Comparison of Telemedicine to Traditional Face-to-Face Care for Children with Special Health Care Needs (CSHCN): Analysis of Cost, Caring, and Family-Centered Care

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Disclosure/Acknowledgements

- **Dissertation Committee Members**
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Scope of the Problem

✓ 2006 National Survey of CSHCN
  ✓ 13.9 percent of US children
  ✓ 13.4% of children in Florida
  ✓ 21.8 percent of households with children include at least one CSHCN

✓ Families of CSHCN frequently face multiple barriers to care
  ✓ Provider availability and access
  ✓ Financial
  ✓ Insurance
  ✓ Geographic barriers to care

✓ Access to pediatric specialty care is compounded & greater challenge
  ✓ CSHCN require more frequent routine and urgent health care
  ✓ Rural and medically underserved communities (1/5 of US residents)
    ✓ Fewer pediatric specialty services
    ✓ Services frequently only available at a distance

(Source: U.S. Department of Health and Human Services, Maternal-Child Health Bureau, 2008; U.S. Department of Health and Human Services, 2001; Eberhardt, Ingram, Makuc et al., 2001; Thompson, 2001 Marcin et al., 2004)
✓ **Telemedicine**

✓ Mechanism to improve access to specialty care services to underserved rural communities

✓ Increasingly viable solution for access to care issues

✓ Financial factors include:
  ✓ Initial deployment costs
  ✓ Insurance reimbursement & sustainability
  ✓ Costs directly dependent on utilization
    ✓ Higher utilization results in lower costs

✓ Research on telemedicine indicates:
  ✓ Consumer and provider satisfaction
  ✓ Community perceptions of improved quality of care
  ✓ Need for further evaluation in regards to perceptions of personal/ human connections, caring environments, and family costs

(Sources: De la Torre et al., 2004; Doolittle et al., 2003; Hailey, 2005; Marcin et al., 2004; McConnochie, 2005; Nesbitt et al., 2005; Smith, 2005; Thurmond & Boyle, 2002)
Purpose

• To examine cost, caring and family centered care of pediatric specialty services using telemedicine technology compared to traditional face-to-face visits for CSHCN in rural, remote and medically underserved areas of Southeast Florida.

• Cost, caring, and family centered care examined from the perspectives of the parents/ guardians of CSHCN.
Study Questions

• When pediatric specialty care is delivered utilizing telemedicine as compared to traditional face-to-face care:

  – What are the differences in cost to parents’/guardians’?

  – What are the differences in parents’/guardians’ perceptions of the system of care as caring?

  – What are the differences in parents’/guardians’ perceptions of the system of care as family-centered?
Definitions

Children with Special Health Care Needs (CSHCN)

- Have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition
- Require health and related services of a type or amount beyond that required by children generally”

(Marcin et al., 2004; McPherson et al., 1998)

• Parent, guardian, or legally designated caregiver
  - Individual primarily responsible for care of CSHCN
  - Physically present with child during clinical visits with the pediatric specialist.
Telemedicine for CSHCN

- The provision of health care utilizing an interactive communication system
  - high resolution, interactive videoconference equipment
  - audio and video capabilities
  - diagnostic cameras and clinical assessment equipment

  (Harrison et al., 2006; Karp et al., 2000; Nesbitt et al., 2005; Rasmussen & Hartshorn, 2005)

- Linking pediatric specialty providers to CSHCN, their families, & local providers in remote, rural, and medically underserved areas

  (Office for the Advancement of Telehealth, 2001; Thurmond et al., 2002)
• **Traditional face-to-face visits** include those clinical visits in which the CSHCN and their parents/guardians are *present in the room physically* with the pediatric specialty provider.

• **Telemedicine visits** include those in which the specialty provider is at a distant clinical site
  - Examining and interacting with the CSHCN and their parent/guardian through the use of **telemedicine** equipment.
• **Cost** is defined in terms of family costs to either attend a remote clinical site or to access pediatric specialty care with telemedicine technology.
  
  • All inclusive examining both direct and indirect costs

• **Caring** is defined as a nurturing way of relating to a valued other toward whom one feels a personal sense of commitment and responsibility.

