Oral Health Quality Improvement In the Era of Accountability

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ORAL HEALTH QUALITY IMPROVEMENT IN THE ERA OF ACCOUNTABILITY

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What is Quality?

Quality is a direct experience independent of and prior to intellectual abstractions. The place to improve the world is first in one's own heart and head and hands, and then work outward from there.

What is 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”

The Institute of Medicine (IOM), 1990.

Drivers of the Quality Movement in the U.S. Health Care System

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.
Drivers of the Quality Movement

#1 – The Cost of Health Care
Health Care Spending

International Comparison of Spending on Health, 1980–2009

Average spending on health per capita ($US PPP*)

- United States
- Canada
- Germany
- France
- Australia
- United Kingdom

Total expenditures on health as percent of GDP

- United States
- France
- Germany
- Canada
- United Kingdom
- Australia

* PPP=Purchasing Power Parity.
What Changes In Survival Rates Tell Us About US Health Care

**EXHIBIT 1**

Per Capita Health Spending And 15-Year Survival For 45-Year-Old Women, United States And 12 Comparison Countries, 1975 And 2005

*Source* Authors’ analysis based on data from the sources described in the text. *Notes* The dashed line separates 1975 values (blue circles) and 2005 values (red squares). Values are presented for the percentage of forty-five-year-old women surviving fifteen years.
Oral Health Expenses

U.S. National Dental Expenditures 2000 - 2020 ($ Billions)

Out-of-Pocket Health Expenses

Consumer out-of-pocket health care expenditures in 2008

- Medical supplies (7.6%)
- In-patient care (8.8%)
- Outpatient/emergency room care (6.4%)
- Physicians' services (15.9%)
- Dental services ($30.7 billion, 22.2.0%)
- Prescription drugs (31.0%)
- Other professional services (8.1%)

Out-of-pocket health care total $138.5 billion

Source: Bureau of Labor Statistics. Consumer out-of-pocket health care expenditures in
Payers of Oral Health Expenses

Source: CMS National Health Expenditure Projections 2010-2020
Mean US Household Income

Mean Household Income Received by Each Fifth and Top 5 Percent in 2010 Dollars as % of 2000 Dollars

Source: CMS National Health Expenditure Projections 2010-2020
US Income Distribution – Top 1%

More Spending, but More Decay

Spending on dental services has been rising faster than overall prices for the last decade. But an intermittent survey by the government indicates that the state of the nation’s dental health has deteriorated recently, after decades of improvement.

Sources: Centers for Disease Control and Prevention; Bureau of Labor Statistics; Medicare
Drivers of the Quality Movement
#2 – Harm and Variability of Results
IOM Reports on Quality

TO ERR IS HUMAN
BUILDING A SAFER HEALTH SYSTEM

CROSSING THE QUALITY CHASM
A NEW HEALTH SYSTEM FOR THE 21ST CENTURY
Variation in Cost and Outcomes

Dartmouth Atlas of Health Care: Regional Disparity in Medicare Spending
ANNALS OF MEDICINE

THE COST CONUNDRUM

What a Texas town can teach us about health care.

by Atul Gawande

JUNE 1, 2009
Drivers of the Quality Movement

#3 Health Disparities
Drivers of the Quality Movement
Health Disparities

• AHRQ Fact Sheet 2002 – Improving Health Care Quality

• Cited a study showing that although the use of thrombolysis for patients who had experienced a heart attack was well established among Medicare recipients, this evidence-based life-saving treatment was underused for all. However, black Medicare beneficiaries were significantly less likely than whites to receive this treatment.

Drivers of the Quality Movement
Health Disparities

• The IOM, in the 2003 report on Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care, clearly demonstrated that Racial and ethnic minorities tend to receive a lower quality of healthcare than non-minorities, even when access-related factors, such as patients’ insurance status and income, are controlled.

Oral Health in America: A Report of the Surgeon General

Department of Health and Human Services
U.S. PUBLIC HEALTH SERVICE
The Surgeon General’s Report

• “Although there have been gains in oral health status for the population as a whole, they have not been evenly distributed across subpopulations.”

