

Telehealth in EHDI

Functions and Challenges

W. Campbell

M. Hyde



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



Practice Guidelines

- “The appropriate standard of services delivered via telepractices shall be equivalent to the standard expected in traditional delivery methods”.
 - *College of Audiologists and Speech Language Pathologists of Ontario: Use Of Telepractice Approaches In Providing Services To Patients/Clients. June 2004.*



Regulations and Legislation

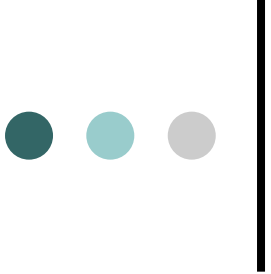
- “diagnostic and rehabilitative telehealth/telemedicine services should always be provided by, or supervised by, a qualified practitioner; should be primarily provided to individuals who have limited access to providers in their communities (e.g., homebound); and services should be validated before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

- *American Academy of Audiology: The use of telehealth/telemedicine to provide audiology services. Resolution 2008–06, 2008.*



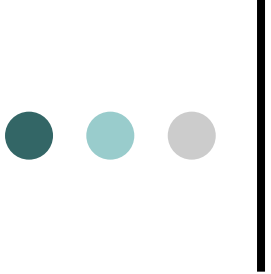
Regulations and Legislation

- “telemedicine is appropriate for audiologists...but that the quality of telepractice services should be equal to that of services dispensed face-to-face.”
 - *American Speech-Language-Hearing Association, Working Group on Telepractice: Audiologists providing clinical services via telepractice: Technical report, 2005.*



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

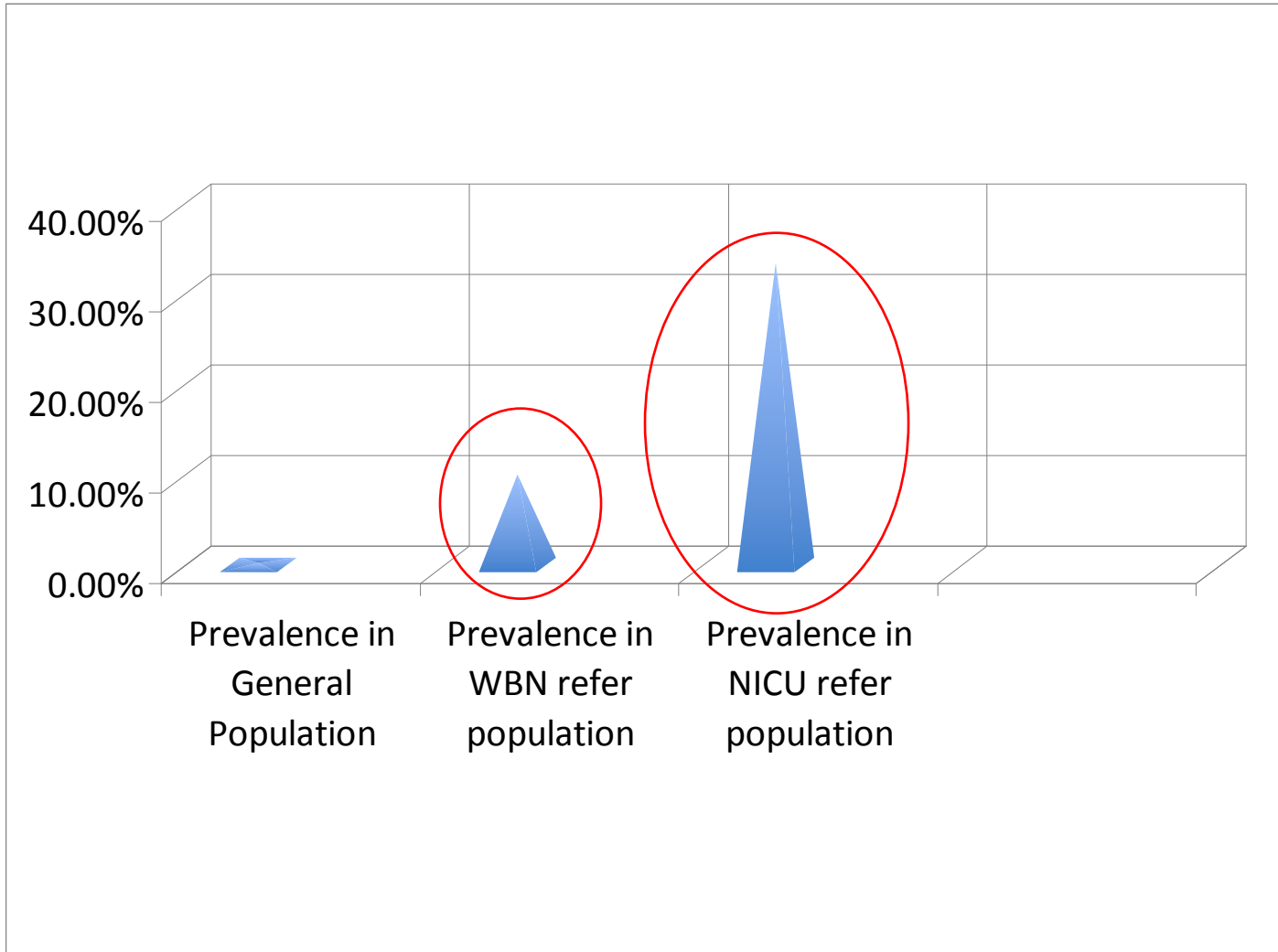
- Loss to Follow Up
- Training and support of EHDI professionals
- Second opinion/difficult diagnosis
- Waiting list for service
- Quality assurance



