Clinician Perspectives on Training and Implementation of Telecoils in Hearing Aids

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Introduction

Speech understanding in noisy environments, such as restaurants, conference rooms, and schools, is one of the most significant challenges faced by individuals with hearing loss due to a decreased signal-to-noise ratio (SNR) (Kauffman et al., 2015; Hartley et al., 2020; Özay et al., 2021).

Telecoils and induction loops (IL) aim to improve listening environments by increasing the SNR for individuals with and without hearing loss. By minimizing the distance between the sound source and the listener, these systems maximize speech understanding in noisy conditions (Lederman & Hendricks, 2003; Thibedeau, 2020).

Telecoils are small wire coils embedded in hearing aids. When activated in looped venues, telecoils pick up wireless electromagnetic signals transmitted by IL assistive listening systems (ALS), which typically include a microphone or sound system, an amplifier, and a loop of wire surrounding the venue (Lederman & Hendricks, 2003; Kauffman et al., 2015; Hearing Loss Association of America, 2024).

Research has consistently shown that ALS, including IL, improves speech perception and sound quality for individuals with hearing loss and those with normal hearing compared to unaided listening (Alfakir et al., 2015; Kocinski & Ozimek, 2015; Faivre et al., 2016; Özay et al., 2021).

Hearing aid users with telecoils report higher satisfaction in looped venues compared to those without access to this technology (Kochkin et al., 2014). Similarly, studies indicate that consumer satisfaction with hearing aids is greater when telecoils are installed (Kocinski & Ozimek, 2015; Picou, 2020; Picou, 2022).

Despite these benefits, studies reveal significant patient unawareness and uncertainty about telecoils. According to the MarkeTrak VIII survey, only 34% of respondents were aware their hearing aids had a telecoil, and only 35% received education on its use from their clinician (Kochkin et al., 2014). Similarly, the MarkeTrak 10 survey found that 20% of respondents did not know about telecoils, and 26% were unaware if their devices included one (Picou, 2020).

A study by Özay et al. (2021) highlighted the limited awareness of ALS and telecoils among hearing aid users. Of the 30 participants, 27 were unfamiliar with IL ALS, while the remaining three had minimal knowledge. This underscores the need for increased consumer education and further research on ALS and telecoil usage.

Hearing healthcare professionals, including audiologists, are encouraged to promote awareness and education about telecoils and IL ALS. Advocacy for their installation in public spaces and legislative support for these systems is also essential (Hartley et al., 2010; Alfakir et al., 2015).

Purpose

The purpose of this study is to explore clinicians' perspectives on telecoils, including their approaches to patient education and the factors influencing their decision to implement telecoils in hearing aids.

Methods

An anonymous survey was distributed via social media platforms (Facebook, LinkedIn) and email to members of the American Speech-Language-Hearing Association (ASHA) Special Interest Groups 9 and 11, as well as ASHA Audiology and Educational Audiology Association email chains. Results were collected over 14 weeks (August–November).

The survey targeted practicing hearing care professionals, including audiologists and hearing instrument specialists.