• **Profound** health disparities exist among populations including:
  – Racial and ethnic minorities
  – Individuals with disabilities
  – Elderly individuals
  – Individuals with complicated medical and social conditions and situations
Drivers of the Quality Movement

- Cost of Care
- Harm and Variability of Care
- Health Disparities
- Consumer Empowerment
The Era of Accountability
The Era of Accountability

The Urban Institute

Moving Payment from Volume to Value: What Role for Performance Measurement?

Timely Analysis of Immediate Health Policy Issues
December 2010
Robert A. Berenson
What is Value in Health Care?

Value is defined as the health outcomes achieved per dollar spent over the lifecycle of a condition.

Rigorous, disciplined measurement and improvement of value is the best way to drive system progress.

Value should always be defined around the customer, and in a well-functioning health care system, the creation of value for patients should determine the rewards for all other actors in the system.

Since value depends on results, not inputs, value in health care is measured by the outcomes achieved, not the volume of services delivered.

Process measurement and improvement are important tactics but are no substitutes for measuring outcomes and costs.
The Triple Aim

• improving the experience of care
• improving the health of populations
• reducing per capita costs of health care
President Obama SINGS HITECH ACT as part of the STIMULUS PACKAGE
Medicare/Medicaid Meaningful Use Program

Overview

• Eligible Providers: physicians, dentists, podiatrists, optometrists, and chiropractors.

• Eligible providers are eligible for up to $44,000 in incentives paid out over 5 years beginning in 2011.

• Medicare providers could begin demonstrating meaningful use April 2011.

• Starting in 2015, providers who have not demonstrated meaningful use will receive Medicare payment reductions.

Meaningful Use

• Based on collecting data and “meaningfully” using the data to improve health
The Changing Landscape

Michael Dowling, President and CEO of North Shore LIJ Health Systems

Improving Quality Through Measurement

Not everything that counts can be counted, and not everything that can be counted counts.

~Albert Einstein

But...

You can’t improve what you don’t measure
Measuring Quality

http://www.qualityforum.org
Definitions

• Quality Measurement (QM)
  – collection of data about structure, process, or outcomes of health care activities

• Quality Assurance (QA)
  – data to compare results from health care activities against a pre-defined set of standards or quality indicators

• Quality Improvement (QI)
  – cyclical set of activities designed to make continuous improvement in health care structure, process or outcomes
Quality Improvement Systems

- **Plan**
  - Objectives, methods, measures, tasks
- **Do**
  - Work the plan
- **Study**
  - Gather data, analyze results
- **Act**
  - Decide what to do next
  - Incorporate the change, make a new plan
Six Aims for Quality Improvement

• Safe
• Effective
• Patient-centered
• Timely
• Efficient
• Equitable

Levels of Quality Improvement Activities

- Technical Procedures
- Individual Health Records
- Dental Practice Operations
- Community Delivery Systems
- Population Health Outcomes
Quality Measurement or Improvement Activities in Sectors of the Oral Health Delivery System

- Federal or National Agencies and Programs
- 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
National Oral Health Measures

- 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
- Consumer Assessment of Healthcare Providers and Systems (CAHPS) Program
- The National Committee for Quality Assurance (NCQA)
- Healthcare Effectiveness Data and Information Set (HEDIS)
- Early and Periodic Screening, Diagnostic, and Treatment (EPSDT)
- Children’s Health Insurance Program Reauthorization Act of 2009 (CHIPRA)
# Healthy People 2020

## Topic Areas

The Topic Areas of Healthy People 2020 identify and group objectives of related content, highlighting specific issues and populations. Each Topic Area is assigned to one or more lead agencies within the federal government that is responsible for developing, tracking, monitoring, and periodically reporting on objectives.

