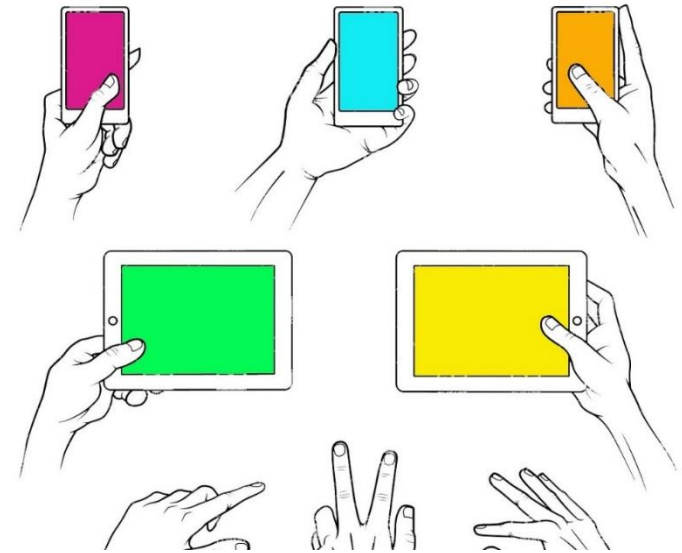


Teleaudiology and Teenagers: A New Solution to an Old Problem?

Gwen Carr

6th Phonak European Paediatric Conference
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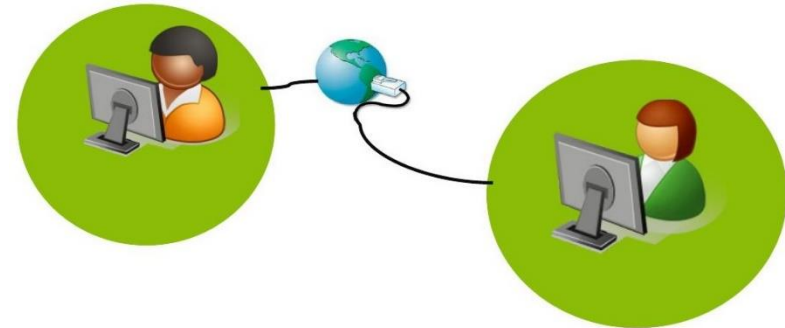


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- GSST service users and families and linked ToDs
- All sites, clinicians and teens involved in Phase One
- All teens, parents and ToDs in focus groups
- Prof Adrian Davis OBE and Prof Sir Muir Gray (BetterValueHealthCare)

Teleaudiology / Remote Support

- Successful in overcoming barriers to access – geographical distance or physical limitation
- Reaching under-served populations
- Effective in extending the reach of clinicians in more routine service provision



The 'old' problem..... teenage non-compliance

- Well recognised / experienced by clinicians, parents, teachers
- Anxieties around 'normalcy', appearance, self-concept, identity
(Elkayam and English 2003; Kent and Smith 2006)
- Key stage of life socially, emotionally, educationally
- Significant effort directed to counselling, building resilience and technical innovation, yet an enduring challenge

The 'old' problem.....teenage non-compliance

- Not unique to our field
- Factors identified include: desire to move to greater independence, parental and peer influence; internal locus of control; immediacy of treatment benefits (Taddeo et al, 2008, Cox and Hunt, 2015); fostering direct engagement with intervention / building on personal interests (Ryan et al, 2011)
- Transition from Paediatric to Adult services



Teenagers and technology

- Today's teenagers very competent and advanced users of technology (“peak understanding”)
- How well could remote support work as a *preferred style of access* in the older paediatric population?
- Could technology be motivating in terms of increasing sense of control and evidencing immediacy of impact?



The Project

- Sonova / Phonak sponsored Three-Phase project over a 46 month period
- Phase One: Exploration of clinician, teen and parent attitudes and practical piloting of prototype across several UK sites
- Phase Two: Engaging with 'disaffected teens' in distance appointments and evaluation of use in one large site
- Phase Three: Continuation and evaluation of ongoing use / experience

Phase One Teen hearing aid users focus groups:

- Attitudes, knowledge and experience re technology
- Attitudes towards hearing loss, current experience of amplification
- Experiences of and engagement with audiology services /support
- Areas for improvement in current pathways and provision
- 'Blue sky' thinking – technology focused

Phase One Audiologists focus groups

- Current typical patient journey / work flows
- Current methods and strategies of engagement – and preferences
- Face to face v distance interaction
- Identification of ‘danger points’ for disengagement
- IT issues

Phase One Parent and ToD focus groups

- Overwhelming support in theory
- Some reservation re own technical competence (parents) and concern re possibility of losing contact with services
- Potential for wider impact (teachers)



Phase One prototype experience and outcomes

- 5+ sites – 2 or more teen users at each, ages 10 to 18, mild to severe loss in better ear
- Generally high levels of satisfaction with encounters (both clinician and user)
- Able to successfully complete appointments
- Some discoveries of issues not brought up in face-to-face encounters
- Wi-Fi availability/stability in schools an issue
- Importance of preparation of teen user (information, instructions)
- Teen users involvement in appointment – positive impact
- Clinician-patient relationship balance – positive perceptions