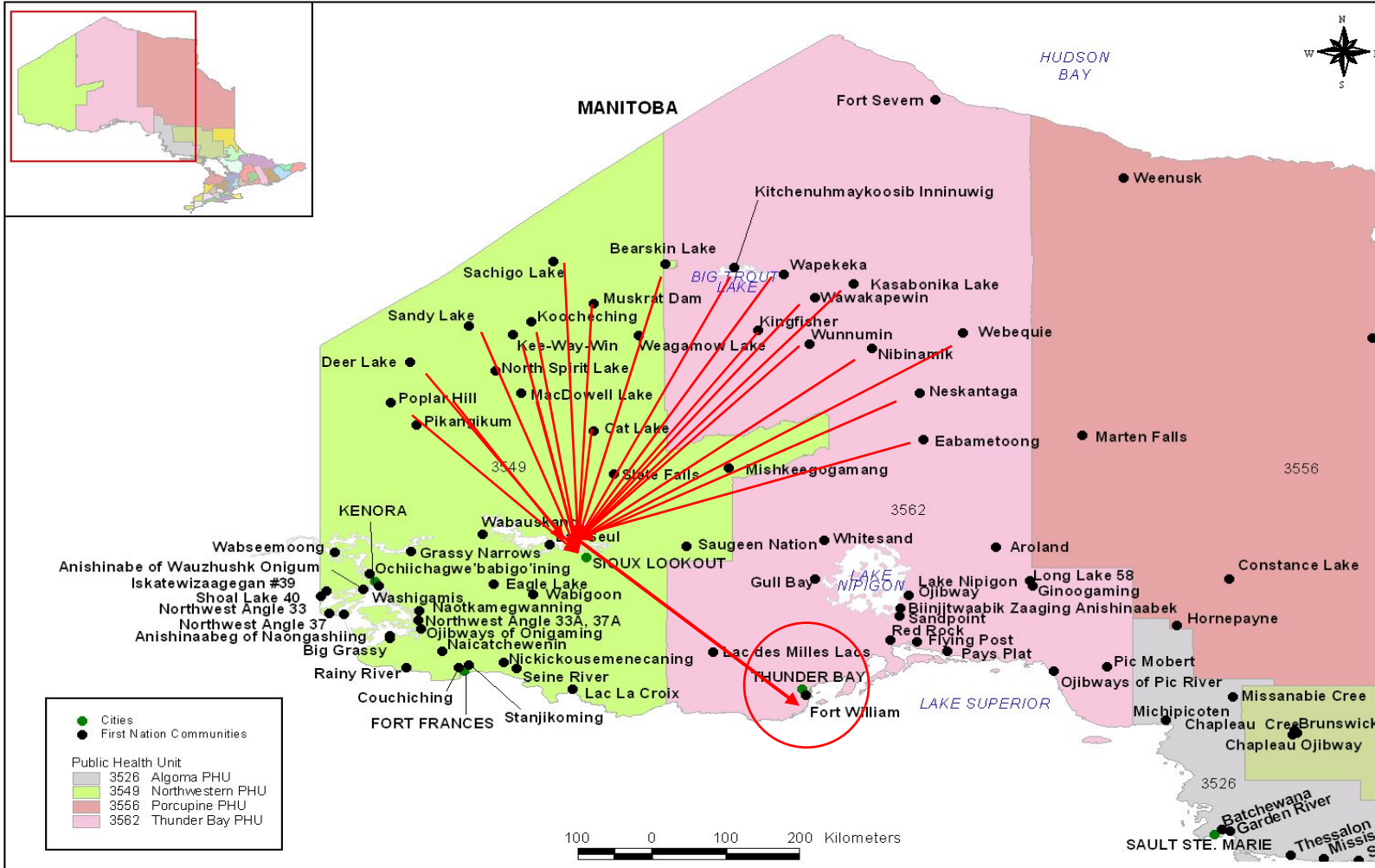
Loss to Follow Up

- 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



First Nation Communities by Public Health Unit, Northwestern Ontario

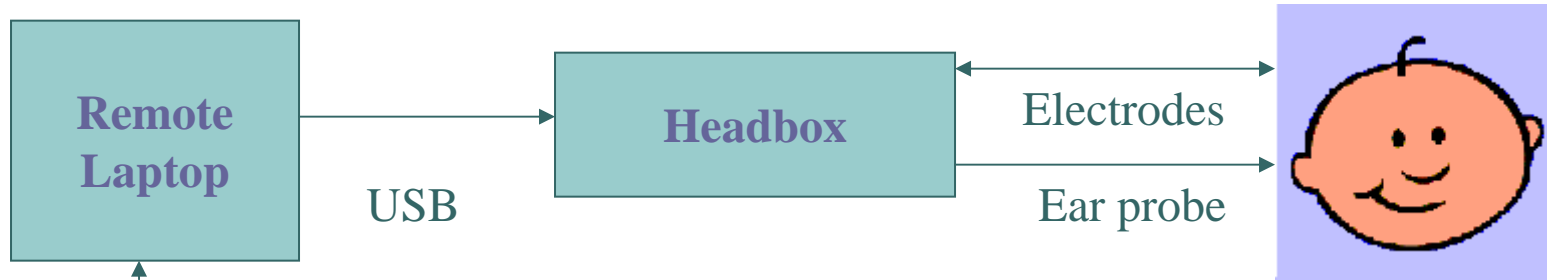


Source: Location of First Nation Communities based on Statistics Canada 1996 Census Subdivisions, with current community names as of October 2002, provided by FNIHB-ON. Public Health Unit boundaries from Statistics Canada, 2000.