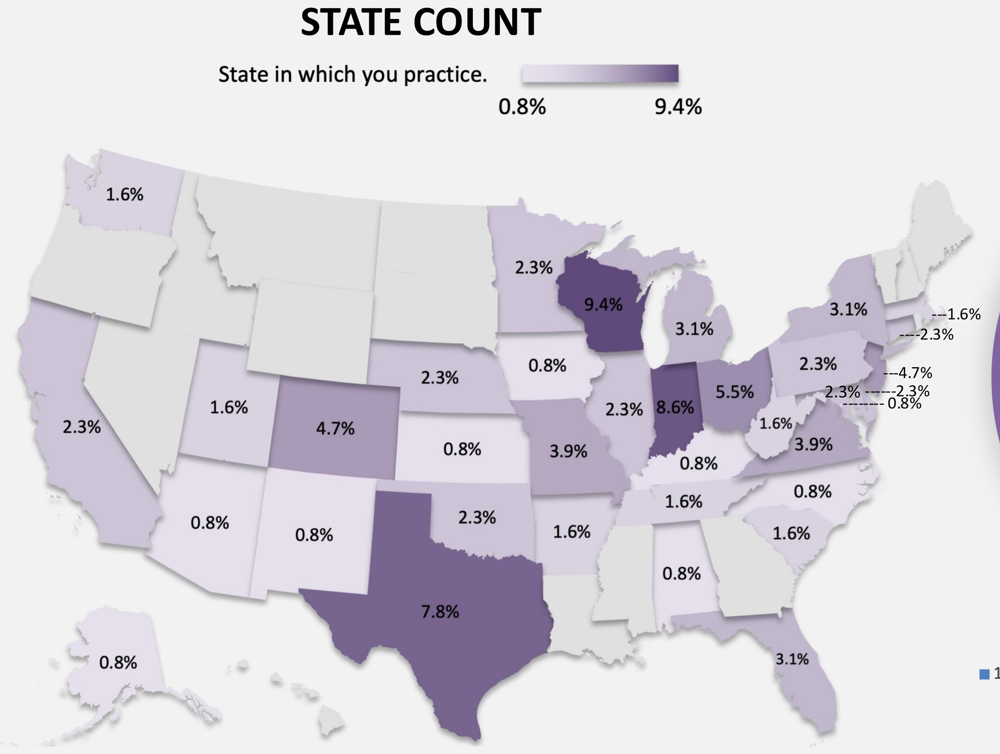
It consisted of 11 multiple-choice questions (including "choose all that apply" options) with space for open-ended comments, along with an optional "Additional Comments" section.

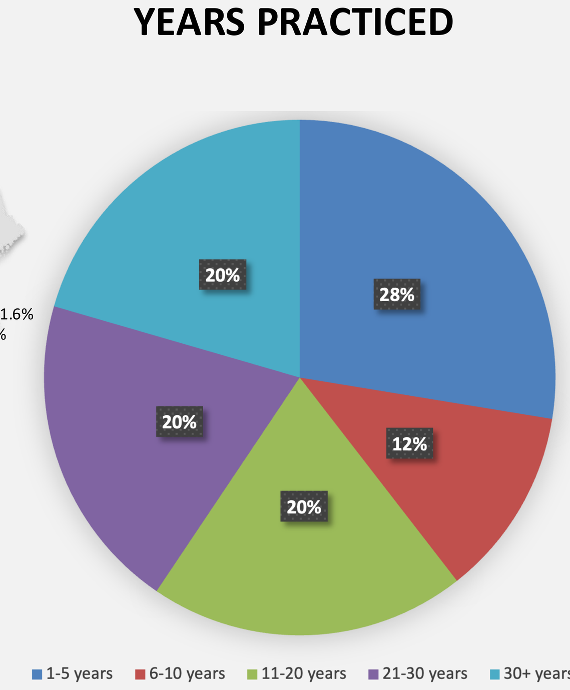
Survey questions addressed:

