

Evaluating the Success of a Tele-Audiology Program

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Research versus Program Assessment

- **Program Assessment:** refers to a process applied to an individual program for quality control
- **Tele-Audiology Research:** refers to investigations that are generally hypothesis-driven and generate results that can be generalized to the broader tele-audiology community

What research questions should be included in an evaluation design?

(Technical)

- What new technologies exist and how suitable are they for tele-audiology (this will continue to change as technology changes)?
- Is there audiology equipment that is specifically suited or performs optimally in a tele-audiology environment?

What research questions should be included in an evaluation design? *(Clinical)*

- How does traditional assessment differ from tele-audiology assessment for:
 - clinical outcomes
 - provider adoption
 - workflow impact
 - financial impact on the clinic
 - financial impact on family
 - patient satisfaction

What research questions should be included in an evaluation design? *(Process and Design Factors)*

- How is tele-audiology integrated into different types of health care systems:
 - Large tertiary medical centers versus private practice
 - How does this impact workflow (one employee versus 30 employees)

What research questions should be included in an evaluation design? *(Economic Considerations)*

- This is a big issue when the Affordable Care Act is considered (e.g., reduced payments to medicaid)
 - Carefully designed studies looking at all of the cost elements are needed:
 - Direct costs of the technology
 - Depreciation of equipment
 - Reimbursement for services
 - Cost of personnel

What tools/methods can be used
to measure these factors?

What kind of research design is practical?

- Depends on the question-research designs other than true experiments can be useful
 - randomized controlled trials (experimental)
 - pretest–posttest
 - interrupted time series
 - case-control designs
 - Electronic health records will be a key to describing the success of tele-audiology

Research in Tele-audiology

- **Descriptive Research (e.g., surveys):**
 - What factors induce patients in your area to seek out or request tele-audiology services?
 - How do patients feel they interacted with a technician and audiologist during the session?
 - How do audiologists feel they interacted with patients during the session?

Research in Tele-audiology

- **Inferential Research:** Inferential statistics is concerned with making predictions or inferences about a population from observations and analyses of a sample.
 - Are there specific patient characteristics that result in better outcomes via tele-audiology (e.g., age, SES, gender)

Are there opportunities for our learning community to collect some universal measures?

What are we asking at Vanderbilt?

- How far would you have had to travel for the appointment had the Union City facility not been available for hearing screenings?
- Would you have scheduled your appointment at a different location had the Union City facility not been available for hearing screenings?

What are we asking at Vanderbilt?

- It was my impression that the hearing test my child received remotely was just as good as having it done in person.
 - SD = Strongly Disagree
 - D = Disagree
 - N = Neither agree nor Disagree
 - A = Agree
 - SA = Strongly Agree?
- I would have felt more comfortable talking to the tester in person rather than on a video monitor.
 - SD = Strongly Disagree
 - D = Disagree
 - N = Neither agree nor Disagree
 - A = Agree
 - SA = Strongly Agree

What are we asking at Vanderbilt?

- I would have felt more confident about the results of my child's hearing screening if the tester had been in the same room rather than on a video monitor.
 - SD = Strongly Disagree
 - D = Disagree
 - N = Neither agree nor Disagree
 - A = Agree
 - SA = Strongly Agree
- I had an overall good experience during the screening.
 - SD = Strongly Disagree
 - D = Disagree
 - N = Neither agree nor Disagree
 - A = Agree
 - SA = Strongly Agree

What are we asking at Vanderbilt?

Questions for those families who did show for their appointment:

- I did not bring my baby in for the appointment because

- What would have made it easier for you to bring your baby in for testing?