Project Phase Two

- Large London NHS Trust paediatric audiology service covering multiple boroughs; six associated education services
- Undertaken as a Service Improvement project – ‘Patient Engagement and Service Innovation’ within Trust’s Quality Improvement agenda
- 21* disengaged/disaffected teens, aged 12-19, bilateral mild to severe losses; 2 or more remote sessions each
- 4 audiologists, Lead delivering over half of sessions



Project Phase Two

- All Phonak hearing aid wearers
- Aids connected to Phonak Target 3:3 via iCubes to tablet devices
- Sessions covered: ongoing care, dealing with features, fine tuning, checking on changes made to programmes, discussion of problems, setting goals for hearing aid usage, checking data logging
- Session lengths highly variable

Project Phase Two

- Pre-teleaudiology Questionnaires for Parents, ToDs and students exploring their attitudes, practice, experience
- Case histories (particularly re pattern of engagement) from routine notes / files
- Remote session experience feedback: clinician and student
- Remote session transcripts
- Records of communications
- Semi-structured interviews (clinicians)

Clinicians and Head of Service views

- Technical performance
- Impact on workflow, time and efficiency
- Perception of clinician-patient relationship and communication

Technical performance

- Stable and reliable connectivity vital: teens expectations high and negative response if connection failed
- Frustrations – loss of connectivity resulted in loss of programme changes
- Difficulties in identifying source of problems
- High level of accuracy, ability to track datalogging, Audiogram Direct, Feedback manager
- Some limitations re range of functionality
- Suggestions for improvements to capability and features

Clinical Workflow, Time and Efficiency

- Remote Support beneficial in a mixed model of service delivery
- Excellent for ongoing care
- Provides flexibility in delivery times / appointment length
- Differences in opinion re admin effort / time
- Personal preferences and views affected perception

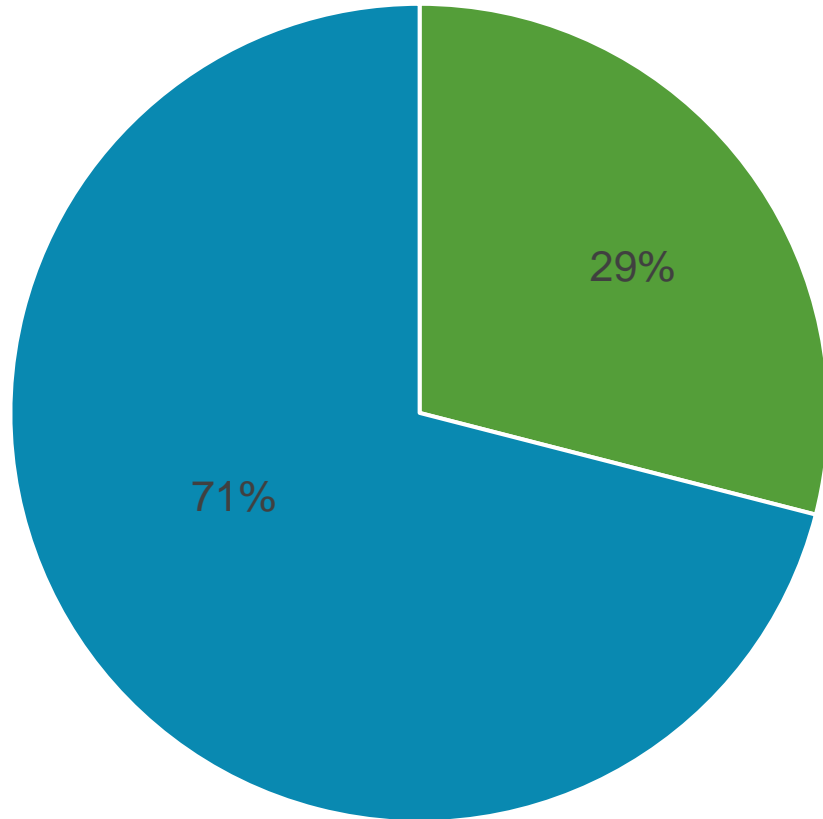
Clinician – Patient Relationship

- Some variation of views
- ‘Relaxed, friendly, equal’
- No detrimental effect on professionalism
- Web cam – differences between clinician and student views
- Increase in amount and ease of student participation
- Student level of language a key factor
- Teleaudiology and face-to-face can be interdependent and mutually supportive in terms of relationship building

