IOM - Six Aims for Quality in Health Care Systems

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

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 1980-2013

Percent of GDP


Data: OECD Health Data 2015.

Paul Glassman DDS, MA, MBA
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Pacific Center for Special Care at the University of the Pacific Arthur A. Dugoni School of Dentistry
**Health Care Spending**

“Medical costs are the tapeworm of American economic competitiveness”


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**Social Determinants of Health**

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**The Quadruple Aim**

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**National Oral Health Expenses**

**U.S. National Dental Expenditures 2000 - 2025 ($ Billions)**


**Oral Health Expenses**

**Consumer Price Index (CPI) and CPI for Dental Services (% of 1990 dollars)**


**Oral Health Expenses**

**Dental Care Utilization in US**

### Dental Care Utilization in US

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total Population</th>
<th>% Utilization</th>
<th>Utilizers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-18</td>
<td>69,916,504</td>
<td>48.1%</td>
<td>33,909,584</td>
</tr>
<tr>
<td>20-64</td>
<td>195,794,862</td>
<td>36.0%</td>
<td>70,486,150</td>
</tr>
<tr>
<td>65+</td>
<td>47,760,852</td>
<td>43.7%</td>
<td>20,871,492</td>
</tr>
<tr>
<td><strong>Total Utilizers</strong></td>
<td><strong>313,472,218</strong></td>
<td><strong>40.0%</strong></td>
<td><strong>125,267,147</strong></td>
</tr>
<tr>
<td><strong>Total Non-Utilizers</strong></td>
<td><strong>60.0%</strong></td>
<td><strong>188,205,071</strong></td>
<td></td>
</tr>
</tbody>
</table>

Most non-utilizers are low income and have significantly more disease than utilizers!


Source: Pacific Center for Special Care at the University of the Pacific, Arthur A. Dugoni School of Dentistry
Research Brief
Health Policy Institute

Dental Care Utilization Steady Among Working-Age Adults and Children, Up Slightly Among the Elderly
Kamar Nasser, Ph.D.
Metro Vojicic, Ph.D.
October 2016

Figure 8: Percentage of Adults Age 21 and Older Who Had a Dental Visit Versus Doctor or Other Office-Based Medical-Provider Visit in Past Year, 2013.

Percentage of adults 21 and older who had a dental visit versus doctor or other office-based medical provider visit in past year, 2013.

Source: Medicare and CHIP Payment and Accessibility Commission (MACPAC) June 2015 Report to Congress on Medicaid and CHIP.

Chapter 2. Coverage of Medicaid Dental Benefits for Adults.

https://www.macpac.gov/publication/june‐2015‐report‐to‐congress‐on‐medicaid‐and‐chip/

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Impact of Health Center System

The current dental care system primarily serves the wealthiest and healthiest segments of the population.

Disruptive Innovation

- U.S. Automobiles 1960s -> Luxury, Sophistication
  - Cadillac
  - Buick
  - Pontiac

- Japanese Automobiles 1960s -> Basic Transportation
  - Toyota
Disruptive Innovation

• Disruptive innovation, describes a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors.

• Companies tend to innovate faster than their customers’ needs evolve
• Their products or services become too sophisticated, too expensive, and too complicated for many customers in their market.
• Historically the greatest profitability has been achieved by charging the highest prices to their most demanding and sophisticated customers at the top of the market.

However, by doing so, companies unwittingly open the door to “disruptive innovations” at the bottom of the market.

• An innovation that is disruptive allows a whole new population of consumers at the bottom of a market access to a product or service that was historically only accessible to consumers with a lot of money or a lot of skill.

The Oral Health Industry

- Sophisticated & Complex Products
- Cost/Price
- Affordability, Accessibility
- Utilization

- Dentist’s Income
- Traditional Practice Models
- New Opportunities
- Disruptive Innovations

Delivery Systems
Measurement and Payment Systems
Prevention and Behavior Science
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. Reeves

Measurement and Payment Systems

The Declining Role for the Dental Drill

Remineralization

Buffering Agents

Caries Arresting Medications

Sealing Caries

Fluoride Varnish

Silver Diamine Fluoride

Prevention and Behavior Support Science

DQA

Payers
  – Dental Benefit Companies
  – Public Payers

HRSA: Health Center system

Group Practices
**Sealing Caries**

- Dental Sealants
- Interim Therapeutic Restorations

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**Care for Chronic Oral Diseases**

- Acute Care/Surgical Intervention
- Chronic Disease Management

---

**Total Health: How Long and How Well We Live**

- Health Care Delivery (procedures)
- Behaviors (alcohol, tobacco, diet, exercise, preventive dental procedures?)

