Disclosures

The presenter has consulting arrangements with the following entities:

- DentaQuest Partnership, Inc.
- Virtual Dental Care
- Idaho Department of Health
- Rhode Island Department of Health
- University of Iowa
- Multiple dental care providers

Teledentistry: A New Era for Oral Health

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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

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>48.5%</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>
<tr>
<td>Total Utilizers</td>
<td>313,472,218</td>
<td>40.0%</td>
<td>125,267,147</td>
</tr>
</tbody>
</table>

Total Non-Utilizers 60.0% 188,205,071

Most non-utilizers are low income and have significantly more disease than utilizers!
Let's Get Healthy California. Social Determinants of Health: [https://letsgethealthy.ca.gov/sdoh/](https://letsgethealthy.ca.gov/sdoh/)

The current dental care system primarily serves the wealthiest and healthiest segments of the population.
The future of dental practice: Demographics
April 10, 2015
By Eric Solomon, DDS, MA

Figure 2: Procedures completed in the dental office

1990
Oral surgery 12%
Extraction 48%
Amalgam 21%
Prophylaxis 16%
Restorative 5%

2005*
Oral surgery 5%
Extraction 27%
Amalgam 41%
Prophylaxis 21%
Restorative 19%
Placement 5%

* Estimated figures

Delivery Systems
Measurement and Payment Systems
Prevention and Behavior Science

- DQA
- Payers
  - Dental Benefit Companies
  - Public Payers
- HRSA: Health Center system
- Group Practices

Oral Health Outcomes
Clinic vs Community

Prevention and Behavior Support Science
The Declining Role for the Dental Drill
Remineralization
Buffering Agents
Caries Arresting Medications
Sealing Caries

Incomplete Caries Removal
ULTRACONSERVATIVE AND CARIESSTATIC SEALED RESTORATIONS: RESULTS AT YEAR 10

- This 10-year study evaluated bonded and sealer 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.
Incomplete Caries Removal

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.

Interim Therapeutic Restoration (ITR)

<table>
<thead>
<tr>
<th>Policy on Interim Therapeutic Restorations (ITR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Originating Council:</td>
</tr>
<tr>
<td>Review Council:</td>
</tr>
<tr>
<td>Adopted:</td>
</tr>
<tr>
<td>Revised:</td>
</tr>
</tbody>
</table>

Interim Therapeutic Restoration (ITR) Policy

The Changing Standard of Care

1. 1923 Frye vs United States (community standard)
   - Supreme Court ruling - “Locality rule” - originated in the late 1800s, accommodated clinicians living in rural and urban areas who had differing education, training and access to information.

2. 1993 - Daubert v Merrell Dow Pharmaceuticals Inc
   - Required judges to act as gatekeepers to ensure that only sound scientific knowledge is admitted in court
   - Scientific knowledge, in this context, derives from human clinical trials that involve implementation of the Baconian scientific method to identify valid and reliable outcomes. Furthermore, sound scientific knowledge is not excluded simply because it may not be accepted by the local community.

Behavior Change Principles: Supporting Adoption of “Mouth Health Habits”

- Messages delivered by trusted members of the community
- Multiple people delivering the same message
- Small incremental behavior changes
- Ongoing reinforcement, coaching
- Peer support
- Integration with community organizations
Community Engaged Oral Health Systems

Teledentistry Use Cases:
- Advice and referral
- The Teledentistry call center
- Record sharing/consultation
- Increased office efficiency
- Limited community care
- Full-service community care

Teledentistry: Advice and Referral

Teledentistry: The Call Center

Teledentistry: Record Sharing/Consultation
Teledentistry: Increase Office Care Efficiency

Outside the Office: Teledentistry
- Faculty/Postal
- Pre-and post-visit care
- Exploratory instructions
- Advice

Pre- and post-visit care

Teledentistry: Community-based Care

Community-based Care
- Pre-schools
- Schools
- Residential/Nursing Facilities
- Business
- Community Center

Limited Care

Full-service Care

Community Engaged Oral Health Systems

The Virtual Dental Home
Space and Equipment

Radiographs

Photographs

Study on Telehealth vs In-Person Decision Making
Conclusions

Teledentistry has an acceptable diagnostic performance in the detection of dental caries.

Dentist Examination

• ADA Definition
  - (CDT) 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."