1. Access to Health Services  
2. Adolescent Health  
3. Arthritis, Osteoporosis, and Chronic Back Conditions  
4. Blood Disorders and Blood Safety  
5. Cancer  
6. Chronic Kidney Disease  
7. Dementias, Including Alzheimer’s Disease  
8. Diabetes  
9. Disability and Health  
10. Early and Middle Childhood  
11. Educational and Community-Based Programs  
12. Environmental Health  
13. Family Planning  
14. Food Safety  
15. Genomics  
16. Global Health  
17. Healthcare-Associated Infections  
18. Health Communication and Health Information Technology  
19. Health-Related Quality of Life and Well-Being  
20. Hearing and Other Sensory or Communication Disorders  
21. Heart Disease and Stroke  
22. HIV  
23. Immunization and Infectious Diseases  
24. Injury and Violence Prevention  
25. Lesbian, Gay, Bisexual, and Transgender Health  
26. Maternal, Infant, and Child Health  
27. Medical Product Safety  
28. Mental Health and Mental Disorders  
29. Nutrition and Weight Status  
30. Occupational Safety and Health  
31. Older Adults  
32. Oral Health  
33. Physical Activity  
34. Preparedness  
35. Public Health Infrastructure  
36. Respiratory Diseases  
37. Sexually Transmitted Diseases  
38. Sleep Health  
39. Social Determinants of Health  
40. Substance Abuse  
41. Tobacco Use  
42. Vision
Healthy People 2020

Oral Health

Number  Objective Short Title

Oral Health of Children and Adolescents
OH–1 Dental caries experience
OH–2 Untreated dental decay in children and adolescents

Oral Health of Adults
OH–3 Untreated dental decay in adults
OH–4 No permanent tooth loss
OH–5 Destructive periodontal disease
OH–6 Early detection of oral and pharyngeal cancers

Access to Preventive Services
OH–7 Use of oral health care system
OH–8 Dental services for low-income children and adolescents
OH–9 School-based centers with an oral health component
OH–10 Health centers with oral health component
OH–11 Receipt of oral health services at health centers

Oral Health Interventions
OH–12 Dental sealants
OH–13 Community water fluoridation
OH–14 Preventive dental screening and counseling

Monitoring, Surveillance Systems
OH–15 Systems that record cleft lip or palate and referrals
OH–16 Oral and craniofacial State-based health surveillance system

Public Health Infrastructure
OH–17 Health agencies with a dental professional directing their dental program
Healthy People 2020

Topic Area: Oral Health

Oral Health of Children and Adolescents

**OH–1:** Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.

**OH–1.** Reduce the proportion of young children aged 3 to 5 years with dental caries experience in their primary teeth.

Target: 30.0 percent.

Baseline: 33.3 percent of children aged 3 to 5 years had dental caries experience in at least one primary tooth in 1999–2004.

Target setting method: 10 percent improvement.

Data source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.

**OH–1.2** Reduce the proportion of children aged 6 to 9 years with dental caries experience in their primary and permanent teeth.

Target: 49.0 percent.

Baseline: 54.4 percent of children aged 6 to 9 years had dental caries experience in at least one primary or permanent tooth in 1999–2004.

Target setting method: 10 percent improvement.

Data source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.
Oral Health

Oral Health of Children and Adolescents

**OH-1** Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth

- **OH-1.1** Reduce the proportion of young children aged 3 to 5 years with dental caries experience in their primary teeth
- **OH-1.2** Reduce the proportion of children aged 6 to 9 years with dental caries experience in their primary and permanent teeth
- **OH-1.3** Reduce the proportion of adolescents aged 13 to 15 years with dental caries experience in their permanent teeth
Leading Health Indicators

Healthy People 2020 provides a comprehensive set of 10-year, national goals and objectives for improving the health of all Americans. Healthy People 2020 contains 42 topic areas with nearly 600 objectives (with others still evolving), which encompass 1,200 measures. A smaller set of Healthy People 2020 objectives, called Leading Health Indicators, has been selected to communicate high-priority health issues and actions that can be taken.

Great strides have been made over the past decade: life expectancy at birth increased; rates of death from coronary heart disease and stroke decreased. Nonetheless, public health challenges remain, and significant health disparities persist.