Teen Participant views

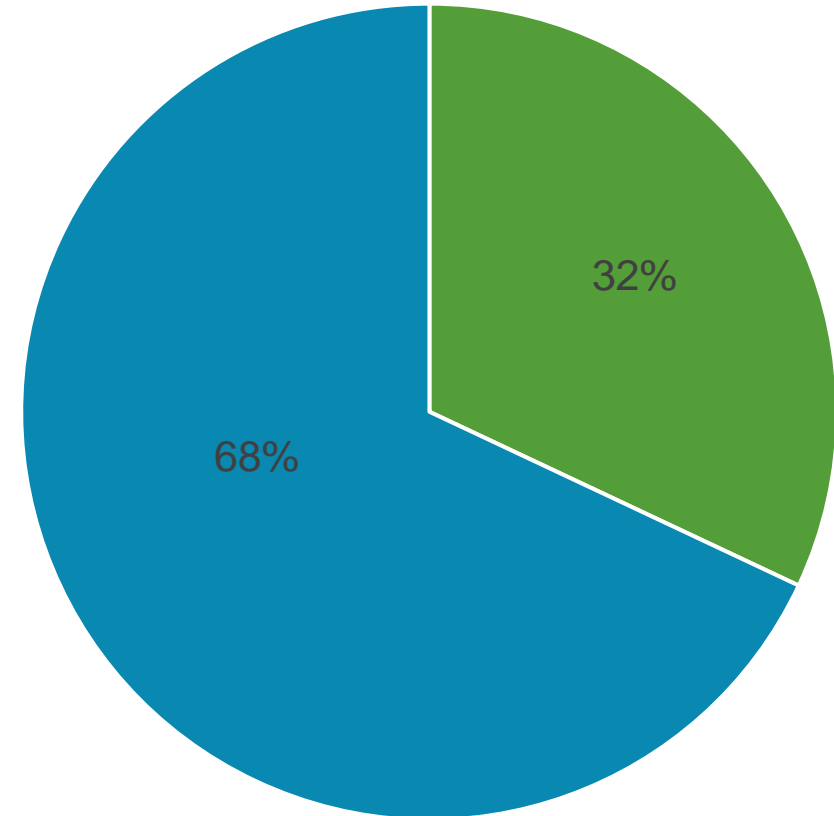
- Session feedbacks – 5 point Likert scale; 13 statements
- Comments - free text
- Impressions overwhelmingly positive, but.....important to balance with effectiveness of encounter from audiological impact and clinician perception
- Ease and reliability of connection and stability is absolutely crucial

