Asynchronous and Synchronous Teledentistry Modalities and Pediatric Dental Home

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Application of Asynchronous Modality to Establish a Dental Home for Underserved Urban Children
Teledentistry beginnings

• The first entity to explore teledentistry was the US Army. Two US Army pilot projects were begun in 1994, and they demonstrated that teledentistry could save patient travel.

• Subsequently, teledentistry has slowly evolved and is currently used for patient screenings, specialty consultations, referrals, education, and emergency care in various dental specialties (including pediatric dentistry, oral medicine, orthodontics, and maxillofacial and oral surgery).

• The virtual dental home program to deliver dental care to underserved and vulnerable patients was created in California in 2012. The virtual dental home is an innovative model for delivering dental care in locations where underserved and vulnerable populations receive integrated oral health and general health services along with educational and social services.
Chronology of Teledentistry at EIOH

- **Collaboration with Pediatrics Health-e-Access program**
- We took advantage of a Health-e-Access project, already in place at local Head-Start Centers. Health-e-Access program was operated by Pediatricians from the University of Rochester.
- **R21 planning grant to reduce disparities in oral health among Rochester children:**
  - Pilot study was conducted to assess feasibility of dental images to diagnose oral diseases (2003)
  - **Aetna Foundation and Monroe County Department of Health grants (2004-2007)**
  - To screen underserved preschool children for oral disease
  - **NIH/NIDCR Funded study (2007-20012)**
  - To assess effectiveness of teledentistry in reducing oral health burden in urban preschool children
  - **Department of Agriculture, HRSA (2010-present)**
  - Synchronous modality to screen and refer rural children for oral care
  - **2016-present:** asynchronous model to screen for ECC onset (Dept. of Psychiatry and Einstein School of Medicine projects funded by NIH)
Modalities of Teledentistry

Teledentistry can take one of three forms:

• **asynchronous** (the transmission of a patient’s oral images that are not used in real time; that is, storing and forwarding images),

• **synchronous** (the use of real-time interactive technologies, such as two-way interactive video), and

• **mobile health care services** (the use of mobile technology, such as smartphone apps and text messages, to manage and track dental health conditions or promote healthy behaviors).
How did we start?

• Collaboration with Pediatrics Health-e-Access program
We took advantage of a Health-e-Access project, already in place at local Head-Start Centers. Health-e-Access program is operated by Pediatricians from the University of Rochester.

• R21 planning grant to reduce disparities in oral health among Rochester children: Pilot study was conducted to assess feasibility of dental images to diagnose oral diseases.
Asynchronous modality: what do we need?

• An intraoral camera and storage mechanism for digital files
• Non-dental personnel can be trained to take intraoral images (start with a typodont and an adult)-practice!
• Color printer and referral forms
Why focusing on ECC and S-ECC?

S-ECC onset (peak 3 years of age)

Oral rehabilitation (OR)

“Silver smile”

Increased caries risk and caries experience in adult dentition

Disease relapse (~40% relapse 6 months post OR)


Courtesy of Dr. J. Xiao
Severe Early Childhood Caries (S-ECC)-treatment in the OR

Courtesy of Dr. Sean McLaren
Data Brief on dental caries in primary teeth of US children, NHANES 2011-2012

Figure 1. Prevalence of dental caries in primary teeth, by age and race and Hispanic origin among children aged 2–8 years: United States, 2011–2012

1Includes untreated and treated (restored) dental caries.
2Significantly different from those aged 6–8 years, p < 0.05.
3Significantly different from non-Hispanic black children, p < 0.05.
4Significantly different from Hispanic children, p < 0.05.

NOTE: Access data table for Figure 1 at: http://www.cdc.gov/nchs/data/databriefs/db191_table.pdf#1.

