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Enhancing Person-Centered Care Through the Use of Technology, presented in partnership with the National Acoustic Laboratories

Pádraig Kitterick, PhD
Taegan Young, MClinaud
Bec Bennett, PhD

Moderator:

*Christy Huynh, AuD,
Managing Editor, AudiologyOnline*

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Enhancing Person-Centered Care Through the Use of Technology, presented in partnership with the National Acoustic Laboratories



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Learning Outcomes

After this course, participants will be able to:

1. Discuss current and emerging technologies for audio broadcasting and streaming relevant to users of hearing devices and the potential applications and benefits of those technologies to hearing-impaired persons.
2. Identify key barriers and facilitators to adopting health apps in audiological practice, compare the perspectives of adults with hearing loss and hearing care professionals, and explain how to apply strategies to integrate digital health tools effectively into clinical workflows to enhance patient-centered care.
3. Describe the new NAL goal-setting framework and how it can be used to enhance goal setting discussions in clinical practice.

The future of audio broadcast and streaming technologies in audiology



Padraig Kitterick

PhD

Research Area

Head

In this session you will:

1. Learn about the technologies that underpin legacy and modern streaming and audio broadcasting
2. Hear about the latest advances in audio broadcast technology for hearing aids
3. Be presented with data on the benefits of this new technology for users of hearing aids

Learning Outcome 1: Have awareness of current and emerging technologies for audio broadcasting and streaming relevant to users of hearing devices and understand the potential applications and benefits of those technologies to hearing impaired persons

Exam Questions 1 and 2

Why does audio broadcasting matter?



A new standard in audio broadcasting...



 **AURACAST™**

is underpinned by...

Bluetooth Low Energy (LE) Audio

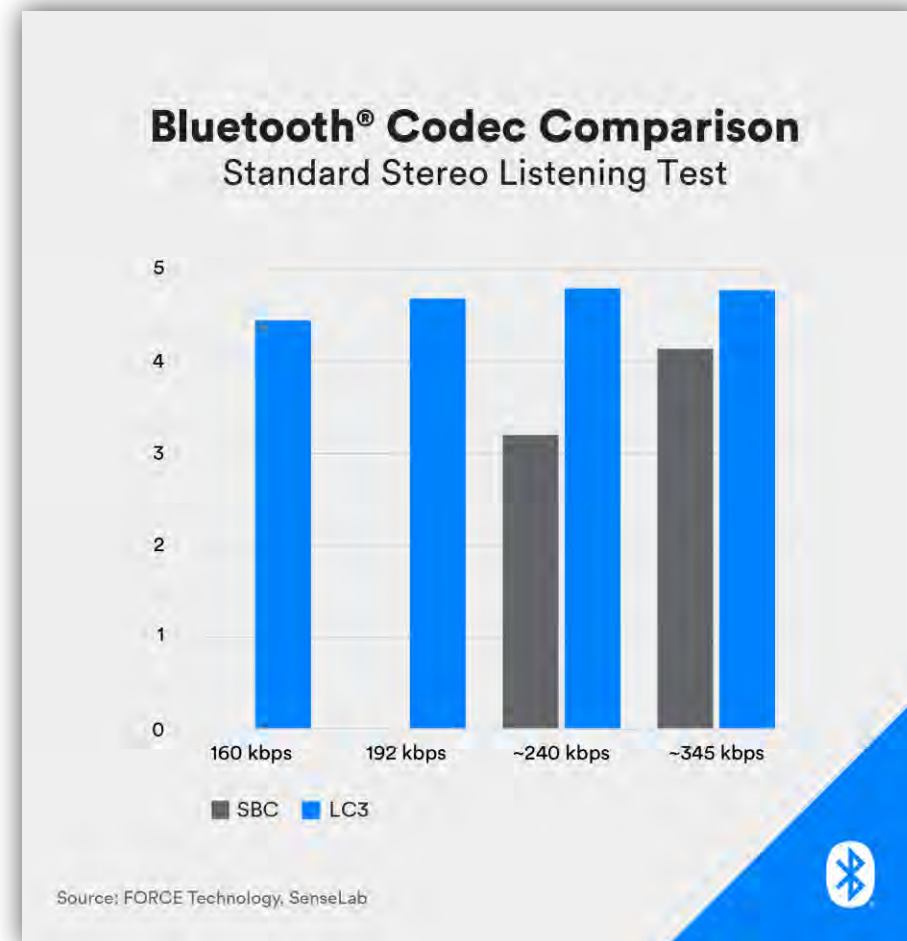


which is built upon...

Low Complexity Communications Codec (LC3)

Why would Auracast bring sound quality improvements?

- Bluetooth have published data online (right) to support the claim that LC3 (which underpins Auracast) provides better sound quality than SBC (Classic Bluetooth codec)
- The Y-axis represents a grading scale comparing each codec to unprocessed original sound (where 1 is “very annoying” and 5 is “imperceptible”) [method is as defined in ITU-R BS.1116-3 (Methods for the subjective assessment of small impairments in audio systems)]
- The difference between LC3 and SBC is largest when bandwidth is more restricted (towards left side of graph)

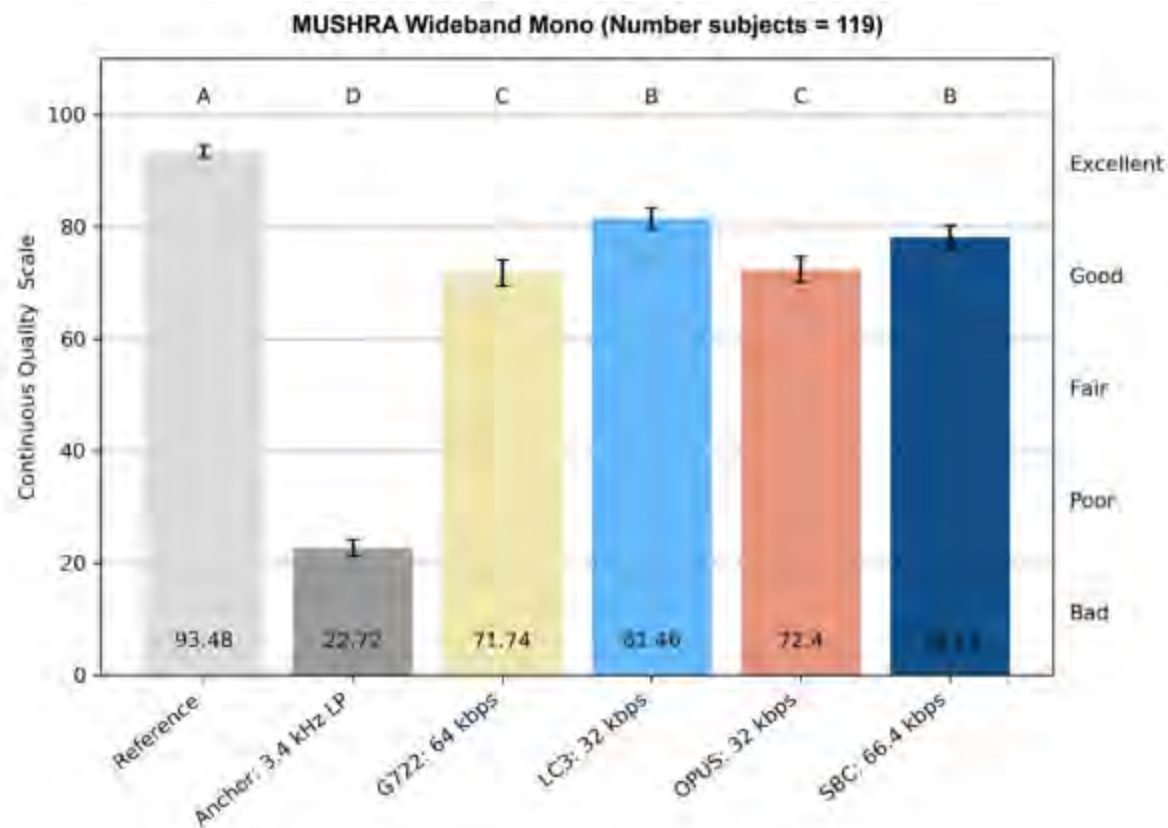


Bluetooth® LE Audio Technology Website including listening demo:
<https://www.bluetooth.com/learn-about-bluetooth/feature-enhancements/le-audio/#lc3>

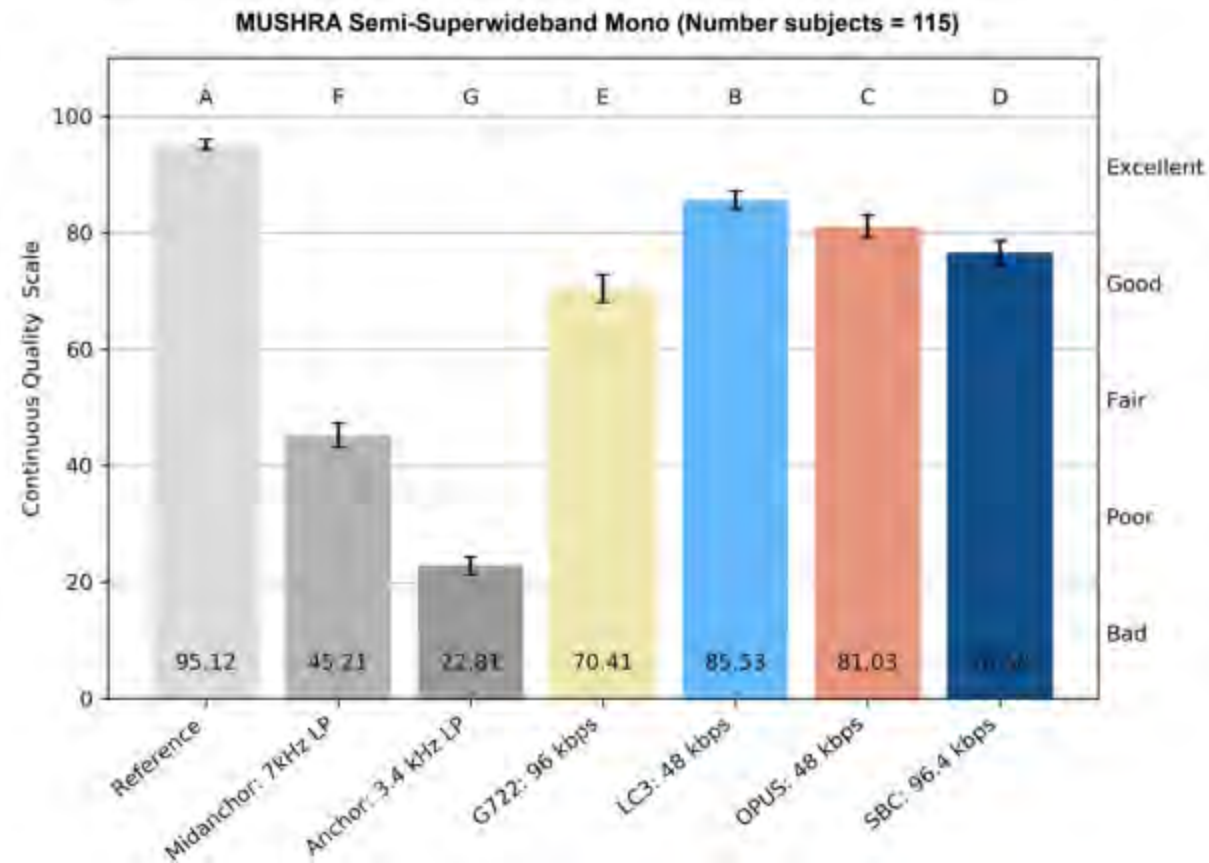
Comparisons of LC3 vs other codecs listening via hearing aids

Bluetooth also compared the audio quality of LC3 vs other codecs under conditions designed to simulate listening via hearing aids, with LC3 showing superior quality for both voice and music stimuli.

Voice



Music



Bluetooth® White Paper on Performance Characterization of LC3:

https://www.bluetooth.com/wp-content/uploads/2023/07/LC3Characterization_WP.pdf

Why would Auracast bring sound quality improvements?

- Based on Bluetooth's data, we hypothesised that there would be sound quality improvements with Bluetooth LE / Auracast compared to using the last generation of hearing aid streaming technology
- We also hypothesised significant benefits to sound quality compared to telecoil, even when tested under ideal conditions due to:
 - Mono (telecoil) vs Stereo (Bluetooth LE / Auracast) broadcasts
 - Extended bandwidth for Bluetooth LE / Auracast broadcasts
 - Additional anticipated benefits over telecoil included lack of electromagnetic interference, which was not simulated in our research

Relevance of Auracast benefits to people with hearing loss today

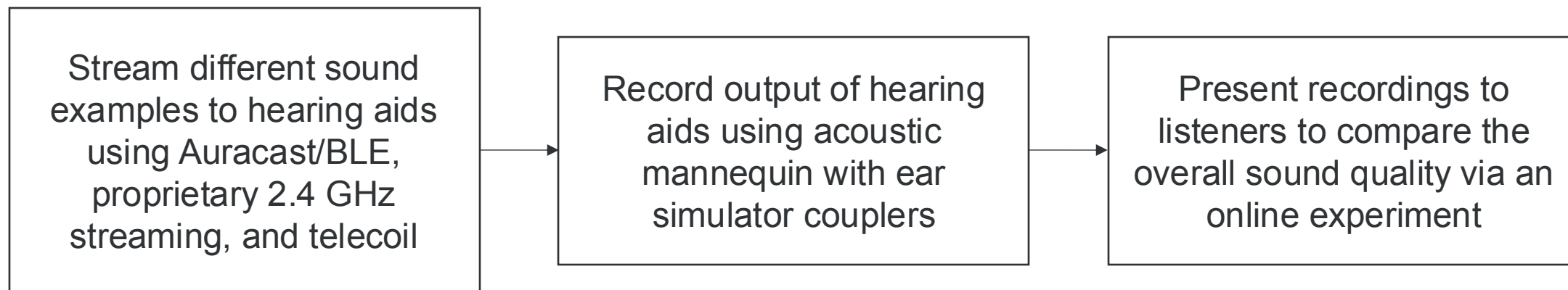
- Auracast is still an emerging technology, with limited transmitters on the market and limited use as a broadcast technology
- However, newer hearing aids now support Bluetooth LE / Auracast
- Because Auracast transmitters have not yet seen widespread deployment in venues, many use cases Auracast is designed to address are not yet widely accessible to our clients
- However, the sound quality benefits of Bluetooth LE / Auracast can be experienced by pairing commercially-available Auracast transmitters, including the latest TV streamers, with modern hearing aids
- Thus, hearing aid users have access to one of the first commercially-available Bluetooth LE / Auracast solutions and can benefit today