1) I liked the device given to me to use in today's session



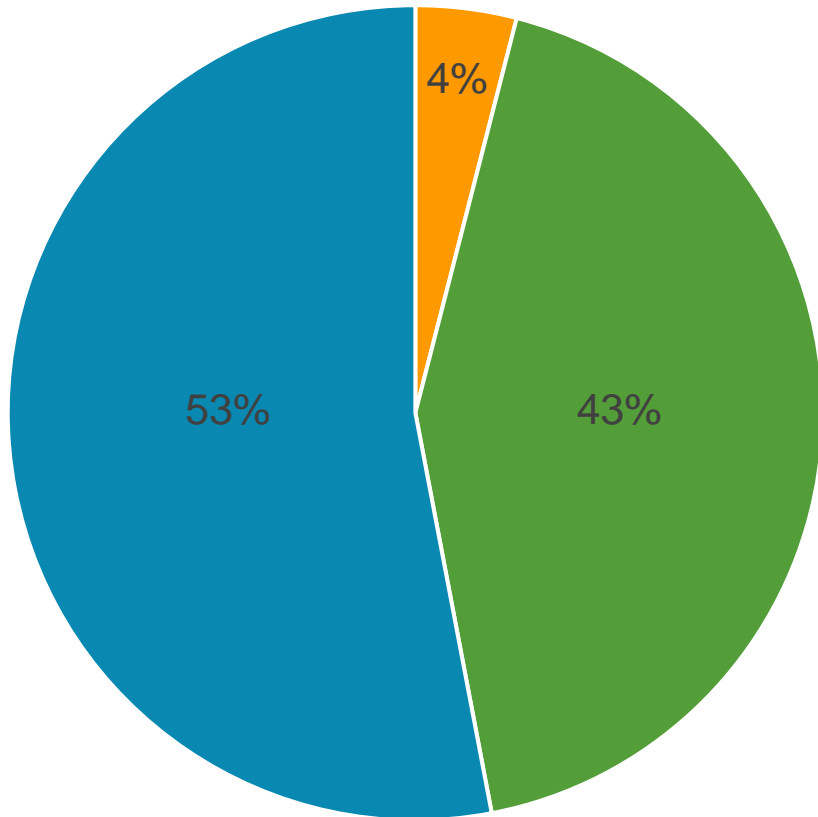
■ Agree ■ Strongly Agree

2) I could easily use the device used in today's session

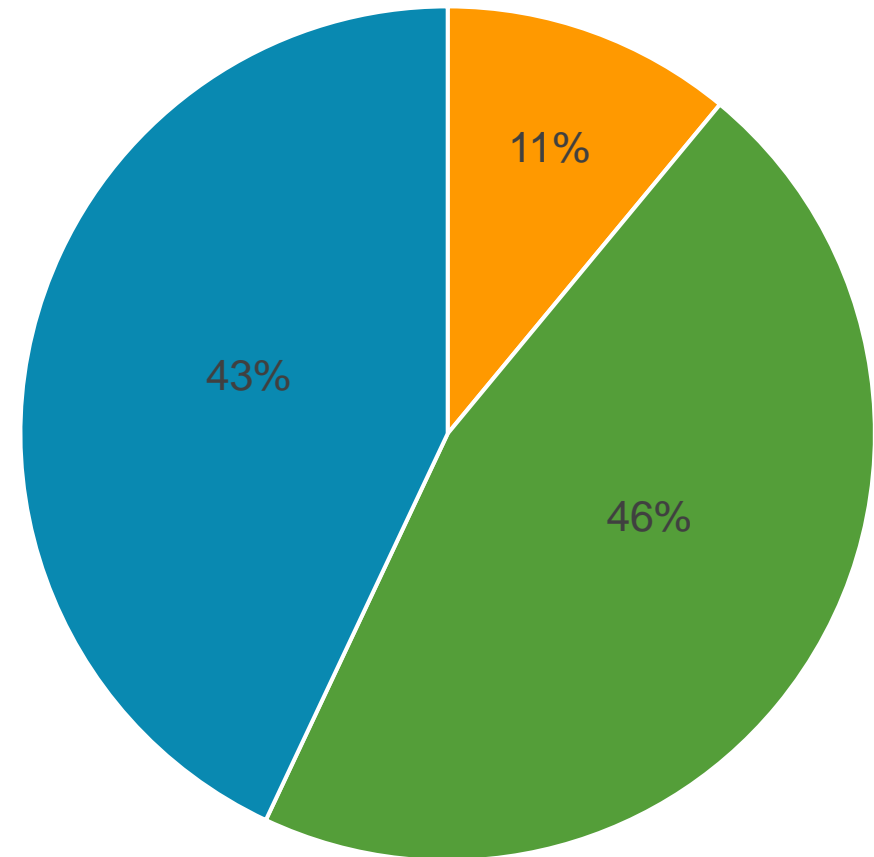


■ Agree ■ Strongly Agree

3) I felt comfortable with the equipment used



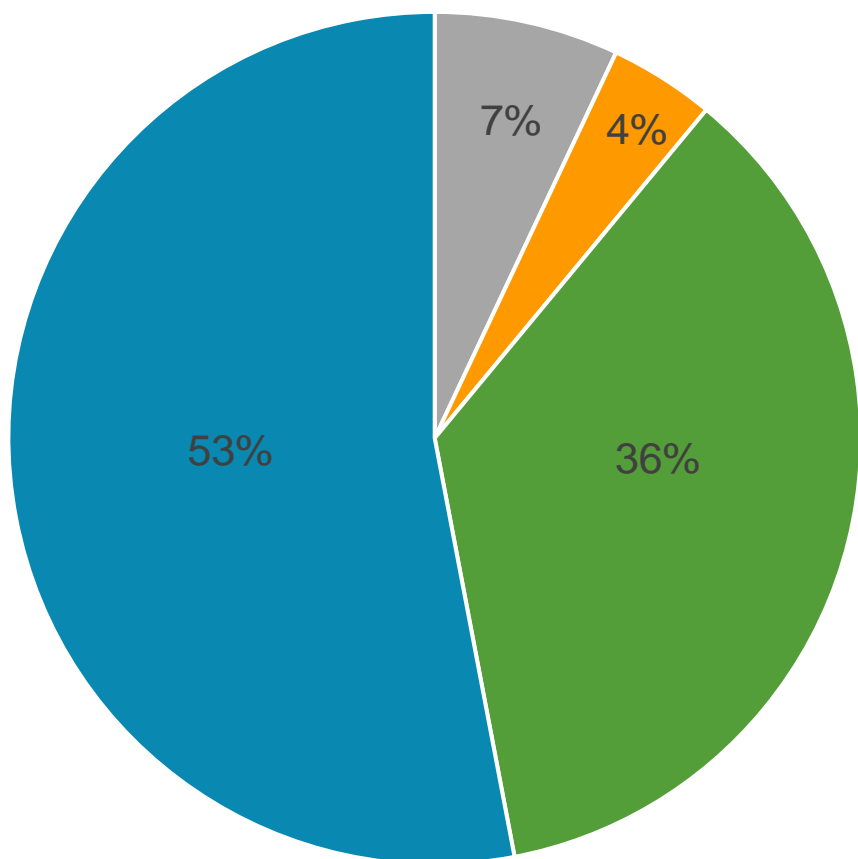
4) I received good care during the session



