EXECUTIVE SUMMARY

ORAL HEALTH QUALITY IMPROVEMENT IN THE ERA OF ACCOUNTABILITY

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THE ERA OF ACCOUNTABILITY

The U.S. healthcare system is undergoing profound changes and has now entered the "Era of Accountability."

This is evident in the decade-long journey from "pay-for-performance" experiments to "Accountable Care Organizations" established in the Affordable Care Act (ACA), and the current call for "Value-Based Care." A 2010 Urban Institute report on *Moving Payment from Volume to Value* highlighted the need to align payment incentives with health care outcomes and value for patients, a persistent theme in health reform. Donald Berwick, former Administrator of the Centers for Medicare & Medicaid Services (CMS) and former President and Chief Executive Officer of the Institute for Healthcare Improvement has referred to the goals of this journey as the "Triple Aim." The three aims are improving the experience of care, improving the health of populations, and reducing per capita costs of health care.

The drivers of this journey include:

1. the skyrocketing cost of health care unrelated to improvement in health outcomes,
2. increasing understanding of the harm and unwarranted variability our fragmented health care system produces,
3. evidence of the profound health disparities that still exist in the population in spite of scientific advances in care, and
4. increasing awareness of these problems in the age of consumer empowerment.

The Skyrocketing Cost of Health Care

Michael Porter, a Professor at the Harvard School of Business has written extensively about "Value in Health Care." He points out, as have many others, that the U.S. health care system spends significantly more money per capita as a percent of our gross domestic product (GDP) than other developed nations. In fact, the U.S. share of GDP was over 17% in 2009, while the rest of the developed world spent single digit percentages of their GDP on health. However, in spite of this level of spending, U.S. consumers rate their care worst among these nations and the U.S. trails most of the rest of the developed world on many health indicators. Porter argues that this situation has arisen, in part, because the U.S. health care system does not operate using market forces present in other industries. Our health care system has evolved to a zero-sum competition in which costs are shifted among participants and incentives are not aligned with producing the best value for the consumer. He asserts that the way to transform health care is to realign competition with value for patients where value is the health outcome per dollar cost expended based on health conditions over the full cycle of care.

Unwarranted Variations in Care Costs and Health Outcomes

It has long been recognized that there are significant variations in costs of health care in the U.S. unrelated to the complexity of the population served or the quality of health outcomes achieved. The Dartmouth Atlas project has demonstrated this phenomenon with a decade of data on health costs and outcomes. In a New Yorker essay called *The Cost Conundrum* in 2009, Atul Gawande, physician and journalist at Brigham and Women's Hospital in Boston, analyzes these disparities. He concludes that there are many areas in the country where fragmentation of the health care system has led to competition for profits among components of the system to the exclusion of improved quality and lower costs for the system as a whole. This is important because, as Clayton Christensen, Professor of Business at Harvard argues, it is difficult to improve quality and lower cost through innovation in the presence of a fragmented health care delivery system. For example, in a system where hospitals get paid when people are hospitalized, hospital administrators will not celebrate and perhaps not even support innovations that keep people from needing to be hospitalized through better ambulatory care. However, in a system where ambulatory care and hospitals are integrated into a network that benefits as a whole when quality is improved and costs are reduced, then real innovation is possible and celebrated.

Health Disparities Among Populations

It has also long been recognized that there are significant variations in the quality and outcomes of care received by populations in various ethnic and racial minority populations. The IOM, in the 2003 report, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, clearly demonstrated that racial and ethnic minorities tend

to receive lower quality health care than non-minorities, even when access-related factors, such as patients' insurance status and income, are controlled. They concluded that the sources of these disparities are complex, are rooted in historic and contemporary inequities, and involve many participants at several levels, including health systems, their administrative and bureaucratic processes, utilization managers, healthcare professionals, and patients. They also concluded that there was evidence that stereotyping, biases, and uncertainty on the part of healthcare providers can all contribute to unequal treatment.