  • **Caring = Compassion + Competence** (Swanson, 1991, 2001)
Families and professionals working together in the best interest of the child with the child assuming a role in this partnership as they grow;

- Respect of skills & expertise brought to the relationship from both families and professionals
- Trust
- Communication & sharing of information
- Decision making together
- A willingness to negotiate

(Dendoba, McPherson, Kenney, Strickland, and Newacheck, 2006)
Summary: Review of the Literature

- Substantiates challenges faced by families of CSHCN

- **Cost** & Burden: Challenges compounded when combined with issues such as poverty, lack of insurance, &/ or residing in rural, medically underserved areas

- **Family-Centered Care**: In order to build family-provider partnerships & optimize outcomes for CSHCN, systems of care should strive for and be construed from family perspective as:
  - Accessible
  - Cost Effective
  - Caring
  - Family-Centered

- **Telemedicine** is increasingly being used to improve access to care
  - Lack of research comparing to traditional face-to-face care
  - Need to further investigate as develop systems of care for CSHCN from family perspective examining cost, caring, and family-centered care
Methods

➢ Study Design
  ➢ Prospective
  ➢ Quasi-experimental

➢ Setting
  ➢ Florida Department of Health, Children’s Medical Services Program
    ➢ >65,000 CSHCN enrolled statewide as of July 2007
    ➢ Eligibility
      ➢ Clinical= Meets definition of CSHCN
      ➢ Financial= Title XIX, Title XXI, or Safety Net
  ➢ Southeast Florida Region (6 counties)
    ➢ > 15,000 CSHCN enrolled as of January 2009
    ➢ Three clinical sites
Methods

• IRB –
  – University of Miami
  – Florida Department of Health

• Sample
  – Convenience sample (N = 222)
  – Parents or legal guardians of CSHCN enrolled in CMS Florida Southeast Region
    • Pediatric specialty care (traditional and telemedicine) across the region
    • Nutrition & Neurology Clinics
  – Power analysis & estimate of sample size
  – Two Study Groups
    • Traditional Face-to-Face Care (n = 110)
    • Telemedicine (n = 112)

• Inclusion & Exclusion Criteria
#1 Family Cost Survey

- Developed for this research proposal
- Examined family costs related to pediatric specialty visits for their CSHCN
  - Direct (e.g., travel, lodging,..)
  - Indirect (e.g., child care for siblings, loss of wages,..)
- Examined cost for traditional face-to-face care as well as projected costs if telemedicine not available
#2 Caring Professional Scale

- Conceptually & theoretically based on Swanson’s Caring Theory (1991)
- Can be adapted to rate the care provided by a variety of health care professionals measuring caring as an intervention
- Two factor analytically derived subscales
  - compassionate healer
  - competent practitioner
- 15 items on a 5 point Likert Scale
- Higher scores equate greater caring
- **Reliability**
  - Cronbach’s alpha ranges
    - .74-.96 advanced practice nurses
    - .97 nurses
    - .96 physicians
- **Validity**
  - Correlated with empathy subscale of the Barret-Lennart Relationship Inventory \((r=.61, \ p< 0.001)\) supporting concurrent criterion validity

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Item #’s</th>
<th>Scale Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compassionate Healer</td>
<td>1, 5, 6, 7, 8, 12, 13,14</td>
<td>1 – 40</td>
</tr>
<tr>
<td>Competent Practitioner</td>
<td>2, 3, 4, 9, 10, 11, 15</td>
<td>1 – 35</td>
</tr>
</tbody>
</table>
#3- Measure of Processes of Care – 20 Item Scale

- Developed from original MPOC- 56 Item Scale
  - Retains the 5 subscales
  - 7-point Likert Scale
  - Higher scores = greater family-centered care

- Reliability
  - Internal consistency with $\alpha$’s ranging from .63 to .92
  - Test – retest reliability yielding interclass correlation coefficients of .81 to .86.

- Validity
  - Evidence supports content, face, & construct validity
  - Highly correlated with Larsen Client Satisfaction Questionnaire with $r$ ranging from .4 to .64
  - Inversely correlated with the measures of stress with $r$ ranging from -0.23 to -0.55
  - $p < .05$ to $p < .0001$) across the pilot, field testing and reliability studies

### MPOC- 20 Item Scale

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Item #’s</th>
<th>Scale Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabling &amp; Partnership</td>
<td>4, 7, 8</td>
<td>3- 21</td>
</tr>
<tr>
<td>Providing General Information</td>
<td>16, 17, 18, 19, 20</td>
<td>5- 35</td>
</tr>
<tr>
<td>Providing Specific Information</td>
<td>2, 14, 15</td>
<td>3- 21</td>
</tr>
<tr>
<td>Coordinated &amp; Comprehensive Care</td>
<td>5, 6, 10, 12</td>
<td>4- 28</td>
</tr>
<tr>
<td>Respectful &amp; Supportive Care</td>
<td>1, 3, 9, 11, 13</td>
<td>5- 35</td>
</tr>
</tbody>
</table>
Recruitment & Data Collection