■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

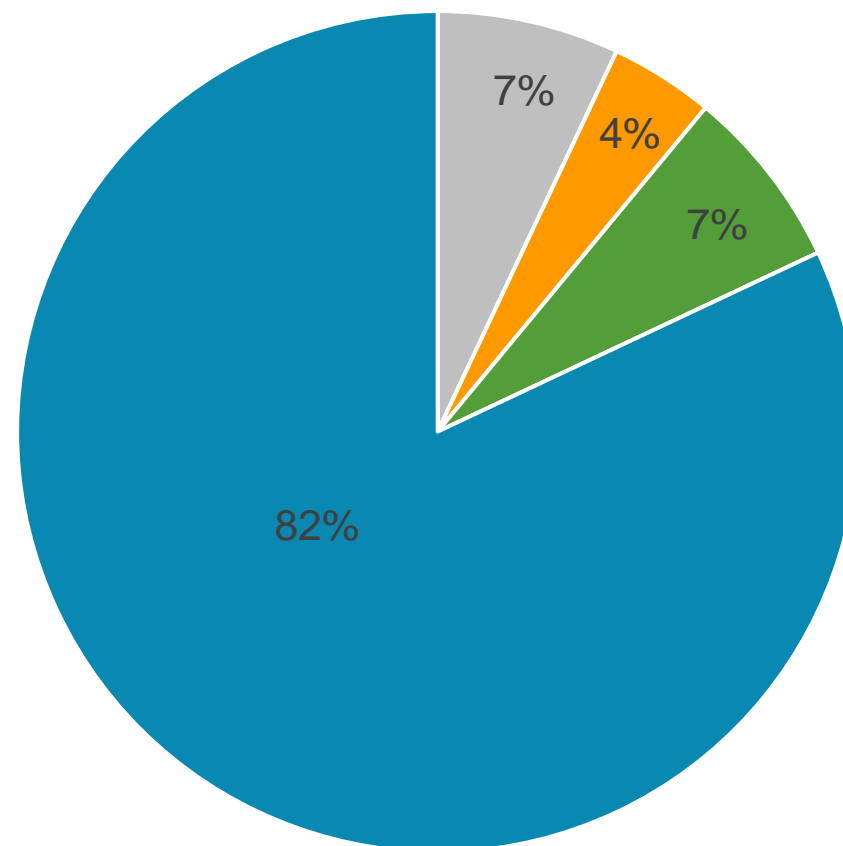
■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

5) I felt relaxed during the session



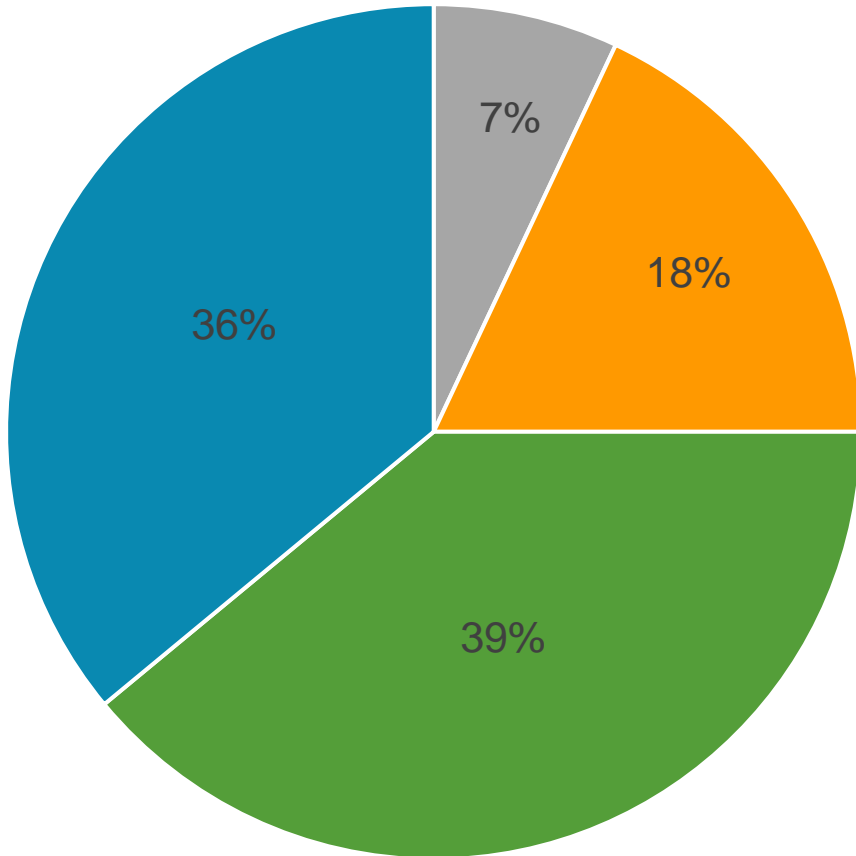
■ Disagree ■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

6) I would rather have my audiology appointment in this way than travel to see my audiologist in the clinic



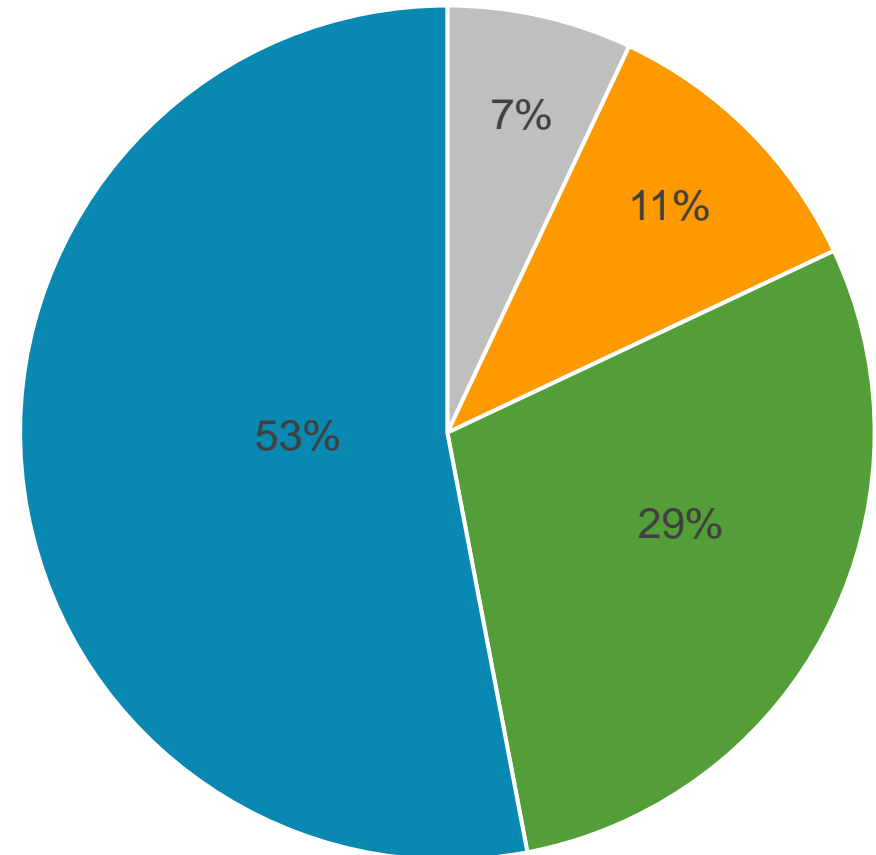
■ Disagree ■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