The Quality Movement

The need for major change in the U.S. healthcare system was highlighted by the 1999 and 2001 Institute of Medicine (IOM) reports, *To Err Is Human: Building a Safer Health System* and *Crossing the Quality Chasm*. These reports highlighted the problems with the U.S. healthcare system in the areas of patient safety, inefficient use of resources, fragmentation of the delivery system, and the need to re-design the way health care is delivered. They highlight the large cost of medical errors and the inefficient use of resources in our fragmented system. In *Crossing the Quality Chasm* the IOM called for a national strategy to transform the health care system. The report recommends six aims for creating a health care system which is "Safe; Effective; Patient Centered; Timely; Efficient; and Equitable."

Ten years after the IOM call for a national strategy, the U.S. Department of Health and Human Services (HHS), as mandated in the ACA, has produced a *National Strategy for Quality Improvement in Health Care*. The strategy seeks to accomplish three broad aims:

- Better Care: Improve the overall quality, by making health care more patient-centered, reliable, accessible, and safe.
- Healthy People/Healthy Communities: Improve the health of the U.S. population by supporting proven interventions to address behavioral, social and, environmental determinants of health in addition to delivering higher-quality care.
- Affordable Care: Reduce the cost of quality health care for individuals, families, employers, and government.

Quality Improvement and Health Information Technology

Some quality improvement activities are hampered by difficulties in collecting and aggregating data. It has been the goal of several U.S. administrations to establish a National Health Information Infrastructure (NHII). The goal is to establish access to relevant, reliable information that would greatly improve everyone's ability to address personal and community health concerns. The American Recovery and Reinvestment Act of 2009 (ARRA) amended the Social Security Act and thereby established the Health Information Technology for Economic and Clinical Health (HITECH) Act as a means for the development and implementation of a nationwide interoperable health information system. The HITECH Act established a series of leadership entities, financial incentives, and technical assistance structures to accelerate the spread of electronic health records and to move toward a national system of interoperable health records.

QUALITY IMPROVEMENT AND ORAL HEALTH

Drivers of Oral Health Quality Improvement

The drivers of quality improvement in oral health are the same as those in general health systems. These are:

- **the increasing cost of oral health care,**
- **increasing understanding of the unwarranted variability produced by the oral health care system,**
- **evidence of the profound health disparities that still exist in the population in spite of scientific advances in care, and**
- **increasing awareness of these problems in the age of consumer empowerment.**

Centers for Medicare and Medicaid Services (CMS) projects that the total national expenditures for dental care will almost triple between 2000 and 2020, going from $62.0 billion in 2000 to $167.9 billion in 2020, a 271% increase. This increase in expenditures is significantly

higher than the increase in the Consumer Price Index, the best measure of inflation as experienced by consumers in their day-to-day living expenses. In the decade between 2000 and 2010, the CPI rose to 127% of the 2000 level, while oral health spending rose to 165% of the 2000 level. One component of the CPI is the CPI for Dental Services (CPI-DS). During the same time period, 2000-2010, the CPI-DS rose to 154% of the 2000 level, double the rise in the CPI for all items and higher than the 149% rise in the CPI for all Medical Care.

Also, dental expenses are among the highest out-of-pocket health expenditures for consumers. In 2008 dental expenditures accounted for $30.7 billion or 22.2% of total out-of-pocket health expenditures, second only to prescription medications. The cost of oral health care, coupled with the large portion paid out-of-pocket compared to other health services are reflected in the fact that affordability of dental care is the number one reported barrier to access to dental care. Affordability concerns are most common among uninsured people, but also a concern for people with privately and public insurance.

There is limited evidence for most procedures performed in oral health care. As a result, there are widespread unexplained variations in clinical decisions among dentists. One study that compared six capitated practices with five fee-for-service practices found that average rates of restorative services were higher in the fee-for-service practices: three times as high for adults and four times as high for children. Even when differences in patients are accounted for, variations in dentists' clinical decisions are still widespread.