• Research Team (CITI Certified)

• Project Manual/ Training

• Recruitment
  – Letter to potential participants
  – Flyers
  – Onsite

• Survey Interviews
  – Review of study including inclusion and exclusion criteria
  – Informed Consent
  – Face-to-Face
  – Survey Completion
    • Review & Participant Letter/ Compensation
    • Follow-up Information
      – Contact
      – Study Results
Data Analysis

• Univariate Statistics
  – Descriptive, Chi Square, and $t$ tests
    • To compare demographics of the two study groups (Telemedicine and Traditional Face-to-Face)
    • Initial examination of outcome variables - cost, caring and family-centered care
  – Analysis of Variance (ANOVA)
    • To examine the individual dependent variables (cost, caring and family-centered care) between the two study groups
<table>
<thead>
<tr>
<th>Parent/ Guardian Characteristics</th>
<th>Traditional (n = 110)</th>
<th>Telemedicine (n = 112)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td></td>
<td>(n = 102)</td>
<td>(n = 102)</td>
</tr>
<tr>
<td>Age(^a)</td>
<td>40.3 (10.9)</td>
<td>40.0 (12.1)</td>
</tr>
<tr>
<td></td>
<td>No. (%)</td>
<td>No. (%)</td>
</tr>
<tr>
<td>Race/ Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>28 (25.5)</td>
<td>32 (28.6)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>18 (25.5)</td>
<td>25 (22.3)</td>
</tr>
<tr>
<td>Black</td>
<td>46 (41.8)</td>
<td>49 (43.8)</td>
</tr>
<tr>
<td>Asian/ PI</td>
<td>4 (3.6)</td>
<td>2 (1.8)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>101 (91.8)</td>
<td>98 (87.5)</td>
</tr>
<tr>
<td>Male</td>
<td>9 (8.2)</td>
<td>14 (12.5)</td>
</tr>
</tbody>
</table>

\(^a\)16 parents/guardians did not report age
<table>
<thead>
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</thead>
<tbody>
<tr>
<td></td>
<td>No. (%)</td>
<td>No. (%)</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>52 (47.7)</td>
<td>50 (45.0)</td>
</tr>
<tr>
<td>Single</td>
<td>36 (33.0)</td>
<td>42 (37.8)</td>
</tr>
<tr>
<td>Divorced/ Separated</td>
<td>13 (12.0)</td>
<td>16 (14.4)</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full/ Part Time</td>
<td>44 (40.0)</td>
<td>52 (46.4)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>34 (34.9)</td>
<td>22 (19.6)</td>
</tr>
<tr>
<td>Homemaker</td>
<td>21 (19.1)</td>
<td>25 (22.3)</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did Not Graduate High School</td>
<td>27 (24.5)</td>
<td>27 (24.3)</td>
</tr>
<tr>
<td>High School</td>
<td>41 (37.3)</td>
<td>42 (37.8)</td>
</tr>
<tr>
<td>Post Secondary Education</td>
<td>38 (34.5)</td>
<td>36 (32.4)</td>
</tr>
</tbody>
</table>
# Characteristics of CSHCN

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Traditional M (SD)</th>
<th>Telemedicine M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years)</td>
<td>9.8 (5.1)</td>
<td>9.97 (5.4)</td>
</tr>
<tr>
<td>Length of time enrolled in CMS (in months)</td>
<td>68.1 (51.1)</td>
<td>60.7 (50.9)</td>
</tr>
<tr>
<td>Number of reported health conditions</td>
<td>2.6 (1.9)</td>
<td>2.5 (1.4)</td>
</tr>
<tr>
<td>Number of times seen by a specialist at CMS clinic in past year</td>
<td>5.7 (5.4)</td>
<td>6.0 (4.5)</td>
</tr>
<tr>
<td>Number of times seen by a specialist using telemedicine in past year</td>
<td>NA</td>
<td>2.7 (1.3)</td>
</tr>
<tr>
<td>Characteristics of CSHCN</td>
<td>Traditional (n = 110)</td>
<td>Telemedicine (n = 112)</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td></td>
<td>No. (%)</td>
<td>No. (%)</td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>24 (21.8)</td>
<td>23 (20.5)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>29 (26.4)</td>
<td>28 (25.0)</td>
</tr>
<tr>
<td>Black</td>
<td>46 (41.8)</td>
<td>54 (48.2)</td>
</tr>
<tr>
<td>Asian/ PI</td>
<td>2 (1.8)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Health Insurance Coverage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>105 (95.5)</td>
<td>108 (96.4)</td>
</tr>
<tr>
<td>Type of Health Coverage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicaid/ Title XIX</td>
<td>87 (79.1)</td>
<td>93 (83.8)</td>
</tr>
<tr>
<td>Florida Kidcare/ Title XXI</td>
<td>17 (15.5)</td>
<td>14 (12.6)</td>
</tr>
<tr>
<td>Safety Net</td>
<td>6 (5.4)</td>
<td>4 (3.6)</td>
</tr>
<tr>
<td>Uninsured in Past Year</td>
<td>18 (16.4)</td>
<td>15 (13.5)</td>
</tr>
</tbody>
</table>
• Caring Professional Scale
  • Total Scale ($r = .92$, $p < .001$)
  • Subscales ($r = .86$, $p < .001$)
  • Consistent with previous studies