Dentist Examination

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

ADA HOD Resolution 2020: Teledentistry

While in-person (face to face) direct examination has been historically the most direct way to provide care, advances in technology have expanded the options for dentists to communicate with patients and with remotely located licensed dental team members. The ADA believes that examinations performed using teledentistry can be an effective way to extend the reach of dental professionals, increasing access to care by reducing the effect of distance barriers to care.

Teledentistry has the capability to expand the reach of a dental home to provide needed dental care to a population within reasonable geographic distances and varied locations where the services are rendered.
ADA HOD Resolution 2020: Teledentistry

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ADA HOD Resolution 2020: Teledentistry

In order to achieve this goal, services delivered via teledentistry must be consistent with how they would be delivered in-person. Examinations and subsequent interventions performed using teledentistry must be based on the same level of information that would be available in an in-person environment, and it is the legal responsibility of the dentist to ensure that all records collected are sufficient for the dentist to make a diagnosis and treatment plan.

As the care provided is equivalent to in person care, insurer reimbursement of services provided must be made at the same rate that it would be made for the services when provided in person, including reimbursement for the teledentistry codes as appropriate.

Community-based Prevention and Early Intervention Procedures

Silver Diamine Fluoride (SDF)
Virtual Dental Home Sites

Oral Health Systems for Underserved Populations

Telehealth-Connected Teams

States adopting Virtual Dental Home systems or engaged in teledentistry adoption or policy 2010

- 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
  - Now estimate 80-85%
- Continuous presence
- Community organization integration
- Dentist integration
California Northstate University College of Dental Medicine

States adopting Virtual Dental Home systems or engaged in teledentistry adoption or policy 2020

Community Engaged Oral Health Systems

California Northstate University College of Dental Medicine

Teledentistry Rules
Prepared by:

California Northstate University

COVID-19 Occupational Risk Score

California Northstate University College of Dental Medicine
California Northstate University College of Dental Medicine

July 2020: Dental Care’s New Normal: Provider Survey Reveals the Need to Adapt and Redesign.

Boston, MA.

Practice Systems for COVID-19 ERA and Beyond

Outside the Office: Teledentistry

• Eliminate Visits
  – Post-operative evaluation
  – Problem focused evaluation
  – Treatment plan presentation
  – Evaluation of a problem that does not need a visit
  – Guided oral care instructions
    • Daily Mouth Care
    • Minimally invasive procedures (Fl – Varnish, toothpaste)
  – Recall visits on healthy patients
• Estimate ~20-30% fewer in-office visits
Teledentistry Activities

• Shorten Visits
  – Understand patient concerns
  – Set expectations for visit
  – Update demographics/insurance information
  – Update health history
  – Explain procedures
  – Consent for in-person procedures
  – Minimally Invasive Dentistry procedures
• Estimate ~20-30% shorter visits

Teledentistry Activities

• 20-30% fewer in-office visits
• 20-30% shorter visits

• Results
  – Less invasive procedures
  – Less PPE
  – Less crowded appointment book
  – Lower in-office costs
  – Less infection risk
  – Patient appreciation

Community Engaged Oral Health System

The Community Engaged Rural Dental Practice

Levels of Participation

• Occasional pre and post visit interactions
• Full office-based Teledentistry interactions
• Occasional community-based interactions
• Full Community-Engaged Oral Health Systems

Optimized Systems for Teledentistry: All-in-One
Optimized Systems for Teledentistry: All-in-One

- Integrated imaging
- Local storage
- Networking
- Scheduling
- On-line forms
  - Form writer – general and linked to procedures
- Video - waiting room
- Single full record of all data and interactions

Workflow

Community Engaged Oral Health Systems

Adoption
Addressing Barriers to Adoption

- Awareness
- Policy
  - Can it be done
    - Licensure/scope of practice?
  - Is it paid for?
- Implementation challenges
  - even if people are aware, and it is allowed, and it is paid for, there are still numerous implementation challenges in doing something different than what is now the mainstream approach to oral health.

109

Training on Using Telehealth-Connected Teams

110

Telehealth-Connected Teams: Training

111

Telehealth-Connected Teams: Training

112

Telehealth-Connected Teams: Training

113

Telehealth-Connected Teams: Training

114
Teledentistry Training

- Webinars
- On-demand, on-line education
- Individual consultation
- Group consultation

Teledentistry:
A New Era for Oral Health

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