TeleAudiology: The Key to Serving Rural Populations

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Cindy See, AuD Marshfield Clinic
Elizabeth Seeliger, AuD Wisconsin Sound Beginnings
Marshfield Clinic Project Members

• Ellen Schumann, MD, Principal Investigator
• Kelly Schultz, AuD, Co-Principal Investigator
• Cindy See, AuD, Co-Principal Investigator
• Nina Antoniotti RN, MBA, PhD, TeleHealth Director
  • Julie Berger, MS, Audiologist
  • Donna Vilbaum, Manager
• Karen Wegerer, RN, EHDI Care Coordinator
• Elizabeth Seeliger, AuD, Program Director
• Sharon Fleischfresser, MD, Medical Director
• Megan O’Hern, WE-TRAC Project Manager
• Ravi Shah, Follow-Through Coordinator

Wisconsin Sound Beginnings Project Members
Grant from the Federal Maternal Child Health Bureau secured by Wisconsin Sound Beginnings in 2009
• Help meet EHDI 1-3-6 goals?
• Improve loss to follow-up rates in the EHDI process?

Is TeleAudiology possible in a clinical setting?
Solution?

Marshfield Clinic TeleHealth!

Dedicated TeleHealth Department with Supporting Infrastructure

- Established in 1997
- Based in operational clinical approaches
- Not Technology oriented
- Providing over 40 different specialty services
- Experienced TeleHealth Nurse Clinicians
MARSHFIELD CLINIC
POINT OF SERVICE

800 plus physicians

300 non-physician providers

51 regional centers

4.1 million patient encounters

70% of the population served in rural areas

Sole provider of health care in 90% of the service area
Geography: Marshfield Clinic
Audiology Locations

- Chippewa Falls
- Eau Claire
- Marshfield
- Menomonie
- Merrill
- Minocqua
- Park Falls
- Rice Lake
- Spooner
- Stanley
- Wausau
- Weston
- Wisconsin Rapids
Audiology In-person Sites prior to Grant Funding

- Marshfield
- Chippewa Falls
- Eau Claire

Problem: Travel to these 3 locations may exceed 2-3 hours one way!
Audiology In-person Sites After Grant Funding

- Marshfield
- Chippewa Falls
- Eau Claire
- Wausau
- Weston
- Merrill
- Wisconsin Rapids
Audiology In-person and TeleHealth Sites

- Marshfield
- Chippewa Falls
- Eau Claire
- Wausau
- Weston
- Merrill
- Wisconsin Rapids
- Minocqua
- Rice Lake
- Rhinelander
- Park Falls

Locations with In-person & TeleHealth Pediatric Diagnostic ABR
• Active EHDI Teams
• Commitment to develop TeleAudiology Program to meet EHDI 1-3-6 goals
• Development of a comprehensive Pediatric Hearing Loss Clinic
Think big, start small

With Wisconsin Sound Beginnings:

– Data Analysis
– Key locations to develop onsite and TeleAudiology services.
  • Loss to follow-up rates
  • Geographic access to services
Hire a Care Coordinator

- Build EHDI Teams in Local Communities to include PCP’s
- Promote WSB EHDI Quality Improvement Bundles
- Support and promote TeleAudiology
- Track babies at risk for loss to follow-up
- Coordinate new Pediatric Hearing Loss Clinic

Preparation
Audiology Equipment
Equipment Cases
Supplies
Crossloop

3. Your PC will be assigned a 10-digit access code each time you start the program. You then give that number to your audiologist. The number is found under the help tab. It will have your name and your PC on laptop. The TeleHealth nurse will need to access your home or work computer while traveling with your laptop. CrossLoop Home does it!
Crossloop

- Software application that allows remote access of computer
- 128-bit encryption algorithm
- Randomly generated 12-digit access code for each session
TeleHealth Video Conference Systems

The patient site is a designated clinical exam room enabled for TeleHealth

- Polycom® VSX7000s codec technologies

Audiologist uses the pc-based H.323 video system provider workstation

- Polycom PVX Software only codec with Logitech 9000 camera and pc speakers

- Includes remote control access of the exam room camera.
Technical Specifications

• H.323 video equipment
  – Runs on 10-100 meg fiber network, using standards based video.

• Uses IP (Internet Protocol)
  – 512 kbps over proprietary fiber optic cable leased from two Local Exchange Carriers.