Research question

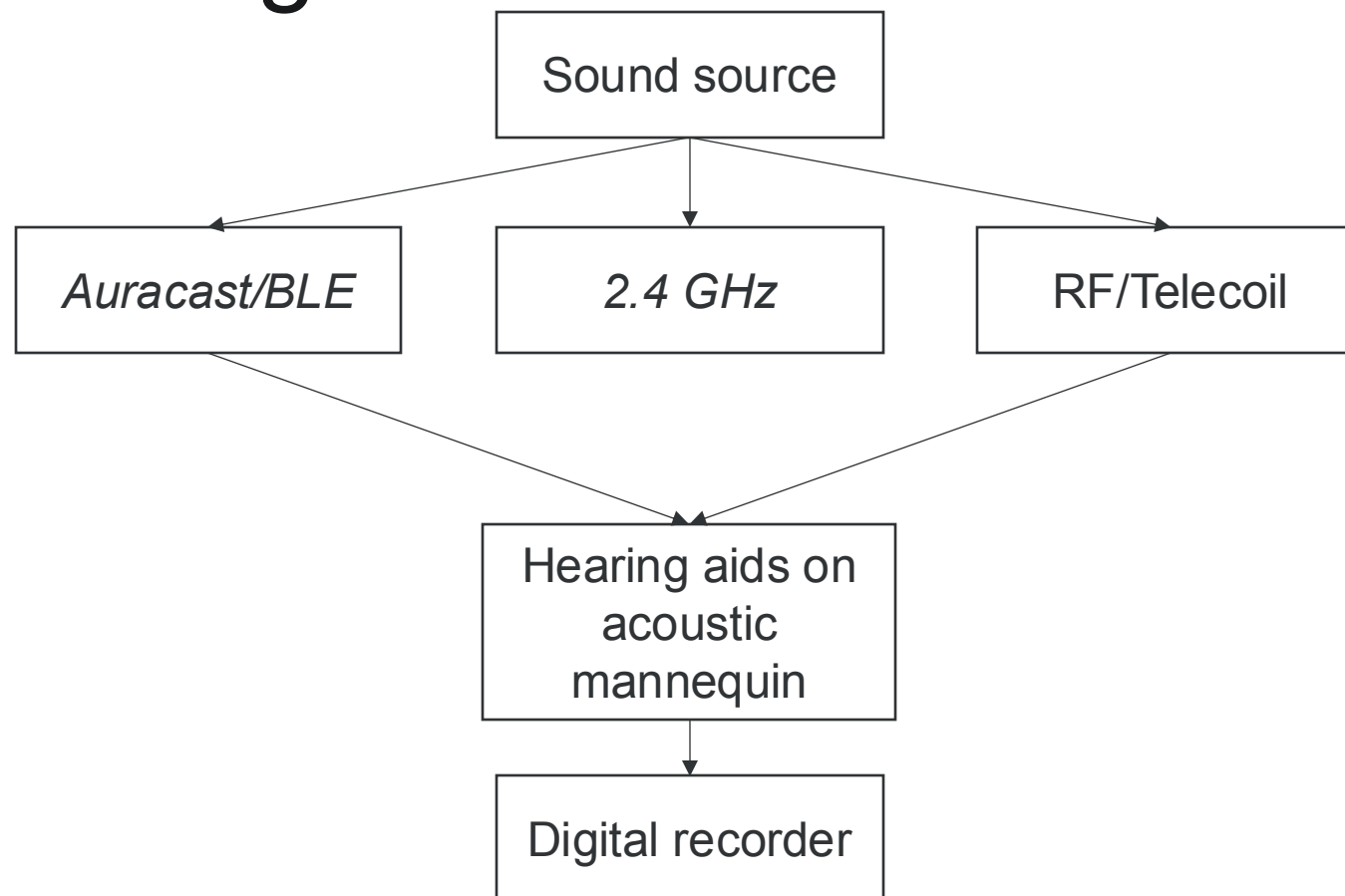
Does Auracast / Bluetooth LE Audio (BLE) provide significant benefits to sound quality when compared to:

- Telecoil (current mainstream broadcast technology)
- Previous generation streaming technologies (2.4 GHz streaming technology as used in many TV streamer)

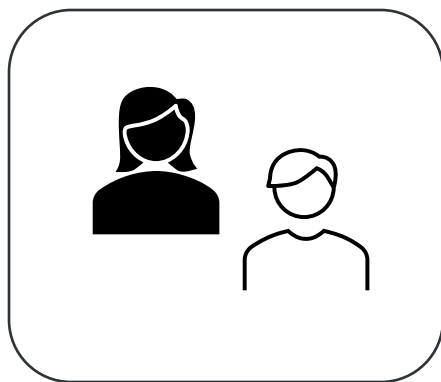
Research design - Overview



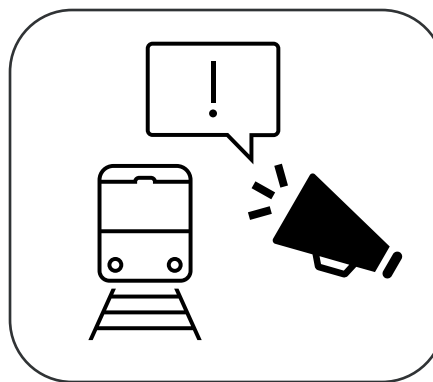
Stimuli recordings



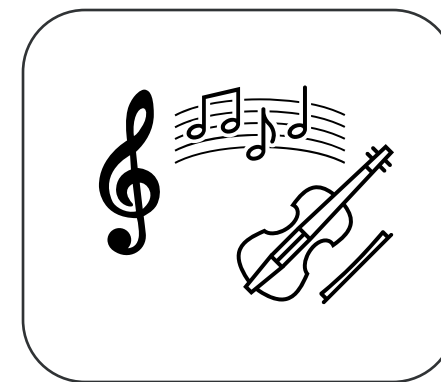
Stimuli



Speech in quiet



Speech in noise



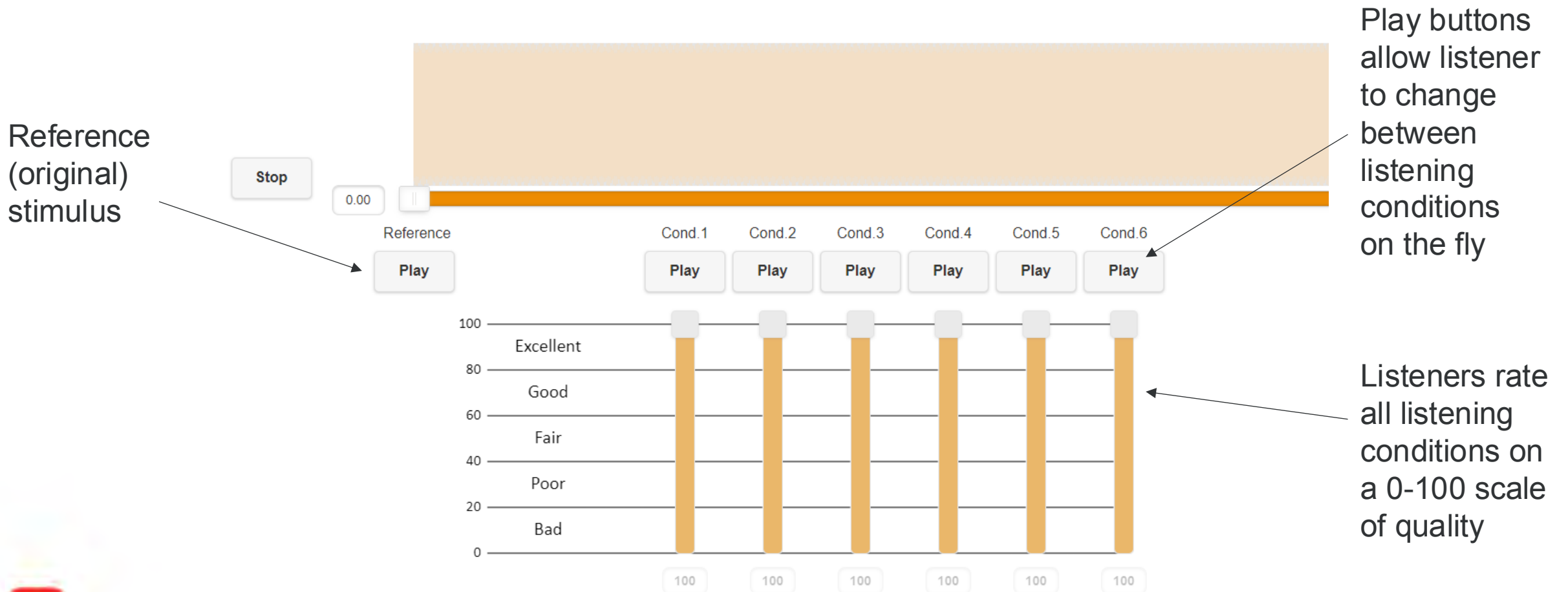
Music

All time-aligned / synchronised so that the listener could switch between the different listening modes on the fly

All normalised to the same dB LUFS (loudness level)

Method of comparing sound quality

Method for the subjective assessment of intermediate quality level of audio systems (MUSHRA)

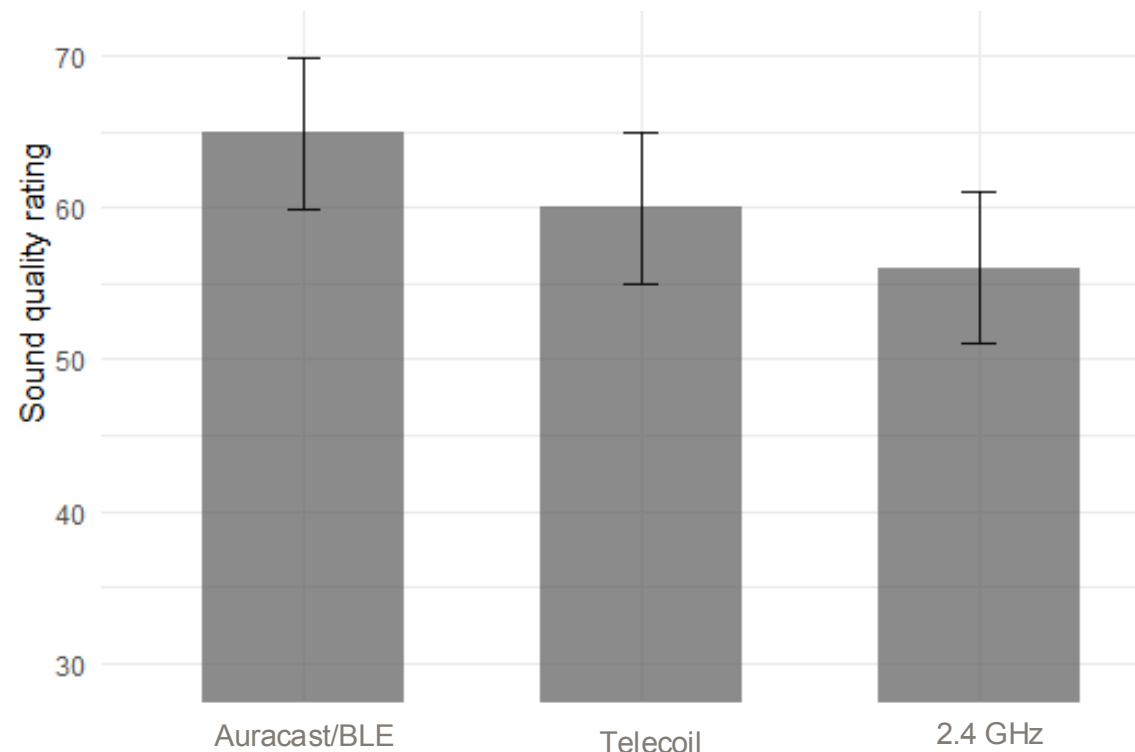


Overall sound quality ratings

- The highest average sound quality ratings were observed for the Auracast/BLE condition
- The average ratings for the 2.4 GHz and telecoil conditions were lower
- Sound quality was significantly higher for Auracast/BLE compared to all other conditions

↑
Better sound quality

↓
Worse sound quality



Key message

Auracast/BLE provides the **best overall sound quality** and **significantly better sound quality** compared to telecoil and previous generation streaming technology

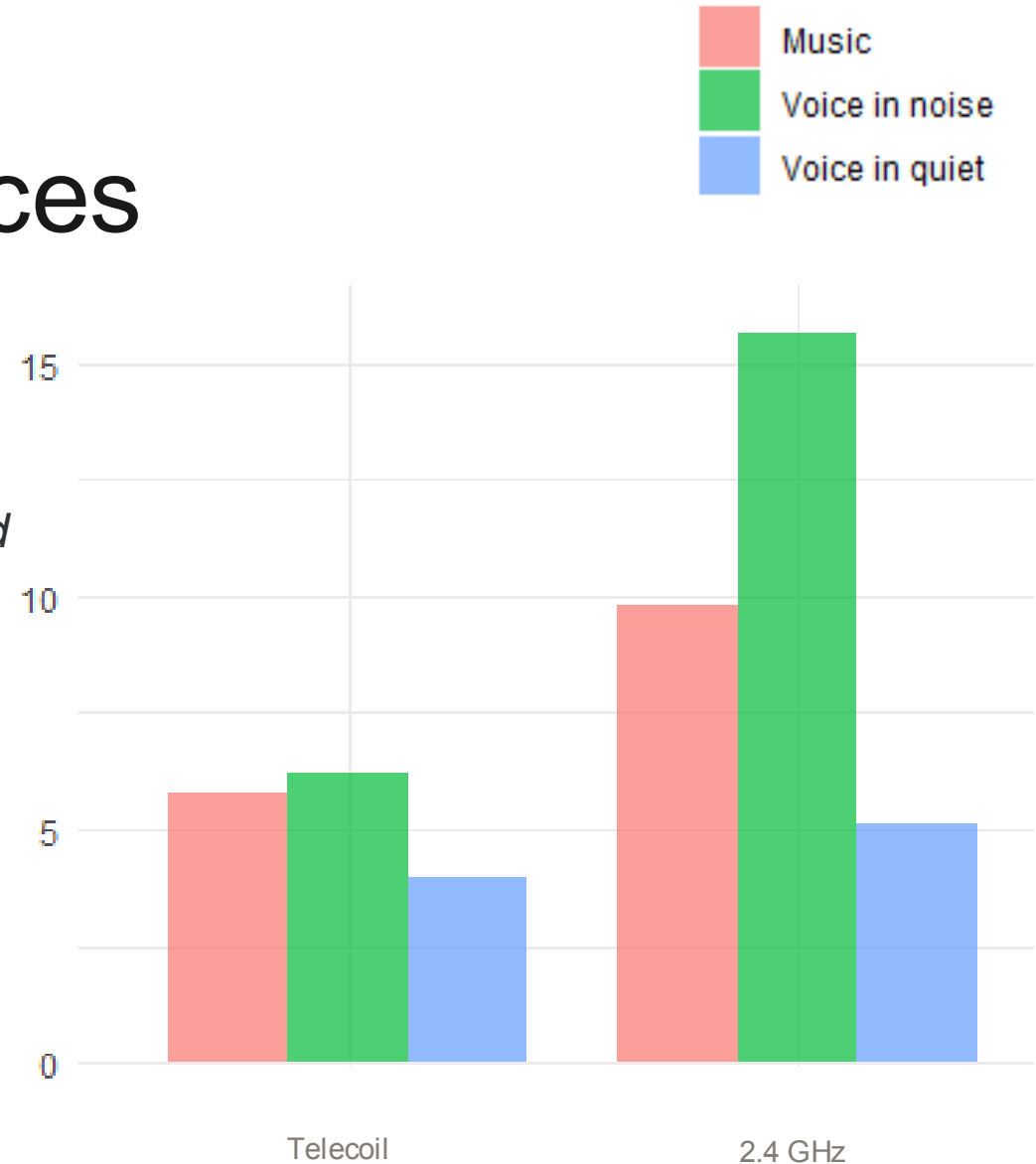
Within-participant differences

- Sound quality was better on average for all stimulus types with Auracast/BLE compared to other streaming approaches; e.g. telecoil and 2.4 GHz

Key message

Auracast/BLE provides **better sound quality for listening to speech in quiet and noise, and listening to music** compared to other streaming and broadcast technologies