The 2000 Report of the Surgeon General, *Oral Health in America,* stated that "Despite improvements in oral health status, profound disparities remain in some population groups as classified by sex, income, age, and race/ethnicity. For some diseases and conditions, the magnitude of the differences in oral health status among population groups is striking." The American Dental Association has estimated that around 30% of the population has difficulty accessing dental services through the current private dental care delivery system. As an example, a 2008 report from the California Health Care Foundation indicated that 24% of all children, ages 0-11, in California had never seen a dentist. Also, a national analysis in 2010 by the GAO indicated that only about one third of children enrolled in Medicaid received any dental service during the 2008 fiscal year.

These factors described above will drive the oral health system in the same direction that general health is being driven — toward increased measurement of the outcomes of oral health activities, using data to improve quality and lower costs, and moving incentives from *Volume to Value*.

A Hierarchy of Quality Improvement Activities

There is growing sentiment that the oral health care delivery system will be included in the move toward accountability in health care. However, systems for measuring quality in dental care have been described as being "in a relatively primitive state" with the measures used being little changed in the last three decades. Since measurement is a key ingredient in any system to improve quality, it follows that quality improvement systems in oral health care are also in a relatively primitive state.

A framework in which to consider quality improvement in oral health care can be represented in terms of a hierarchy of levels of quality improvement activities. For each of these levels there are structure, process and outcomes that can be measured. Figure 1 illustrates this hierarchy.

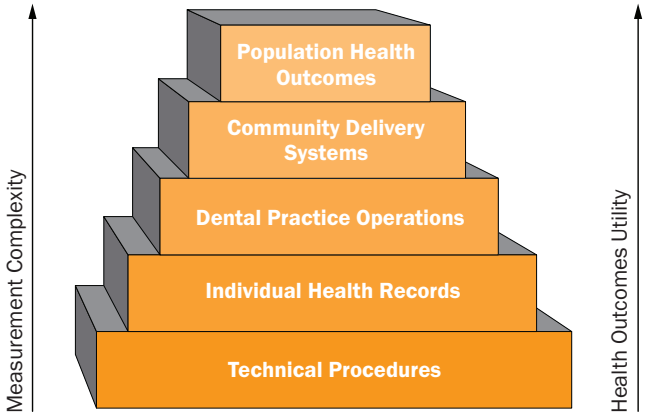


Figure 1: Levels of Quality Improvement Activities

At the lowest level are measurements of the process or results of technical procedures, which are typically the easiest to measure. These are often measured against previously developed criteria. These measurements, however, typically offer the least information about the long term health benefit for the individual or population. Review of individual health records can provide information about health care activities over time. Results are typically directed at evaluation of services performed for individuals and compared to a set

of pre-determined criteria for documentation in the health record. These results are often used in quality assurance programs to determine whether "things are being done right". However, measurement of whether "things are being done right" does not necessarily yield information about whether "the right things are being done."

Measures of dental practice operations can also be used to review the structure of a given dental practice, clinic, or group of practices or the processes in place in those practices. There are quite sophisticated assessment systems in place. However, they are most often related to structural, procedural or financial performance as opposed to the health of the population served.

Measures related to populations can include measures of community delivery systems which might be used to assess the total delivery system in a given community. Again these might be measures of structure, process, or outcomes of these systems. Even at this level, these measures are typically focused on the performance of providers as opposed to "patient-centered" approaches focusing on the health of the people being served.

At the top end of this spectrum are systems that attempt to directly examine long term health outcomes for the population. Although systems that evaluate population health outcomes could produce the most useful information for improving overall quality and cost of oral health care delivery, it is more difficult to define appropriate measures at this level and to collect and analyze appropriate data. At present there are few generally agreed upon oral health population health outcomes measures and those that do exist are not used as direct incentives to drive the oral health system to improve.