• Measure of Processes of Care – 20 Item Scale (MPOC-20)
  • Total Scale ($r = .95$, $p < .001$)
  • Subscales (ranged from $r = .80$ to $r = .92$, $p < .001$)
  • Improved from previous studies

• Correlation between CPS and MPOC-20 Scales
  • Total Scales ($r = .62$, $p < .001$)
  • Subscales (ranged from $r = .40$ to $r = .68$, $p < .001$)
  • Scales share underlying construct yet unique differences between caring and family-centeredness
**Question #1-** What are the differences in **COST** when care is provided via **telemedicine** compared to **traditional** care?

<table>
<thead>
<tr>
<th>Family Cost/ Impact</th>
<th>Traditional M (SD)</th>
<th>Telemedicine M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(per Pediatric Specialty Visit)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel (miles)</td>
<td>33.14 (26.81)</td>
<td>32.25 (28.04)</td>
</tr>
<tr>
<td>Travel Cost (dollars)</td>
<td>18.73 (17.19)</td>
<td>17.88 (15.56)</td>
</tr>
<tr>
<td>Work Loss (hours)</td>
<td>2.24 (3.30)</td>
<td>2.33 (3.41)</td>
</tr>
<tr>
<td>Work/ Wages Loss (dollars)</td>
<td>27.78 (46.52)</td>
<td>28.06 (52.16)</td>
</tr>
<tr>
<td>Child Care Costs (dollars)</td>
<td>3.47 (19.70)</td>
<td>3.92 (11.67)</td>
</tr>
<tr>
<td>Lodging Costs (dollars)</td>
<td>1.02 (4.77)</td>
<td>1.99 (14.56)</td>
</tr>
<tr>
<td>Other Costs (dollars)</td>
<td>2.16 (6.87)</td>
<td>2.15 (7.72)</td>
</tr>
<tr>
<td><strong>TOTAL Family Costs</strong> (dollars)</td>
<td>53.10 (58.62)</td>
<td>54.15 (67.63)</td>
</tr>
</tbody>
</table>
Question #1 - What are the differences in COST when care is provided via telemedicine compared to traditional care?

Telemedicine vs. Telemedicine Not Available

Family Cost Comparison per Visit

Family Impact

* Significant at $p < .001$
**Question #1** - What are the differences in **COST** when care is provided via telemedicine compared to traditional care?

**Telemedicine vs. Telemedicine Not Available**

<table>
<thead>
<tr>
<th>Family Cost/ Impact (per Pediatric Specialty Visit)</th>
<th>Telemedicine M (SD)</th>
<th>Telemedicine Not Available M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel (miles) *</td>
<td>32.25 (28.04)</td>
<td>155.45 (76.72)</td>
</tr>
<tr>
<td>Travel Cost (dollars)*</td>
<td>17.88 (15.56)</td>
<td>90.28 (47.96)</td>
</tr>
<tr>
<td>Work Loss (hours)*</td>
<td>2.33 (3.41)</td>
<td>5.30 (5.45)</td>
</tr>
<tr>
<td>Work/ Wages Loss (dollars)*</td>
<td>28.06 (52.16)</td>
<td>69.48 (110.20)</td>
</tr>
<tr>
<td>Child Care Costs (dollars)*</td>
<td>3.92 (11.67)</td>
<td>8.73 (18.23)</td>
</tr>
<tr>
<td>Lodging Costs (dollars)*</td>
<td>1.99 (14.56)</td>
<td>19.51 (48.35)</td>
</tr>
<tr>
<td>Other Costs (dollars)*</td>
<td>2.15 (7.72)</td>
<td>10.01 (22.03)</td>
</tr>
<tr>
<td><strong>TOTAL Family Costs (dollars)</strong>*</td>
<td><strong>54.15 (67.63)</strong></td>
<td><strong>197.24 (159.42)</strong></td>
</tr>
</tbody>
</table>