↑
*Better sound
quality with
Auracast*



Summary

1. Hearing aid users could experience better sound quality from using Bluetooth LE Audio / Auracast for streaming
2. Bluetooth LE Audio / Auracast provides better sound quality compared to:
 - Telecoil (even under ideal conditions)
 - Previous generation 2.4 GHz streaming technology
3. Hearing aids with Auracast/Bluetooth LE audio can be 'best of both worlds' today by supporting:
 - telecoil (via accessories for models without integrated Tcoil) and Bluetooth LE audio for streaming today, and
 - access Auracast broadcasts in everyday situations once that technology becomes more widely available

Navigating the Digital Frontier: Barriers and Facilitators to App Use in Audiology

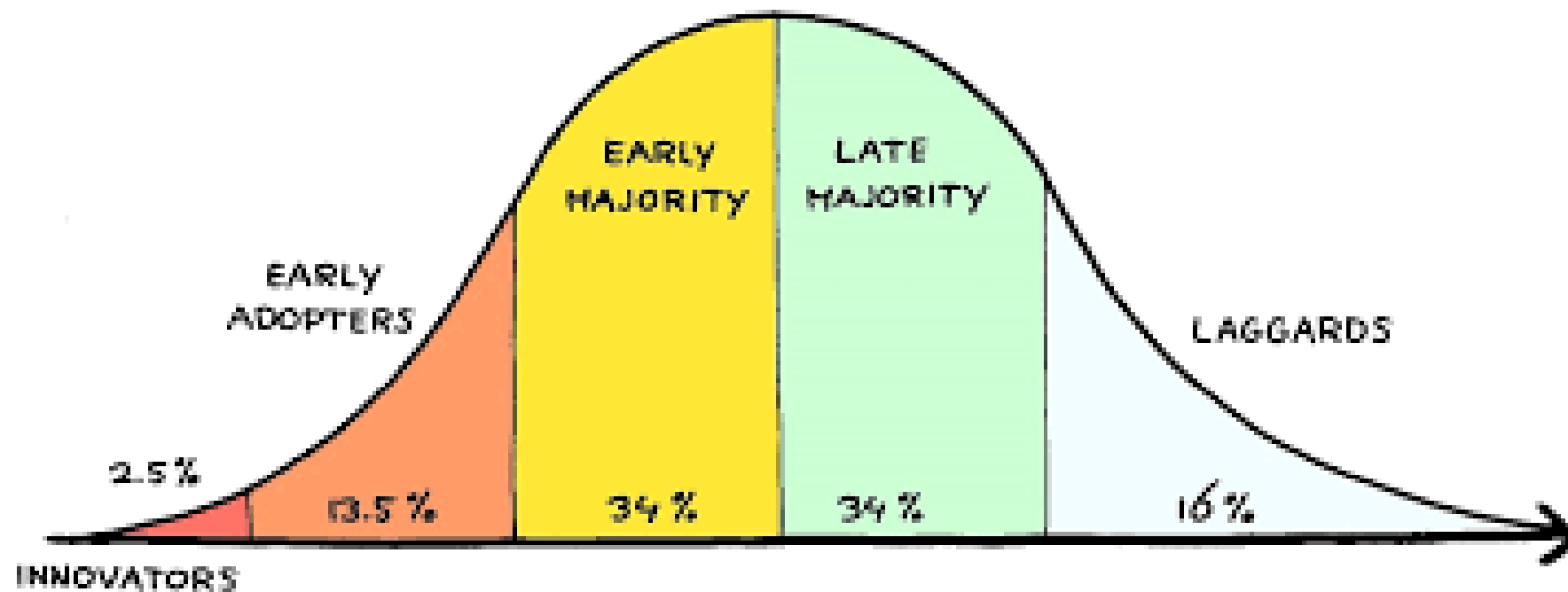


Bec Bennet
PhD

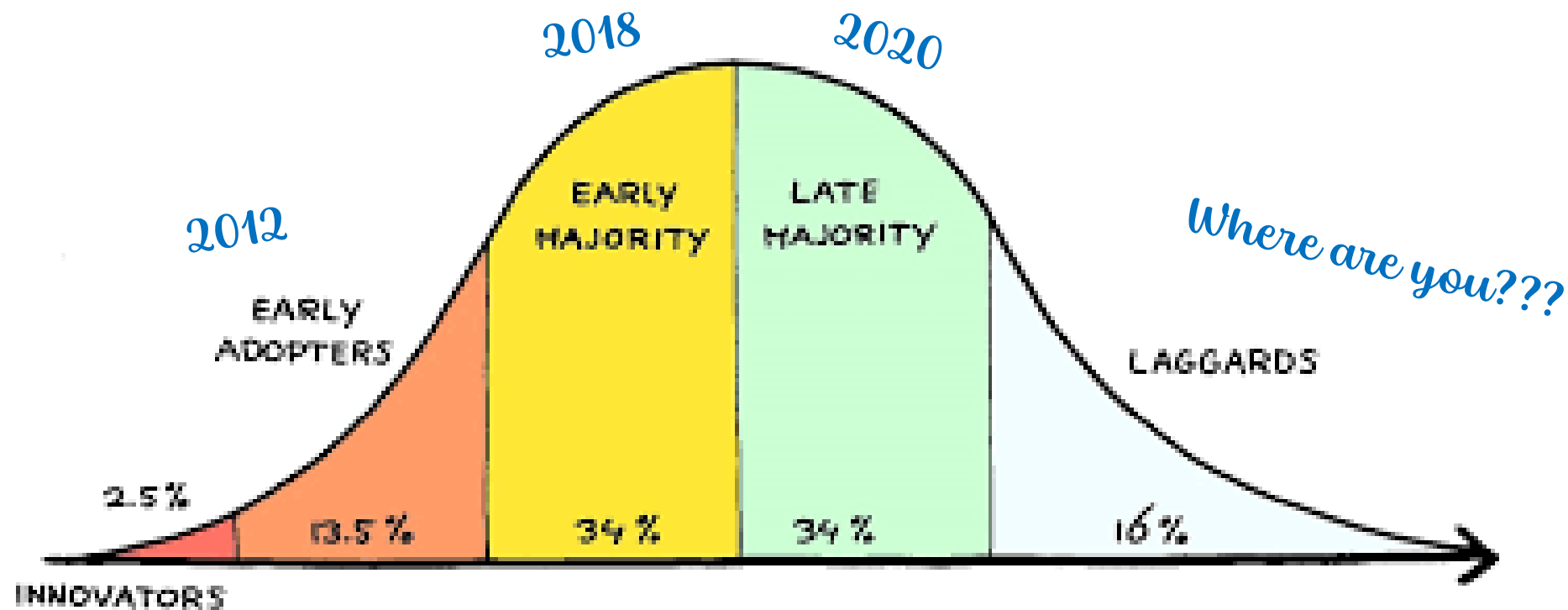
In this session you will:

1. Learn about the barriers and facilitators to adopting audiology apps, from the perspectives of both adults with hearing loss and hearing care professionals.
 2. Become aware of available hearing health apps and the benefits they provide.
 3. Learn strategies to effectively integrate digital health tools into clinical workflows to support patient-centered care.
- Learning Outcome 2: To be able to identify key barriers and facilitators to adopting health apps in audiological practice, compare the perspectives of adults with hearing loss and hearing care professionals, and apply strategies to integrate digital health tools effectively into clinical workflows to enhance patient-centred care.
 - Exam Questions 3 and 4

Innovation Adoption Curve

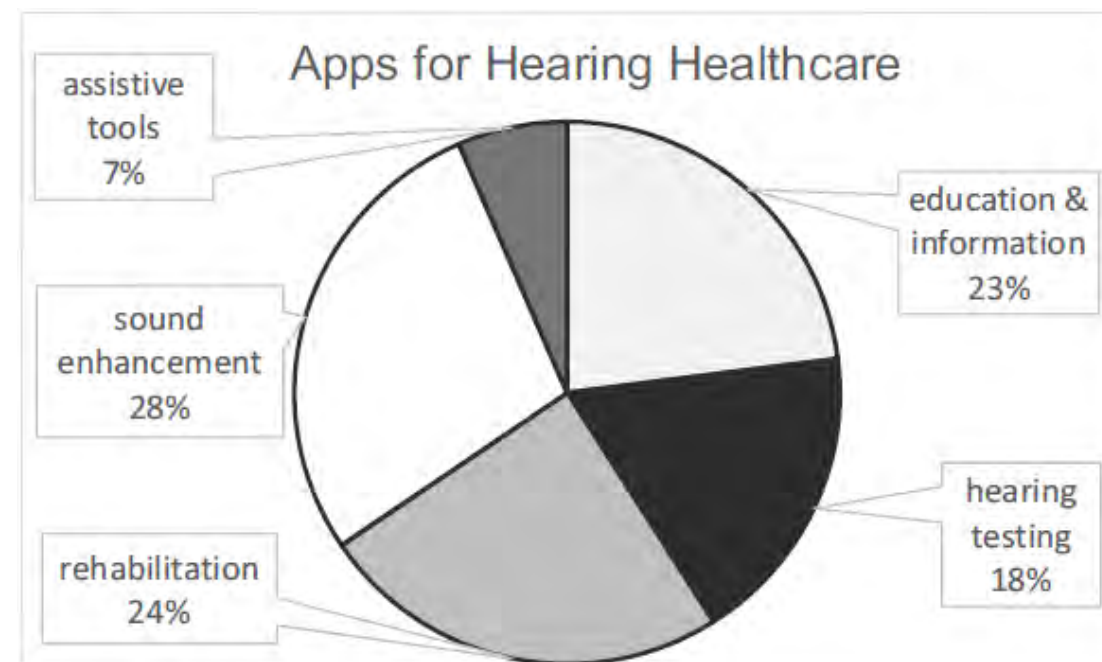


Audiology Apps Adoption Curve



Availability and Variety of Audiology Apps

- In 2015 = 200 Apps relating to hearing health
 - (Paglialonga et al, 2015)
- In 2020 = 389 Apps relating to hearing health
 - (Eleonora et al, 2021)



Why Use Audiology Apps?

- **Cost-effective** (Gentili et al., 2022; Iribarren et al., 2017)
- **Time Saving** (Ng et al, 2017)
- **Improved Clinical Outcomes**
 - **Tinnitus relief** (Engelke et al., 2023)
 - **Better Performance in Noise** (Habib et al., 2019 ; Gomez et al., 2022)
- **Superior Client Outcomes** (Maidment & Ferguson, 2020; Abbas et al., 2021)
- **Improved Quality of Life** (Ng et al., 2017)
- **Improved Social Connectedness** (Habib et al., 2019; Gomez et al., 2022)

Why NOT?

- Barriers:
 - Compatibility issues
 - Time required to learn new skills and implement new processes (Ng et al., 2017)
 - Client frustration, e.g., technical issues related to Bluetooth connectivity (Ng et al., 2017)
- Limited research on barriers to app adoption

Audiology App use in Australia

- Research Questions
 - Digital literacy of clinicians and clients?
 - Barriers and facilitators to App recommendation / use?
- Methods
 - National electronic survey
 - Recruited via hearing clinics and social media

Participants

Adults with Hearing Loss

(n=769)

- 40-75yrs old (M 61yrs)
- 56% female, 44% male



Clinicians (n=149)

- Mean: 41 years of age
- 72% female, 28% male
- Wide range of experience fitting hearing aids (2-26yrs)
- 67% Audiologists, 28% Audiometrists, and 20% business owners/managers





AwHL – Smart Phone Use

Do you use a smartphone	Yes = 98%
How often do you use your smartphone or tablet?	Daily = 98%
Do you use entertainment Apps on your smartphone or tablet, e.g., games, reading, movies, streaming music?	Yes = 78%
Do you use lifestyle management Apps on your smartphone or tablet, e.g., emails, banking, calendar, or task lists?	Yes = 90%
Do you use health Apps on your smartphone or tablet, e.g., for managing exercise, diet, chronic health conditions?	Yes = 46%



AwHL – Digital Literacy

- How would you rate your **ability** to use apps on your smartphone or tablet?
 - Highly capable in using apps = 65%
 - Somewhat able to use apps = 32%
 - Unable to use apps = 3%
- How **confident** are you using apps on your smartphone or tablet?
 - Highly confident using apps = 62%
 - Somewhat confident using apps = 33%
 - Not confident using apps = 5%
- How **interested** are you to try new apps on your smartphone or tablet?
 - Highly interested in using new apps = 37%
 - Somewhat interested in using new apps = 57%
 - Not interested in using new apps = 6%

2/3^{rds} High digital literacy
1/3rd Interested in Apps



Barriers to using Health and Wellbeing Apps (% participants)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
There is not enough guidance/ support for me to use health Apps.	21	30	32	13	4
Health Apps are too time consuming.	13	24	44	15	4
Health Apps are not easy to use and navigate.	15	30	39	13	4
The cost of the App is a barrier (e.g., subscriptions and download costs).	5	11	32	34	18
Health Apps are not personalised to my needs.	3	16	60	16	5
If a health professional recommends an App to me, I am likely to try it.	2	5	18	59	16
If a family member or friend recommends an App, I am likely to try it.	3	4	31	56	7
I do not see the value of health Apps.	16	38	36	7	2
My concerns about the safety and privacy of my data and potentially fraudulent activities in the App can be barriers to using Apps.	3	16	24	36	21
Sound quality issues make Apps difficult to use, especially when they rely heavily on audio signals or provide spoken instructions.	7	26	31	24	12



What support would you like when downloading audiology Apps?

- To download it and use it myself = 58%
- To have my hearing clinic recommend it to me, help me set it up and then leave me to it = 20%
- To have my hearing clinic recommend it to me, help me set it up and support my ongoing use (e.g., check in to see how I'm going with it) = 22%

Majority want to self-manage app use

Participants

Adults with Hearing Loss

(n=769)

- 40-70yrs old (M 61yrs)
- 56% female, 44% male



Clinicians (n=149)

- Mean: 41 years of age
- 72% female, 28% male
- Wide range of experience fitting hearing aids (2-26yrs)
- 67% Audiologists, 28% Audiometrists, and 20% business owners/managers





Clinicians - 100% smartphone use

- How would you rate your **ability** to use apps on your smartphone or tablet?
 - Highly capable in using apps = 94%
 - Somewhat able to use apps = 6%
 - Unable to use apps = 0%
- How **confident** are you using apps on your smartphone or tablet?
 - Highly confident using apps = 90%
 - Somewhat confident using apps = 9%
 - Not confident using apps = 1%
- How **interested** are you to try new apps on your smartphone or tablet?
 - Highly interested in using new apps = 58%
 - Somewhat interested in using new apps = 40%
 - Not interested in using new apps = 2%