- Genetics
- Environment, Public Health

40%
30%
20%
10%

---

**Oral Healthy Habits**

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**Principles of Behavior Change**

- Multiple messages from different sources
- Messages delivered by trusted members of the community
- Messages targeted to peoples values (Motivational Interviewing)
- Messages repeated over time
- Start small and build (Tiny Habits)
- Ongoing reinforcement, coaching
- Peer support
The 2011 IOM Reports on Oral Health

IOM – Workforce Recommendation

"...support the creation of a diverse workforce that is competent, compensated, and authorized to serve vulnerable and underserved populations across the life cycle."

Workforce

- Allied dental personnel
  - Community dental health coordinator
  - Expanded function dental assistants
  - Public/expanded function health dental hygienists
  - Dental therapists
- Non-dental personnel/interprofessional integration
  - Community-health workers
  - General health professionals – physicians, nurses, etc.
  - Social service professionals
  - Educational system personnel – family advocates, teachers, etc.

Delivery Systems

Partnerships and Integration

Payment Systems

Workforce

Community Deployment

The Virtual Dental Home

Space and Equipment
Space and Equipment

EHR: Radiographs

EHR: Photographs

Community-based Prevention and Early Intervention Procedures
The Virtual Dental Home Sites

Oral Health Systems for Underserved Populations

Telehealth-Connected Teams and Virtual Dental Homes Key Outcomes

- Reach people, emphasize prevention, and lower costs
- Majority of people kept and verified healthy on-site
  - About 2/3 of children had all needed services completed by dental hygienist
- Continuous presence
- Community organization integration
- Dentist integration

The Virtual Dental Home Current Trainees

Total = 46 entities
The Virtual Dental Home Current Trainees

- 8-DentalQuest Learning Collaborative
- 19-DHCS Dental Transformation Initiative
- 1-Delta Dental
- 5-HRSA
- 1-CA Wellness
- 2-Regional Centers
- 2-Hawaii
- 1-Colorado

Total = 46 entities

San Mateo County

2010
- 1 site in VDH Demonstration
- Partner – IHSD Head Start Agency
- 1 part time community team
- East Palo Alto

Ravenswood Family Health Center

1807 Bay Road
East Palo Alto
(650) 289-7700

Ravenswood Family Health Center

Ravenswood Family Health Center

Ravenswood Family Health Center
The Legal and Regulatory Environment

There are a number of legal and regulatory issues to consider when designing or implementing a telehealth-connected system of care. These issues are briefly described here.
Legal and Regulatory Environment

**Ability to use telehealth**
- Scope of practice laws, regulation, interpretation
  - Ability of allied personnel to collect diagnostic records prior to a patient being seen by a dentist
  - Ability of allied personnel to perform procedures in locations separate from dentists
  - Understanding that dentists can develop a diagnosis and treatment plan without an in-person visit with the patient

**Ability to be paid for services performed using telehealth technologies**
- Principle: consider telehealth technologies as communication tools, distinct from the health services that are being provided.
- Require payors to pay for covered services whether performed in-person or with the use of telehealth technologies
- Include store-and-forward as well as real time

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Community Engaged Dental Care System

What is a dental practice?

High cost surgical suite

Low cost community site

Economic Calculations in Dental Practice
Economic Calculations in Dental Practice

Economic Calculations in Dental Practice

Economic Calculations in Dental Practice

Economic Calculations in Dental Practice
Economic Calculations in Dental Practice

What is a dental practice?
Linked Community/Clinic System

High cost surgical suite

Low cost community site

Dental Care in the Future

• Dental Practice =
  – Geographically distributed
  – Telehealth enabled
  – Oral health teams
• Chronic disease management
  – using biological, medical, behavioral, and social tools
• Integrated with general health, educational, and social service systems
• Interacting with the majority of the population
• Focused on oral health outcomes in the Era of Accountability

An Evolving Oral Health Industry:
Opportunities for Health Centers

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