QUALITY IMPROVEMENT ACTIVITIES IN ORAL HEALTH

There are many groups and individuals engaged in developing or using oral health measures and in oral health quality improvement activities. They can be categorized by sectors of the oral health industry. A summary and examples of groups engaged in oral health quality activities includes:

- Federal or National Agencies and Programs
  - The National Quality Forum (NQF)
  - The National Priorities Partnership (NPP)
  - Healthy People 2020
  - The AHRQ National Healthcare Quality and Disparities Reports
  - The AHRQ National Quality Measures Clearinghouse (NQMC)
  - The AHRQ National Guideline Clearinghouse
  - The Consumer Assessment of Healthcare Providers and Systems (CAHPS) Program
  - The National Committee for Quality Assurance (NCQA)
  - NCQA's Healthcare Effectiveness Data and Information Set (HEDIS)
  - Medicaid's Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) program
  - The Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA)
  - The Indian Health Service
  - Military Dental Services
  - The Veterans Administration Oral Health Quality Initiatives
  - The Medicaid/SCHIP Dental Association
- The Oral Health Safety-Net
- Large Group Dental Practices
- The Dental Benefits Industry
- Professional Dental Associations
- Hospital-based Dental Practices
- Dental Practice-based Research Networks

ORAL HEALTH QUALITY SYSTEMS LAG BEHIND THOSE IN MEDICINE

There are many oral health measures, guidelines, and other sources of data being developed and used across multiple sectors of the oral health care industry. However, in spite of these efforts oral health systems lag behind those in general

health because of a limited systematic and organized quality improvement agenda in place to improve quality in dentistry. There are many reasons why the development and implementation of quality measurement and improvement systems in oral health services lag behind those in medicine. These include an emphasis on assessment of the technical excellence of restorations which is not associated with long term treatment outcomes. In addition diagnostic codes are not generally used in documenting oral health services. This makes it difficult to analyze why a given procedure was performed or what the long term outcomes of treatment were. Finally, as noted earlier, there is a limited evidence base for most procedures performed in oral health care and as a result, there are widespread unexplained variation in clinical decisions among dentists. It has been said that too often the dental profession has regarded quality assessment as an evaluation of clinician, rather than of the effects of clinicians' efforts on patients' health. These findings are in line with those in general health and support the call for a fundamental shift from "paying for volume" to "paying for value."

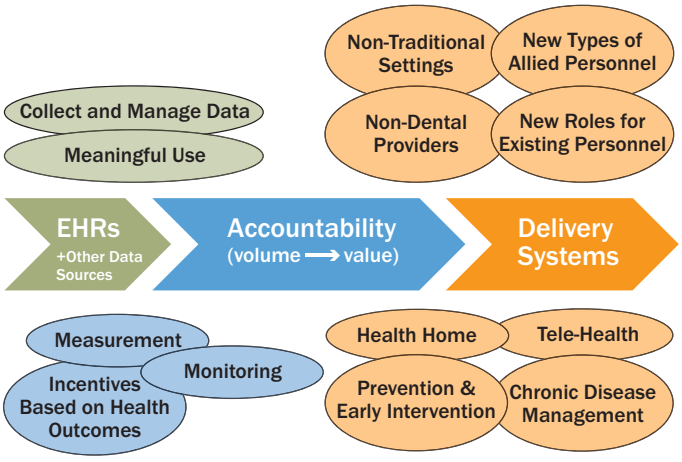
A related reason for the lack of dental quality improvement systems is that federal and state governments only pay for about 6 percent of dental care nationally. About 50 percent of the population has private insurance, but it is divided up among a large number of private insurers. Thus, in general, neither dental practices nor dental patients are integrated into large provider or payer organizations that have the capacity, funds, and political will to establish meaningful quality improvement programs.