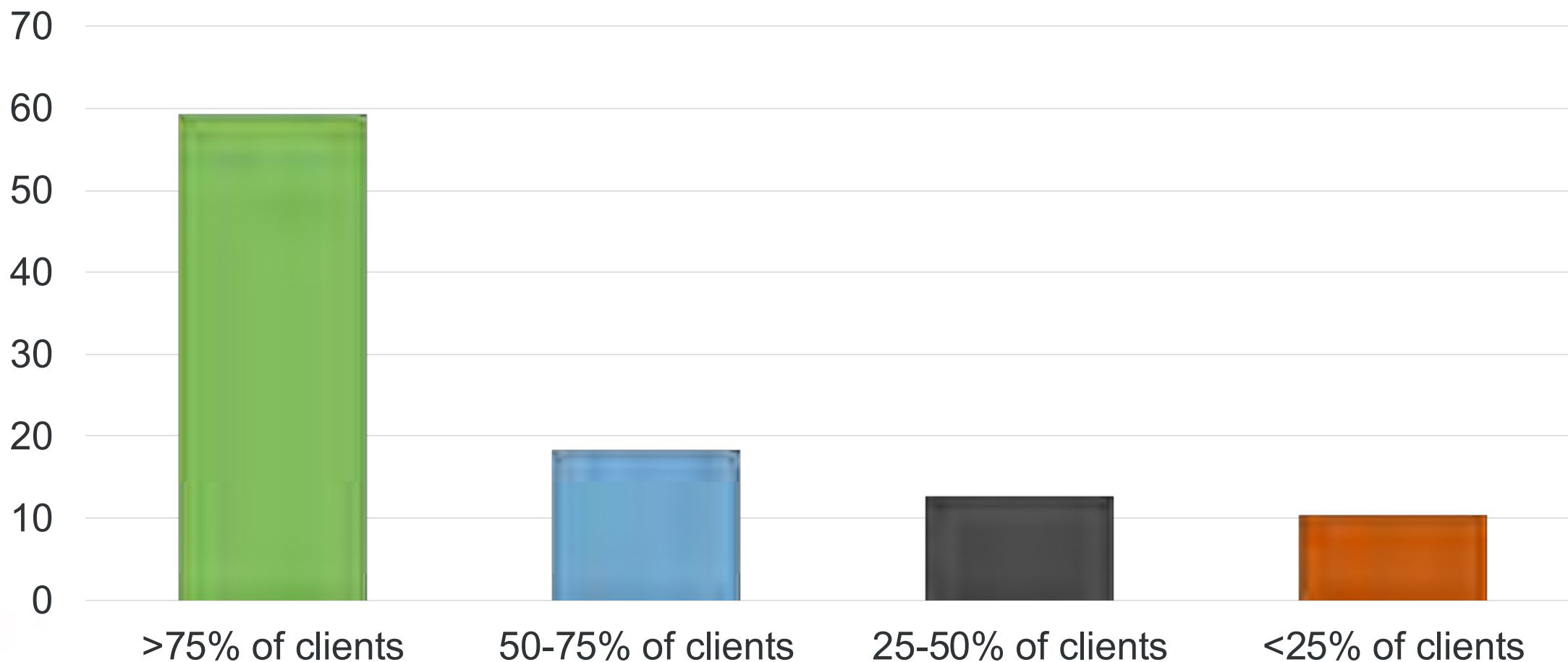
High digital literacy
1/3rd NOT interested in Apps



What kinds of Apps do you recommend to your clients?	Never (%)	Rarely (%)	Sometimes (%)	Often (%)
Self-management of Hearing Device Settings	6	1	11	82
Tinnitus Management, e.g., Tinnibot	14	14	36	36
Remote Hearing Device Programming	18	23	34	25
Speech-to-Text Apps, e.g., NALscribe	34	31	26	9
Mental Health and Well-being Apps	51	17	24	8
Hearing Self-Assessment Apps, e.g., hearWHO	58	24	13	5
Speech Training Apps, e.g., Hearoes, LACE or HearCoach	55	26	12	7
Sound Amplification Apps, e.g., Sound Amplifier by Google	62	21	13	4



What proportion of clients are you currently recommending Apps to?





What makes you recommend Apps to some clients and not others?

- Open text responses
 - Client Age
 - Severity of hearing loss
 - Lifestyle
 - Clinicians' assumptions on client Digital Literacy / tech savvy
 - Clinician asks client if they are competent using Apps
 - Based on what kind of phone they have / how often they use their phone
 - Whether a client would benefit from an app
 - Whether the client appears confused by simple things in other parts of the appointment



Facilitators to recommending Apps	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I can see the potential <u>value</u> of Apps for my clients	1	0	8	33	59
I can <u>integrate</u> App recommendations into my existing work	1	1	10	39	50
I value the <u>effects</u> that recommending Apps to clients has had on my professional practice	2	2	15	51	29
I have <u>confidence</u> in my clients' ability to use Apps	1	6	41	39	13
Sufficient <u>training</u> is provided to enable us to recommend appropriate Apps to clients	7	23	36	25	9
Sufficient <u>resources</u> are available to support us in recommending Apps to clients	7	29	36	24	5



Barriers to recommending Apps	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
Client Technological Proficiency	4	39	20	26	10
Client Motivation	5	46	18	4	7
Effort of helping clients set up Apps	31	50	14	4	2
Time Constraints	13	25	19	25	17
I have limited awareness of hearing-related Apps that may be beneficial for my clients	18	26	18	26	11
It is difficult to select the most appropriate Apps	11	34	25	24	7
Concerns about professional liability	15	42	23	18	1
My Technology Skills	45	35	11	8	2

Enhance YOUR Audiology Practice

1. Age Biases
2. Developing Language
3. Increasing Awareness

Digital Device Use in Australia is increasing



Access to Digital Devices

- 71% 50-69 year olds
- 57% 70-79 year olds
- 34% >80 year olds

>65yr olds Access Online Resources via

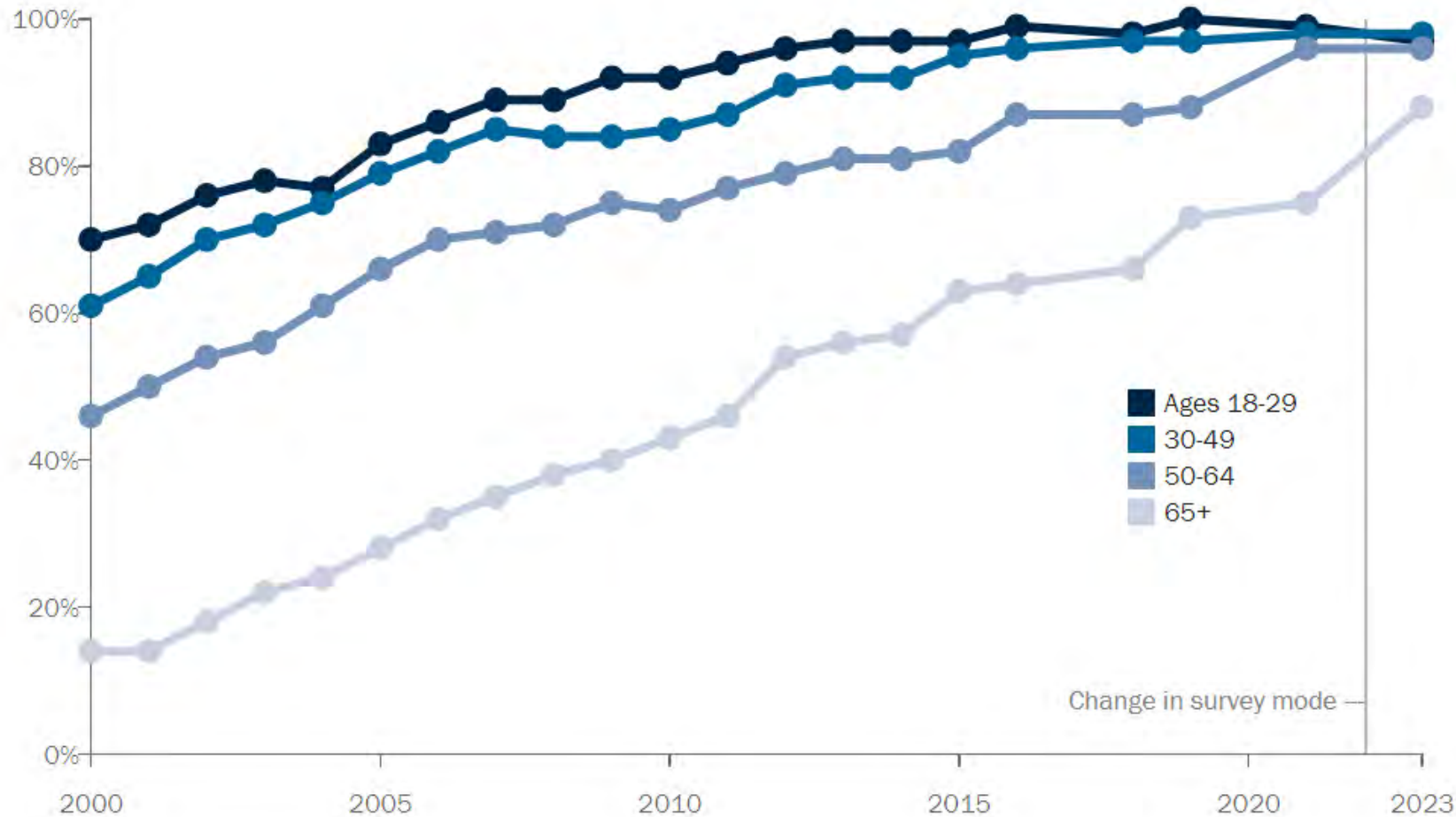
- Smartphones 78%
- Tablets 59%
- Laptop 58%

Since the COVID pandemic

- **34% >65s started** using video conferencing/calling, **41% ↑ use**
- **50% >65s started** using telehealth, **29% ↑ use**

Internet users in the USA

% of U.S. adults who say they use the internet, by age



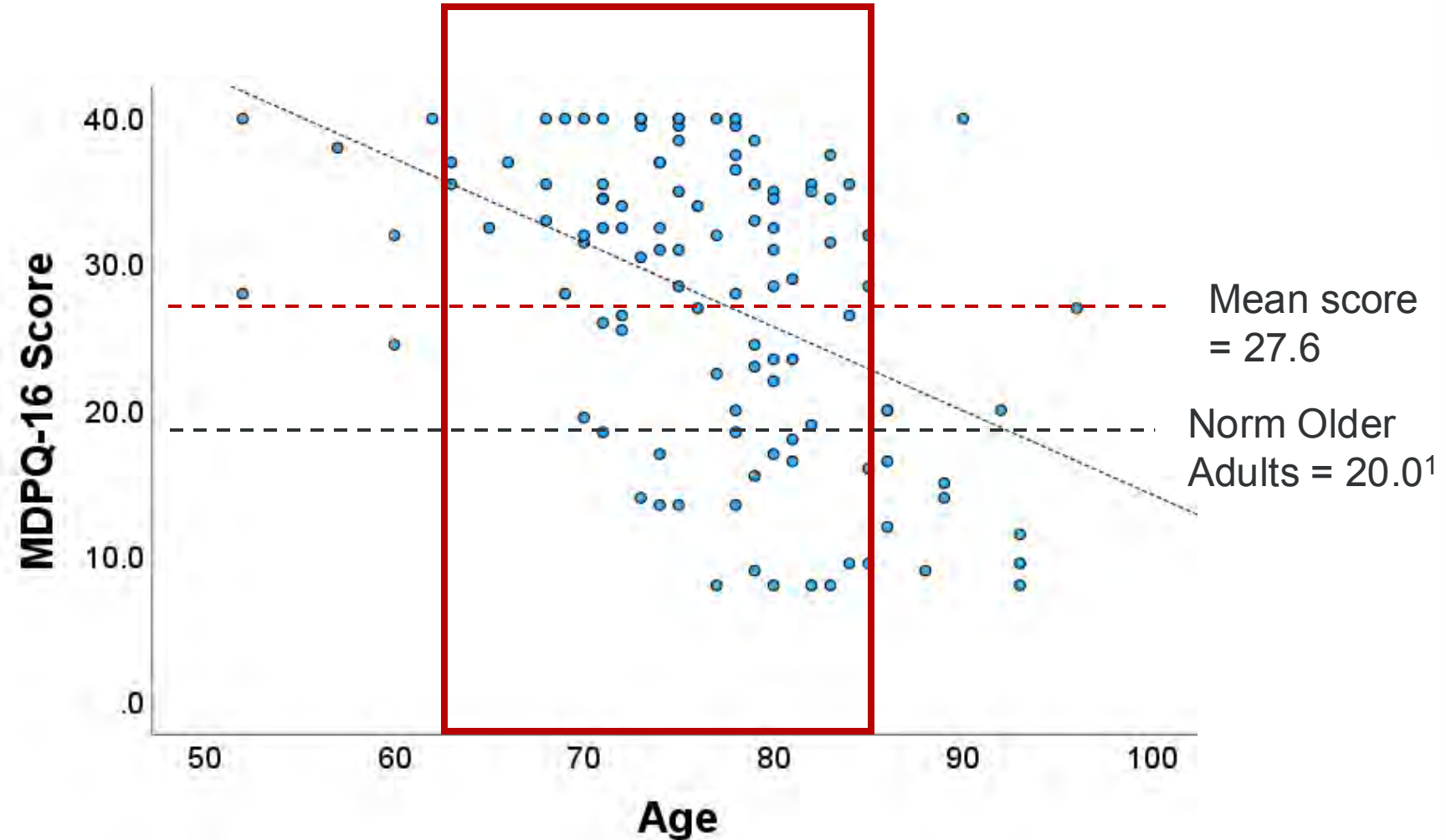
61% of older adults
(65+) own a
smartphone

55% of older adults use
video conferencing
technologies like
FaceTime

36.5% of older adults
(65+) have used
telehealth

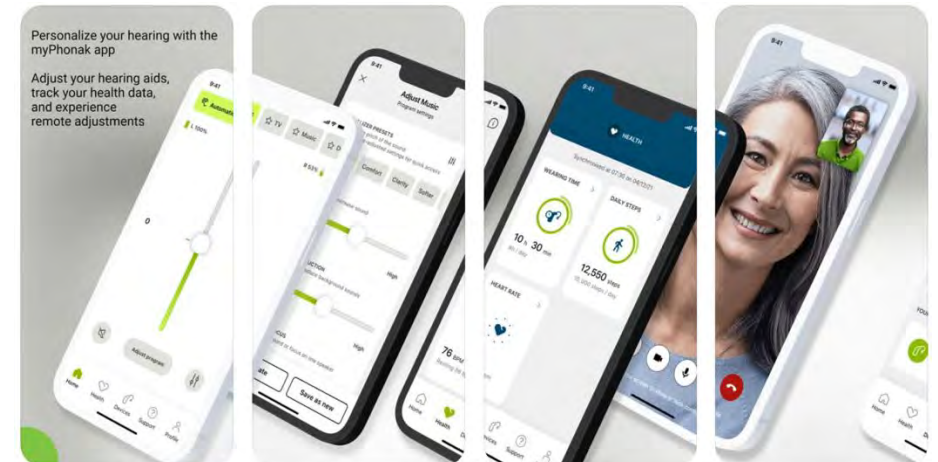
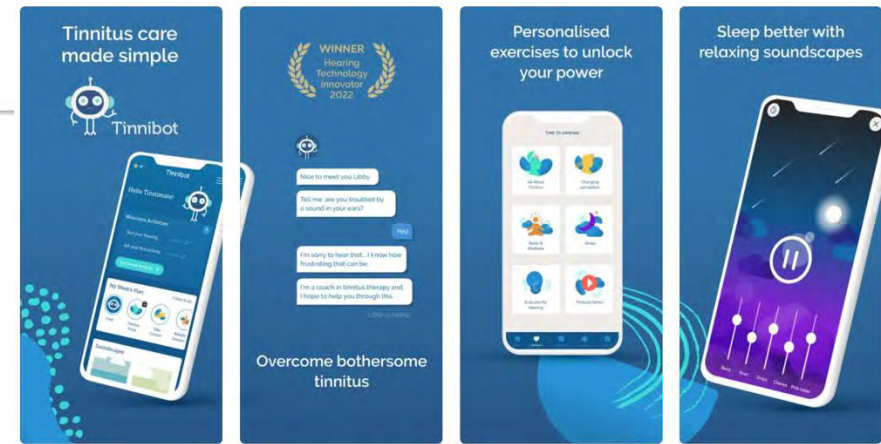
1) Don't Assume I'm Too Old!

- Digital literacy is a set of technical, cognitive and sociological skills that individuals must possess to ensure efficient use of digital technology.



2) Developing Language

- Our words and tone matter
 - How do you discuss Apps within appointments?
 - What does your spiel sound like?
 - Does it have a positive or negative tone? Supportive or dismissive?