7) I was able to hear the audiologist clearly



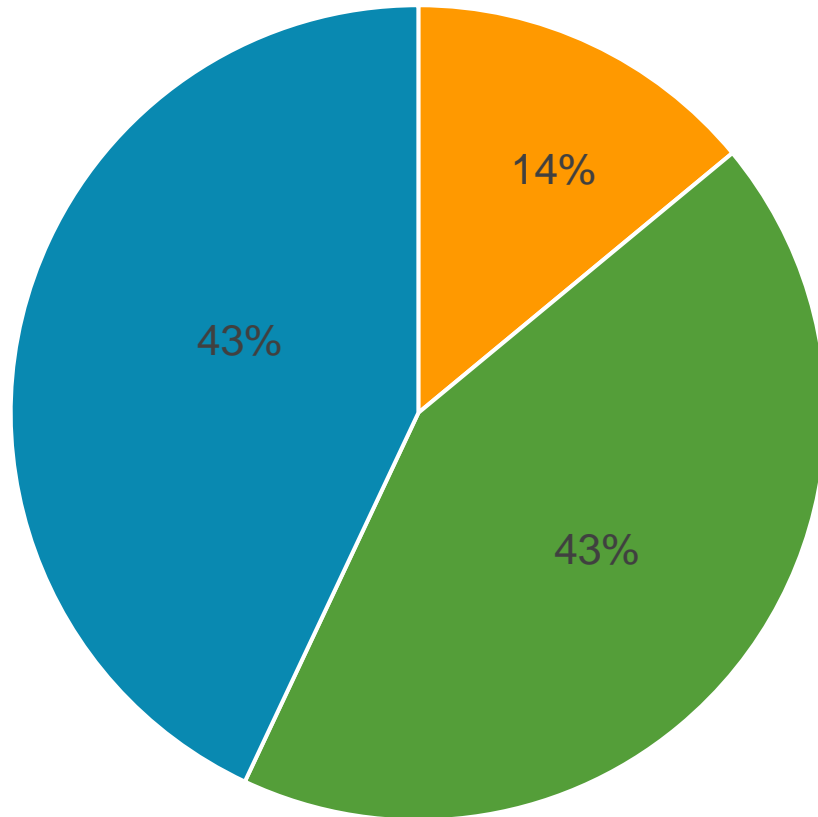
■ Disagree ■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

8) My audiologist was able to understand any problems or challenges I had



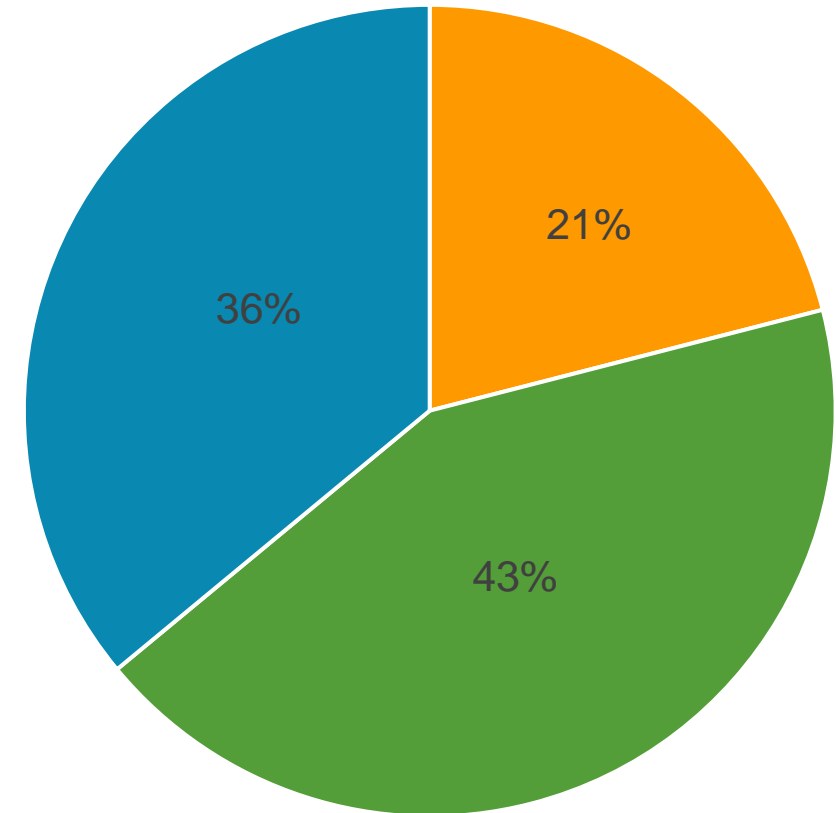
■ Disagree ■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

