INSTITUTE FOR
Oral Health

Defining Quality in Oral Health Care

Critical Issues in Quality and Trends Impacting Access, Treatment & Delivery

WHITEPAPER

Institute for Oral Health 2009 Focus Groups on "Defining Quality in Oral Health Care"
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Table of Contents

Introduction 2

Panel Presentations:

Robert Compton, DDS 4
Quality Care – A Payer's Perspective

James Bader, DDS, MPH 8
Using Outcomes in Oral Health Quality Assessment

Conan Davis, DMD, MPH 12
Medicare, Medicaid and the CMS Perspective on Quality

Amanda Twiss 15
Data Models for Measuring & Improving Quality

Panel Discussion Highlights 18

Additional Participants 22

Howard Bailit, DMD, PhD 22
Professor Emeritus, University of Connecticut Health Center; IOH Advisory Committee

Martha Somerman, DDS, PhD 22
Dean, University of Washington School of Dentistry; IOH Advisory Committee

Introduction

"With the elderly, the most important things that need to be picked up can only be picked up by a trained professional. It's more of a duty on the health care system to proactively think about who is at risk, why they are at risk, and what are the consequences."

–Dr. Ron Inge

What is quality? What is appropriate care? How do we measure it? Can others duplicate those measurements and expand on them beyond the small sphere they may be influencing? Those questions are at the heart of Institute for Oral Health's 2009 theme on "**Defining Quality in Oral Health Care**."

It is imperative to grow a better understanding, from the perspective of both the dental profession and the patient, of what "quality" oral health care really is, and begin to measure that. Both patients and providers need recognizable benchmarks to indicate whether (or not) they are getting the appropriate care for their condition, or even whether they have appropriate access to care.

The dental industry still faces many challenges when it comes to being recognized as an integral part of everyday health care. A key factor in the solution is to establish a means of determining the value that dentistry brings to the overall health equation. As a profession, we need to gain more definition and visibility in terms of the role that oral health plays in the onset of disease and outcomes that influence systemic health. Institute for Oral Health (IOH) is dedicated to partnering with a wide range of experts to help define measurements for quality that can be validated –to prove the "statistical relevance" of treatments, protocols, and guidelines that demonstrate the value of dentistry-- that can then be promoted in the arenas where real change can be affected.

Throughout 2009, IOH is spotlighting the issue of "Defining Quality in Oral Health Care", promoting relevant news and research, and raising awareness through our website, newsletters, and collaborative events, including our **4th annual national conference to be held October 15 & 16, 2009 in San Jose, CA**. In January, IOH hosted the year's first event in Tampa, Florida, a focus group with some of the nation's leading authorities in health care trends, to help identify key issues and effective models for measuring quality. Details from this group discussion are summarized in this whitepaper.

January's focus group featured four nationally recognized experts in tracking trends in the quality of oral health care treatment, access, and delivery, representing a variety of perspectives from the insurer and purchaser, to the provider and patient. The panel shared presentations and collaborated in open forum discussion led by IOH Executive Director, Dr. Ron Inge, and joined by two members of the IOH Advisory Committee, Dr. Howard Bailit and Dr. Martha Somerman.

The group targeted key concerns and explored strategies for measuring and improving quality, includingconcerns and opportunities in geriatric oral health care today, including:

- Improving quality by improving benefits – A key problem is that, typically, dentists are providing care based on what a patient's coverage allows, which often means omitting valuable services, such as risk assessments, that could dramatically improve patient outcomes and potentially reduce the costs and complexities of treatment over time. One way to drive change is for major carriers to partner with large-scale employers to develop plans that support benefits based on the appropriateness of patient-centered care, which can in turn drive change in how providers deliver care.
- Influencing providers to change behaviors – Critical to improving access and care is gaining buy-in from providers to be part of the solution, and influence needs to come from many directions. Some strategies include urging providers to collect data to support the changes they need; promoting business and quality metrics that allow providers to compare how their practice is doing in their local market; and engaging the public to drive demand for change in access and services.
- Measuring appropriateness vs. quality – As we measure across diverse socio-economic populations, we see many variables that influence a definition of quality. As such, the focus may need to be more intent on what is most appropriate for a given environment, based on the population's degree of burden.
- Making evidenced-based guidelines work – Though advancements are being made to develop evidenced-based guidelines for dentistry that promote quality outcomes, very few are promoted in online global resources where they will gain the most visibility, such as www.guideline.gov. Furthermore, research shows that too often clinical guidelines are not being followed, due to a number of variables such as provider protocols, lack of public awareness, limited access to care, and restrictions in benefits coverage.

About Institute for Oral Health

The Institute for Oral Health is dedicated to improving oral health in America by bridging the gap between research and everyday dental practice. Serving as a central resource for education and collaboration, IOH brings together nationally recognized experts to focus on important themes of concern in oral health care today, and works to promote innovation and adoption of progressive treatment guidelines, dental plans, and delivery methods. For more information, please visit online at: **WWW.IOHWA.ORG**.

Panel Presentations

Robert D. Compton, DDS
Vice President, Delta Dental of Massachusetts

Quality Care – A Payer's Perspective

For the past decade, Dr. Robert Compton has been a leader in Delta Dental's efforts to improve oral health and helped create their oral health foundation, research dental center, and oral health institute. He began the discussion by acknowledging the challenge of defining quality in healthcare and how a person's role, whether patient, provider, payer, educator, or policy maker, creates a unique perspective of what quality care means. For this discussion, he focused on the payer's perspective, and how they might contribute to defining and measuring quality care.

