School-Based Telemedicine: Multi-use Networks to Improve Academic Outcomes

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Panel Members

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School-Based Health Centers

No matter how good schools are, students won't be able to learn if they're not healthy.

- Secretary of Education
  Arne Duncan
SBHCs Health Outcomes

- Higher quality adolescent care
- Improved adolescent mental health access
- Decreased use of urgent and emergency care
- Increase in risk assessments and health care maintenance
- Reduction in Medicaid expenditures and cost of hospitalizations
- Decrease in risk behaviors and increase in health promoting behaviors
SBHC Academic Outcomes

- Decrease tardiness and absenteeism
- Improved attendance
- Increased GPA
- Decrease drop-out rate
- Increased school engagement
- Increased seat time
Pilot Network Components

- 700 students have access
- ~225 enrolled
- 45 Hispanic students
# Implementation Plan

<table>
<thead>
<tr>
<th>School Year</th>
<th>Sites</th>
<th>Access</th>
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</thead>
<tbody>
<tr>
<td>2011-2012</td>
<td>3</td>
<td>670 students</td>
</tr>
<tr>
<td>2012-2013</td>
<td>10</td>
<td>2600 students</td>
</tr>
<tr>
<td>2013-2014</td>
<td>16</td>
<td>4000 students</td>
</tr>
<tr>
<td>2014-2015</td>
<td>????</td>
<td>Expand to new counties?</td>
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2011 School-Based Telemedicine Survey

• Informal distribution via Survey Monkey
  – ATA Pediatric Special Interest Group
  – National Assembly on School-Based Health Care
  – Telehealth Resource Centers newsletters

• 46 organizations completed some or all of the survey

• Considering becoming an annual survey
Types School-based Care (n=44)

- Other: 31.8%
- Dental: 15.9%
- Speech: 2.3%
- Health Ed: 27.3%
- Nutrition: 15.9%
- Mental Health: 52.3%
- Well Visits: 20.5%
- Chronic Disease: 45.5%
- Acute Care: 43.2%
Number of Visits Provided Last Year (n=36)

- 0-50: 75%
- 51-100: 8%
- 1-250: 3%
- 251-500: 5%
- 501-1000: 6%
- 1000+: 3%

Legend:
- Blue: 0-50
- Red: 51-100
- Green: 1-250
- Purple: 251-500
- Light Blue: 501-1000
- Orange: 1000+
Locations of Telemedicine SBHCs (n=30)
Where are the spoke sites (n=36)
Hub site locations (n=35)

- Rural communities: 48.6%
- Urban Communities: 57.1%
- Suburban Communities: 17.1%
Student Population (n=38)

<table>
<thead>
<tr>
<th>Enrollment Range</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>&gt;10000</td>
<td>15.8%</td>
</tr>
<tr>
<td>5001-10000</td>
<td>10.5%</td>
</tr>
<tr>
<td>2501-5000</td>
<td>13.2%</td>
</tr>
<tr>
<td>1001-2500</td>
<td>28.9%</td>
</tr>
<tr>
<td>501-1000</td>
<td>7.9%</td>
</tr>
<tr>
<td>251-500</td>
<td>5.3%</td>
</tr>
<tr>
<td>101-250</td>
<td>0.0%</td>
</tr>
<tr>
<td>&lt;100</td>
<td>18.4%</td>
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</tbody>
</table>
Number of Spoke Sites (n=42)

- 16+ sites: 9.5%
- 11-15 sites: 2.4%
- 6-10 sites: 11.9%
- 4-6 sites: 33.3%
- 1-3 sites: 31.0%
Enhancing Pediatric Primary Care for South Carolina’s Children with Telemedicine

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Medical University of South Carolina
Department of Pediatrics
Status Quo is Not Enough
A Telemedicine Medical Home for Williamsburg County

• The county has...
  – 4 PCPs per 10,000 people
  – 1.6 providers for children per 100 sq miles (vs. 12.1/100 sq miles for the state)
  – Significantly less well child checks (vs. the state)
  – Double the rate of ED visits for asthma (vs. the state)

• A recent report on the regions development advised...
  – Target health disparities
  – Focus on preventive care for children
  – Employ the resources of nearby major health centers
A Telemedicine Medical Home for Williamsburg County
The Specifics

• A focus on
  – Low-cost technology
  – Extension of the local health infrastructure
  – Mixture of sick visits and targeted disease management
  – The inclusion of mental health services
Advantages

