Improving Oral Health Using Telehealth-Connected Teams: Opportunities for Health Centers

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Virtual Dental Homes
Context and Rationale

• The evolving U.S. health care system
• Trends in the U.S. oral health industry
• Recognition that the major oral diseases are chronic diseases
• Scientific basis for sealing caries
• Use of telehealth-connected teams and Virtual Dental Homes
• Financing dental care in the Era of Accountability
• Conclusions
Health Care Spending 1980-2013

Data: OECD Health Data 2015.

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Health Care and Social Spending as a Percent of GDP 2013

Notes: GDP refers to gross domestic product.

The Commonwealth Fund
U.S. Health Care from a Global Perspective: Spending, Use of Services, Prices, and Health in 13 Countries
A Framework for Educating Health Professionals to Address the Social Determinants of Health
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National Oral Health Expenses

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

Source: CMS National Health Expenditure NHE Historical and projections,

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Health Spending by Condition

Medical Expenditure Panel Survey - Top 25, 2013

General Health: MEPS: Expenditures by Medical Condition 2013, Table 3
http://meps.ahrq.gov/data_stats/tables_compendia_hh_interactive.jsp?_SERVICE=MEPSSocket0&_PROGRAM=MEPSPGM.TC.SAS&File=HCFY2013&Table=HCFY2013%5FCNDXP%5FC

Dental Health: MEPS: Expenditures per Person by Health Care Service 2012, Table 3
http://meps.ahrq.gov/mepsweb/data_stats/tables_compendia_hh_interactive.jsp?_SERVICE=MEPSSocket0&_PROGRAM=MEPSPGM.TC.SAS&File=HCFY2013&Table=HCFY2013%5FPLEXP%5FB&VAR1=AGE&VAR2=SEX&VAR3=RAACE&VAR4=INSURCOV&VAR5=POVCAT13&VAR6=REGION&VAR7=HEALTH&VAR01=4+17+44+64&VAR02=1&VAR03=1&VAR04=1&VAR05=1&VAR06=1&VAR07=1&Debug=

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Oral Health Expenses

Source: Bureau of Labor Statistics: Consumer Price Index
http://www.bls.gov/cpi/cpi_dr.htm

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Out-of-Pocket Health Expenses

Consumer out-of-pocket health care expenditures in 2008

- Prescription drugs (31.0%)
- Outpatient/emergency room care (6.4%)
- Physicians' services (15.9%)
- Dental services $30.7 billion (22.2.0%)
- Other professional services (8.1%)
- Medical supplies (7.6%)
- In-patient care (8.8%)
- Out-of-pocket health care total $138.5 billion

Fewer Americans Forgoing Dental Care Due to Cost

Authors: Thomas Wall, M.A., M.B.A.; Kamyar Nasseh, Ph.D.; Marko Vujicic, Ph.D.

Figure 1: Percentage of the Population Who Needed But Did Not Obtain Select Health Care Services during the Previous 12 Months Due to Cost, 2000-2013

Source: National Health Interview Survey, National Center of Health Statistics. Notes: Changes from 2000 to 2010 for all services were statistically significant at the 1% level. Changes from 2010 to 2013 for all services were statistically significant at the 1% level. Changes from 2012 to 2013 were not statistically significant.
Figure 1: Percentage of the Population with a Dental Visit in the Year, 2000-2014

Source: Health Policy Institute analysis of the Medical Expenditure Panel Survey, AHRQ. Notes: For children ages 2-18 and adults ages 65 and older, changes were statistically significant at the 1% level (2000-2014). Among adults ages 19-64, changes were statistically significant at the 1% level (2003-2014). Changes from 2013 to 2014 among children, adults 19-64, and the elderly 65 and older were not statistically significant.
### Health Centers and Underserved Populations - 2015