As a starting point he referenced Medicare's 1990 report, A Strategy for Quality Assurance, which defined "quality of care" as:

> *"The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."*

This definition focused on two key concepts: *measurement* and *knowledge.* Measurement is necessary because in order to reasonably assess improvement, you need to clearly understand your starting point. Knowledge is necessary to ensure effective care, which today is referred as evidence-based. In addition, Dr. Compton emphasized that care can be considered quality if it has evidence that indicates it increases the "likelihood" of desired outcomes even if patients fail to respond to it.

A Historical Look at Defining and Improving Quality

In addressing the challenge of defining quality, Dr. Compton examined the evolution of quality improvement through the decades to today's model of evidence based care (EBC).

- 1960's: Significant variability in care – Dr. John Wennberg's famous studies in the 1960's demonstrated an alarming disparity in clinical practice, which suggested that the type of care one received was more dependent on where they lived than the type of disease they had. For example, in some communities 8% of children received tonsillectomies while in others 70% of similar populations of children had the procedure. From an insurer's perspective it's important to know which population is better served when deciding how to spend limited healthcare dollars for there are not enough resources to meet the needs of all. In trying to answer that question, Wennberg's team found there was no evidence telling us which treatments were better. This search for the truth has led us towards the evidence-based clinical guidelines that we use today.

- 1970's: A triad for improving quality – The next leap forward came through the work of Dr. Avedis Donabedian who argued that to improve quality in health care we must look at three key elements: structure, process, and outcome. They can be defined as follows:

– *Structure* is a *Quality Indicator*; it represents the things we need in order to provide care, such as well trained providers, appropriate equipment, sterilization protocols, and access to the delivery system.

– *Process* is a *Quality Indicator*; it reflects what we do to provide care, and includes the treatment we provide, how we communicate with patients, how we gather data and develop treatment plans.

The goal of EBC is to identify the most effective and beneficial treatments for each diagnosis based on the best available scientific evidence and then reduce illogical treatment variability by creating clinical guidelines to ensure consistent quality of care.

– *Outcome* is a *Quality Validator*; it represents the end result of the care provided and includes not only health status but also a patient's overall satisfaction, attitudes about their treatment, and knowledge about their health. Additionally, an important outcome is successful change in behaviors that contribute to improving health status. Unhealthy lifestyle behaviors are contributing to the rising incidence of diabetes, cardiovascular diseases, and periodontal disease.

- 1990's: Standards & Measurements – The National Committee for Quality Assurance (NCQA) was created in 1990 and built upon the work of Donabedian. Although outcome measurements eluded the '90's, they made significant progress toward ensuring consistency in the *Quality Indicators*. For example:

  – To improve *structure:* They developed credentialing standards to verify that health care networks have the things they need, including training, licenses, equipment, sterilization techniques and other elements that can increase the likelihood of improving the desired outcomes.

  – To improve *process*: They developed the Healthcare Effectiveness Data and Information Set (HEDIS). These measurements track chealthcare processes such as vaccinations and mammograms, which increase the likelihood of improving health outcomes.

- 2000's: Putting it all together – As we move into measuring outcomes we now have a better understanding of how structures and processes can affect outcomes. For example, an increase in hospital-acquired infections would cause a hospital to examine their structures (are the right sterilization protocols and training in place) and their processes (washing hands and spore testing autoclaves). All this requires measurement and knowledge so that we can continually improve quality.

Dr. Compton also looked at the history of evidence-based guidelines in terms of what is now available in the online central repository at www.guideline.gov. While this website provides over 1,900 sets of guidelines for medical diseases; over 1,800 for medical analytic and diagnostic treatments; and even 292 for behavioral disciplines, in sharp contrast, there are only about 45 sets of guidelines for the dental profession.

More often, dental guidelines have been posted online at sites such as the American Academy of Periodontology's website; however, Dr. Compton strongly urged the oral health care community to continue developing more evidence-based clinical guidelines and to increase the visibility and discoverability of them by posting to this central government repository.

"Dentistry is not well represented in this repository (www.guideline.gov) and we need to change that. This government site is the best place to post the guidelines where everyone will see them."

–Dr. Rob Compton

The 3 R's of Measuring Quality: Research – Review - Recommend

Dr. Compton introduced a model developed by the Research Triangle Institute in North Carolina, based on an earlier report on systems for rating the strength of scientific evidence (West, et al. 2002). This model defines an approach for measuring quality based on evidence using three sequential efforts, conducted by three separate groups of relevant experts:

- Research Studies – The model starts with researchers who conduct clinical trials, case control studies, cross-sectional studies, and case series' to determine what is working and what it is not working across all aspects of care delivery.
- Systematic Review – Next, a different group gathers all the research around a specific topic and conducts a thorough review to assess the quality of the studies; appraises the evidence; and develops a qualitative and quantitative analysis to synthesize all the data.
- Clinical Guidelines & Recommendations – A third group then builds on those systematic reviews to develop guidelines. For example, a number of organizations are emerging, such as the American Academy of Pediatric Dentistry and the American Academy of Periodontology, which examine these systematic reviews, and if the evidence is strong enough to suggest that a certain treatment is effective at treating a certain condition, they write a guideline or recommendation for it.
- Measuring Performance of Clinical Guidelines – Taking this model a step further, a fourth entity has emerged to help promote accountability as various groups are now examining sets of guidelines and comparing them to how care is actually being delivered, measuring whether patients are getting treated according to the evidence-based recommendations.

  For example, a 2003 study noted that while clinical guidelines were met for 65% of hypertension patients, only 45.4% were met for diabetes patients; only 39% for those with pneumonia, and only 10.5% for patients with alcohol dependence. (Rand, New England Journal of Medicine 2003)

As more and more of these performance measurements are published, particularly in mainstream media outlets such as USA Today and U.S. News & World Report, the public is taking notice and beginning to demand a better quality of care.