- The schools and the medical center of the county have excellent connections
- Motivated local champions
- Complimentary telemedicine programs are rolling out in the area
- Potential to show a significant impact on access to care
Barriers

- Institutional and grant mechanism barriers
  - Funding from the Department of Defense
  - Strict IRB process
- Reimbursement for telemedicine services is limited in South Carolina
- Regional medical center leadership changes
- New FDA rules
Parallel Projects

• Another county heard the news...
  – Using local funds and some donated equipment another county will likely begin services sooner than the original project

• Urban school based clinics received funding to compliment their services with telemedicine
  – Currently the provider visits each school for 2 hours a week.
  – Improves the availability of the provider
Barriers, to name a few

- New methods of care
  - Limited exposure in medical training
  - Fear of inadequate care
  - Fear of inefficiency
- Reimbursement
- Expense
- Sustainability
Contact Information

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School-Based Telemental Health: TeleKidcare® as an Example

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“THE CALL”
School-based telemedicine answers “the call” in a new way (Kattlove, 2009)

- “Technology continues to transform the ways in which children of today grow, learn, and communicate”
- Document experiences across 18+ programs with school-based telemedicine, this is growing
- Acute & chronic concerns; Prevention
Why Schools?

• Stay healthy and ready to learn; decrease absenteeism and presenteeism
• Safe, convenient place with trusted personnel and interest in the child’s well being
• In general, kids accommodate well to technology
• The multisystem approach enhances evaluation and treatment—ON SAME PAGE
• Decreases parents time from work
• Provides many families a point of entry into health care system
• Now leveraged as clinical and cultural training tool for healthcare trainees
TeleKidcare® Jan 2009-Dec 2010

• Program began 1998
• Approximately 625 clinical consultations
  – 360 behavioral and developmental pediatrics
  – 250 child psychiatry
  – 15 pediatric obesity
• Individual and team-based clinics
• 33% Urban, 67% rural
• Ethnicity: 20% African American, 18% Hispanic, 59% Caucasian, 3% other
TeleKidcare® Clinics

Approximate F2F
Most clinics

System Change
Joint psychiatry and psychology intervention
Telemental health model
(Grady, Myers, & Nelson, 2011)

• Need for administrative buy-in at the district and school levels
• Trained coordinator/champion at the distant site remains key
  – “Getting the word out” to sites about service availability
  – Assistance before, during, and after consult, including with vitals and health considerations
• Parent/guardian decision and participation
Telemental health model
(Grady, Lever, Cunningham, & Stephan, 2011)

- Physical space
- Rapport and interviewing skills
- Communication and professional across interested parties
- Sessions
  - Adapt strategies from onsite clinics
  - Sending materials ahead of session
  - Managing input from many informants at the distant sites, particularly schools
Session

• Input from multiple informants
  – Push and pull across interested parties
• Health literacy benefit
• Implementation of recommendations
  – Adherence
  – Daily note example
• Managing prescriptions, including scheduled medications
Telemental Health Considerations

• Same presentations as onsite behavioral clinics (KUMC, Myers et al. 2008)
  – ADHD, Mood concerns, Adjustment reactions

• Back-up plans
  – Technology difficulties
  – Safety concerns
Professional considerations

• Need for administrative buy-in at the organizational and department levels
• Cultural and clinical competency with the population served
• Licensure
• Liability/malpractice insurance
• Reimbursement—telemedicine delivery is often reimbursed but within the context of overall challenges with reimbursement for mental health services
School-related Facilitators and Barriers

- High need but also multiple responsibilities around the child’s learning, NCLB focus and meeting AYP
- Perspective on the child over time and in comparison with peers is invaluable
- In most settings, not eligible as originating site and limited or no financial support for activities
- TIME and SPACE
- RANGE
  - “Prediagnosing” and seeking confirmation
  - View health as beyond purview
  - Limited or no training in topics related to acute, chronic, or mental health and the impact on learning
Family-related Facilitators and Barriers

- Often appreciative of the trusted personnel at the school site; appreciate of supports and ongoing reinforcement of information.
- At time different, perspectives sometimes differ from the school concerning need for service.
- Decreased stigma and convenience.
- Still barriers to care:
  - Transportation to the school
  - Time from work
  - Missed appointments/no shows
  - Lack of access to follow-up on recommendations.
Provider-related Barriers & Facilitators

• Workforce shortages also impact availability of telemedicine providers
• TIME, yet beneficial compared with screen time and challenges and costs of travel
• Reimbursement, yes and no
• Personal preference
• Challenges with referral availability
Early lessons magnified

