Update on the Virtual Dental Home, On the Road to Value in Oral Health Care: Practice, Policy and Advocacy

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Disclosures

The presenter has consulting arrangements with the following entities:
- DentaQuest Impact, Inc.
- The Colgate-Palmolive Company
- Virtual Dental Care
- Idaho Department of Health
- Rhode Island Department of Health
- Multiple dental care providers

Health Care Systems

- Increasing focus on health vs health care
- No longer enough to provide late stage repair
  - We need to intervene in the “social determinants of health”
- The population is changing
  - Older, more diverse, more complex
- Increasing interest in community as the level of focus
- Increased use of “big data”, value, and collaboration

Drivers of the Health Reform 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
“Medical costs are the tapeworm of American economic competitiveness”


Social Determinants of Health


The Quadruple Aim

*Better Outcomes  
*Improved Clinician Experience

*Lower Costs  
*Improved Patient Experience
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National Oral Health Expenses

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

Health Spending by Condition

Medical Expenditure Panel Survey - Top 25, 2013

Oral Health Expenses

Consumer Price Index (CPI) and CPI for Dental Services (% of 2000 dollars)

Oral Health Expenses

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

Out-of-Pocket Health Expenses

Consumer out-of-pocket health care expenditures in 2008

Fewer Americans Forgoing Dental Care

October 2014

American Dental Association
Research Brief

Health Policy Resource Center, National Center for Health Statistics

Figure: Percentage of the Population Who Needed But Did Not Obtain Select Health Care Services during the Previous 12 Months - Age 18 and Older

Source: National Health Interview Survey, National Center for Health Statistics. Tabled data uses the National Health Interview Survey, 1988-2010, to estimate the percentage of adults who reported past-year dental care needs and receipt of dental care. The sample is weighted to reduce bias due to nonresponse and to ensure that the sample is representative of the civilian noninstitutionalized population. The estimates are subject to sampling variability and may be subject to bias from nonresponse. No inference should be made from small sample sizes. The survey was redesigned in 2012 and the data are not comparable to earlier years. For more information, visit the National Health Interview Survey website (http://www.cdc.gov/nchs/nhis/).

Note: A greater proportion of adults with income below the poverty level reported dental care needs and received limited dental care than adults with income at or above the poverty level.
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Dental Care Utilization in the U.S.

PREzentation of population who visited a general dentist in the past 12 months

- Children
- Adults
- Seniors

http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIgraphic_1117_2.pdf?la=en

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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>68,916,504</td>
<td>48.5%</td>
<td>33,909,504</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>
</tbody>
</table>

Total Utilizers 313,472,218 40.0% 125,267,147

Total Non-Utilizers 60.0% 188,205,071

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


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The future of dental practice: Demographics

April 10, 2015
By Eric Solomon, DDS, MA


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

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.
Disruptive Innovation

- 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

Measurement and Payment 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

Oral Health Outcomes

Variation over time in system

- Decision about location for dental treatment
  - Community site
  - Dental Office
- Demineralization
  - Progression
- Dental Findings
  - No caries
  - Untreated caries
  - Treated caries
  - New caries

Oral Health Outcomes

Variation over time in system

- Treatment Urgency
  - No problems – keep usual appointment
  - Early care needed – few weeks
  - Urgent care needed – few days
- Risk Category
  - Low
  - Medium
  - High
- Patient Satisfaction
Oral Health Outcomes
Clinic vs Community

The Declining Role for the Dental Drill
Remineralization Buffering Agents
Caries Arresting Medications
Sealing Caries

Fluoride Varnish Silver Diamine Fluoride

Sealing Caries
Dental Sealants Interim Therapeutic Restorations

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?)
- Environment, Public Health
- Genetics

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>Genetics</td>
</tr>
<tr>
<td>20%</td>
<td>Environment, Public Health</td>
</tr>
<tr>
<td>10%</td>
<td>Behaviors</td>
</tr>
<tr>
<td>30%</td>
<td>Health Care Delivery</td>
</tr>
</tbody>
</table>

Behavior Change Principles

- Messages delivered by trusted members of the community
- Multiple people delivering the same message
- Small incremental behavior changes
- Ongoing reinforcement, coaching
- Peer support

Workforce

- Allied dental personnel
  - Community dental health coordinator
  - Expanded function dental assistants
  - Public/advanced practice 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.