The ADA & Evidence-Based Dentistry

Building on the traditional (medical) definition for evidence-based care, the American Dental Association has fine-tuned an approach for oral health care guidelines, which requires the following:

> *"Judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history –combined with the dentist's clinical expertise and the patient's treatment needs and preferences."*

This EBC model factors in a valuable level of discernment for oral health providers. Differences in dental expertise (such as oral surgery practices and exposure to special needs patients) and differences in patient preferences and cultural sensitivities, may impact decisions on treatment. For example, some dentists may feel more confident with root canals and crowns as an effective course of treatment, where other practitioners might have had more success extracting a compromised tooth and placing an implant. This flexibility in decision making is still appropriate as long as evidence supports that both treatments are effective and beneficial – a primary credo of EBC.

Delta Dental's Approach to Measuring Quality

In the past few years, Delta Dental of Massachusetts has been been conducting a pilot study of six major accounts, with a combined population of about 250, 000 members. They discovered that 30% of the members consumed almost 75% of the benefits. As such, Delta Dental decided to focus attention on that subset of the member population to find out how to get them healthy and keep them that way. They examined a number of factors:

- Disease Burden Assignment – Using a 3-year history of claims, they categorized members according to the amount of treatment for disease. For example one or two restorations was considered a moderate disease burden and three or more was considered high. Members who had had a scaling and root planing or osseous surgery were considered to have periodontal disease.

- Cost of Disease and Preventive Care – Not surprisingly they found that members with disease burden used a disproportionate amount of benefit dollars (periodontal patients consumed around nine times as much as low disease burden members). They also discovered that a significant percentage of the members with active disease were not receiving adequate preventive care.

- Performance against Fluoride Guidelines – Based on ADA Fluoride Recommendations, Delta determined that any child who has had cavities in the past three years is at risk for caries and should have at least two fluoride treatments per year. Yet data showed that although nearly 95% of moderate to high risk children (age 6-15) who visited the dentist had received a cleaning, only 85% had received one fluoride treatment and only 45% had received two, the same results that low-burden children received.

  Fewer than half of the highest risk members with periodontal disease got cleanings twice a year. That signals a critical need to increase awareness about the importance of good oral health on systemic health and the value of prevention. We need greater emphasis on creating innovative disease management and wellness programs.

  When measuring quality of care, this data indicates that preventive treatment may be more determined by benefit coverage than the child's risk status. Additionally, with older kids (age 16-18), the variation from the recommendations were even greater: only about 45% received one fluoride treatment and less than 20% received a second. This represents an opportunity to improve quality of care by working with providers and members to ensure they receive effective preventive care.

- Improving Quality for Periodontal Maintenance – In an effort to improve quality for at-risk perio patients, Delta Dental has been aligning benefit coverage to support recommendations from the American Academy of Periodontology. Their position paper states that patients with a history of periodontitis should get four cleanings per year to decrease the likelihood of progressive disease. Although many plans now cover these additional cleanings, thereby lowering the financial barriers, data show that less than half of these patients get more than one cleaning per year. As such, there is a significant opportunity for providers to improve health outcomes by increasing efforts to promote prevention among at-risk patients. Opportunities exist to create innovative programs such as disease management and wellness programs to ensure that at-risk patients receive effective treatment according to evidence-based clinical guidelines.

  Although many plans now cover four cleanings per year for patients with a history of periodontitis, only 6% of adults are getting it done; only 18% get three cleanings per year, and only 43% get two per year.

James Bader, DDS, MPH
Research Professor, Operative Dentistry, University of North Carolina School of Dentistry

Using Outcomes in Oral Health Quality Assessment

For most of his career, Dr. Jim Bader has been "*interested in what dentists do, how well it works, and how they do it.*" He has spent years researching dental practices and treatment outcomes, and ways to measure them to establish quality benchmarks. For this group discussion, Dr. Bader focused on oral health quality assessments by introducing multiple "dimensions" of treatment outcomes and how they can be used to help evaluate the quality of care a patient receives.

Multiple Treatment Outcomes for Measuring Quality

When we look at ways to measure quality in oral health care, Dr. Bader believes that a "logical and necessary" component is to identify the various dimensions of treatment outcomes that impact the patient and provider experience, and develop ways to measure them. These dimensions include:

- Biological Dimension – Considers the patient's physiological outcomes (such as salivary flow and demineralization); anatomical and microbiological outcomes of patient teeth and gums (such as probing depth and presence of pathogens); and the patient's sensory outcomes (such level of pain and how much numbness may be required). While measures exist for most of these outcomes, quite often they are neither assessed nor recorded.

- Clinical Dimension – Considers the survival outcome (such as tooth surface and state of restorations); mechanical outcomes (such as occlusions and color matches); diagnostic outcomes (such as the presence of caries or periodontal disease); and functional outcomes (such as how well the patient can chew, speak and swallow). For these clinical outcomes, some are routinely assessed and recorded and measures are available, however, they are subjective. As such, trying to standardize based on subjective measures is problematic because there is too little consistency across the aggregated data.

- Psychosocial Dimension – Considers satisfaction outcomes (how patients feel about their dentist and treatment); perception outcomes (how patients perceive aesthetics and rating their own oral health); preferences outcomes (values for health states and events, which may change in the course of treatment); and oral health-related quality of life outcomes (patient's view on how their daily activities and social life are affected). In terms of measuring psychosocial outcomes, although some data is recorded by plans and practices, very little is formalized or widely used. From the patient perspective, these variables may be important drivers in both perception of quality and motivation to get care, so they should be given more attention.

- Economic Dimension – Considers the direct costs (premiums and out of pocket expenses); and the indirect costs (added expenses of child care, transportation, time away from work). While direct costs are calculable, indirect costs are always estimates and vary dramatically based on income status, which makes this measurement more difficult. Yet as part of assessing quality, economics are undoubtedly a key factor on many levels – patients, providers, employers and insurers all need and expect good value for the money spent. Therefore, economic factors need to serve as a strong incentive for improving quality.