Remote Assessment



Remote Assessment



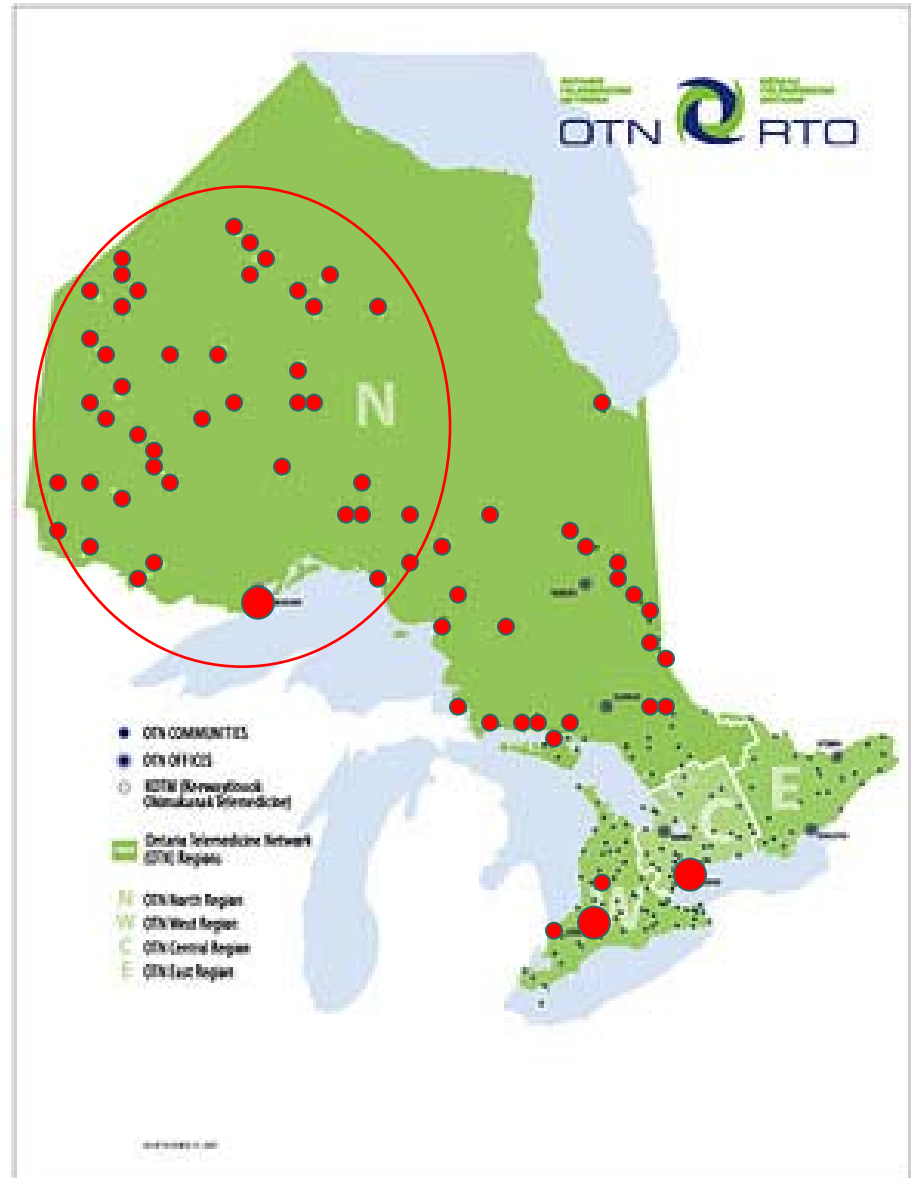
OTN
Connection

Host Laptop



OTN

- Access to sites across Ontario
- Central sites used as “host” sites
- OTN coordinators at each site.