What is Telehealth?

Telehealth is a collection of means or methods for enhancing health care, public health, and health education delivery and support using telecommunications technologies.

http://chpca.org/what-is-telehealth
What is Telehealth?

"Telemedicine" is often still used when referring to traditional clinical diagnosis and monitoring that is delivered by technology. The term "Telehealth" is now more commonly used as it describes the wide range of diagnosis and management, education, and other related fields of health care. These include, but are not at all limited to:

- Dentistry
- Counseling
- Physical and occupational therapy
- Home health
- Chronic disease monitoring and management
- Disaster management
- Consumer and professional education

Telehealth Modalities

- Live Video (synchronous)
- Store-And-Forward (asynchronous)
- Remote Patient Monitoring
- Mobile Health (mHealth)

2019 Telehealth Reports: Highlights

- 50 states + Washington DC reimburse for some form of live video in Medicaid fee-for-service.¹
- 14 state Medicaid programs reimburse for store-and-forward. 4 others have laws but no mechanism yet. ²
- 8 states have policies specific to teledentistry.²
- Very few states have a policy environment that fully supports the range of possibilities to improve health and care using teledentistry.


Teledentistry

- Dentist to dentist interactions: share records, patients
- Real time video consultation – dentist to dentist/patient
- Store-and-forward record review
- Patient to dentist interactions
- Real time video surgical support
- mHealth data collection
- Telehealth-connected team delivery systems

Teledentistry can have many benefits. It also has specific guidelines and implications for dentists interested in delivering care remotely.


The purpose of PH2OH’s mHealth initiative is to deliver new technology for pH balance testing. This new innovation increases the ability for patients to capture their own readings, data and trends. The kit includes an easy-to-use pH test strip to help maintain oral hygiene. The test kit includes a general oral examination tool to evaluate patients, as well as provide them a more thorough oral hygiene regimen.

Dentists in China successfully used a robot to perform implant surgery without human intervention.

Study on Telehealth vs In-Person Decision Making

Dentist Examination

• ADA Definition
  – (CDT 2016) defines a dental examination. It is a “thorough evaluation and recording of the extra oral and intraoral hard and soft tissues. It may require interpretation of information acquired through additional diagnostic procedures.”
  – There is additional definition of “Clinical Oral Evaluations” which is “the codes in this section recognize the cognitive skills necessary for patient evaluation. The collection and recording of some data and components of the dental examination may be delegated; however, the evaluation, which includes diagnosis and treatment planning, is the responsibility of the dentist.”

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

San Mateo County

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

Total = 50 entities
Ravenswood Family Health Center

San Mateo County

States Adopting Virtual Dental Home Systems

2010

2014

2018

2019
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Community Engaged Dental Care System

What is a dental practice?
Linked Community/Clinic System

Training on Using Telehealth-Connected Teams
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There are several legal and regulatory issues that can either inhibit or facilitate realizing the potential benefits of telehealth-connected teams to deliver oral health services.

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

Dentist Examination

ADA CDT 2017 Definitions

- “Clinical Oral Evaluations”
  - “… recognize the cognitive skills necessary for patient evaluation. The collection and recording of some data and components of the dental examination may be delegated; however, the evaluation, which includes diagnosis and treatment planning, is the responsibility of the dentist.”

Legal and Regulatory Environment

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

Dentist Examination

- Study
- Experience
- Range of possibilities
- Calibration and communications

Legal and Regulatory Environment

Ability to be paid for services performed using telehealth technologies

- Suggested language:
  - “face-to-face contact between a health care provider and a patient is not required for services performed using real time or store-and-forward teledentistry.”
Everyone Benefits

- Providers
- Public
- Policy Makers

Enacting supportive policies and using telehealth-connected teams (and the other strategies described in this report) will allow public and private programs to reach more people and “buy more health per dollar” of public spending.

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Policy and Advocacy

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What policies are keeping you from optimally meeting your mission?

- “P”:
- “p”:

What would it take to change the policy?

- “P”:
- “p”:

Advocacy

What is Advocacy?