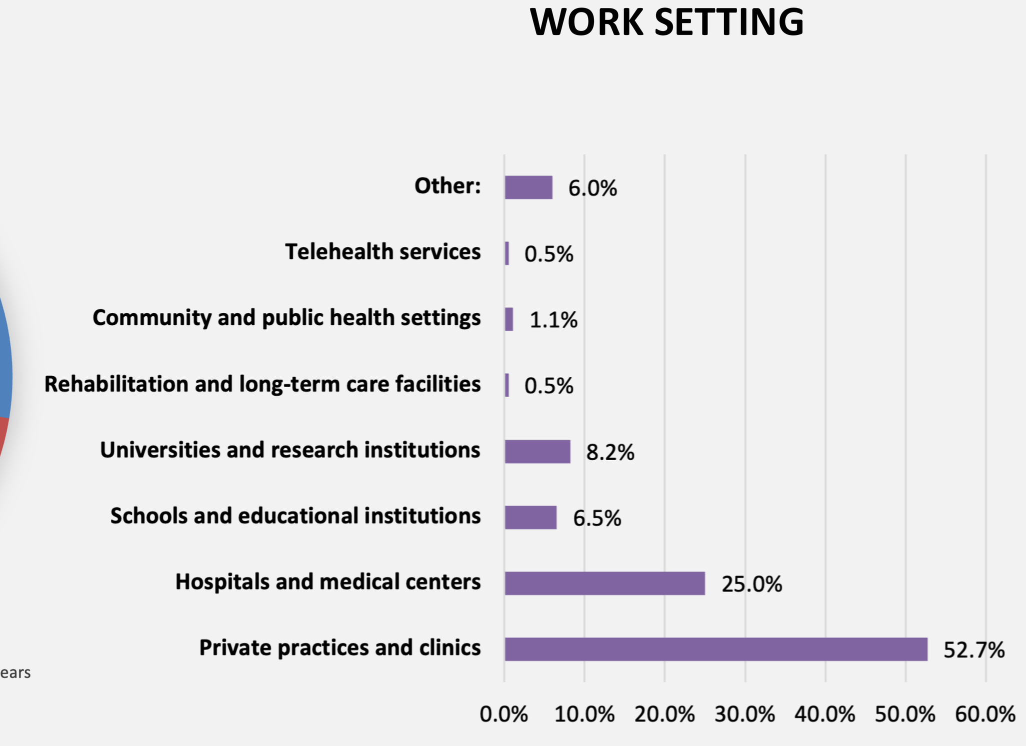
- Demographics, including the state of practice, years of experience, and work setting.
- Frequency of fitting hearing aids with telecoils and verification practices.
- Common settings where patients use assistive technology.
- Topics covered during hearing aid consultations and fittings.
- Barriers to fitting and educating patients about telecoils.
- Effective strategies for educating patients about assistive devices.

Graduate assistant with tuition remission from Purdue University. No other relevant financial disclosures.

Demographics







Results

A total of 255 responses were recorded. As responses were captured when participants clicked on the survey link, the maximum number of completed survey responses was 184. Due to the optional nature of the questions, response rates varied between 128 and 184 per question.

Settings where patients use telecoils:

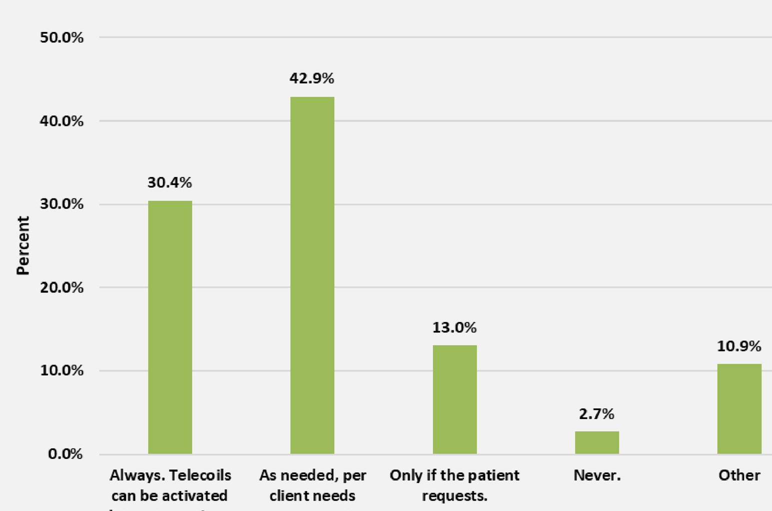
- Theaters/auditoriums (74.5%) and places of worship (73.4%) were the most commonly reported settings.
- Classrooms/lecture halls (51.1%) and entertainment venues such as stadiums, museums, and movie theaters (51.1%) followed.
- Only 12.0% of respondents reported patients using assistive listening systems (ALS) in courtrooms, conference rooms, or legislative chambers.