9) I could easily talk to my audiologist



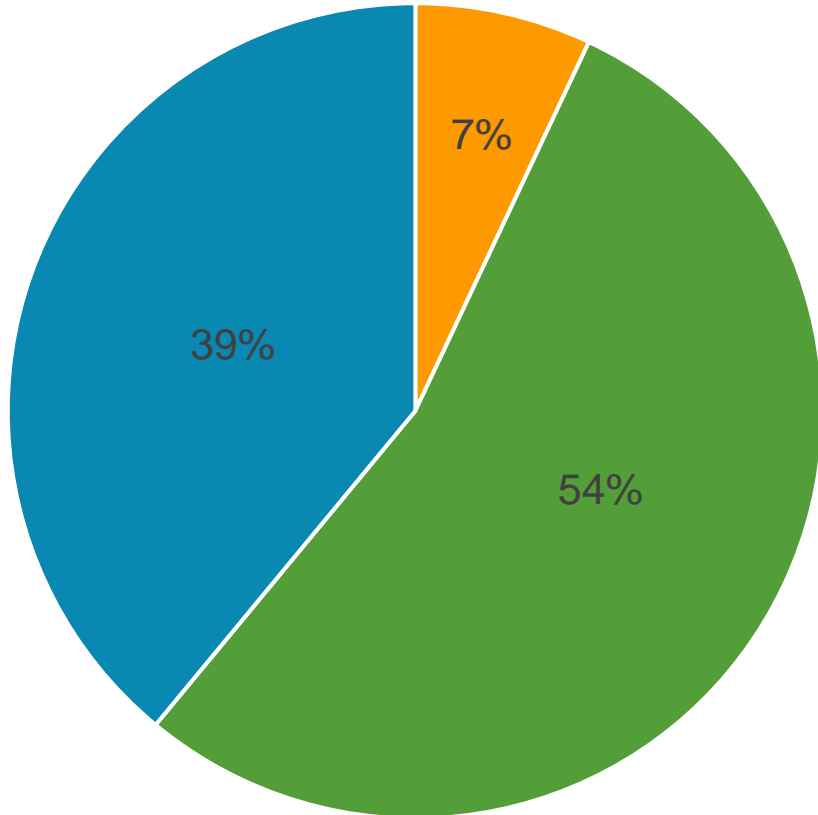
■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

10) My relationship with the audiologist was the same in this session as it is when I am in the clinic with them