*Significant at p < .001
### Question #2 – Caring

Comparison of Traditional vs. Telemedicine on Parental Perceptions of Provider Caring

<table>
<thead>
<tr>
<th>Caring Measure</th>
<th>M (SD)</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Caring Professional Scale (CPS)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caring Total Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional</td>
<td>69.33 (8.08)</td>
<td>1.313</td>
<td>.253</td>
</tr>
<tr>
<td>Telemedicine</td>
<td>70.51 (7.21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compassionate Healer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional</td>
<td>36.44 (5.2)</td>
<td>1.086</td>
<td>.298</td>
</tr>
<tr>
<td>Telemedicine</td>
<td>37.12 (4.43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competent Practitioner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional</td>
<td>32.86 (3.38)</td>
<td>1.457</td>
<td>.229</td>
</tr>
<tr>
<td>Telemedicine</td>
<td>33.39 (3.15)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Question #3 - What are the differences in parents/guardians perceptions of the system of care as FAMILY – CENTERED CARE when care is delivered utilizing telemedicine compared to traditional face-to-face care?

**Family - Centered Care**

Measure of Processes of Care 20 Item Scale- Mean Scores

<table>
<thead>
<tr>
<th>Item</th>
<th>TRAD</th>
<th>TEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>5.47</td>
<td>5.96</td>
</tr>
<tr>
<td>Enabling &amp; Partner</td>
<td>5.77</td>
<td>6.13</td>
</tr>
<tr>
<td>Providing General Info</td>
<td>4.65</td>
<td>5.36</td>
</tr>
<tr>
<td>Providing Specific Info</td>
<td>5.22</td>
<td>5.79</td>
</tr>
<tr>
<td>Coord &amp; Comp Care</td>
<td>5.73</td>
<td>6.27</td>
</tr>
<tr>
<td>Respectful &amp; Supportive Care</td>
<td>6.05</td>
<td>6.33</td>
</tr>
</tbody>
</table>
Discussion of Findings
Study Limitations

• Convenience Sample
  – Families ≤ 200% of Federal Poverty Level
  – 79% Minority
    • Inclusion limited to those able to read and speak English

• Family Questionnaire Booklet
  – CPS and MPOC-12 Item Scales tested/ utilized primarily with non-minority and middle class economic backgrounds
  – Cost Survey questions were not pilot tested prior to the survey

• Principal Investigator
  – Employed at CMS in administrative position
  – Disclosure
  – Research Assistant (Ft. Lauderdale & West Palm Beach)
Discussion of Findings
Implications of the Study

✓ Telemedicine for CSHCN
  ✓ Viable + amenable option
  ✓ Access to pediatric specialty care
  ✓ Caring
  ✓ Family-centered
  ✓ Reduces financial burden & hardships

✓ Education
  ✓ Curriculum development
  ✓ Clinical experience
  ✓ Target all health care professionals

✓ Policy and Practice
  ✓ Policy Development... breaking down the barriers
  ✓ Protocols & Standards
  ✓ Workforce Development
  ✓ Innovative Program Planning... nursing, virtual clinics, multi-appointments/ ‘one stop shop’ experience, bring the clinics to the child/ family/ elderly...
  ✓ Next step technology
  ✓ Beyond rural to metro... think broader scope
Discussion of Findings

Recommendations for Future Research

- Examine Telemedicine and the Human Connection
  - How and why the dynamics & specifics of the telemedicine visits impact family perceptions in positive direction
  - Role and presence of nursing
  - ‘Intentional Presence’
  - Develop interventions to promote consistent, positive caring, and family-centered environments across systems of care

- Measurement Tools
  - Further testing of CPS and MPOC-12 Item Scales
    - Diverse populations
    - Translation
    - Replicate study with different populations from different backgrounds, regions of the country, or internationally
  - Further testing of Family Cost Survey
Summary
Debunking the Myth..... Providing Evidence

- Telemedicine can and does:
  - Reduce family cost burdens and hardship
  - Maintain caring behaviors on the part of health care professionals
  - Promote caring, family – centered systems of care in local communities
  - Facilitate access to much needed specialty care for vulnerable populations such as CSHCN

- Human Connection is not lost through the use of technology

- Expansion of the use of telemedicine across health care systems and communities... breaking down the barriers... moving on...
Questions