Feasibility study

• Fifty Head Start enrollees from an inner city day care center were examined by a trained and calibrated dental hygienist

• By using an intraoral camera, the health aide from the day care center recorded computer images of children’s teeth

• Six dental images were taken of each child’s teeth using Camscope intraoral camera

• Digital images were sent to the remote dental site and were read by the dental hygienist

• The number of decayed, missing and filled surfaces was calculated for both methods and compared by means of kappa statistics
Austin Head-Start Daycare Center, Rochester, NY
Traditional hands-on exams
Intraoral camera (Doctor Camscope) screening
Digital images of anterior teeth
Digital images of upper posterior teeth
Digital images of lower posterior teeth
How good were these images?

• Diagnostic qualities of images obtained with the intraoral camera were superior to traditional dental examinations conducted with a dental mirror and a spot light

Mean and Standard Deviation (SD) Caries Scores for All Children Examined

<table>
<thead>
<tr>
<th></th>
<th>Number of Children= 201</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>dfs</td>
<td>1.72</td>
</tr>
<tr>
<td>dft</td>
<td>1.20</td>
</tr>
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</table>

Mean and Standard Deviation (SD) Caries Scores by Age

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>dfs</td>
<td>0.16</td>
<td>0.63</td>
<td>1.23</td>
<td>3.40</td>
<td>1.67</td>
<td>3.32</td>
</tr>
<tr>
<td>dft</td>
<td>0.13</td>
<td>0.49</td>
<td>0.94</td>
<td>2.21</td>
<td>1.17</td>
<td>2.08</td>
</tr>
</tbody>
</table>
Mean dfs of preschool inner-city children, 2006-2007 Monroe County Dept. of Health, Aetna Foundation study

Pre-School

- Ibero: 0.90
- YMCA Lewis: 2.64
- North Street: 1.65
- VOA: 2.25
- WCP: 0.57
- YMCA Metro: 1.89
Prevalence (%) of Untreated Dental Caries in pre-school inner-city children 2006-2007

Pre-School
Prevalence (%) of Dental Caries in pre-school inner-city children 2006-2007
In the field...
Asynchronous modality cont.
Comparing toothbrushes
An asynchronous modality to decrease oral health burden in preschool children from the selected daycare centers, Rochester NY-oral screenings via asynchronous modality (2007-2012)

Randomization of the consented children N=342

Oral Exam N=175
Teledentistry Exam N=167

Follow-up for 12 months with subsequent screenings at 6- and 12 months
Number of children with filled surfaces at baseline and at 12 months by exam modality

- There was no statistical difference among children screen via teledentistry and visual/tactile examination at baseline related to the children with restoration(s) present (Fisher’s exact test, p=.3)

- There was a statistical difference in the number of children with restoration(s) present at 12 months by exam type (teledentistry vs. visual/tactile), (Fisher’s exact test, p<.001)

- Kopycka-Kedzierawski and Billings, Telemedicine and e-Health, 2013
### Baseline questionnaire (N=291)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parents/Guardians</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Mean Age</strong></td>
<td>27.5 years of age (SD=6.28) Min-Max 16-50</td>
</tr>
<tr>
<td><strong>Mean # of children</strong></td>
<td>2.35 (SD= 1.37) Min–Max 1-11</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>7% Male</td>
</tr>
<tr>
<td></td>
<td>93% Female</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td>77% A-American</td>
</tr>
<tr>
<td></td>
<td>26% Hispanic</td>
</tr>
<tr>
<td></td>
<td>20% White</td>
</tr>
<tr>
<td></td>
<td>74% Not Hispanic</td>
</tr>
<tr>
<td></td>
<td>3% American/Indian</td>
</tr>
<tr>
<td><strong>Work Status</strong></td>
<td>61% Currently employed</td>
</tr>
<tr>
<td></td>
<td>39% Currently unemployed</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>5% Middle school</td>
</tr>
<tr>
<td></td>
<td>40% High School</td>
</tr>
<tr>
<td></td>
<td>22% more than High School</td>
</tr>
<tr>
<td></td>
<td>29% College level</td>
</tr>
<tr>
<td></td>
<td>3% Post graduate level</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td>13% Married</td>
</tr>
<tr>
<td></td>
<td>75% Single</td>
</tr>
<tr>
<td></td>
<td>9% Separated or Divorced</td>
</tr>
<tr>
<td></td>
<td>3% Other</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td>71% $0-19.999</td>
</tr>
<tr>
<td></td>
<td>20% $20,000-29,999</td>
</tr>
<tr>
<td></td>
<td>9% $30,000-50,000+</td>
</tr>
</tbody>
</table>
### Baseline questionnaire cont.