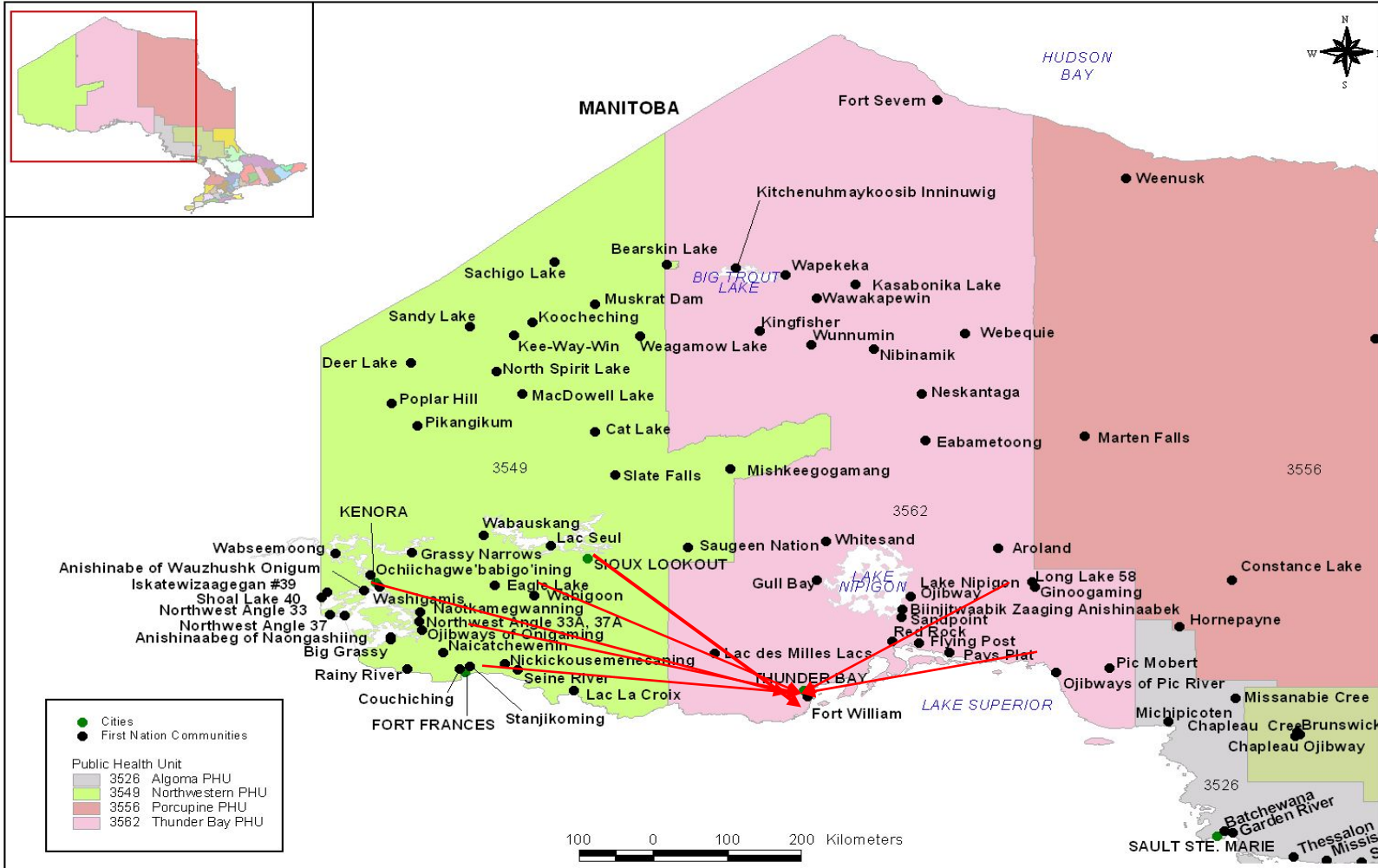


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Baby Steps

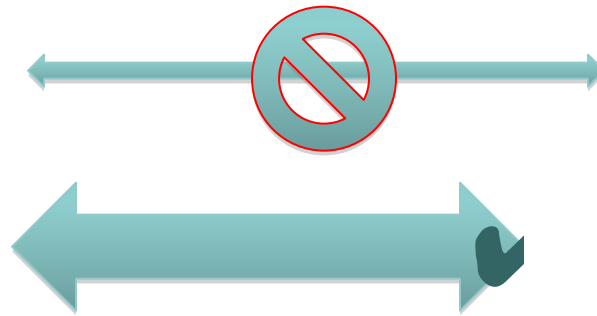


First Nation Communities by Public Health Unit, Northwestern Ontario



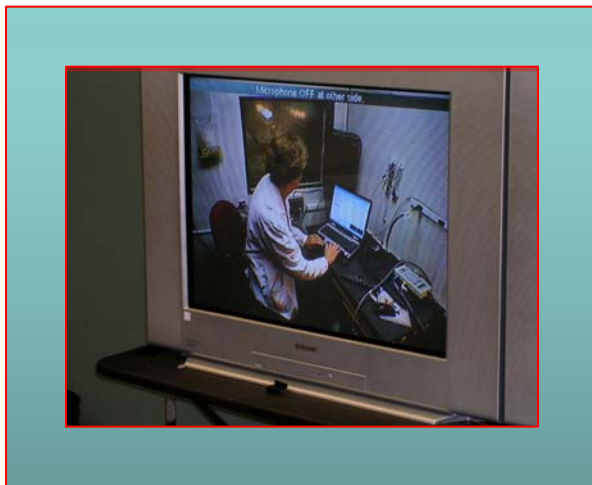
Source: Location of First Nation Communities based on Statistics Canada 1996 Census Subdivisions, with current community names as of October 2002, provided by FNIHB-ON. Public Health Unit boundaries from Statistics Canada, 2000.

