evidence to be efficient).[62]
Clinical Quality Measures: Measured used to assess the performance of individual clinicians, clinical delivery teams, delivery organizations, or health insurance plans in provision of care to their patients or enrollees, which are supported by evidence demonstrating that they indicate better or worse care.[62]
Clinician Wellbeing: Clinician well-being is essential for safe, high-quality patient care and supports improved patient-clinician relationships, a high-functioning care team, and an engaged and effective workforce.[62]
Cost: Costs of care are the monetary or resource units expended by a health care organization or clinician to deliver health care to individuals or populations. Cost measures are computed from data in monetary or resource units.[62]
Disease and Condition Status: "Refers to a threshold of severity or a level of progression of disease, which also includes pain and discomfort".[63] When advancing severity of disease is inferred from procedure codes, appropriate validation testing must be conducted to determine if the measure can be classified in this domain. Any concerns related to confounding by access or difficulties in accurately identifying disease severity on the basis of procedure codes alone without diagnoses codes should be evaluated.[73]
Efficiency: Efficiency of care is a measure of the relationship between a specific level of quality of health care provided and the resources used to provide that care.[62]
Evidence-Based Clinical Processes: Oral health care is provided using the judicious integration of systematic assessments of clinically relevant scientific evidence (evidence-based guidelines), relating to the person's oral and medical condition and history, with the oral health care provider's clinical expertise and the person's treatment needs and preferences. [64]
Evidence-Based Safe Practices: The evidence-based safe practices are ready-to-use tools to improve safety and have been evaluated, assessed and endorsed to guide large and small healthcare systems in providing the safest care possible.[65]
Health Behaviors: These are "actions taken by individuals that affect health or mortality, may be intentional or unintentional, and can promote or detract from the health of the actor or others. Examples include smoking, substance use, diet, physical activity, sleep, risky sexual activities, health care seeking behaviors, and adherence to prescribed medical treatments.

[60] National Quality Measures Clearinghouse. NQMC Measure Domain Framework. https://www.ahrq.gov/gam/summaries/domain-framework/index.html. Accessed 2019.

[61] IOM (Institute of Medicine). 2011. Advancing Oral Health in America. Washington, DC: The National Academies Press

[62] National Academy of Medicine. Action Collaborative on Clinician Well-being and Resilience. Accessed 2019: https://nam.edu/initiatives/clinician-resilience-and-well-being/.

[63] Glick M, Williams DM, Kleinman DV, Vujicic M, Watt RG, Weyant RJ. A new definition for oral health developed by the FDI World Dental Federation opens the door to a universal definition of oral health. J Public Health Dent. 2017 Dec; 77(1):3-5

[64] ADA Policy Statement on Evidence-based Dentistry. http://www.ada.org/en/about-the-ada/ada-positions-policies-and-statements/policy-on-evidence-based-dentistry. Accessed 2019.

[65] National Quality Forum (NQF). Safe Practices for Better Healthcare. https://www.qualityforum.org/News_And_Resources/Press_Kits/Safe_Practices_for_Better_Healthcare.aspx. Accessed 2019.