<table>
<thead>
<tr>
<th>Children</th>
</tr>
</thead>
</table>
| **Dental insurance** | 68% Medicaid  
12% Child Health Plus  
17% other  
3% None |
| **Medical insurance** | 65% Medicaid  
14% Child Health Plus  
19% Other  
2% None |
| **Emergency room visit in the last 12 months** | 22% Yes  
78% No |
| **Did you make dental appointment in the last 12 months for your Child with a dentist?** | 62% Yes  
38% **No** |
| **Did you take your child for routine dental visit in the past 12 months?** | 61% Yes  
39% **No** |
| **Are you thinking of taking your child to see a dentist in the next 6 months?** | 88% yes  
12% No |
| **Did you make an appointment for your child to see a dentist in the next 6 months?** | 52% Yes  
48% **No** |
| **In the last year how much of a problem was it to get care for your child that you or your dentist believed was necessary?** | 3% A big problem  
5% A small problem  
92% **Not a problem** |
| **Last dental check-up of your child** | 63% Past 12 months  
4% 1-2 years ago  
1% More than 2 years ago  
32% **Never** |
| **Does your child currently need any dental work?** | 12% Yes  
88% No |
| **Your child’s dental health status** | 46% Excellent, 30% Very Good,  
22% Good, 1% fair, 1% Poor |
Prognostic ECC model: Decayed, filled, and decayed and filled, surfaces for children who were available for the baseline, 6-month and 12-month follow-up visit

<table>
<thead>
<tr>
<th>Examination</th>
<th>variable</th>
<th>Mean (SD)</th>
<th>Min-Max</th>
<th>Lower 95% CI</th>
<th>Upper 95% CI</th>
<th>Number of children (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>(d_b)</td>
<td>0.69 (2.00)</td>
<td>0-11</td>
<td>0.32</td>
<td>1.06</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>(f_b)</td>
<td>0.12 (0.80)</td>
<td>0-7</td>
<td>0.03</td>
<td>0.27</td>
<td></td>
</tr>
<tr>
<td></td>
<td>dfs(_b)</td>
<td>0.81 (2.17)</td>
<td>0-11</td>
<td>0.41</td>
<td>1.21</td>
<td></td>
</tr>
<tr>
<td>6-month follow-up</td>
<td>(d_6)</td>
<td>0.84 (2.29)</td>
<td>0-13</td>
<td>0.41</td>
<td>1.27</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>(f_6)</td>
<td>0.42 (1.75)</td>
<td>0-26</td>
<td>0.29</td>
<td>1.46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>dfs(_6)</td>
<td>1.26 (2.82)</td>
<td>0-26</td>
<td>1.37</td>
<td>3.07</td>
<td></td>
</tr>
<tr>
<td>12-month follow-up</td>
<td>(d_{12})</td>
<td>1.34 (3.63)</td>
<td>0-21</td>
<td>0.68</td>
<td>2.01</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>(f_{12})</td>
<td>0.88 (3.18)</td>
<td>0-26</td>
<td>0.29</td>
<td>1.46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>dfs(_{12})</td>
<td>2.22 (4.62)</td>
<td>0-26</td>
<td>1.37</td>
<td>3.07</td>
<td></td>
</tr>
</tbody>
</table>

