Telehealth in EHDI

Functions and Challenges
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Telehealth Defined

- Delivery and access to health-related services through telecommunications.
- Telephone consultation
- Videoconference consultation
- Interactive Internet
- Robotics
  - Remote delivery of clinical services related to EHDI programs
“The appropriate standard of services delivered via telepractices shall be equivalent to the standard expected in traditional delivery methods”.

“diagnostic and rehabilitative telehealth/telemedicine services should always be provided by, or supervised by, a qualified practitioner; should be primarily provided to individuals who have limited access to providers in their communities (e.g., homebound); and services should be validated before implementation…”

Regulations and Legislation

- “telemedicine is appropriate for audiologists…but that the quality of telepractice services should be equal to that of services dispensed face-to-face.”
  
Key EHDI objectives

- Effectiveness
- Equity
- Efficiency
Key EHDI objectives

- Effectiveness with population spread
- Equity when access is limited
- Efficiency over large geographic region
Telehealth Opportunities

- Delivery of clinical services.
- Training.
- Second Opinion.
- Consultation.
- Quality Assurance.
- Research.
- Behavioural.
- Hearing Aid Programming.
Issues in EHDI

- Loss to Follow Up
- Training and support of EHDI professionals
- Second opinion/difficult diagnosis
- Waiting list for service
- Quality assurance
Loss to Follow Up

- Infants missed at hospital before discharge.
- Infants who refer at Stage I and do not return for Stage II.
- Infants who refer from Stage II and do not return for assessment.
Probability of HL

- Prevalence in General Population
- Prevalence in WBN refer population
- Prevalence in NICU refer population
Remote Assessment

- Laptop
- Headbox
  - Electrodes
  - Ear probe
- USB
Remote Assessment

Remote Laptop

USB

Headbox

Electrodes
Ear probe

OTN Connection

Host Laptop

Remote Assessment
OTN

- Access to sites across Ontario
- Central sites used as "host" sites
- OTN coordinators at each site.
Network Technologies
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- Bandwidth
- Security
- Encryption
Network Technologies

- Bandwidth
- Security
- Encryption
Network Technologies

- Existing telehealth network
  - VNC
  - PC Anywhere
- Virtual Private Network (VPN)
  - Citrix
  - WebEx
  - NTR Global
- Firewalls, video transfer rates, accessibility
Telehealth Applications

- Support network
  - Administrative
  - Clinical
- Center of Excellence
- Referral network
- Clinical access
Telehealth Applications

- Peer Support Network
  - Case discussion
  - Teaching database
- Center of Excellence
  - Provides support to clinicians
  - Develops and maintains standards
Specific Challenges

- Confidentiality
  - Record encoding
  - Encryption

- Test environment
  - Testing outside the booth

- Scheduling/Equipment movement

- Communication of diagnosis
Where do we go from here?

- Research
  - Using a Telehealth Medium for Objective Hearing Testing: Implications for Supporting Rural Universal Newborn Hearing Screening Programs. Krum, M; Ribera, J; Schmiedge, J., 2005
  - The Reliability of Click Evoked and Frequency Specific Auditory Brainstem Response Testing Using Telehealth Technology. Towers, A; Pisa, J; Froelich, T; Krumm, M., 2005
  - Ethical and Legal Issues Related to Telepractice. Denton, D. and Gladstone, V., 2005 (Seminars in Hearing, 26, 1, 2005)

- Protocol Development
Questions?

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