Video Conference Systems
MC TeleHealth Approach to Care Delivery

- Consultations are real-time interactive

- All calls are considered patient consultations and are treated as such for HIPAA and HITECH requirements.
Audiologist’s Perspective
• Authored by TeleHealth Director and TeleHealth Nurse Project Coordinator in consultation with Audiology

• Available on the Marshfield Clinic Intranet for easy access

Procedure Development
Procedure Information Includes:

- Pre-consult preparation of infant
- Equipment set-up
- Skin & ear preparation
- Electrode placement
- Infant positioning
- Post-consultation considerations
Training of TeleHealth Nurse Clinicians

- Prepared In House Video
- Video Conference Presentation
- Individual one on one consultation before “go live” date
- + From:

Newborn Hearing Screening Training Curriculum
Competency-based Training for New Hearing Screeners
Training of TeleHealth Nurses

Future: Audiology will participate in upcoming TeleHealth Skills Day
• For babies who refer on the hearing screen, the goal is to schedule **two appointments prior to hospital discharge**

• 2 weeks and 4 weeks of age
Audiology Follow-up Appointment Request

It is recommended that follow-up appointments be made before discharge from the hospital or within 1 week of the final hearing screening. Schedule a 2-week evaluation, as well as a 4-week evaluation at the selected facility below.

Baby’s name ____________________________ DOB ____________________________

Final hearing screening results – Right: □ Pass □ Refer Left: □ Pass □ Refer

Guide By Your Side information offered to parent: □ Yes □ No □ Unknown

Primary care provider (required) ____________________________

Parent’s phone number: Home ____________________________ Cell ____________________________

Contact the following with the 2-week and 4-week follow-up appointment information:

☐ Parents Phone ____________________________
☐ Birth unit Phone ____________________________
☐ Midwife Phone ____________________________

Check (□) parent’s preferred location for follow-up appointments:

☐ Marshfield Center
☐ Minocqua Center (telehealth)
☐ Rice Lake Center (telehealth)
☐ Wisconsin Rapids Center

☐ Merrill Center
☐ Wausau Center
☐ Weston Center

☐ Chippewa Falls Center
☐ Eau Claire Center

Fax 715-389-7622
Or call directly at 1-800-273-5245

Fax 715-847-3257
Or call directly at 715-847-3232

Fax 715-726-4234
Or call directly at 1-888-206-9112, ext. 3-4160

Fax 715-858-4505
Or call directly at 715-858-4747

Any questions or concerns about Early Hearing Detection & Intervention (EHDI), call EHDI Care Coordinator at 1-800-782-8581, ext. 1-7128.

Comments ____________________________

Additional ABR testing sites:

☐ ENT Professional Associates
  Ashland 715-682-9311

☐ Ministry Medical Group-Rice Clinic
  Stevens Point 715-342-7949
• Designed as a center to center program rather than a strict hub & spoke concept.

• Audiologist controls the laptop and software remotely and analyzes results in real time.
TeleAudiology Program Value-Steps

- Parents are provided results the same as if they were on site.
- The audiologist takes screen shots of results prior to disconnection of equipment for formal report.
- Results are printed and scanned into electronic medical record.
Onsite Data:
Sep 14, 2010 – Jan 4, 2011

• Two-sites - Wausau, Wisconsin Rapids

• Infants scheduled: 8
• Infants tested: 8
• Passed: 6
• Average age: 3 weeks old
• Age Range: 2-4 weeks old
Onsite Data:
Sep 14, 2010 – Jan 4, 2011

Passed second visit: 2
Age range: *8-10 weeks
Economic Impact:

- Marshfield: 50 miles
- Onsite Location: 7 miles
- Cost savings based on $3/mile formula calculation
- Round trip distance = 86 miles saved
- $258 average dollar savings
TeleAudiology Data:
Sep 14, 2010 – Jan 4, 2011

• Two Locations: Minocqua, Rice Lake
• Infants scheduled: 17
• Tested: 12
• No shows: 5*
• Passed: 9
• Average age: 3.6 weeks
• Age Range: 2 – 8 weeks old

Did not pass:

• Need further testing: 2

*Equipment issue: 1
Economic Impact:

• **Marshfield/Chippewa Falls**: 113 miles
• **TeleHealth Site**: 18 miles
• Cost savings based on $3/mile formula calculation
• **Round trip distance** = **190 miles saved**
• **$576 average dollar savings**
Financial Considerations

Of the 20 infants tested:

- **16 Title 19** (7 Onsite, 9 TeleHealth)
- **4 Private Insurance** (1 Onsite, 3 TeleHealth)
- Wisconsin Medicaid and many private insurances provide reimbursement for TeleHealth.
So Can TeleAudiology?

• Help meet EHDI 1-3-6 goals? Yes!

• Improve loss to follow-up rates in the EHDI process? Yes!

• Finally, is TeleAudiology possible in a clinical setting? Yes!
Muchos Gracias! Merci-Merci!

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