HealthCare Delivery Measures: These are used to assess the performance of individual clinicians, clinical delivery teams, delivery organizations, or health insurance plans in the provision of care to their patients or enrollees.[62]
Health State: A user-enrollee health state is the health status of a group of persons identified by enrollment in a health plan or through use of clinical services.[62]
Management: Management of care is a feature of a health care organization related to the administration and oversight of facilities, organizations, teams, professionals, and staff that deliver health services to individuals or populations. Management measures assess administrative activities that are important to health care but are not part of the direct interaction between individual patients and health care professionals.[62]
Oral Health Status: Oral health is multi-faceted and includes "the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expressions with confidence and without pain, discomfort and disease of the craniofacial complex". [65]
Outcome: An outcome of care is a health state of a patient resulting from health care. Outcome measures are supported by evidence that the measure has been used to detect the impact of one or more clinical interventions (or public health interventions for population outcomes). Measures in this domain are attributable to antecedent health care (or public health interventions) and should include provisions for risk-adjustment.[62]
Patient Experience: Experience of care is a patient's or enrollee's report of observations of and participation in health care, or assessment of any resulting change in their health. Patient experience measures are supported by evidence that an association exists between the measure and patients' values and preferences, or one of the other clinical quality domains. [62] "In contrast to patient reported outcome measures, patient reported experience measures do not look at the outcomes of care but the impact of the process of the care on the patient's experience; e.g., communication and timeliness of assistance."[66]
Patient Reported Outcomes: Any report of the status of a patients (or person's) health condition, health behavior, or experience with healthcare that comes directly from the patient, without interpretation of the patient's response by a clinician or anyone else."[67]
Physiological Function: "Refers to the capacity to perform a set of actions that include, but are not limited to, the ability to speak, smile, chew, and swallow."[65]
Psychosocial Function: "Refers to the relationship between oral health and mental state that includes, but is not limited to, the capacity to speak, smile, and interact in social and work situations without feeling uncomfortable or embarrassed."[65]
Population Health Measures: These are applied to groups of persons identified by geographic location, organizational affiliation or non-clinical characteristics, in order to assess public health programs, community influences on health, or population-level health characteristics that may not be directly attributable to the care delivery system.[62]
Process: 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 process—that is the focus of the measure—has led to improved outcomes.[62]
Provider Assessed Outcome: Any report of the status of a patient's health condition that is based on provider assessment.[73]
Quality: The "degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."[68]
Quality of Life: Individuals' perceptions of their position in life in the context of culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns [69]and OHQOL "reflects people's comfort

[66] Charlotte Kingsley, Sanjiv Patel, Patient-reported outcome measures and patient-reported experience measures, BJA Education, Volume 17, Issue 4, April 2017, Pages 137-144, https://doi.org/10.1093/bjaed/mkw060. Accessed 2019.

[67] U.S. Food and Drug Administration, Guidance for Industry, Patient-Reported Outcome Measures: Use in Medical Product Development to Support Labeling Claims, Fed Regist. 2009;74(35):65132-133. http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/UCM193282.pdf. Accessed 2019.

[68] Institute of Medicine (US) Committee to Design a Strategy for Quality Review and Assurance in Medicare; Lohr KN, editor. Washington (DC): National Academies Press (US); 1990. https://www.ncbi.nlm.nih.gov/books/NBK235472/. Accessed 2019.

[69] The World Health Organization Quality of Life assessment (WHOQOL): position paper from the World Health Organization.Soc Sci Med. 1995 Nov; 41(10):1403-9.

when eating, sleeping and engaging in social interaction; their self-esteem; and their satisfaction with respect to their oral health".[70]
Quality Measures: Measures used to assess the performance of individual clinicians, clinical delivery teams, delivery organizations, or health insurance plans in the provision of care to their patients or enrollees, which are supported by evidence demonstrating that they indicate better or worse care.[62]
Related Health Care Measures: Measures used to assess the non-quality aspects of performance of individual clinicians, clinical delivery teams, delivery organizations, or health insurance plans in the provision of care to their patients or enrollees. These measures are not supported by evidence demonstrating that they indicate better or worse care.[62]
Risk Status: There are patient-related attributes or characteristics that contribute to outcomes. (Examples include patient's primary diagnosis and condition severity, comorbid conditions, genetic, biological, demographic, socioeconomic, environmental, and psychosocial factors; health-related behaviors; and attitudes, preferences and perceptions regarding health care). These are collectively termed risk factors and understanding any changes in the risk status influences patient's oral health and potential outcomes of care.[62]
Structure: Structure: Structure of care is a feature of a health care organization or clinician (or public health program for populations) related to the capacity to provide high quality health care. Structure measures are supported by evidence that an association exists between the measure and one of the other clinical quality measure domains.[62]
Treatment Outcomes: Anticipated and unanticipated complications and consequences, as well as functional, physiological and aesthetic outcomes of care.[71]
Use of Services: Use of services is the provision of a service to, on behalf of, or by a group of persons identified by enrollment in a health plan or through use of clinical services.[62]

[70] DHHS (2000). Oral health in America: a report of the Surgeon General. US Department of Health and Human Services and National Institute of Dental and Craniofacial Research Rockville, MD: National Institutes of Health

[71] DQA Quality Measurement Framework. The Dental Quality Alliance. 2019.

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