The Healthy People 2020 Leading Health Indicators place renewed emphasis on overcoming these challenges as we track progress over the course of the decade. The indicators will be used to assess the health of the Nation, facilitate collaboration across sectors, and motivate action at the national, State, and community levels to improve the health of the U.S. population.

The Leading Health Indicators are composed of 25 indicators organized under 12 topics. The Healthy People 2020 Leading Health Indicators are:
# Access to Preventive Services

**OH-7**  Increase the proportion of children, adolescents, and adults who used the oral health care system in the past 12 months

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>44.5 percent of persons aged 2 years and older had a dental visit in the past 12 months in 2007</td>
</tr>
<tr>
<td>Target</td>
<td>49.0 percent</td>
</tr>
<tr>
<td>Target-Setting Method</td>
<td>10 percent improvement</td>
</tr>
<tr>
<td>Data Source</td>
<td>Medical Expenditure Panel Survey (MEPS), AHRQ</td>
</tr>
</tbody>
</table>
Other Oral Health Quality Efforts

• Large Group Practices
  – Heath Partners
    • AHRQ Guidelines, EHR feedback – tobacco cessation
  – American Dental Partners
    • Accreditation Association for Ambulatory Health Care

• The American Dental Association
  – Dental Quality Alliance

• The Dental Benefits Industry
  – Claims data
  – Profiles
Conclusions

- Lots of people are collecting lots of data
- The vast majority is used to inform or drive program change at large payor or plan levels.
- There are few examples of measurement that directly is tied to performance in a way that influences activities.
- Movement from volume to value is not evident in oral health systems.
Future trends: Electronic Health Records

• The spread of EDRs and integrated EHRs will make collection and analysis of data easier, especially across providers, and incentives for meaningful use will drive and facilitate analysis of this data.
Future trends: Accountability

- 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.
Future trends:
Data Systems

• 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.
Future trends:
Quality Domains

- As oral quality measurement develops, 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)
Future trends: Delivery Systems

- Pressures to improve oral health of vulnerable and underserved populations will drive innovation in oral health delivery models including
  - an emphasis on prevention and early intervention through innovations called for by the IOM report on *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 tele-health technologies.
Future trends:
Moving Payment from Volume to Value

• Pressures to control costs and improve oral health of vulnerable and underserved populations will drive innovation in payment mechanisms in a move from “paying for volume” to “paying for value”. This will mean developing and deploying payment and incentive mechanisms tied to the oral health of the population being served.
Moving Oral Health Care from Volume to Value**

**Value = health outcomes achieved per dollar spent over the lifecycle of a condition**
The Virtual Dental Home Concept Model

- **Allied Personnel – On-Site**
  - Intake & periodic recall visits, record collection, communication with dentist

- **Dentist – Off-Site**
  - Record review, decision about dental treatment – what & where

- **Allied Personnel – On-Site**
  - Prevention & early intervention procedures, case management, integration into educational, social, general health systems

- **Cloud-Based Electronic Health Record**
  - Community Allied Personnel Care (least expensive, most cost avoidance)

- **Disease, needing in-person treatment by dentist?**
  - Yes: **Dentist – On-Site**
    - Disease treatment
  - No: **Allied Personnel – On-Site**

- **Dentist – Dental Office**
  - Disease treatment

- **Dentist – Dental Clinic**
  - Disease treatment

- **Dentist, Physician – Hospital ED/OR**
  - Treatment of serious infections, complex disease, people with complex medical or behavioral conditions

- **Dentist Care** (moderate expense, moderate cost avoidance)
- **Hospital ED/OR Care** (most expensive, least cost avoidance)
The Virtual Dental Home: Cost of Providing Care vs. Cost of Neglect

Cost of providing care
(salaries, materials, equipment, infrastructure)

High

Low

Cost of Neglect
(transportation, cost of dental treatment, costly hospital ED/OR visits, associated medical problems, lost days of school and work)

Low

High

Community on-site care delivered by allied personnel emphasizing prevention and early intervention

Dental Office or Clinic Care delivered by dentists using fixed equipment in fixed offices

Hospital ED/OR Care delivered by dentists or physicians in the hospital ED or OR
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