Results from the WGEE model with decayed surfaces (ds) in the primary dentition being an outcome variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>Estimate</th>
<th>SE</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam type</td>
<td>0 (reference)</td>
<td>-0.190</td>
<td>0.283</td>
<td>-0.745-0.365</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>1 (reference)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dfs status at baseline</td>
<td>0 (dfs=0)</td>
<td>-2.953</td>
<td>0.462</td>
<td>-3.871-2.035</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td></td>
<td>1 (dfs&gt;0, reference)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work status</td>
<td>1(Employed)</td>
<td>-0.561</td>
<td>0.343</td>
<td>-1.232-0.111</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>Unemployed (reference)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child’s Dental Insurance</td>
<td>1 (public)</td>
<td>-0.566</td>
<td>0.611</td>
<td>-1.765-0.632</td>
<td>0.35</td>
</tr>
<tr>
<td></td>
<td>Reference: other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child’s Medical Insurance</td>
<td>1(public)</td>
<td>-0.016</td>
<td>0.586</td>
<td>-1.165-1.133</td>
<td>0.98</td>
</tr>
<tr>
<td></td>
<td>Reference: other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem in the past 12 months</td>
<td>0( a big problem)</td>
<td>3.283</td>
<td>3.085</td>
<td>-2.763-9.330</td>
<td>0.29</td>
</tr>
<tr>
<td></td>
<td>1(a small problem)</td>
<td>-0.269</td>
<td>0.686</td>
<td>-1.613-1.076</td>
<td>0.70</td>
</tr>
<tr>
<td></td>
<td>Reference: no</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current need of dental work</td>
<td>0 (yes)</td>
<td>0.753</td>
<td>0.266</td>
<td>0.240-1.266</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>Reference: no</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to the children’s parents/caregivers, children who currently needed dental care (the question was asked at baseline) had 0.75 more carious surfaces (ds) in the primary dentition at the end of the study than children who did not need dental care (p=0.004). Additionally, children without decayed primary surfaces at baseline (ds=0) had almost 2.95 fewer carious surfaces at the 12-month follow-up examination.

Results from the WGEE model with decayed and filled surfaces (dfs) being an outcome variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>Estimate</th>
<th>SE</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam type</td>
<td>0 (clinical)</td>
<td>-0.526</td>
<td>0.406</td>
<td>-1.322 - 0.270</td>
<td>0.1952</td>
</tr>
<tr>
<td></td>
<td>1 (teledentistry)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000 - 0.000</td>
<td>.</td>
</tr>
<tr>
<td>dfs status at baseline</td>
<td>0 (dfs=0)</td>
<td>-5.493</td>
<td>0.730</td>
<td>-6.924 - 4.062</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td></td>
<td>1 (dfs&gt;0)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000 - 0.000</td>
<td>.</td>
</tr>
<tr>
<td>Child’s Dental Insurance</td>
<td>1 (public)</td>
<td>-1.227</td>
<td>1.074</td>
<td>-3.331 - 0.877</td>
<td>0.2530</td>
</tr>
<tr>
<td></td>
<td>2 (other)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000 - 0.000</td>
<td>.</td>
</tr>
<tr>
<td>Child’s Medical Insurance</td>
<td>1 (public)</td>
<td>1.395</td>
<td>1.993</td>
<td>-0.956 - 3.745</td>
<td>0.2448</td>
</tr>
<tr>
<td></td>
<td>2 (other)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000 - 0.000</td>
<td>.</td>
</tr>
<tr>
<td>In the last 12 months how much of a problem, if any, was it to get care for your child that you or a dentist believed was necessary</td>
<td>0(a big problem)</td>
<td>9.538</td>
<td>7.316</td>
<td>-4.800 - 23.877</td>
<td>0.1923</td>
</tr>
<tr>
<td></td>
<td>1(a small problem)</td>
<td>-1.125</td>
<td>0.645</td>
<td>-2.382 - 0.138</td>
<td>0.0809</td>
</tr>
<tr>
<td></td>
<td>2(not a problem)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000 - 0.000</td>
<td>.</td>
</tr>
<tr>
<td>Does your child currently need dental work?</td>
<td>0 (yes)</td>
<td>0.467</td>
<td>0.408</td>
<td>-0.333 - 1.266</td>
<td>0.253</td>
</tr>
<tr>
<td></td>
<td>1 (no)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000 - 0.000</td>
<td>.</td>
</tr>
</tbody>
</table>

Children without ECC at the baseline examination (dfs=0) had 5.49 fewer decayed surfaces and filled surfaces (dfs) in the primary dentition at the end of the study than children who had ECC at the baseline examination (dfs>0) (p<0.0001).