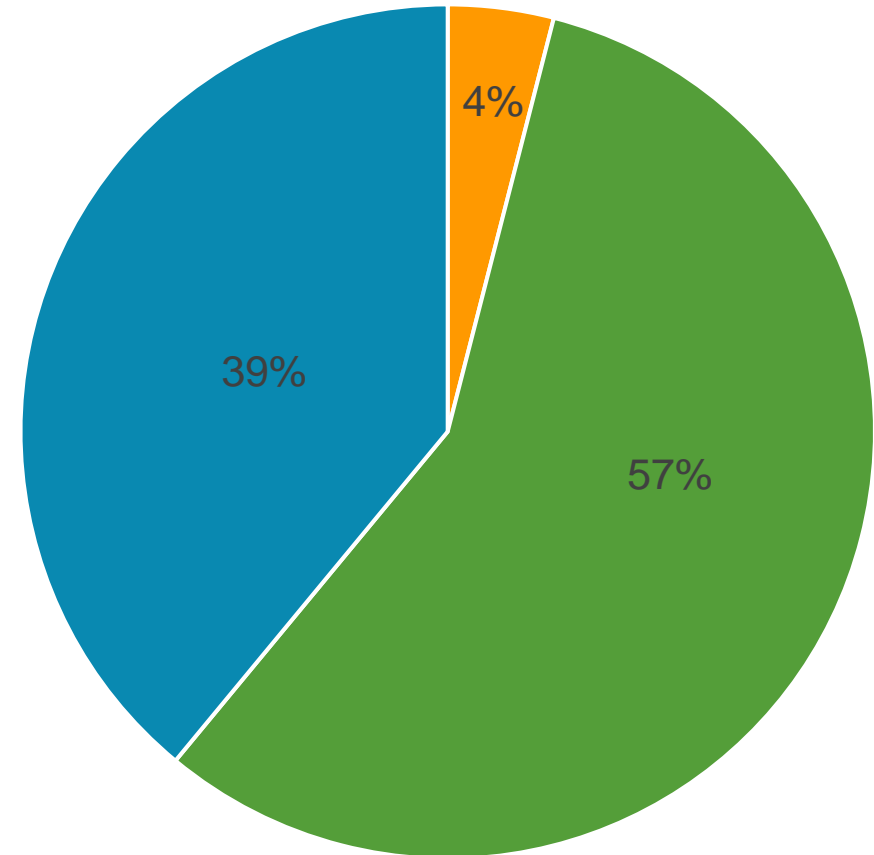


■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

11) There was enough technical support for my appointment with the audiologist



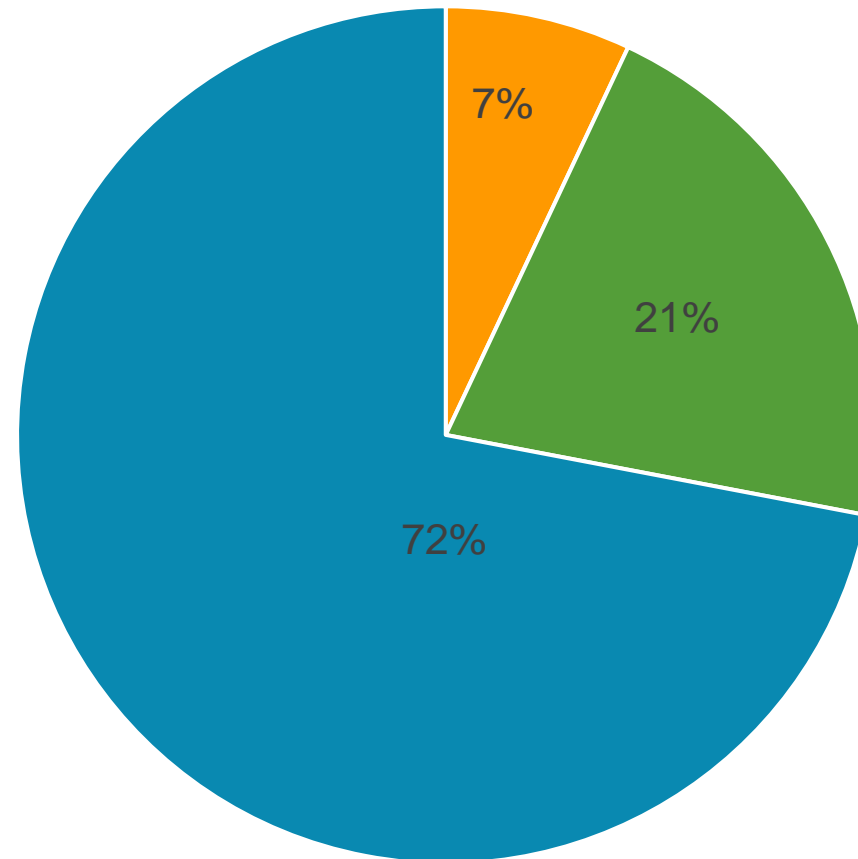
12) The session met my needs



■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

13) I would recommend this type of session to other young people



■ Neither Agree nor Disagree

■ Agree

■ Strongly Agree

Student comments

“It was fun to do. It was really good as I was typing my message”

“I like it and I am enjoying it every time. I hope continue (sic) having my appointments this way in the future. Thank you”

“We could talk easily about the problems”

“It saved time for me”

Student comments contd

“This would help many teenagers.... they won’t need to miss school so their grades won’t drop”

“I was able to relax at home whereas at clinic I can’t as I feel fidgety and unsettled.....I could talk about things I wouldn’t say in person..... I would like all my appointments like this”

“It is better than coming in”

“It went smoothly and got everything we had to get done done”

What did we learn?

- The offer of Remote Support in itself acted as a catalyst for re-engagement, at least in the short term
- Positive mid / longer term impact noted for some, but not all
- Teens more in control of the encounter, with a greater sense of autonomy
- Positive effects on clinician – student communication noted by both
- Clinician – student relationship perceived to be more balanced and interactive
- Important to consider impact on parents and communication with them

What did we learn?

- Engaging students took time, effort and perseverance from audiologists
- Good preparation of students – and parents – is essential (expectations)
- Balancing the needs and views of students and parents is an important consideration
- Not all clinic functions could be achieved via remote support
- Student language and communication competence is key
- Clinician style of communication is influential and affects both success and length of sessions – may require training
- Clinician attitudes and beliefs affect the experience

What did we learn?

Some insights on disengagement....

- Early family experiences – multiple professionals, disjointed or inconsistent service provision (often with relocations)
- History of complexity in achieving optimum amplification
- Early pattern of lost/broken aids (actual)
- Early pattern of lost/broken/malfunctioning aids (reported); ‘complaints’
- Changes in service provision / handover communication
- Change in ToD at key transition points
- Continuity of care
- Communication between agencies – not always noted or acted upon

Some conclusions

- As Phase Three progressed, some students learned to 'drive' the system
- Some students became more knowledgeable and pro-actively interested in their hearing status and needs
- Teens have high expectations of technological function and connectivity
- There are real opportunities but also implications for adoption into routine service delivery
- There has been learning about how traditional practice might be improved to recognise and act on potential disengagement
- **Could the technology be used earlier to beneficial effect?**

Thank You



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