- Outcome-related Dimension – Considers process and structure issues that are indicators of outcomes, including service use (overall rates and ratios of services used); access to care (patient literacy about oral health, presence of providers, economic status); and availability of effective care (provider skill and knowledge, payment system dictating provider care, and licensing regulations). Although there are many service measures available, few metrics exist for these other important quality indicators.

Treatment Outcomes Currently Being Used for Quality Assessments

According to Dr. Bader, very few of the aforementioned dimensions of treatment outcomes are being used to assess quality in private dental practices. None of the biological outcomes are being tracked, though it is likely that many of these variables in this dimension will be benchmarked eventually. In the clinical dimension, nearly everyone assesses some aspect of the mechanical outcomes, but these outcomes are not strongly associated with the other, more important but infrequently evaluated clinical outcomes. Increasingly, practices are using metrics to measure satisfaction, patient experience, and quality-of-life as part of the psychosocial dimension. In the economic dimension, it is common practice to examine direct costs, but no one seems to be monitoring the impact of indirect costs. And lastly, in the outcome-related dimension of quality indicators, many dental practices track their use of services; however, the influence on quality as it relates to access to care and availability of effective care is rarely examined.

Case Study: Oral Health Quality Assessment Using Clinical Outcomes

To illustrate how treatment outcomes can be used to help measure quality in oral health care, Dr. Bader detailed research in which his team used the clinical dimension to assess aspects of the clinical performance of dental care delivery organizations. Their goals were to focus on effectiveness of care, use of services, and access/availability of care.

Developing and Evaluating Measures

To get started, they developed measures and specifications with the help of a steering committee comprised of senior managers from managed care dental plans and an advisory committee that included providers, purchasers, and public health program executives. Central to this process were the guiding themes that the measures must be valid, reliable, and relevant to dental plans; that the values would change in response to changes in provider behavior; and that purchasers would understand the implications of the measures.

Additionally, measures for effectiveness-of-care (EoC) were designed to be based on important outcomes or evidence-based processes that were associated with a substantial beneficial effect; and that the measures be focused on outcomes that involved substantial proportions of a dental plan's enrollees, as opposed to small groups so that the care provided to the majority of beneficiaries would be evaluated.

The next vital step was to deploy the measures at DHMO pilot sites such that the needed data, including diagnostic codes, were immediately available in their administrative databases. Additionally audit-based measures were used at beta test sites such as PPO practices and public health dental clinics where data could be obtained from patient charts.

Assessing Effectiveness of Care

This "risk-adjustable" set of measures began by determining whether a practice performed a disease assessment to classify patients based on caries activity and any presence of

periodontal disease .Other measures tracked percentages of perio maintenance among patients with periodontal disease and caries prevention among high caries-risk patients. The percentages of all patients experiencing new caries, change in periodontal disease, and tooth loss were calculated across children and adults. An important side note was that the subset of the population who had never been assessed were grouped with the low-risk patients, which created an artificial reading that could have resulted in potentially high costs coming out of a group where the costs should be low. The team expected this feature would press plans to include risk assessment for all patients so insurers, employers, and providers could better anticipate the cost and care needs.

In tracking children and adults with active caries, the results introduced important opportunities for improvement. Among children, as many as 81% received preventive treatment, yet typically, only 11-18% of adults with caries got even the minimum of one fluoride treatment per year –a treatment covered by all the dental plans used in the study.

Often, when adults do not seek preventive care for caries, benefits are not the issue because the coverage is there. A call to action for providers and employers is to promote prevention and regular dental care as a cost-effective strategy for maintaining good health.

Results were more promising across adults with periodontal disease, whereby 79-86% were accessing some type of maintenance treatment. Based on chart audits, as many as 50% of those adults experienced improvement, yet 25-41% of all patients saw some deterioration in their periodontal health.

Assessing Use of Services

In this study, to assess Use of Services (UoS), the measures again focused on a large base population of patients, and were required to spotlight important services that would have a substantial beneficial effect; and reflect the particular "style of practice" associated with various plan benefits such that the measures could highlight any differences.

The UoS measure focused mainly on ratios of services such as preventive vs. restorative; castings vs. large direct restorations; and endodontic treatments vs. extractions. Additionally, the measure tracked percentage of third molar (wisdom tooth) extractions among 16-24 year olds.

Results showed that across three dental plans, ratios for preventive vs. restorative services for adults varied from 1.8:1 to 4.3:1. Where the plans differed greatly was in the ratio of castings vs. direct restoration, where adults in one plan received only one casting for every 10 direct restorations, whereas in another plan the ratio was about 1:1. Another result showed a ratio of as many as two teeth extracted for every endodontic treatment. Another difference across plans was evident in the data on third molar extraction. Very few patients got the extractions and among those who did, there appeared to be a clear difference in treatment philosophy between the plans: extraction only on one side vs. one arch vs. removing all of the wisdom teeth.

Assessing Access/Availability of Care (AoC)

Although the research team did not end up conducting the assessments for Access/Availability of Care (AoC), they did develop measures that could be used for such assessments. The AoC measures were defined primarily as a way to address some key infrastructure problems in the plans. For example, one measure was designed to track the

percentage of enrollees receiving an examination within a year, which expressed utilization the way the DHMO's would prefer it. Another measure tracked the percentage of plan providers who were accepting new enrollees in order to determine how easily people could access a provider to receive care. A further measure was designed to track the percentage of providers still active in the plan one year later, as an indirect measure of a plan's ability to afford continuity of care.