Topics discussed during initial hearing aid consultations:

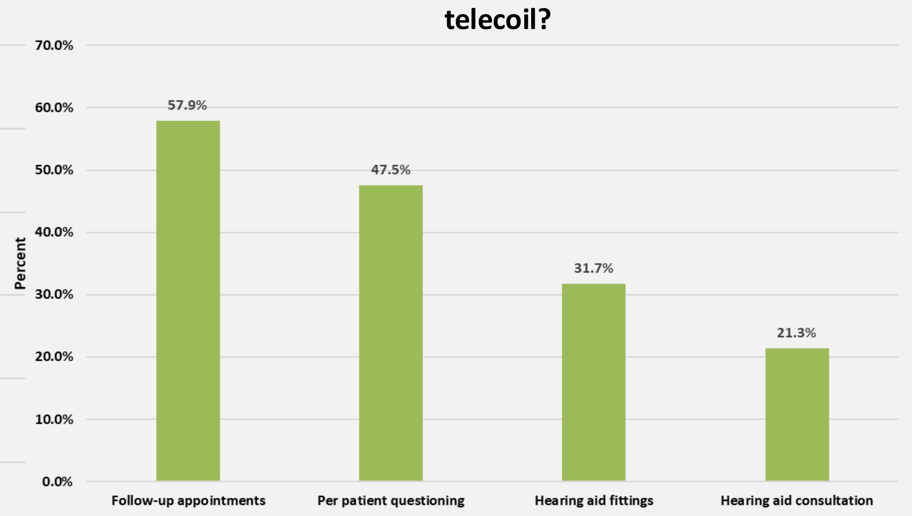
- Realistic expectations and limitations of hearing aids (95.6%)
- Bluetooth connectivity and streaming (91.3%)
- Smartphone compatibility (87.9%)
- Communication strategies (83.6%)
- Counseling on the importance of ALS, including telecoils, was reported by 33.9% of clinicians.

Topics discussed during hearing aid fittings:

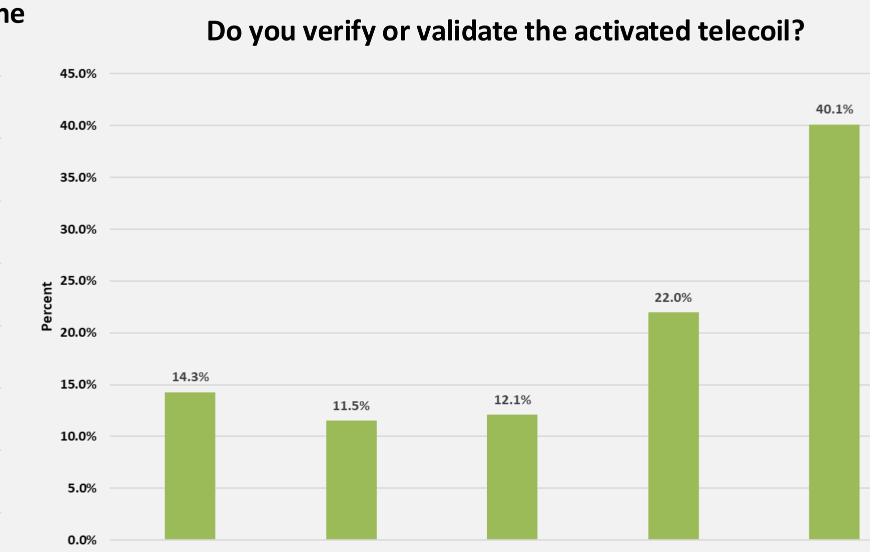
- Orientation to the hearing aids (97.8%)
- Removal and insertion practice (97.3%)
- Realistic expectations of hearing aids (96.7%)
- Cleaning and maintenance (92.4%)
- Smartphone and manufacturer app overview (84.2%)
- Use of the telecoil was covered by only 54.9% of clinicians.



"Other" responses highlighted variability in telecoil use, with many fitting it when feasible, influenced by patient preferences, hearing aid styles, and products features.