Study results and conclusions

- Almost 28% of the screened children had caries experience at the baseline examination.

- Teledentistry and clinical examinations at baseline were comparable when screening for dental caries in preschool children.

- Results of the parental questionnaire indicated that 39% of the children had not seen a dentist in the past 12 months and 32% of children had never seen a dentist.

- More children from the Teledentistry group had dental treatment than children from the clinical examination group, as evidenced by fillings for tooth decay.

- (Kopycka-Kedzierawski and Billings, EAPD, 2011; Kopycka-Kedzierawski and Billings, Telemedicine and e-Health, 2013)
What are the barriers?

- Lack of dental insurance reimbursement
- Differences in the state laws and licensures
- Data security
- “Buy in” of the medical colleagues
Future opportunities for Asynchronous modality

• Screening (Public Health): Currently with Dept. Psychiatry and Einstein School of Medicine

• Consultation (Diagnosis and referral)

• Patient education (Public Health to enhance access and utilization)
Thank you
Application of Synchronous Modality to Establish a Dental Home for Underserved Rural Children
Shine a Light on Eastman Dental
Pre-Lighting

Shine a Light on Eastman Dental
April 29, 2016
Eastman Institute for Oral Health

Division of Pediatric Dentistry

• 14 GME funded residents
• ~21,000 patient visits a year in resident clinic
• ~6,000 outreach visits
• 5 Full time faculty
• 2 .6 FTE’s and 5 other part time faculty
• Serve as a safety net provider for large part of New York State
New York State Pediatric Dentistry Residency Programs:

1 Buffalo
1 Rochester

18 New York City Metropolitan Area
Synchronous Teledentistry Modality at EIOH

• Teledentistry collaboration between FLCH and EIOH initiated and started in April 2010
• A telepresenter and patient are at a remote site and pediatric dentist is at EIOH
WXXI – Need To Know Segment
Original Videoconferencing Equipment
Intraoral Images
Synchronous Teledentistry
Synchronous Teledentistry
A Relaxed Atmosphere
Treatment completion for complex dental cases

- An internal chart review of children seen through the mobile dental van program from 2003-2011 was completed by FLCH (n=158).
- A 15% treatment completion rate was observed for children referred for complex dental treatment.
Synchronous Teledentistry Visits

- A live-video teleconference appointment is set up when a child has been identified as having extensive dental needs by general dentists at FLCH.
- The live-video teleconference modality (synchronous teledentistry) is used rather than a store and forward modality (asynchronous teledentistry) because the pediatric dentist is also trying to assess patient behavior.
Synchronous Teledentistry Visits

• On day of appointment a live-video connection is established between remote site and EIOH (written consent obtained prior to live-video conferencing).
• Patient and family are introduced to pediatric dentist through webcam.
• Medical history is reviewed with parents.
Synchronous Teledentistry Visits

- All questions/concerns addressed by pediatric dentist to parents.
- Live-video feed switched from webcam to intraoral camera and oral exam begins.
- Telepresenter manipulates intraoral camera at request of pediatric dentist.
Synchronous Teledentistry Visits

• Live-video feed switched back to webcam.
• Observations discussed with parents.
• Treatment modalities discussed with parents.
• Treatment modalities: in-office treatment, treatment with nitrous oxide, treatment with oral sedation, treatment in operating room, treatment consultation.
Setting up an appointment for dental care

• Appointment set up for treatment at EIOH (joint effort with patient’s guardians, FLCH community health worker and EIOH staff)

• Community health workers aid patients/their families with appointment attendance, H and P appointments if needed, transportation, and follow-up.
Review of the Program

