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?