3) Increasing awareness

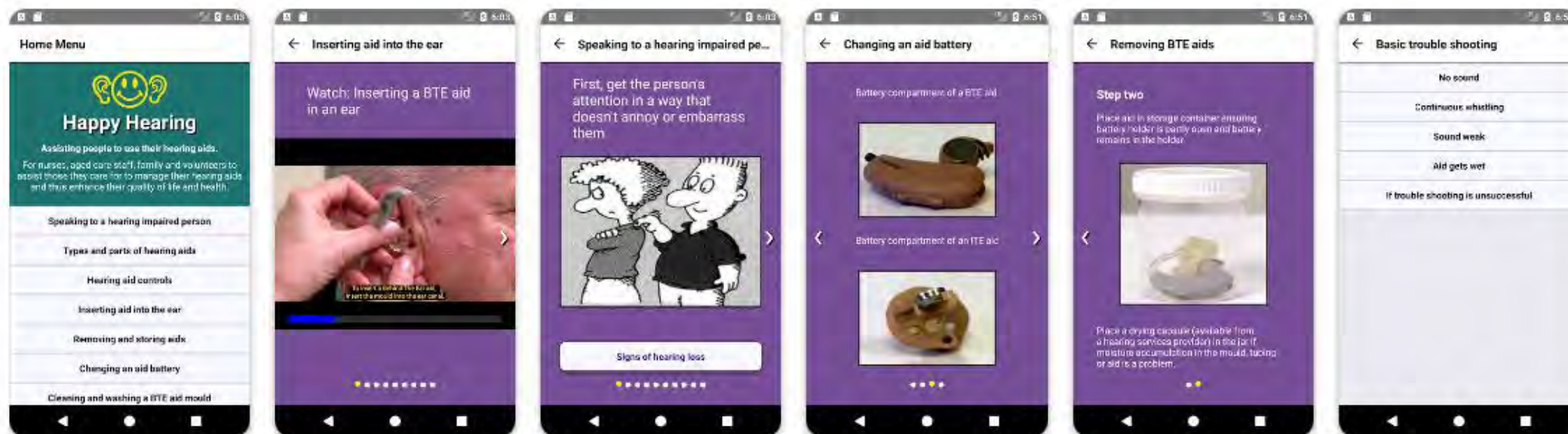
Categories of Apps	Example Apps
Ear & Hearing Education	Ear ID, Happy Hearing - Deafness Forum, aVOR, Otitis Media Guidelines for Aboriginal and Torres Strait Islanders
Hearing Self-Assessment Apps	hearWHO, Sound Scouts, Hearing Loss Simulator, Mimi Hearing Test
Hearing Device Self-management & Remote Programming	See manufacturers
Tinnitus Management	Tinnibot, Sound Oasis, myNoise, Quieten, OTO: Tinnitus Relief and Therapy
Captions & Signing	NALscribe, Google Voice Search, Otter, Captionfish, Auslan Dictionary, RogerVoice

3) Increasing awareness - continued

Categories of Apps	Example Apps
Speech Training Apps	Hearoes, LACE or HearCoach, iAngel Sound, Animal Sounds, C&O (Continents & Oceans) by Med-EI
Sound Amplification Apps	Sound Amplifier by Google, iHear Hearing Aid App, Ear Scout: Super Hearing, HearingOS
Alerts & Safety	Braci, Sound Alert, Audio Alert
Measuring & Managing Environmental Sound Levels	decibel, Hearangel, The Ambient Menu, Tunity
Mental Health and Well-being Apps	Smiling Mind, MyCompass, This Way Up, HeadGear, MindSpot, Sleep Ninja, Mentemia

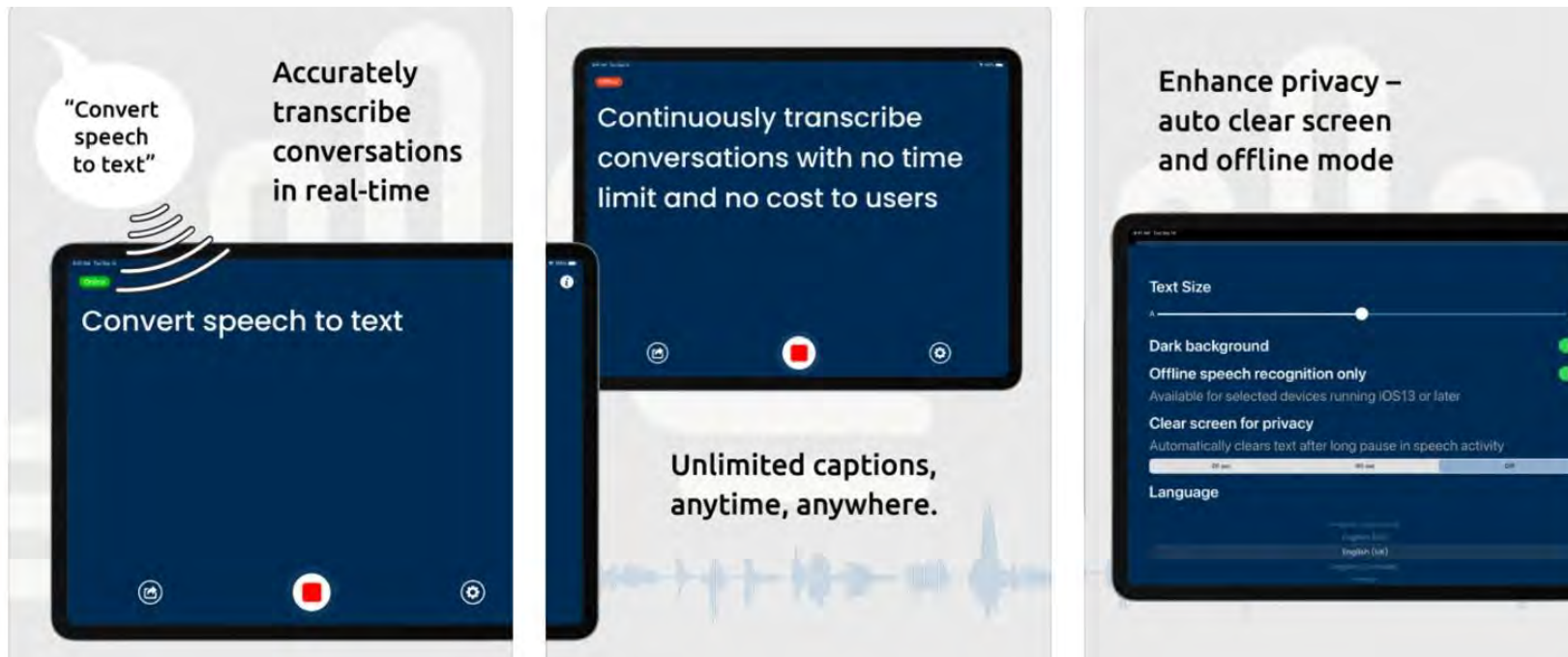
Happy Hearing App

- How to manage hearing aids and thus enhance quality of life.



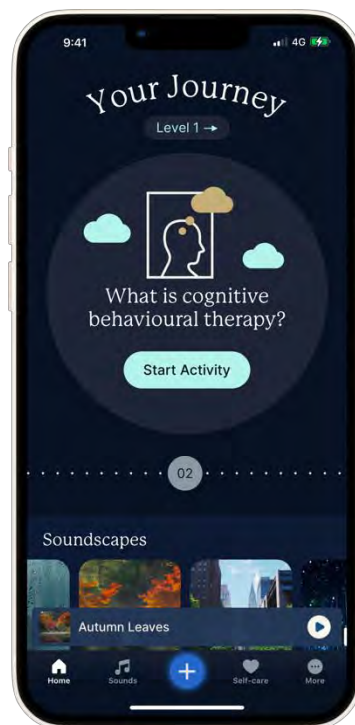
NALscribe: live captions

- NALscribe is a live speech captioning tool to help people understand speech and conversations.



MindEar- Tinnitus relief... finally

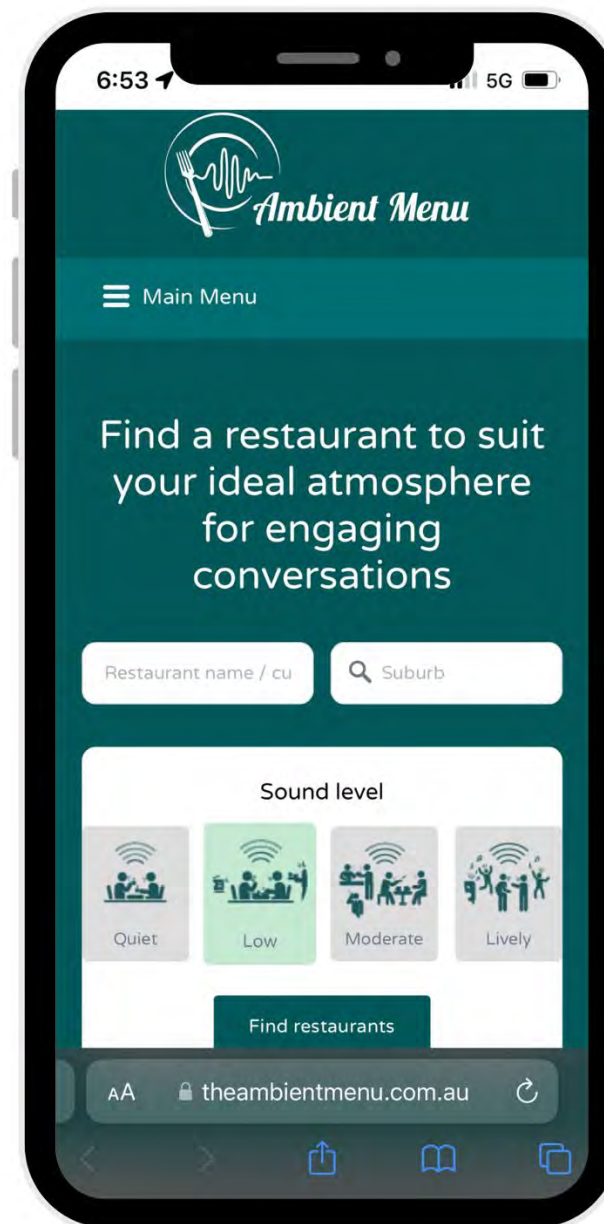
- MindEar is a science-backed solution developed by tinnitus experts for patients struggling to deal with tinnitus.



- Cognitive Behavioural Therapy
- Mindfulness & relaxation
- Sound therapy
- Psycho-education

The Ambient Menu

- The Ambient Menu is a web app that connects people who struggle to hear in background noise to an acoustically friendly restaurant.



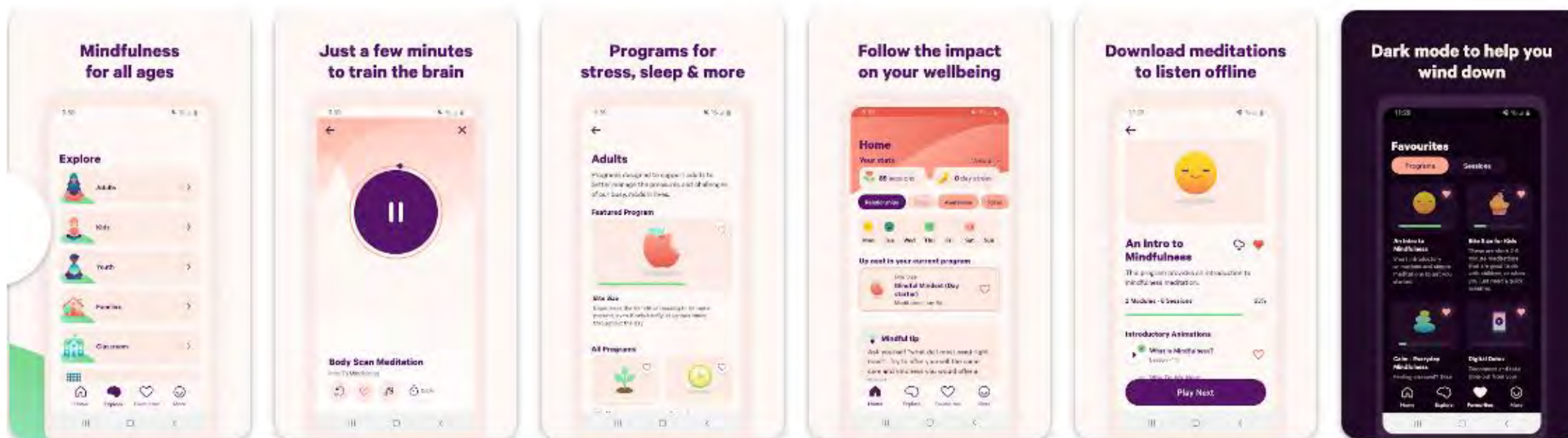
Braci App

- Braci App gives you the ability to record your environmental and home sounds to alert you in case of events which are important for you like Smoke alarms, doorbells, Telephone Ringing and Intercom.



Smiling Mind: Meditation App

- Programs in the app are underpinned by mindfulness and positive psychology strategies and designed to build mental fitness and resilience; support good sleep, study and sports training; reduce stress and improve relationships.



HeadGear App by Black Dog Institute

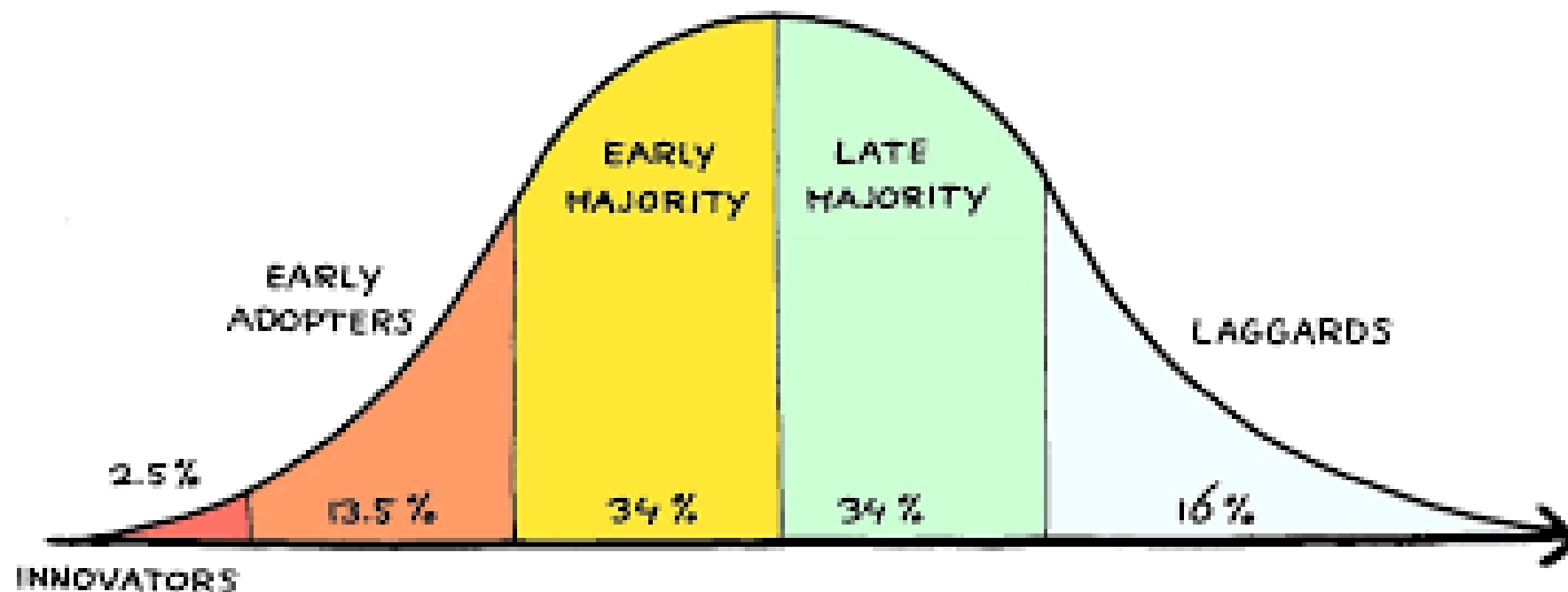
- HeadGear is a free, easy-to-use smartphone app that guides you through a 30-day mental fitness challenge designed to build resilience and wellbeing and prevent things like depression and anxiety.