<table>
<thead>
<tr>
<th>Description</th>
<th>Percent</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total individuals served by health centers</td>
<td></td>
<td>24,295,946</td>
</tr>
<tr>
<td>Total individuals receiving dental care</td>
<td>21.4%</td>
<td>= 5,199,332</td>
</tr>
<tr>
<td>U.S. population</td>
<td></td>
<td>320,000,000</td>
</tr>
<tr>
<td>U.S. population not receiving dental care</td>
<td>65%</td>
<td>= 208,000,000</td>
</tr>
<tr>
<td>Percent (%) of population served in health centers</td>
<td></td>
<td>= 2.5%</td>
</tr>
</tbody>
</table>
The future of dental practice: Demographics
April 10, 2015
By Eric Solomon, DDS, MA

FIGURE 2—Procedures completed in the dental office

1959
- Oral surgery 13%
- Root canal 2%
- Crown 2%
- Exam 21%
- Amalgam 41%

2005*
- Other 5%
- OMS 2%
- Prosthodontics 2%
- Restorative 14%
- Diagnostic 59%
- Preventive 18%

* General dentists


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Dentist Earnings Not Recovering with Economic Growth

Authors: Bradley Munson, B.A.; Marko Vujicic, Ph.D.

December 2014

Figure 1: General Practitioner Dentist Earnings, 1981 to 2013

Source: ADA Health Policy Institute; Bureau of Economic Analysis; Bureau of Labor Statistics. Note: Net income data are based on the ADA Health Policy Institute annual Survey of Dental Practice with years 2000-2013 weighted to adjust for nonresponse bias. Shaded areas denote recession years according to NBER. GDP is deflated using the GDP deflator. Net income is deflated using the all-item CPI. All values are in constant 2013 dollars.
A Profession in Transition: Key Forces Reshaping the Dental Landscape
The current dental care system primarily serves the wealthiest and healthiest segments of the population.
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Total Health: How Long and How Well We Live

- Behaviors (alcohol, tobacco, diet, exercise, preventive dental procedures): 40%
- Genetics: 30%
- Environment, Public Health: 20%
- Health Care Delivery (procedures): 10%


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• Expert panel convened by ADA Council on Scientific Affairs
• Sealants are effective in reducing occlusal caries incidence in permanent first molars of children, with caries reductions of 76.3 percent at four years, when sealants were reapplied as needed. Caries reduction was 65 percent at nine years from initial treatment, with no reapplication during the last five years.
• The use of explorers is not necessary for the detection of early lesions. Forceful use of a sharp explorer can damage tooth surfaces.
• The clinician should use recent radiographs, if available, in the decision-making process but should not obtain radiographs for the sole purpose of placing sealants.
• The evidence supports the placement of sealants over non-cavitated caries lesions in the pits and fissures of permanent teeth in children, adolescents, and young adults.

• This finding does not support reported concerns about poorer outcomes associated with the inadvertent sealing of caries and should lessen the reluctance of practitioners to provide sealants—an intervention proven to be highly effective in preventing caries.

Tooth #61
Boy – 13 years old at baseline in 2008


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Incomplete Caries Removal

ULTRACONSERVATIVE AND CARIOSTATIC SEALED RESTORATIONS:
RESULTS AT YEAR 10


• This 10-year study evaluated bonded and sealed composite restorations placed directly over frank cavitated lesions extending into dentin vs. sealed conservative amalgam restorations and conventional unsealed amalgam restorations.

• The results indicate that both types of sealed restorations exhibited superior clinical performance and longevity compared with unsealed amalgam restorations.

• Also, the bonded and sealed composite restorations placed over the frank cavitated lesions arrested the clinical progress of these lesions for 10 years.

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Figure 1B. At year 6, there is no evidence of progress of the lesions shown in Figure 1A.