Other factors that contribute to the current state of quality activities in the delivery of oral health services are lack of training and incentives to implement quality improvement programs and a lack of infrastructure for data collection. The Accreditation Standards for Dental Education Programs only requirements about quality relate to what the school administration needs to do to ensure the "quality" of the educational program and patient care activities. There is no requirement to graduate students who understand the principles of quality improvement and their application to individual or population health.

CONCLUSIONS AND FUTURE TRENDS IN ORAL HEALTH QUALITY MEASUREMENT AND IMPROVEMENT

The U.S. health care system has entered the "era of accountability." As described in this report the drivers of change include concern about the rapidly increasing costs of care, concern about unwarranted variability in costs and outcomes, and recognition of the profound health disparities that exist among racial and ethnic minorities, low-income populations, people with disabilities and other vulnerable populations. These drivers are pushing the health care system to make progress on the triple aims of improving the experience of care, improving the health of populations, and reducing per capita costs of health care. These drivers of change apply not only to general healthcare, but oral healthcare as well. The rapidly increasing cost of oral health care, the large numbers of people who cannot or do not take advantage of the current oral health delivery system, unwarranted variability in care, and the existence of profound oral health disparities among segments of the population are attracting increasing attention. Although efforts to institute quality improvement systems in oral health care lag behind those in general health care, they do exist and are increasing. Figure 2 illustrates a pathway to move oral health care from the current emphasis on volume to an emphasis on value.

Moving Oral Health Care from Volume to Value**



**Value = health outcomes achieved per dollar spent over the lifecycle of a condition

Figure 2: Moving Oral Health Care from Volume to Value

The pathway involves increased use of EHRs and other data sources, the establishment of accountability in the move from volume to value, and ultimately the evolution of delivery systems. Some trends to watch and ideas to pursue on this path are:

- Pressures to control costs and provide care to currently underserved populations, including racial and ethnic minorities, low-income and rural populations and people with complex health conditions, will drive development and use of measures of oral health outcomes.
- Efforts to develop and use measures of oral health outcomes will drive development and use of diagnostic coding systems and other means of collecting data on oral health outcomes of populations.
- The spread of electronic dental records (EDRs) and integrated electronic health records (EHRs) will make collection and analysis of data easier, especially across providers, and incentives for meaningful use will drive and facilitate analysis of these data.
- As the use of oral health quality measurement and quality improvement systems develop, more attention will be drawn to the IOM-defined quality domains (i.e. creating an oral health care system which is safe; effective; patient centered; timely; efficient; and equitable).
- Pressures to control costs and improve oral health of vulnerable and underserved populations will drive accountability through innovation in payment mechanisms in a move from "paying for volume" to "paying for value." This will mean developing and deploying payment, monitoring, and incentive mechanisms tied to the oral health of the population being served.
- Pressures to improve oral health of vulnerable and underserved populations and the advent of accountable systems will drive innovation in oral health delivery models including an emphasis on using chronic disease management strategies, integrated health homes, and prevention and early intervention activities. These developments will be facilitated by changes called for by the IOM report, *Improving Access to Oral Health Care for Vulnerable and Underserved Populations* (e.g. delivering oral health care in nontraditional settings, engaging non-dental professionals in delivering oral health services, developing new types of allied dental personnel or expanded roles for current allied dental personnel, and connecting geographically distributed providers of health serves through the use of telehealth technologies).

Don Berwick, in *The Triple Aim: Care, Health, and Cost*, indicated that the barriers to achieving the triple aim in the U.S. health care system "are not technical, they are political." While there may still be technical barriers in moving oral health care toward achieving the triple aim, many of the barriers are also political. The developments envisioned here will take concerted efforts by many individuals and groups to become reality. These include government at the federal, state and local levels; organized health professions; individual health care providers; the dental and general health benefits industry; private philanthropy; and consumer groups. The 2000 Report of the Surgeon General, *Oral Health in America,* elevated the visibility of oral health disparities in America. Now, the pressures and opportunities arising in the "Era of Accountability" will be the road to address these issues.