Summary

1. **Digital health apps in audiology** are growing in number and variety, offering potential benefits such as improved clinical outcomes, social connectedness, and quality of life for users.
2. **Barriers to adoption** include issues like digital literacy, time constraints, client motivation, and technical challenges, but with the right support, many of these can be overcome.
3. **Clinicians play a key role** in facilitating the adoption of these tools by recognizing individual client needs, recommending suitable apps, and integrating them into patient-centered care.
4. **Future success in audiology** will rely on leveraging digital health solutions to enhance traditional care models.

Innovation Adoption Curve



Thank you...



bec.bennett@nal.gov.au

Insights from the use of the Client-Oriented Scale of Improvement (COSI)

Taegan Young

Research Audiologist



Taegan Young

*Research
Audiologist*

In this session you will:

1. Reorient yourself with clinical goal setting and the COSI
 2. Hear about research NAL has been conducting on the COSI and the hearing needs discussion.
 3. Be introduced to the new NAL goal-setting framework.
 4. Learn how you can enhance your clinical practice by incorporating elements of the NAL goal-setting framework into your hearing needs discussions.
- Learning Outcome 3: To be able to describe the new NAL goal-setting framework and how it can be used to enhance goal setting discussions in clinical practice.
 - Exam Questions 5 and 6

Clinical Goal Setting



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Clinical Goal Setting

“Sometimes I
can’t hear what’s
happening on the
TV”



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Clinical Goal Setting

“Sometimes I
can’t hear what’s
happening on the
TV”



“To be able to follow
the dialogue on the TV
when he is watching the
news with his wife at his
wife’s preferred TV
volume.”

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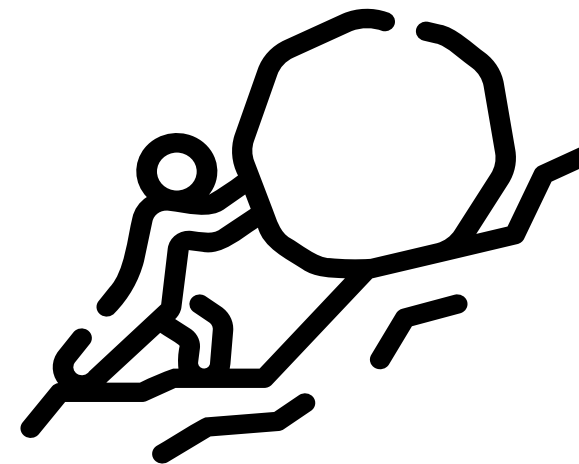
What's the problem with clinical goal setting?



Goal-setting is a core part of *person-centred care*



Goal-setting is hindered by *current tools that are outdated and effortful.*

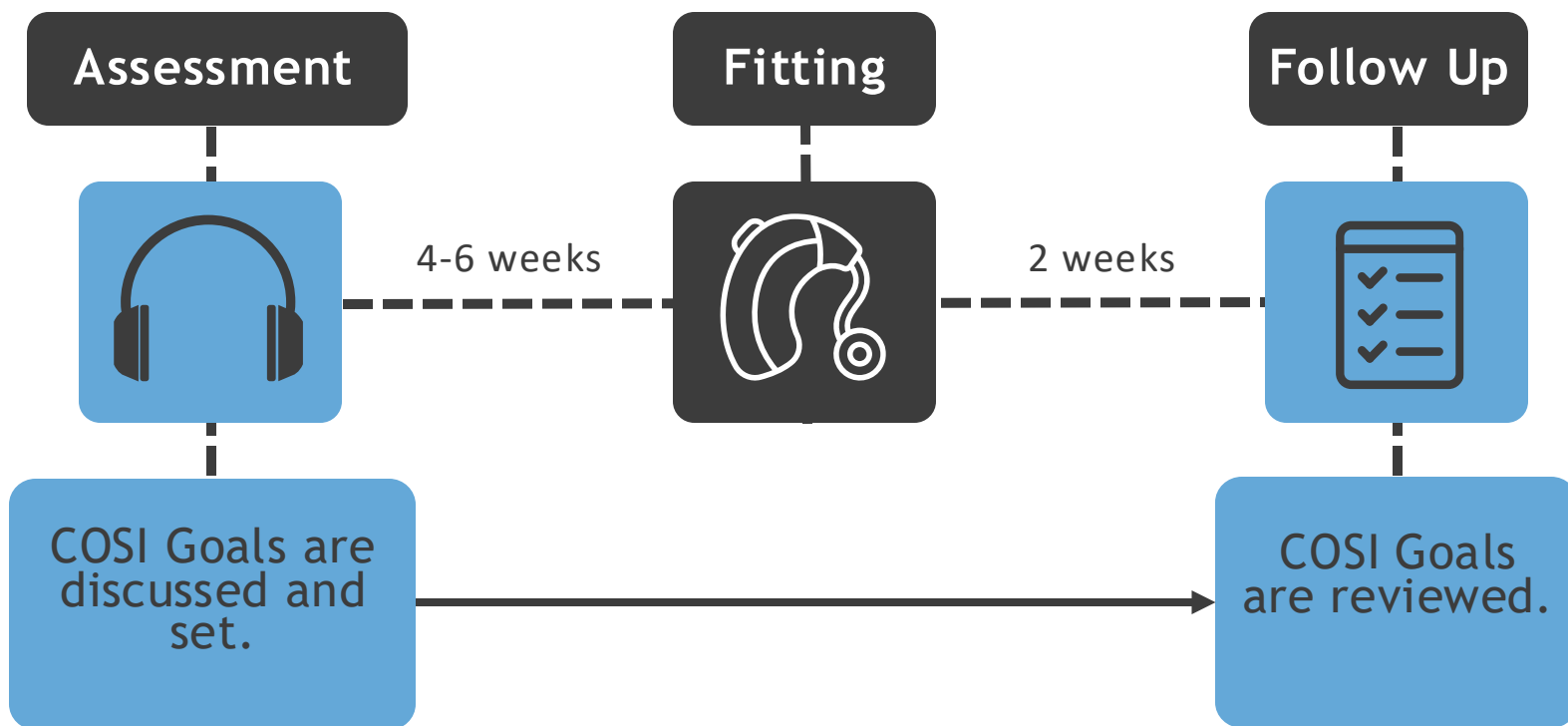


Clients *don't set, attempt, or achieve hearing goals*

NAL Client Oriented Scale of Improvement (COSI)

[illegible]

How does goal setting fit into clinical practice?



What happens if goal setting isn't done well?

- Building rapport, discussing hearing needs and setting goals are all important parts of person-centred care (Saunders et al, 2021; Munoz et al, 2010, Laplante-Lévesque et al, 2010).
- Observations of audiological appointments have shown that audiologists tend to take the lead -
 - Dominating the conversation (Meyer et al, 2017; Grenness et al, 2015)
 - Lack of Shared Decision making (Ekberg et al, 2017; Grenness et al 2015)
 - Not providing a range of options (Ekberg et al, 2014)
 - High use of jargon and complex language (Sciacca et al, 2017)

“Sometimes it is like pulling teeth to get a clear goal”



What happens if goal setting isn't done well?

- A lack of person-centred care during the hearing needs discussion can lead to:
 - Unrealistic Expectations (Dillon & So, 2000)
 - Poor Hearing Aid uptake (Meyer & Hickson, 2012)
 - Poor device usage (Poost-Foroosh et al, 2011)
 - Patient dissatisfaction (Sweetow, 1999)

I don't feel like
she really
listened to me.



What did we want to know?

- How could COSI be improved?
- Easy to use
- Add value for clients and clinicians.

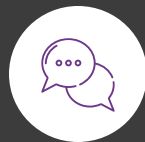


Summary of Sources and Data

The insights and recommendations gathered in this study and presented in these slides were drawn from, and informed by, the following sources:



Retrospective
analysis of over 1
million COSI goals



One-on-one Clinician
Interviews



Global Survey of
Clinicians



Training resources
from universities and
internship programs



Original COSI papers
and manuals from
NAL



Goal setting literature
and other external
resources



Implementation &
use of COSI in
Clinical Practice



Observations of
Clinical
Appointments

CLINICAL SURVEY

-Summary of key insights-

1. Responses from 98 clinicians from 16 different countries.
2. 100% of respondents who set goals with their clients use the COSI.
3. Clinicians say that they sometimes use the COSI with other tools to aid the discussion.
4. Clinicians chose to do goal setting for a lot of reasons, the most common being PCC and EBP
5. Clinicians identified some key challenges to discussing goals with their clients.

100% of survey respondents, who set goals with their clients, use the COSI.

(Dillon et al, 1997, Dillon et al, 1999)

Clinicians tell us they combine other tools with the COSI to help them do effective goal setting such as...

COSI users also use...

PATIENT SELF-ASSESSMENT OF COMMUNICATION (SAC) HearUSA

Name: _____ Date: _____

INSTRUCTIONS: The purpose of this form is to identify the problems you are experiencing with your hearing. If you wear hearing aids, answer the questions as if you are not wearing them. One of the five descriptions on the right should be assigned to each statement below. Select a number from 1 to 5 next to each statement and answer with yes or no and pick only one answer.

(1) Do you experience communication difficulties in situations where you are talking to a spouse, boss, etc.?

(2) Do you experience communication difficulties while watching television or listening to the radio, etc.?

(3) Do you experience communication difficulties in situations where you are talking to a small group of several people?

(4) Do you experience communication difficulties in situations where you are listening to a group of people talking to each other?

(5) How often do you experience communication difficulties in the situation where you most want to hear better?

(6) Do you experience difficulty in hearing soft, medium, and loud environmental sounds appropriately (telephone ring, doorbell ring, traffic, horns, alarms)?

(7) Do you feel that any difficulty with your hearing negatively affects or hampers your personal or social life?

(8) Does any problem or difficulty with your hearing worry, annoy or upset you?

(9) How often do others seem to be concerned or annoyed or suggest that you have a hearing problem?

(10) How often does your hearing negatively affect your enjoyment of life?

(11) If you are using a hearing aid: On an average day, how many hours did you use your hearing aids?

Please rate your overall satisfaction with your hearing aids.

FOR OFFICE USE ONLY

Pre-Assessment ☐ Post-Assessment ☐

Not currently using Hearing Aids ☐ Current Hearing Aid User ☐

Questionnaires about Hearing difficulties – e.g. HHIE/A, SAC/SOAC,

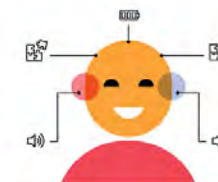


Motivation Tools

Open a dialogue to better understand your clients' needs and increase their motivation to improve their hearing.

Suitable for:

First Appointment, Follow-up Appointments, in the Appointment



My Hearing Explained

Explain hearing test results in a practical way and make it easy for clients to explain their hearing loss to others.

Suitable for:

First Appointment, Follow-up Appointments, in the Appointment



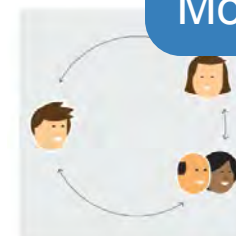
Living Well

Help your clients improve their quality of life by identifying strategies that address their communication challenges.

Suitable for:

First Appointment, Follow-up Appointments, in the Appointment

Tools for client centred care e.g. Ida Motivational Tools.

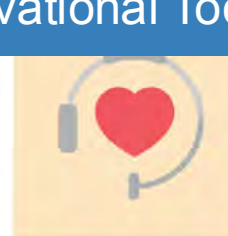


Communication Partners

Help clients improve their communication in daily life by establishing common goals with family and friends.

Suitable for:

First Appointment, Follow-up Appointment, in the Appointment

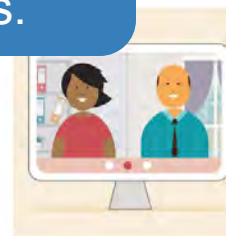


Telecare

Help clients prepare for appointments by extending your care through online support and counseling.

Suitable for:

First Appointment, Follow-up Appointment, in the Appointment, Everyday Life



Online Appointments Starter Kit

Get started with remote appointments. This resource shows you how through a mix of checklists, articles, and videos.

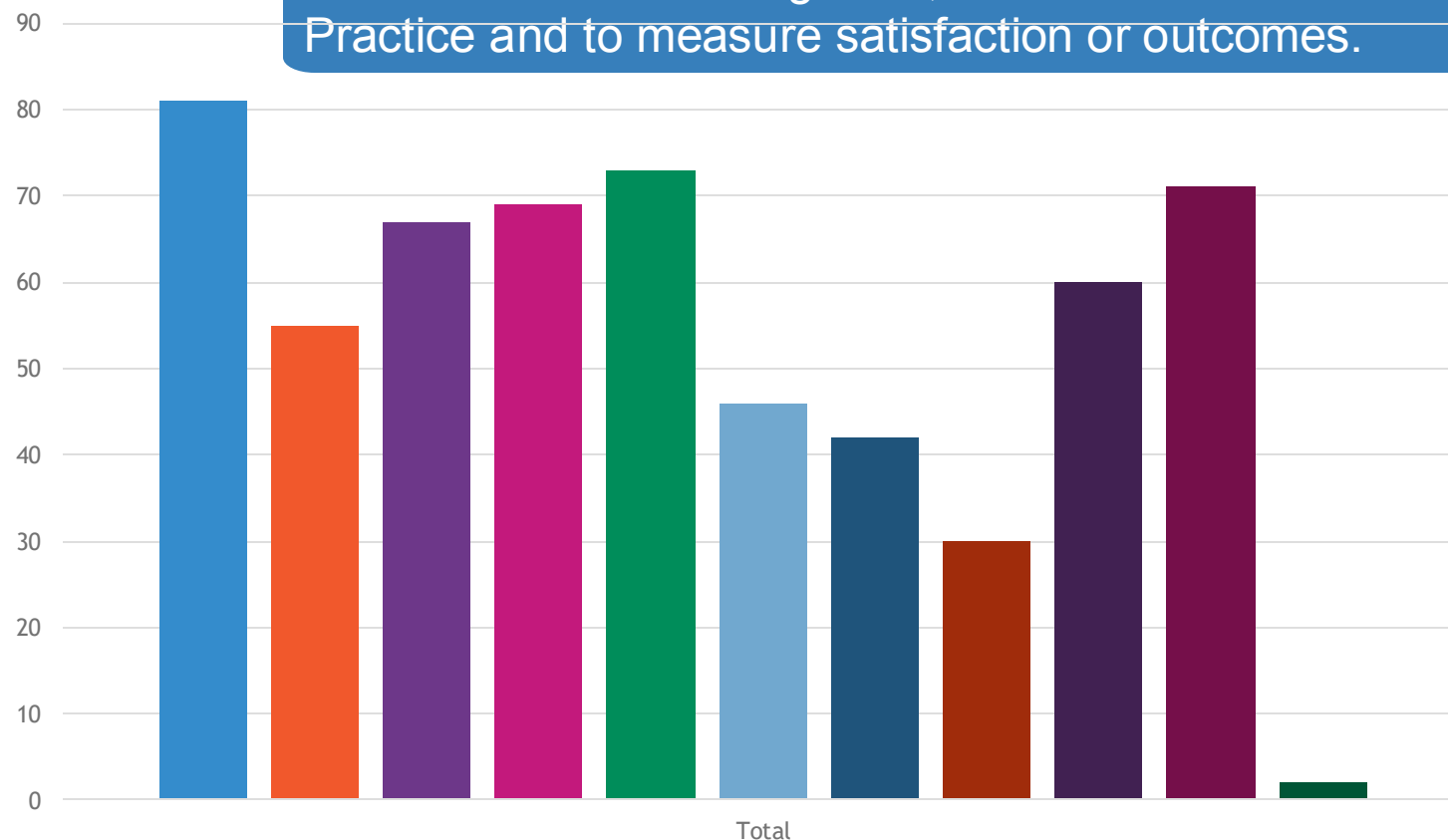
Suitable for:

First Appointment, Follow-up Appointment, in the Appointment

Why do you do goal setting with your clients?