Figure 1C. At year 10, the lesions in Figure 1A are well-delineated and not progressing, the distance between the carious lesions and the pulp is not decreasing and the pulp is not in danger in either tooth no. 30 or 31.
Incomplete Caries Removal

F. Schwendicke*, C.E. Dörfer, and S. Paris

Department for Conservative Dentistry and Periodontology, Christian-Albrechts-University, Arnold-Heller-Str. 3, 24105 Kiel, Germany; *corresponding author, schwendicke@konspar.uni-kiel.de


- Increasing numbers of clinical trials have demonstrated the benefits of incomplete caries removal, in particular in the treatment of deep caries.
- Teeth treated with incomplete caries removal showed risk reduction for both pulpal exposure and pulpal symptoms.
Incomplete Caries Removal

Operative caries management in adults and children (Review)  
Ricketts D, Lamont T, Innes NPT, Kidd E, Clarkson JE  
The Cochrane Library. 2013, Issue 3

• Teeth treated with incomplete caries removal had half to two-thirds fewer pulp exposures compared to teeth treated with complete caries removal

• Partial caries removal and sealing into the tooth leads to the systematic and progressive arrest of the carious lesion.
Interim Therapeutic Restoration (ITR)

Policy on Interim Therapeutic Restorations (ITR)

Originating Council
Council on Clinical Affairs

Review Council
Council on Clinical Affairs

Adopted
2001

Revised
2004, 2008

AAPD Policy on Interim Therapeutic Restorations (ITR)

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The Virtual Dental Home

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EHR: Radiographs
EHR: Photographs
Space and Equipment
Space and Equipment
Space and Equipment
Space and Equipment
Space and Equipment
Space and Equipment
Space and Equipment
Space and Equipment
The Virtual Dental Home Concept Model

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

Cloud-Based Electronic Health Record
Radiographs
Photographs
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

Cloud-Based Electronic Health Record

Disease, needing in-person treatment by dentist? No
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

Cloud-Based Electronic Health Record

Disease, needing in-person treatment by dentist?

No

Allied Personnel – On-Site
Prevention & early intervention procedures, case management, integration into educational, social, general health systems
Community-based Prevention and Early Intervention Procedures
Report of the Virtual Dental Home Demonstration

Improving the Oral Health of Vulnerable and Underserved Populations Using Geographically Distributed Telehealth-Connected Teams

June 14, 2016
Oral Health Systems for Underserved Populations

Telehealth-Connected Teams
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
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.]
California To Launch Medicaid-Funded Teledentistry
House passes guidelines on teledentistry
December 07, 2015

Washington — It’s similar to visiting a bricks and mortar dental office, only the dentist may be on a computer screen instead of in person.

Or the treating dentist could have securely emailed their patient care instructions to a specialist or dental hygienist at a community dental care event. Dentists could also virtually supervise the oral health care of nursing home patients, residents in rural areas or others who don’t have access to a dentist in their area.

Teledentistry can take many forms and the ADA now has specific guidelines and expectations for dentists interested in delivering their services virtually.


Having ADA policy is certainly critical for the profession to accept and implement teledentistry because the Association can now support dentists to do it, said Dr. Paul Glassman, a consultant to the ADA Council on Access, Prevention and Interprofessional Relations.

Dr. Glassman looks at teledentistry as an expansion of the traditional dental practice, where patients can have a virtual dental home instead of a physical one. It provides easier access to dental care to patients in nursing homes or those who live in rural areas without a dentist.

Dentists can also develop a plan for patients to receive cleanings, fluoride varnishes, sealants and other treatment at a community site from allied dental personnel, under the dentist’s virtual supervision.
Denti-Cal Teledentistry Billing

Teledentistry

Denti-Cal Bulletin. March, 2016, V32, #4
http://www.denti-cal.ca.gov/provsrvcs/bulletins/Volume_32_Number_04.pdf

Pacific Center for Special Care at the University of the Pacific Arthur A. Dugoni School of Dentistry
Increasing Access to Oral Health
A Technical Assistance Guide for California Health Centers

CPCA Guide
Intermittent Clinics
Dental Hygiene Billing
Telehealth Billing
Dentist Contracting

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The Era of Accountability
The Triple Aim

- improving the experience of care
- improving the health of populations
- reducing per capita costs of health care
The Quadruple Aim
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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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I SKATE TO WHERE THE PUCK IS GOING TO BE, NOT WHERE IT HAS BEEN.

Wayne Gretzky
Improving Oral Health Using Telehealth-Connected Teams: Opportunities for Health Centers (www.virtualdentalhome.org)

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