Using Data to Drive Quality Improvements

Overall, Dr. Bader's study developed and validated a number of valuable metrics for providing the dental industry with some basic, but very useful, information about patient care that is currently unavailable. The measures address simple questions that purchasers, patients, and carriers ought to know, such as what proportion of patients get new caries or have changes in their periodontal disease status; how many patients are loosing teeth; and what is being done in preventive services to improve these outcomes.

These measures can be used to describe the care provided by a dental care plan overall, or by any individual provider or group of providers within the plan. The measures also demonstrate the potential benefit to the profession and its patients that adoption of a simple diagnostic coding system represents. Utilizing these measures enables dental professionals to identify and validate patterns in patient status and care, which provides insight into areas for improvement. As we build solid data, we have the stepping stones for improving quality.

Conan Davis, DMD, MPH
Chief Dental Officer, Centers for Medicare & Medicaid Services (CMS)

Medicare, Medicaid & the CMS Perspective on Quality

As a leader at the Centers for Medicare & Medicaid Services (CMS), Dr. Conan Davis works on policy for Medicaid and SCHIP dental programs to improve services for the nation's poor, and has a particular interest in prevention, and early treatment for children. He also advises CMS leaders on oral health issues in Medicare. For this Institute for Oral Health focus group, Dr. Davis discussed how these organizations are addressing the challenge of measuring quality.

Advancements in Measuring Quality in Children's Health

2009 is off to a promising start for health care with the Children's Health Insurance Program (CHIP) Reauthorization Act of 2009 initiating a call to action for the development of a core set of evidence-based quality measures for children enrolled in Medicaid or CHIP, to be ready by the end of this year. These measures will focus on "*identifying gaps in any existing quality measures and establishing priorities for development and advancement of such measures.*" These measures willbe developed by HHS in collaboration with state officials, pediatric healthcare professionals and dental professionals, state health programs, insurers, and managed care entities. The details of this process are currently being developed.

America's Healthcare System: The Big Picture on Spending

While national healthcare spending has reached the trillions, a relatively minor portion goes to government-funded public health programs (about $236 billion) compared with nearly $1.2 trillion spent by hospitals, doctors and other healthcare professionals. However, historically speaking, federally funded healthcare is continuing to relieve a burden on the private sector.

As of 2002, children represented over half of the people ever enrolled in Medicaid, while less then 12% were seniors. Yet expenditures per enrollee for the elderly are over eight times higher than for children.

In the early 1960's before Medicare and Medicaid were enacted in 1965, only 10.5% of health care was paid by the government, compared with 32% by 2004. Dental care represents only a fraction of this spending at $8 billion in combined Federal and State funding for Medicaid dental services in 2008.

The CMS Roadmap to Quality

As healthcare costs continue to rise, CMS is striving to ensure the money is well spent, defining a vision for appropriate care that is "*safe, effective, efficient, patient-centered, timely, and equitable*." Their goal, for the 47 million low-income children, families, and aged, blind and disabled individuals across the country who rely on Medicare and Medicaid, is to bring those people "*closer to receiving the right care, at the right place, at the right time*."

The CMS Vision:
"The right care for every person, every time — appropriate care that is safe, effective, efficient, patient-centered, timely, and equitable."

To achieve this vision, CMS is focusing on collaboration with public and private organizations to develop, prioritize, endorse, and implement consensus-driven quality and efficiency measures, which will be collected into a "landmark" quality document to be rolled out nationally. The CMS roadmap for this initiative, while not inclusive of dental at this time, does includes:

- Strategies for Quality Improvement – Achieve goals through effective partnerships; support quality improvements by publishing measurements and related information; pay in a way that expresses commitment to quality and helps reduce unnecessary costs for patients and providers; bring effective new treatments to patients more rapidly through coverage and payment policies; and help develop better evidence so that treatments can be used more effectively, improve quality and avoid unnecessary complications and costs.
- Leadership Workgroup – To develop and manage a national framework for the quality improvement program, CMS defined a leadership workgroup in November 2007. Throughout 2008-09, the group is developing high level principles into action items, and identifying "promising practices" and available resources for accomplishing quality goals. The group is organizing all of this information into a document that will be reviewed by other Federal agencies and external stakeholders, and later submitted for government clearance.
- Quality Alliances – Partnerships with established quality alliance groups such as those for hospitals, ambulatory care, cancer, pharmacy, and to include a dental quality alliance.
- National Quality Improvement Efforts – The CMS workgroup is leveraging the valuable work of other national agencies such as Institute of Medicine reports on quality and Department of Health & Human Services Value-Driven Health Care (VDHC) initiative (www.hhs.gov/valuedriven); and is collaborating with the Agency for Healthcare Research and Quality (AHRQ; www.ahrq.gov) to develop performance indicators.
- State Quality Improvement Efforts – CMS is also factoring in state legislative requirements; state-led collaborative efforts and value-based purchasing initiatives; as well as the Medicaid Home & Community-Based Services (HCBS) Quality Management Plan. One of the CMS workgroup's key deliverables is to develop "State Quality Assessments" to help define baselines for state quality review activities.

CMS Progress to Date

The CMS Medicaid Quality Improvement Program is continuing to gain momentum, particularly with the "compendium of measures" now available on the CMS website's Quality of Care Center (www.cms.hhs.gov/center/quality.asp). Furthermore, many states are already on board and involved in quality-related efforts, including:

- 18 states and the District of Columbia have committed to the VDHC initiative;
- 12 State Medicaid agencies have implemented Health Information Technology (HIT) initiatives, and 25 State Medicaid agencies are involved in planning and developing statewide Health Information Exchange (HIE) networks;
- 12 States with Medicaid Transformation Grants have formed a coalition on HIT coordination, standards harmonization and joint planning;
- 28 States have 35 value-based purchasing programs;
- 2 States are pursuing consumer incentives to engage the public based on the value of care.