• Integration of complex systems with differing foci and agendas
  – Schools and healthcare
  – Power of change when overlapping interests
• Good program management is key!
  – Scheduling, time, rooms, paperwork
  – Monitor protocols, budget, other administrative duties
• TRAINING, TRAINING, TRAINING
  – In technology
  – In the health area
FUTURE

- Investing in EVALUTION is strongly needed across conditions
- Complement onsite school-based health and school-based mental health programs
- Technology allows increased communication across multiple care systems and sites
  - Home, school, primary care/medical home, pediatric specialties, community mental health, home, etc.
- Increased integration across technology systems
  - Videoconferencing, EHR, mobile devices, other
Resources

Telespeech Therapy Program for the Schools

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Greensboro, North Carolina
Quality of Service

• “Telepractice (telespeech) is an appropriate model of service delivery for the profession of speech-language pathology (and audiology)”

• “The quality of the services delivered via telepractice must be consistent with the quality of services delivered face-to-face.”

American Speech-Language-Hearing Association (ASHA) Position Statement
Why Telespeech in North Carolina?

- There is a shortage of SLP’s in North Carolina
  - Evidenced by vacancies state wide
- Rural areas in North Carolina have difficulty recruiting and retaining SLP’s
- Build efficiencies for traveling SLP’s
- May be more cost effective
- Improves consistency and quality of services
School Partnership

• Must have school administration buy-in
  – Exceptional Children Director
  – Principal
  – Superintendent
  – School board

• Need a contract outlining expectations of all parties

• IT support and knowledge of videoconferencing
People involved.....

• Speech-Language Pathologist
  – Trained and competent in service delivery
    • Understands technology, equipment, security issues
    • Proactive with materials, on-site facilitator
    • Communicates as effectively as if on site
  – Qualities
    • Creative
    • Flexible
    • Problem solver
    • Excellent communicator
People involved.....

- **Facilitator** (telepractice aide)
  - Training
    - Licensure requirements
    - ASHA documents (support personnel, telepractice)
    - Security (HIPAA, firewalls, encryption)
    - Equipment function, use and troubleshooting
    - Therapy expectations
      - Therapy materials
      - Therapy activities
      - SLP must direct the session
    - School orientation and policies
People involved.....

• Facilitator
  – Awareness of Responsibilities
    • Escorting students to and from TeleSpeech
    • Ensuring safety of students
    • Awareness to remote clinician when someone is in the room
    • Scheduling session and meetings
    • Sends requested documentation to remote clinician
    • Maintains and sets up materials for session
    • Helps with behavior management
    • Provides SLP with clarification when requested
    • Copies and distributes progress reports and other documentation
    • Assures readiness and safety of equipment.....troubleshoots
    • Acts as liaison between SLP and remote site
    • Notifies SLP of scheduling changes
People involved.....

• IT Staff
  – Must have knowledge of videoconferencing and/or a willingness to learn

• Teacher
  – Willingness to communicate with SLP

• Parent
  – Should feel their child is receiving quality services
  – Communicates with SLP routinely
Video Conferencing Equipment

Clinician side: School side:
Space Requirements

- **Lighting** – May be needed from more than one source; poor lighting may impair ability to see facial features; minimize shadow and flare
- **Sound** – Consider microphone quality and placement, headsets are sometimes used
- **Location within School** – convenient distance to travel between classrooms; security of space for equipment; quiet; accessible phone line/fax machine
- **Décor** – reduce distractions; avoid dark or patterned background
- **Room Size** – adequate for equipment, personnel, students and visitors (IEP team or co-treat)

Maheu, et.al 2011
TeleSpeech Services ..... 

• Evaluation – some concern about standardization and validity
• Treatment
  – Individual
  – Group (usually no more than two)
  – Inclusion
• IEP development and meetings
• Parent/Teacher meetings
• Parent/Teacher feedback and communication
Funding

- Contract billing
  - Cover costs only

- Grant funding
  - Department of Education Grant
  - RUS Grant
  - Foundation Grants

- Medicaid
  - Not currently available in North Carolina
Program Review

- Satisfaction Survey
  - Parents
  - Teachers
  - Administrators

- Disseminate information to community
  - Newspaper
  - Television news focus
  - School meetings
Research

• Clinical outcomes with telespeech therapy (2009)
• Articulation assessment (2010)
• Satisfaction with telespeech therapy (2010)
References


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www.uncg.edu/hhp/telerehabilitation
The Next 5 Years (#2)

- Occupational/Physical Therapy
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