Network Technologies



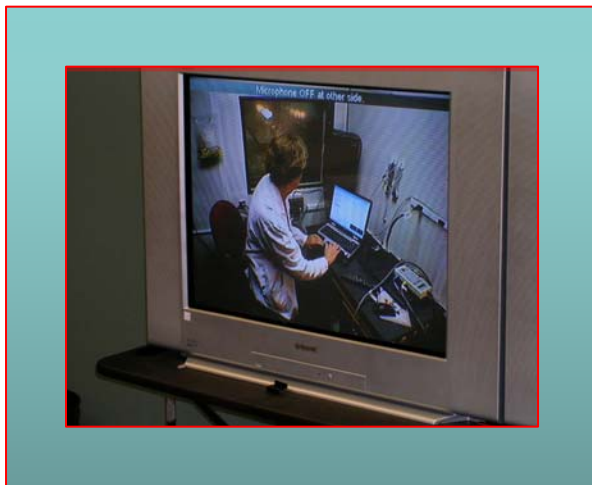
Network Technologies

- Bandwidth
- **Security**
- Encryption



Network Technologies

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- Security
- **Encryption**



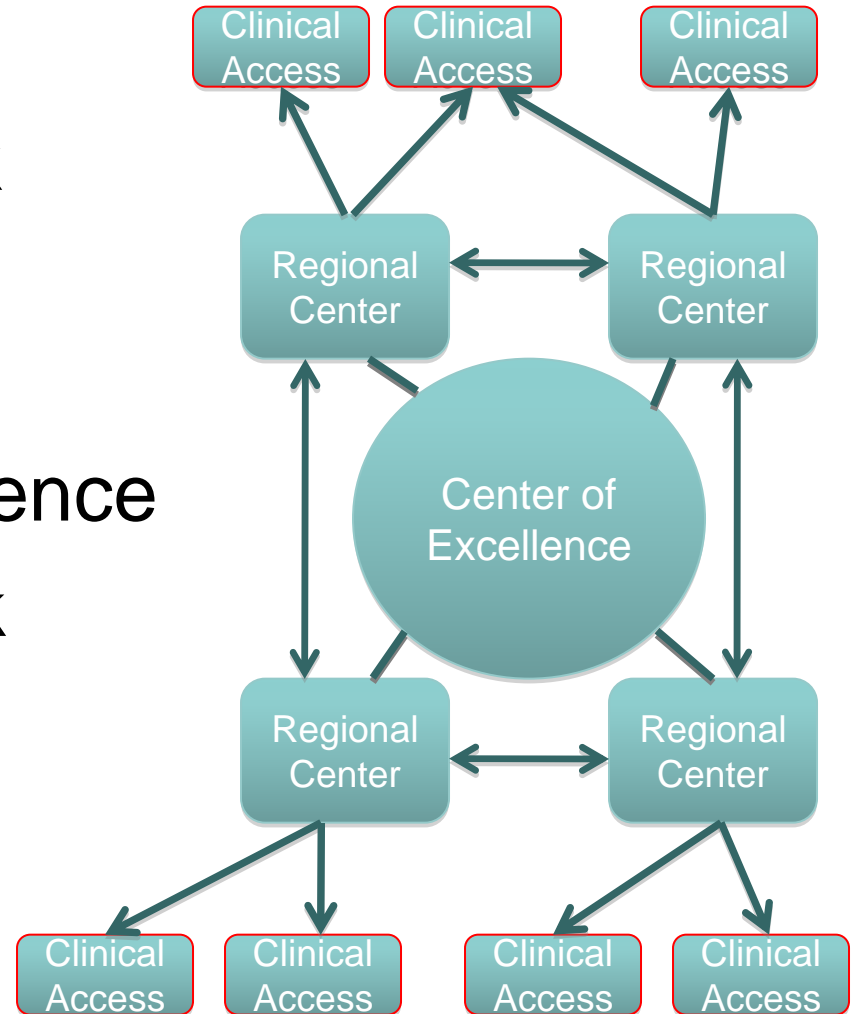


Network Technologies

- 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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OTN Management and Support Staff





Contact

- Bill Campbell

william.campbell@tbdhu.com