- Advocacy is an activity by an individual or group which aims to influence decisions within political, economic, and social systems and institutions. Wikipedia
The Campaign

Think
- Context?
- Current system?
- Who benefits?
- Who does not?
- Who makes decision?
- Who influences decision makers?

Plan
- What does success look like?
- Lessons from others?
- Strategy?
- Goals/Objectives
- Resources?
- Obstacles?

Create
- Evidence?
- Partnerships
- Funding
- Messages
- Messengers
- Champions
- Decision projects?

Act
- Demonstration projects?
- Education of key stakeholders, partners, deciders

Assess
- Lessons from others?
- Strategy?
- Goals/Objectives
- Resources?
- Obstacles?
- Evidence?

An Advocacy Campaign Example

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Goal
- Improve oral health of underserved populations though the use of telehealth-connected oral health teams

Design
- Bring care to where people are
  - Head Start, elementary schools, residential facilities for people with disabilities, nursing homes
- Integrate oral health services and actions with educational, social, and general health systems
  - Develop agreements, customized protocols
  - Enlist and work with staff on: raising awareness, consent, education, scheduling, referral follow-up
- Use technology to connect geographically distributed personnel into telehealth connected teams
  - Choose and customize cloud-based software
  - Design information flow and practice integration
- Emphasize prevention and early intervention
  - Science of minimally invasive dentistry
  - Preventive procedures
  - Behavior change strategies
  - Interim Therapeutic Restorations

Interim Therapeutic Restoration (ITR)

AAPD Policy on Interim Therapeutic Restorations (ITR)
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The CA Health Workforce Pilot Project

THE CA HEALTH WORKFORCE PILOT PROJECTS PROGRAM (HWPP)

HWPP programs allows organizations to test, demonstrate, and evaluate new or expanded roles for healthcare professionals or new healthcare delivery alternatives before changes in licensing laws are made by the Legislature. Various organizations use HWPP to study the potential expansion of a profession’s scope of practice to:

- Facilitate better access to healthcare
- Expand and encourage workforce development
- Demonstrate, test and evaluate new or expanded roles for healthcare professionals or new healthcare delivery alternatives
- Help inform the Legislature when considering changes to existing legislation in the Business and Professions code

Design

- Design and implement using broad coalition
  - Dental school
  - California Dental Association
  - California Dental Hygiene Association
  - The Children’s Partnership
  - Children Now
  - Head Start associations and agencies
  - School health associations and agencies
  - CA Department of Health Care Services (DHCS)
  - CA Department of Public Health (DPH)
  - more ....

Funding

- American Dental Hygienists' Association
- California Dental Association Foundation
- California Consumer Protection Fund
- The California Department of Developmental Services
- The California Emerging Technology Fund
- The California Health Care Foundation
- The Verizon Foundation
- Paradise Valley Community Health Fund/ The San Diego Foundation
- University of the Pacific, Arthur A. Dugoni School of Dentistry
- First 5 Los Angeles and San Mateo County
- Health Resources and Services Administration through the California Department of Public Health
- DentaQuest Foundation
- The California Endowment
- more ...

Demonstration Project: Conclusions

- Telehealth connected teams can reach populations who do not normally get care in the traditional system
- Most underserved people (~2/3) can be kept healthy on-site in community locations
- Allied dental personnel can safely decide what diagnostic records to collect and perform ITRs (however only allowed to do so in HWPP)
- Payment mechanisms do not support telehealth connected teams and telehealth-enabled procedures

Legislation

- Goal
  - Include duties tested in HWPP in scope of practice
  - Clarify and require payment for telehealth-enabled services
- Process
  - Coalition
  - Sponsor (principle supporter): The Children’s Partnership
  - Funding: The Pew Charitable Trusts
  - Author
  - Legislative process
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AB 1174

Assembly Bill No. 1174
CHAPTER 662
An act to amend Sections 1684.5, 1925, and 1944 of, to add Section 1926.05 to, and to add, repeal, and add Sections 1753.55 and 1910.5 of, the Business and Professions Code, and to add and repeal Section 128196 of the Health and Safety Code, and to amend Section 14132.725 of the Welfare and Institutions Code, relating to oral health.

[Approved by Governor September 27, 2014.Filed with Secretary of State September 27, 2014.]

Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has.

— Margret Mead

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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

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