Improving Quality in Oral Health Care

As health care reform has primarily focused on the medical model, oral health care has, for the most part, been left behind. Dr. Davis cited that, "national comparable data and measures for quality in oral health services are lacking." There is an urgent need for the dental profession to step up and get involved, to bring data to the equation so that dental care becomes recognized as a vital and integral part of everyday health care.

Data is the key –it is the driving force behind changes in policy, plans, access programs, provider behaviors, and public awareness. As access to care is one of the major problems affecting the quality of our nation's oral health, Dr. Davis recommended that strategies for assessing quality focus heavily on addressing the access challenge, such as working with organizations like the ADA on provider availability; and partnering with States to address barriers to access other than reimbursement and exploring innovative delivery systems.

Additionally, Dr. Davis advises dental professionals to "*collaborate with national measures development groups such as NCQA and AHRQ, and explore funding opportunities to support measures development in oral health.*" He also discussed recently conducting State dental Medicaid reviews through the CMS Regional Offices, which included how the States determined the quality of services delivered.

Existing Dental Quality Measures

Dr. Davis highlighted the recent work of Dr. Robert Isman, DDS, MPH, Chair of the Medicaid/SCHIP Dental Association, who convened a panel of experts to develop a set of quality measures based on claims data for the CA SCHIP dental program. The group was also responsible for testing the measures in dental managed care programs and providing recommendations for quality improvements in SCHIP dental programs.

Dr. Isman's Dental Quality Advisory Committee was comprised of dental directors, public health dentists, and pediatric dentists, and collectively they defined the following measures:

- Overall utilization of dental services – Percentage of members continuously enrolled for 1, 2, and 3 years who received any dental service over those periods.
- Annual dental visit of children – Percentage of enrolled members ages 2-18 who had at least one dental visit during the year.
- Use of preventive and treatment services – Percentage of members who received any preventive dental service in past year; and percentage of members who received any dental treatment service in past year.
- Oral health evaluations – Percentage of members who received a comprehensive or periodic oral evaluation in the past year.
- Filling to preventive services ratio – Percentage of members with 1+ fillings in past year who also received a topical fluoride or sealant application.
- Treatment/prevention of caries – Percentage of members who received a treatment for caries or a caries-preventive procedure.
- Continuity of care – Percentage of members enrolled in same plan for 2 years who received an oral evaluation/prophylaxis in the year prior to the measurement, who also received an oral evaluation/prophylaxis in the measurement year.
- Membership satisfaction surveys – Satisfaction with dentist, dental plan, dental care, office staff (Dental CAHPS).

Amanda Twiss
President, Outcome Concept Systems, Inc.

Data Models for Measuring & Improving Quality

With over 20 years of experience in medical informatics software and outcomes analysis, Amanda Twiss contributed to the focus group discussion on defining and measuring quality by introducing the successful data tracking systems developed by her firm, Outcome Concept Systems, Inc. OCS focuses on capturing data in the health care world and making it available in broad-based ways to different stakeholders such as payers, providers, and government policy makers who need to access that data for practical everyday use. While OCS has spent over a dozen years focused on the medical market, they are now bringing lessons learned and best practices to apply their data systems to dentistry.

A Data Model for Tracking Quality

As dentistry explores ways to improve quality in oral health care delivery and protocols, a key factor will be how the dental industry manages data to define quality benchmarks and track provider performance and patient outcomes.

The OCS data warehouse model, which gathers information from both payers and providers, and has proven successful by supporting the following analytical approaches:

- National focus – Allows for comparative analysis and benchmarks across states and regions
- Payer neutral – Data from all types of payers can be incorporated
- Leveraging available information – Claims data and other standardized datasets provide the baseline information set
- Add useful information – Cost data from providers can be incorporated, as well as operational information, licensure data and more
- Standardized patient satisfaction – Include standard patient satisfaction measures
- Vendor product data – for tracking product impact on patient outcomes

"Research shows that standardized patient satisfaction data is of particular interest to dentists as they see it as a tool for building their own practices."
–Amanda Twiss

Using Data to Motivate Change in Providers and Other Stakeholders

Improving quality is largely about influencing behavior and processes; yet before that can happen, people will typically want to know: "what's in it for me?" The data and HIPPA compliant comparative reporting available in these types of systems enables practitioners to see how they are doing compared with anonymous peers on such issues as quality and costs. Discovering ways to improve their bottom line and marketing position is a financial perspective that often motivates providers to have a stake in ensuring the data gets collected and becomes more accurate. And as more data gets tracked, the opportunities increase for measuring performance and developing increasingly robust quality improvement metrics.

The same data provides information for other stakeholders such as payers, vendors, or researchers who each use the data for their own purposes. The data could also be examined to identify procedural trends across different markets, variations in quality between commercial carriers and HMO's, and much more.

With effective promotion to motivate data collection, the dental industry could amass a dataset quickly, at relatively low cost, and make it available easily through web portals tailored to the different stakeholders who need access. This resource would then provide a valuable launch point for discussions like this IOH focus group, which are exploring how to define and measure quality.

Lessons Learned: What Attracted Providers to Use The Data?

In working with health care providers to implement outcome benchmarking systems, OCS discovered factors that attracted providers to interact with the data, considerations which provided valuable insight into ways to encourage changes in practice behavior. Providers were attracted to the system as it enabled them to:

- Learn how they perform in the market – In early stages of introducing benchmarking tools in new markets, providers appeared most interested in learning about themselves, i.e., how they look compared to their colleagues in the local market. Initially, they were not as concerned with a national perspective, although this changed over time.

> *"The most common thing in every segment of the health care industry is provider resistance to being measured personally. An effective way to address this is to collect as much data as possible on the patient level as well as claims information."*
>
> *–Amanda Twiss*

- As a "persona," providers were typically business focused, independent, cynical, and cared about data if it was good for their business and related to payment. Thus to ensure provider participation, the company needed to focus reports and dashboards on these issues—while introducing quality and outcome concepts incrementally as the market was ready to assimilate these new concepts.