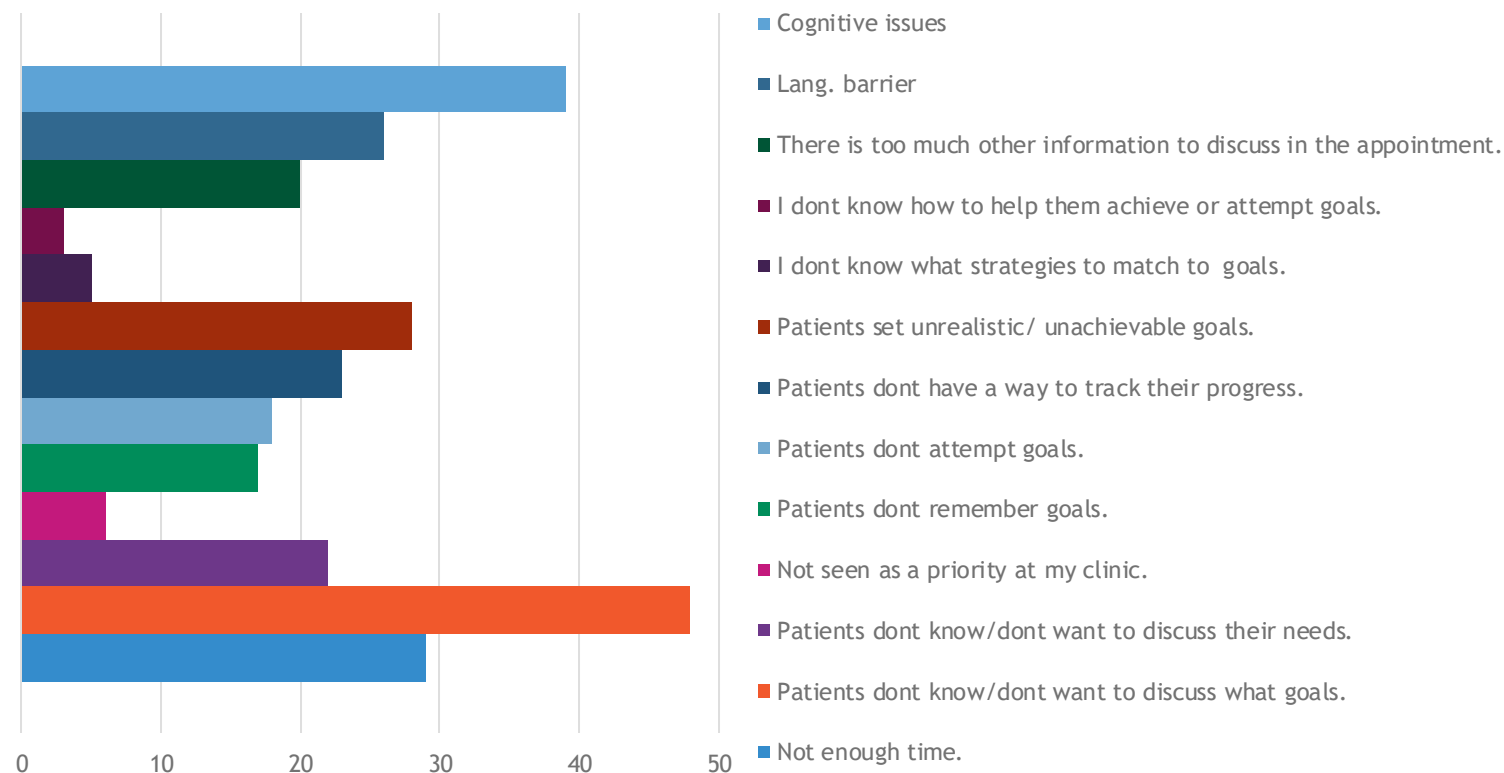
Clinicians chose to do goal setting for a lot of reasons, the most common being PCC, Evidence-Based Best Practice and to measure satisfaction or outcomes.

- As part of Patient Centred Care.
- To build rapport with my patients.
- To help me choose which device or intervention to offer.
- To measure the outcomes of my intervention.
- To measure client satisfaction.
- To comply with industry regulations.
- My clinic requires me to discuss goal-setting.
- To satisfy funding requirements.
- I think it helps my patients.
- Evidence Based best practice.
- Other



Key Challenges to goal setting with clients

Key Challenges to goal setting with clients were identified as Cognitive issues, patients not knowing how to discuss goals, not having enough time and setting realistic goals.



Interviews with Clinicians

Summary of key insights

1. Clinicians think goal setting is important and they prefer to use the COSI.
2. Clinicians told us that sometimes it can be difficult to negotiate goals with their clients.
3. Current COSI procedure is overly flexible and clinicians aren't sure they are completing it correctly.
4. Clinicians prioritise client wants over what is actually achievable...
5. ...but also worry about giving their clients realistic expectations.
6. Clinicians don't routinely give the client a copy of the goals.
7. Clinicians don't discuss goals at the fitting appointment.

Insights from interviews

“It’s something that I can refer back to just to show you that there’s been some improvement.”
- AUD04

Clinicians think goal setting is important and they prefer to use the COSI.

“[With COSI] you can gauge whether or not we’ve been helping them, you know, which is our job.”
- AUD06

“I think it’s a good way to have a checklist to make sure that the client’s receiving benefits.” -
AUD05

Insights from interviews

Clinicians told us that sometimes it can be difficult to negotiate goals with their clients.

“I know, ideally, you want to collaborate with them, but it's yeah, sometimes with a situation, I feel like it's easier to just kind of assume from what they're telling me“

- AUD05

“Sometimes it goes really, really well and sometimes it is like pulling teeth to get a clear goal.” - AUD01

“I don't really feel like there's anything hard and fast. Like there's no rule to it. I feel it's just whatever the client needs.”

-AUD06

“Everybody's got their own style of doing what they're doing. Everybody can get the information and have good outcomes for the client. But it's just a different way that we do it.” - AUD02

Current COSI procedure is overly flexible and clinicians aren't sure they are completing it correctly.

Insights from interviews

“I would just write it down anyway. Because, you know, I feel like that's their goal. And that's what they want to do.” - AUD05

Clinicians prioritise client wants over what is actually achievable...

“I'd always list it because we don't know what devices are gonna do and what might be achievable one day...It is reasonable to have goals that we won't achieve and just to let them know we're listening” - AUD01

“If someone has an unrealistic hearing aid goal, I'd probably keep it as what they want, but give some realistic expectations about what the hearing aids are designed for.”
- AUD03

... but also worry about giving their clients realistic expectations

“People who haven't been fitted before sometimes have unrealistic expectations of what the hearing aids can do.”
- AUD02

Insights from interviews

“Yeah, I could give them a copy... But it needs to be easy. We’re time-poor.”
- AUD01

Clinicians don’t routinely give the client a copy of the goals.

“I don’t know how to do that. I have never done that before.” - AUD03

Clinicians don’t have time to discuss goals at the fitting

“At the fitting there’s a lot more focus on counselling and hearing aid management. I review COSI at the follow up.”
- AUD05

“I wouldn’t have time to give them strategies because I feel like management is more important at that thing for them to master.”
- AUD03

Analysis of Clinical Data

Summary of key insights

1. Only 8% of COSI goals are ever marked as 'Achieved'.
2. Average 'life' of goal (from creation to last progress update) is 628 days.
3. Some goal topics are more likely to be achieved by the follow up (2F) than others.
4. Only 27% of COSI goal records include advice and information on strategies...
5. ...but goals are more likely to be achieved if strategies were recorded.
6. Mismatch between hearing needs questionnaires and the most common listening goal topics

Insights from 1 million goals



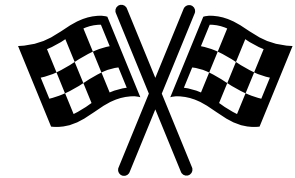
1,134,430
*Unique
Goals*



393,488
Clients



1,268
Clinicians

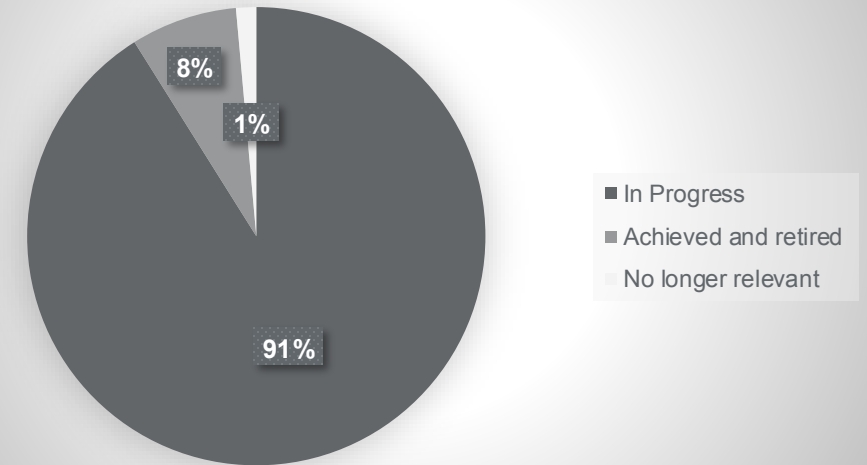


3.25 Goals
*per Client
(average)*

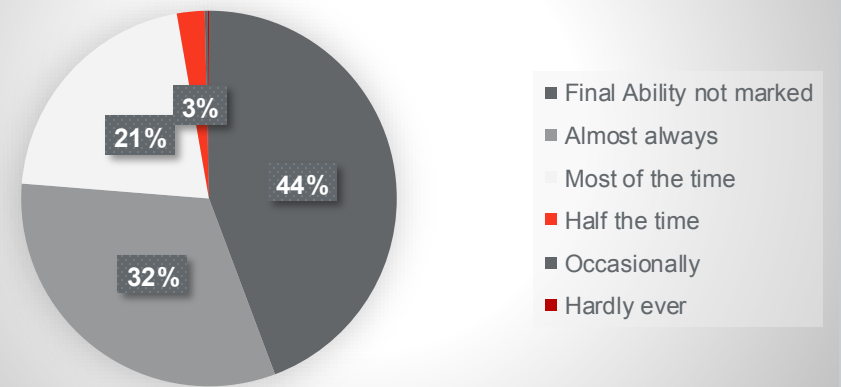
Goal Status

- Analysis of the COSI data shows that only 8% of COSI goals are marked as achieved at the follow up appointment.
- More than 90% of goals are marked as 'In Progress' – this is the default status.
- Of the COSI goals marked 'In Progress', more than 50% had a final ability score suggesting that the client was successfully able to participate or perform the activity either 'Almost Always' (32%) or 'Most of the Time' (21%).

COSI Goal Status



Final ability for goals marked 'In Progress'



Goal topics most likely to be achieved



Hear the TV



Hear comfortably



Hear in quiet



Hear in noise



Hear at home



Hear one another



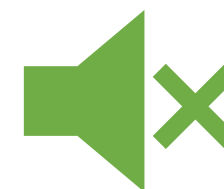
Hear in groups



Hear first time



Hear on the phone



Hear silence

Issues with the current COSI process

In the clinic...

Client **not involved** in setting goals
(particularly if comm. barriers)

Client **not told** why goals are
important and what their role is

Client **doesn't know** their goals
(even if clinician documented
them)

Clients **don't attempt** their goals

Clinicians report...

Lack of time

Difficulty identifying
relevant goals

Difficulty setting
achievable goals

Communication barriers

How can these insights enhance the goal setting process?

An ideal goal setting discussion would...

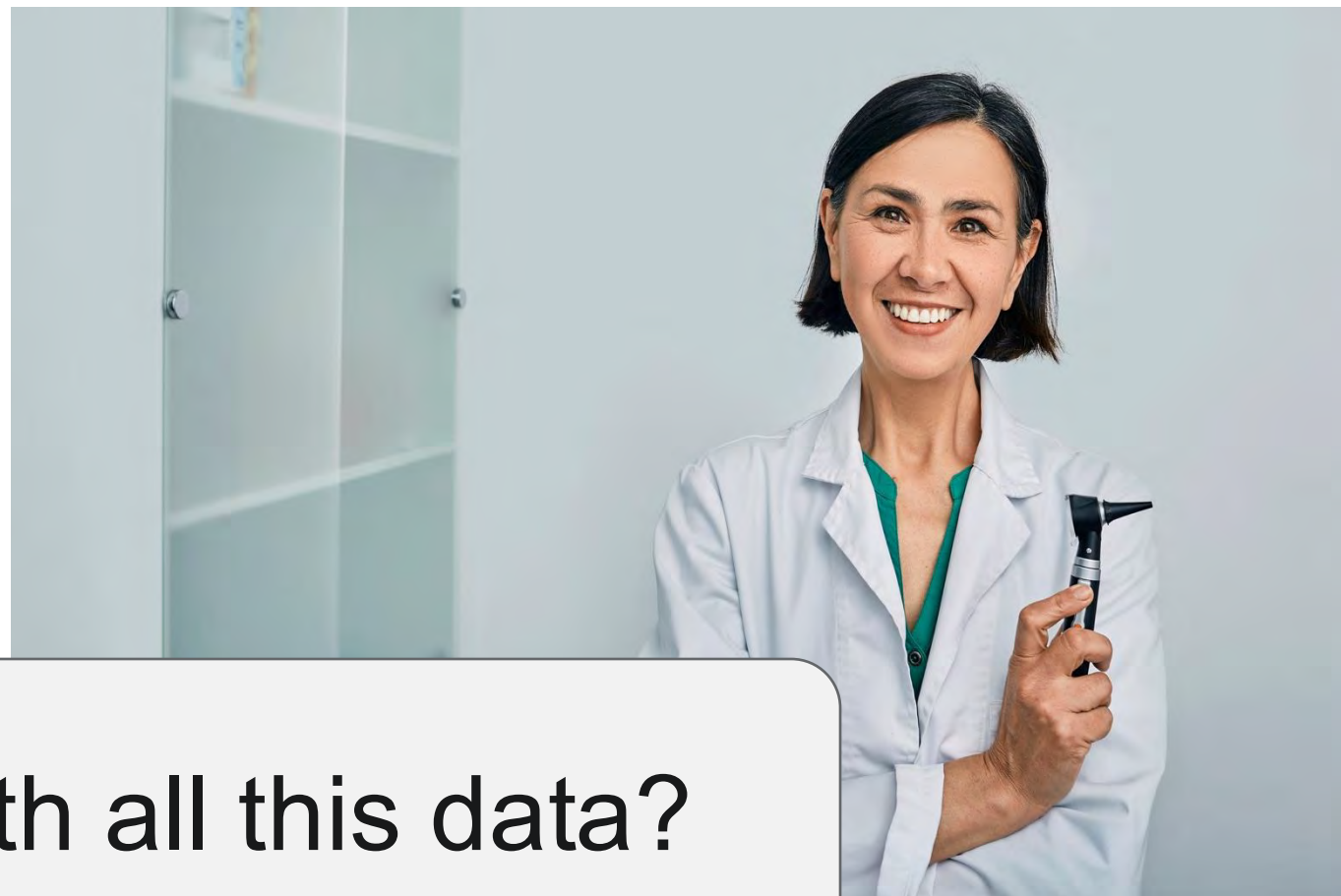
Have a **more structured** process

Link to the clients **hearing needs**

Adhere to **PCC** principles

Be **quick and easy** to implement

Support clients in setting and achieving their goals.