- RSRB approval from University of Rochester obtained for retrospective chart review.
- Retrospective chart review completed for 251 patients seen in the synchronous teledentistry program from 4/2010-12/2013.
## Patients Age

<table>
<thead>
<tr>
<th>Number of Subjects</th>
<th>Mean age in years</th>
<th>Median age in age</th>
<th>Standard deviation</th>
<th>Min age</th>
<th>Max age</th>
<th>95%LCI</th>
<th>95%UCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>251</td>
<td>4.77</td>
<td>4.00</td>
<td>2.36</td>
<td>1.00</td>
<td>19.00</td>
<td>4.48</td>
<td>5.06</td>
</tr>
</tbody>
</table>

More than 70% of the children were 5 years of age or younger.
# Distribution of Treatment Modalities and Treatment Completion

<table>
<thead>
<tr>
<th>Dental treatment recommended</th>
<th>Number of children with that recommendation</th>
<th>Number of children who completed recommended treatment</th>
<th>Number of children who completed some of the recommended treatment</th>
<th>Number of children who did not complete recommended treatment</th>
<th>Percentage of children who completed the recommended treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office tx in EIOH</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Tx with nitrous oxide sedation</td>
<td>110</td>
<td>62</td>
<td>19</td>
<td>48</td>
<td>56</td>
</tr>
<tr>
<td>Tx with oral sedation</td>
<td>15</td>
<td>13</td>
<td>0</td>
<td>2</td>
<td>87</td>
</tr>
<tr>
<td>Tx in the OR</td>
<td>112</td>
<td>104</td>
<td>0</td>
<td>8</td>
<td>93</td>
</tr>
<tr>
<td>Consultation</td>
<td>10</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>90</td>
</tr>
</tbody>
</table>

The compliance rates for all treatment modalities were not significantly different (Fisher’s exact test, p>0.05).
Results of the Review

- Results show that 93% of children initially identified for treatment in operating room completed their treatment.
- 87% completion rate for children initially identified for treatment using oral sedation.
- 56% completion rate for children requiring N2O/O2, however 19 of the remaining 48 patients completed some of the treatment recommended.
Results of the Review

• The high completion rates observed for children requiring operating room services may be attributed to all treatment being completed in 1 trip to Rochester.
• Treatment modalities (N2O/O2) requiring multiple trips to Rochester resulted in decreased completion rates.
Logistical considerations and challenges

• Dissimilarities and conflicts in state and federal laws
• Limited reimbursement, logistical encounters, and concerns about data quality and security
• Differences in payment and coverage for teledentistry services in the public and private sector, as well as different policies across states
State policies

• States have enacted various policies related to Medicaid and in several cases, private payers
• State policy typically determines what constitutes telehealth, including teledentistry; the types of technologies, services and providers that are eligible for reimbursement; where teledentistry is covered and how.
State policies cont.

• With technology’s ability to cross state borders, provider licensure transferability is a key issue that states are examining to expand access and improve efficiency in the existing workforce.

• Ensuring safe teledentistry encounters for patients and privacy and data security has become an increasingly important issue as teledentistry has grown.
Potential solutions???

• With the establishment of a well-adjusted and thoughtful framework for the practice, use, and reimbursement of teledentistry in a mainstream clinical dentistry operation, patients, dental providers, and oral health care systems will be able to realize the full potential of teledentistry.
Future Plans

• To demonstrate that Teledentistry examinations for oral disease are a feasible alternative to oral examinations of small children and have the potential to be especially useful in rural areas where access to care may be difficult or unavailable.

• To promote Teledentistry in day care centers and in primary and secondary schools.

• To assess the cost-effectiveness of Teledentistry as an alternative to oral health examinations of school children in public health surveys at the federal (NHANES), state (NYSOHS) and local level (MCOHS).

• To explore the potential utility of Teledentistry for rural community dwelling older adults who may lack access to oral health care, as well as home bound adults and adults in long-term care facilities.
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  • Department of Agriculture

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Questions
Thank you