- Track daily operations – To access frequent operational reports, providers installed interfaces in their practice management systems that could send data to the OCS system, ensuring an everyday flow of data. Business metrics, presented in a business format, got their attention. Providers also showed interest in these reports because their own systems often had poor quality reporting (for example, no comparative metrics, no decision support or ratios reporting without extensive customization). These reports also flagged adverse events, which could be useful data for practitioners who serve special needs patients; for instance, tracking the impact and costs of certain complexities encountered in treatment.

- View financial and business data – While providers were enthused by the financial and business metrics in the reports, they could also see quality indicators and ratios. As such, the reports provided an avenue for visibility of these metrics and aimed to accustom providers to paying attention to quality measures.

Payers Drive Provider Performance

With regard to driving change in provider performance, market trends show that payers (and regulatory organizations) have the greatest influence. Whenever payers increase their focus on certain issues that affect financials, providers change their patterns. For example, pay-for-performance" or pay-for-reporting systems, such as "Bridges to Excellence", IHA, and/or CMS' P4P initiatives, resulted in providers' paying attention to the metrics. These types of programs help speed adoption of benchmark and quality data concepts.

What Can You Do With That Big Dataset?

This type of comprehensive benchmark data warehouse will enable dental professionals to effectively manage what they measure, providing a streamlined way to collect and track a wide range of information that can be cross-referenced on a national scale, accessible anywhere, anytime by payers, providers, policy makers, and others.

More specifically, toward the goal of measuring and improving quality, these systems include a dataset for operational practices at the provider level, allowing a look at patient outcomes or quality measures in order to determine which attributes of the providers are linked to those outcomes.

"Patient satisfaction resonates more strongly with dentists than any other health care segment – so that's a good starting point."
–Amanda Twiss

Panel Discussion Highlights

In this focus group hosted by the Institute for Oral Health on their 2009 theme "Defining Quality in Oral Health Care", the panel of experts addressed additional concerns in their open forum discussions, including the following issues…

Improving Quality by Improving Benefits

An important part of improving quality is to drive providers to perform differently, yet the ability to change is limited by the restrictions of how benefits plans are often structured. Dr. Inge emphasized that a primary goal of Institute for Oral Health is to be able to influence a company like Boeing or Weyerhaeuser –with 100,000 employees who impact dental offices– to work with organizations like Delta Dental to develop dental plans that allow the implementation of a different kind of delivery system for their employees. The key is to connect with the benefits vice president at a company and have them understand what the opportunities for change can represent for them, and get them to commit to either a pilot program or new plan that moves in the direction of providing benefits based upon the appropriateness of care. In this way, the plan design can actually drive the behavior of providers, and deliver a better quality of care to patients overall.

Change needs to occur on a regional or state by state basis, depending on the market share and influence of the major carriers. Delta Dental of Washington represents about 60% of the dental claims in the state, and as such, they have a significant amount of influence over the dentists in Washington. Simply by perception they can influence the behaviors of providers and buyers.

"We can give dentists all the education in the world and urge them to do risk assessments –but if it is not covered by the plan, they will continue to provide care based on the benefits that are allowed."
–Dr. Ron Inge

As VP of Professional Services and Dental Director at Delta Dental of WA, Dr. Inge believes it is important for these organizations to leverage the power of their position to move things forward in a positive direction that influences actual care delivery. However, he cautions that influencing providers may still require an evidenced-based approach, in that they need to see what will benefit them, and they want quality measurements validated in order to change the way they deliver care.

How Do You Get Started in Driving Change?

In considering the research presented to the group, the burning question was often about how to use what is being learned and developed to start really influencing change in quality on numerous levels. Some strategies discussed include:

- Define outcomes first, then align your efforts to them – Both the Institute of Medicine and Medicare define quality in terms of care that increases the probability of desired outcomes. As such, the first task should be to identify what you want those outcomes to be, and then create metrics for capturing data that supports those outcomes. It is best to start simple, such as the desired outcomes of reducing incidence of caries or periodontal disease. Once you have defined a few outcomes, diagnostics can help you track them initially, and then you start the real work of measuring the structure and process issues that are the real "leading indicators" that impact quality.

For example, if the desired outcome is to reduce the incidence of caries, a key structural issue might be access and a key process issue might be how to get fluoride treatments to children. You need to measure those access and process needs, and then investigate which one of those quality indicators has the strongest correlation to the desired outcome –e.g., which has more impact on reducing caries: increasing access or deploying more fluoride treatments? Your decisions will then drive how you prioritize next steps in the direction toward change.

- Define a direction for provider behaviors – For any intended change in quality, particularly on the provider side, there needs to be definition around the direction that change should take. Without a clear sense of direction, there is no real accountability and momentum to see a change through. Several years ago, Delta Dental of California found that the only areas in which they had any ability to identify and measure anything was in the managed care market, because the fee-for-service model simply allowed doctors to do whatever they want to do, and made no attempts to control them. As there was no definition around what new behaviors should be, there was no focus for driving any changes in quality. It is not enough to simply develop a series of metrics; they should be preceded by a practical sense of direction and an attainable plan of action.

  Driving change in provider behavior is a significant challenge and sometimes something of a puzzle. Looking at care for children in Washington, the plans support coverage for preventive services and communities have ample access to providers, yet the dentists appear to focus mainly on restorative services. Data on sealants and fluoride treatments being given to kids shows that the numbers are very low compared with the number of people who have those services available to them.

  On a financial level, dentists could be submitting larger fees for these preventive services, yet they are rarely doing them at all (even for high risk children). Apparently, prevention is not something they are thinking about –and that is a behavior we need to change in order to improve quality in oral health care.