What did we do with all this data?

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We have developed an ENHANCED GOAL SETTING FRAMEWORK



We have developed an ENHANCED GOAL SETTING FRAMEWORK

In effective goal setting, clients...

1. Active

...are active participants in the goal setting process.

2. Aware

...are aware of their goals, the purpose of the goal setting process, and when progress will be reviewed.

3. Agree

...make an agreement to work towards their goals with the guidance and support of their clinician.

4. Attempt

...know how to attempt their goals with smaller, achievable tasks.

5. Assess

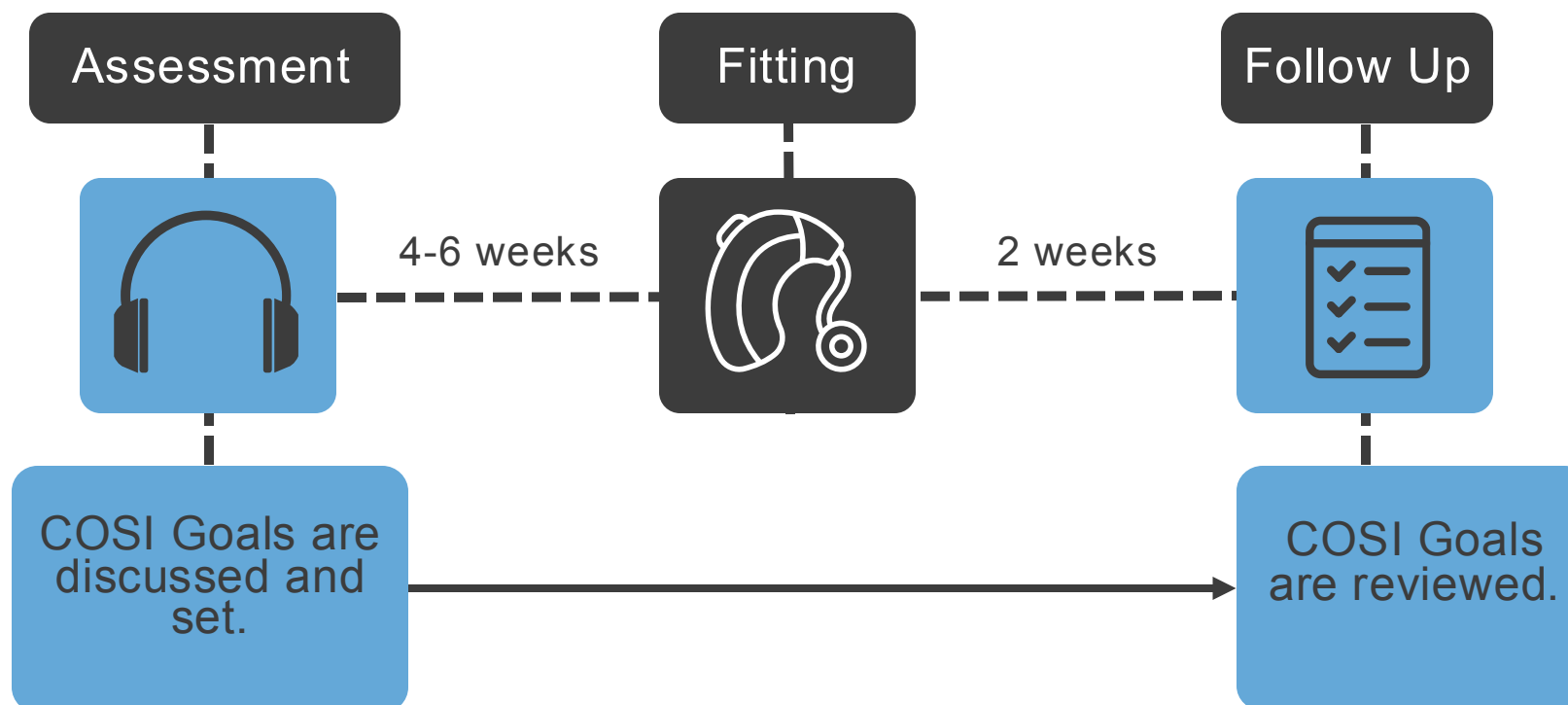
...are able to track and assess their progress between clinic visits.

6. Achieve

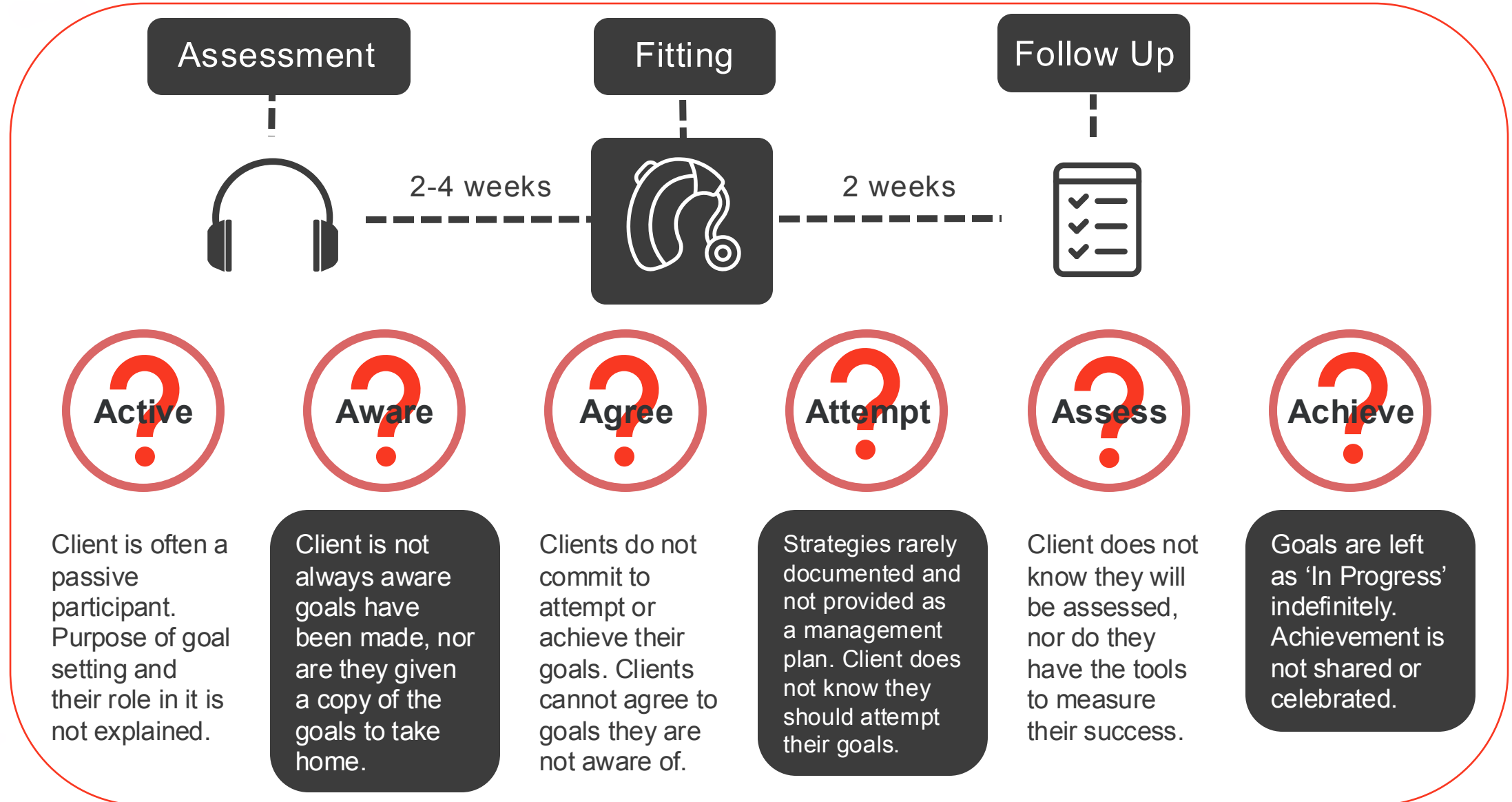
...are able to achieve their goals and celebrate their progress with their clinician.



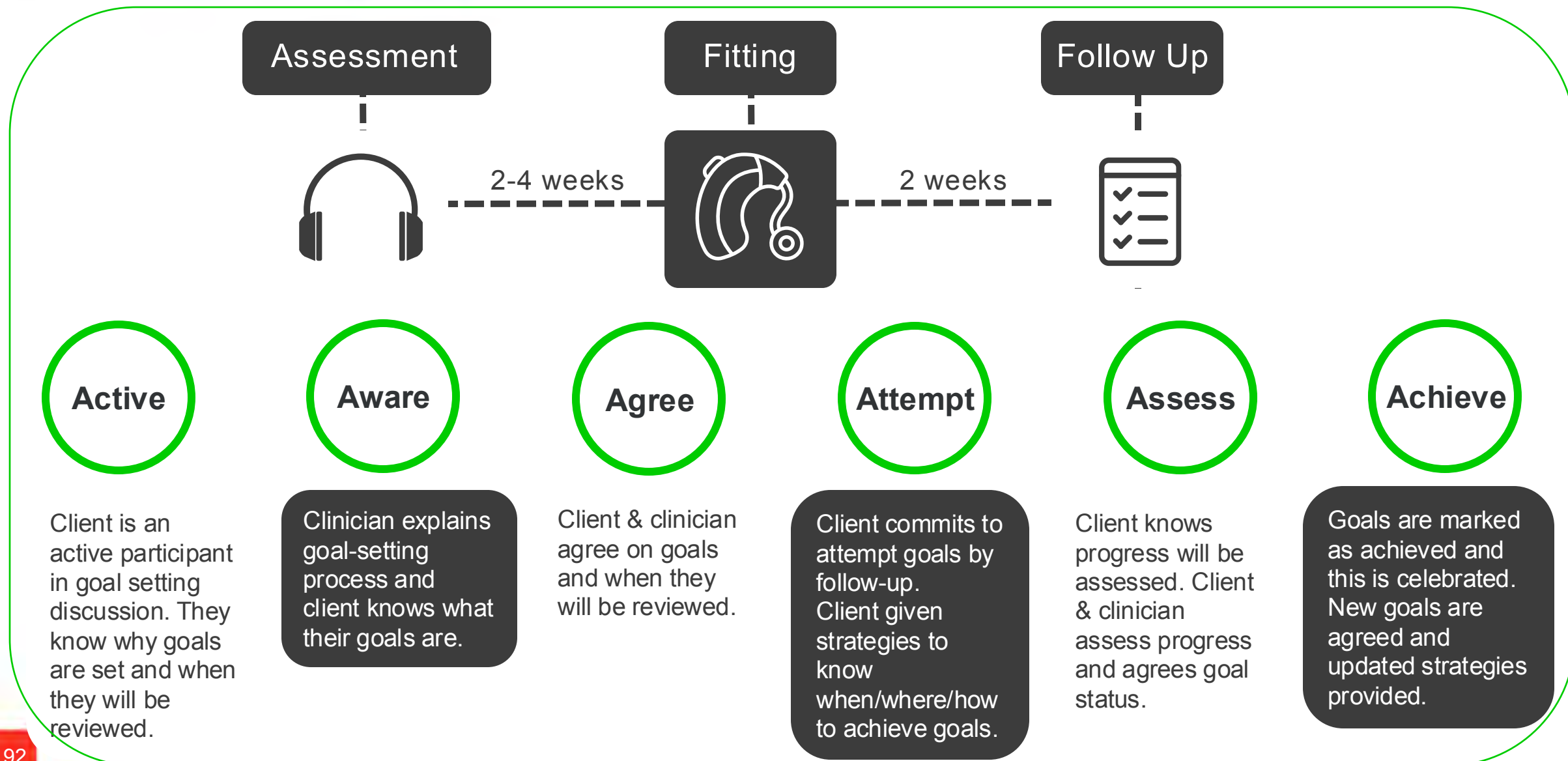
How does current COSI implementation compare to the framework?



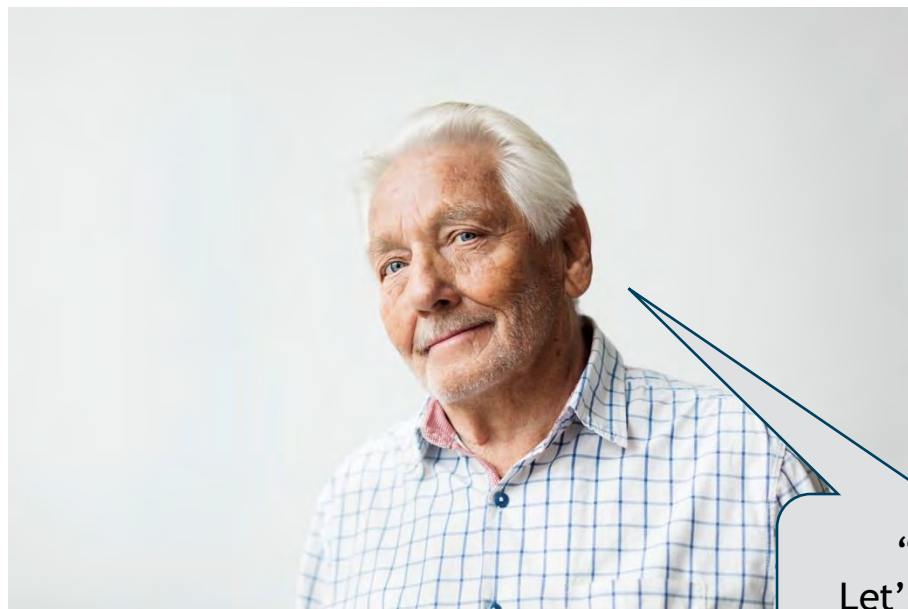
How does current COSI implementation compare to the NAL framework?



How goal setting could look under the NAL framework



Clinical Goal Setting



“Great!
Let’s set some
new ones!”

“How did you go
with attempting
your goals?”



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What next – COSI 2.0

- NAL is working to incorporate these insights into a new clinical tool – COSI 2.0



What can you do to enhance goal setting?



Provide information about goal setting



Print a copy of the goals



Hearing needs assessment or goal worksheet



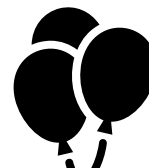
Review at every appt



Utilise pre-appt work to save clinical time



Include strategies to help attempt and achieve!



Celebrate the wins!

Thanks to...



Taegan Young
*Research
Audiologist*



**Dr Padraig
Kitterick**
*Research Area
Head*



**Jessica
Monaghan**
*Senior
Research
Engineer*



**Megan
Gilliver**
*Research
Scientist*

Thank you!

Questions?



Padraig Kitterick
PhD



Bec Bennet
PhD



Taegan Young
MClinAud

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