"We have an industry that is just starting to look at what kind of data 'talks', and how can that information help us create a behavioral change in the direction we want to go."
–Dr. Ron Inge

How Do You Influence Providers to Change?

The first strategy is to gather data and push hard for a set of diagnostic codes or reasons for treatment, as dental plans will require that. But the next real challenge is to influence change in the everyday dental practice. With that in mind, what kind of leverage do organizations like Delta Dental have to change the behavior of individual practitioners?

- Urge providers to collect data for the changes they need – Dr. Inge offered that there can be leverage points in a dental plan itself; for example, suppose the plan dictates that risk assessment is a required procedure in specific instances. If a relevant claim comes through where that has not been done, the claim would be disallowed and returned to the provider. That refusal is often the only thing that gets the provider's attention to change the way they are delivering care.

It is important to recognize that many providers will move toward change when dental plans support more of what they need to do in order to provide better quality care –and that takes data. At Delta Dental/Washington Dental Service, Dr. Inge has held seminars with doctors to urge their help in driving change, offering to pay them to collect data and insisting it is the only way the plans can evolve.

"The purpose of collecting data is to actually see what dentists do when they say a patient is high risk, and what services they provide. We can then build plans that match what providers are doing –and hopefully help support better outcomes."
–Dr. Ron Inge

- Focus change on small, high-impact populations – To influence vital changes more quickly, it is best to narrow the focus to concentrate on small subsets of the patient population who are having the most impact on costs –those who have oral diseases or a history of disease. Two cleanings per year as a standard is not the right plan for everyone, yet to implement change there needs to be data about the subsets of enrollees who require more frequent care and different types of care. Plans can then restructure to spend more resources on that portion of the population where the need is greatest. As plan designs evolve to better support different environments and socio-economic realities, providers can evolve their practice to deliver care that is better aligned with patient needs.

- Enlist Patients to Help Drive Demand for Change – Often, when the public gets educated about certain services that help reduce health risks, they create a demand for those services. For example, Delta Dental sent letters to their pregnant female enrollees about a disease management program. Soon after, they saw a 62% increase in utilization of that benefit. Similarly, when Washington Dental Service (WDS) conducted a public service campaign promoting the benefits of a particular fluoride treatment, the campaign generated so much attention that providers began calling WDS for more information because so many of their patients were asking for the service. Those avenues that reach the public bring greater visibility to dental care and are worth exploring as a strategy for driving change. Patient demand provides a good stimulus for dentists to look into changes that can improve the quality and appropriateness of the care they provide.

- Focus change on access for children – Part of driving change among providers is to motivate them to support better access for underserved populations, particularly minority children. For example, only about one-third of the kids supported by Medicaid are getting any kind of care in a given year, and in Massachusetts, more than 50% of the cities and towns have no Medicaid provider. This lack of access to dental care will likely drive change in terms of alternative delivery methods, which in itself is a valuable step toward improving quality as it enables care to actually take place.

"In Massachusetts, the #1 call on the Medicaid hotline is for children's dental care, people asking 'how do I find a dentist?'"
–Dr. Rob Compton

"In North Carolina, the #1 problem cited by Medicaid case workers is finding dental care – among all other the problems they are dealing with."
–Dr. Jim Bader

An important consideration is that if we can improve delivery and care for needy children, we are actually strengthening whole communities as these kids are the future workforce who will eventually impact purchasers and carriers in their use of benefits. By taking a proactive approach to prioritize childhood dental care, we support cost effectiveness for the long term, which facilitates better outcomes for everyone –patient, provider, purchaser, and payer.

Increasing Effectiveness of Care

Effectiveness of care is limited, in part, by state legislation. For example, the role and responsibilities (i.e., how much they can contribute to patient care) of dental assistants varies from state to state; in some cases assistants do only rudimentary tasks, and in others, they play a more pivotal role in procedural care. As an adjunct to this, Dr. Inge noted that, while in dental school, he saw many of his colleagues bypass the clinical training with dental assistants and as a result, when they went into practice, those dentists were much more limited in how they could use their assistant and were much slower in doing procedures.

"If there could be a shift in the mentality and approach by dentists to not feel they have to do everything themselves, I think we will gain a better picture of effective delivery of care by the right health care provider."

–Dr. Ron Inge

Measuring Appropriateness vs. Quality

Dentistry is facing a growing need for measurement, and standardization in that measurement, so that when we look across populations, we can segment them based on their variables to define who is receiving care and whether they are receiving appropriate care for their condition. In fact, even more than defining quality, it is critical that we define and measure the appropriateness of care that is being delivered because quality is going to have different definitions and variations given different environments.

For example, in a low income area of Seattle, access to care may be the primary responsibility (i.e., the most appropriate thing to do) to improve quality; whereas in an upper class area like Bellevue, WA, what may be needed are behavioral changes to ensure providers deliver care that is most appropriate for each patient's needs.

"Some efforts to measure oral health status state-wide are being used. For example, they look at 6th graders to evaluate the amount of untreated disease. They also look at the ability of those kids to get to the dental office –and it is very limited. So, the argument is about access, and then the solutions to access start cascading."

–Dr. Jim Bader

Quality is truly a multi-faceted aspect and perhaps the best trajectory toward improving our nation's oral health is to focus most closely on appropriateness of care. We need to examine the diverse variables that impact different populations of patients, such as those who have a commercial plan with basic coverage vs. patients on Medicaid or the uninsured. Across every situation there are degrees of burden and concerns about the quality and/or appropriateness of care being delivered. As such, it is imperative that we measure and compare across many socio-economic and demographic environments in order to accurately develop and prioritize changes in policy, plan design, access channels, and treatment protocols that will really make a difference.

Additional Participants

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