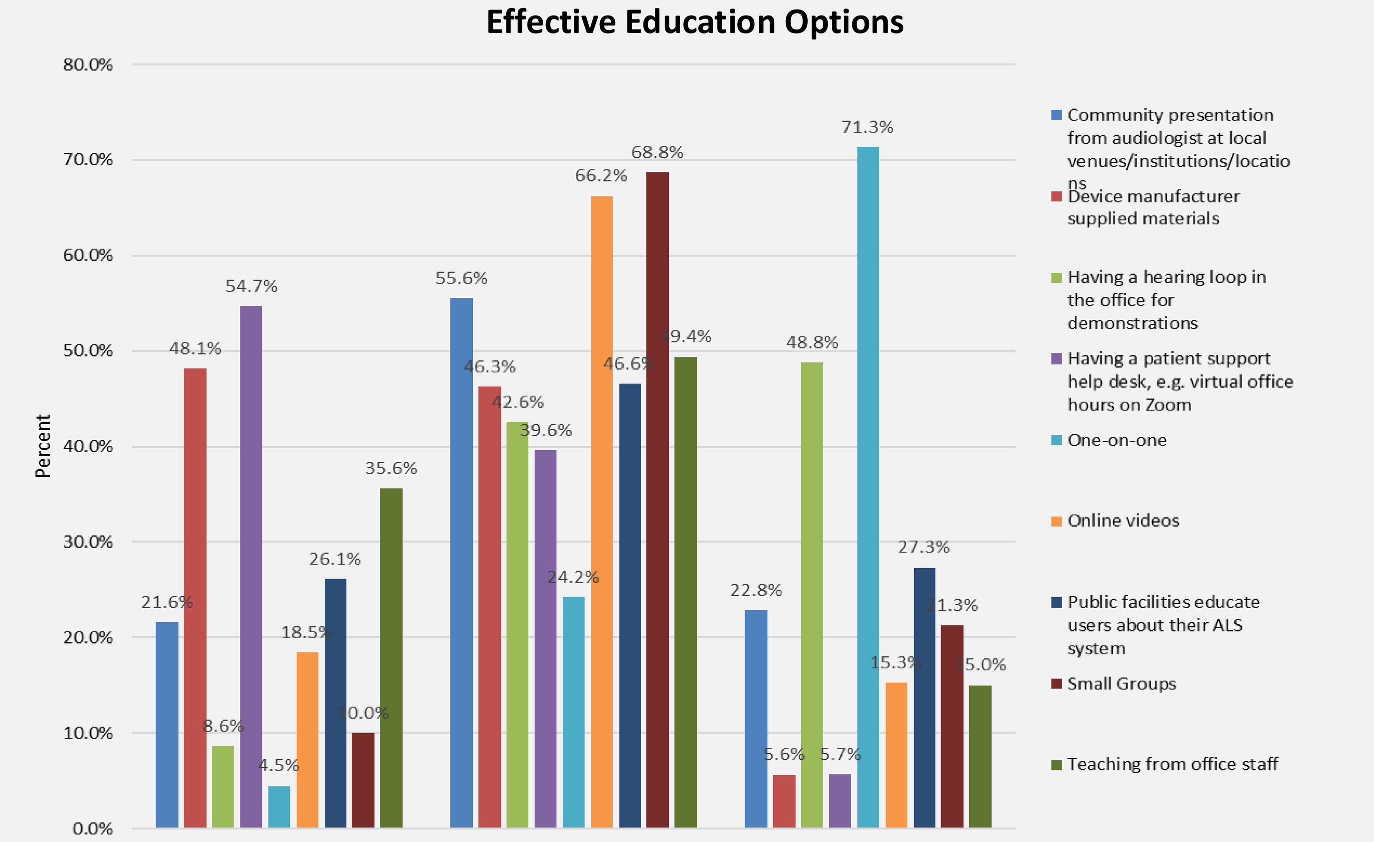
A number of comments were provided, emphasizing that telecoil education is tailored to individual patient needs, often occurring during follow-ups or when specific concerns are raised



Barriers on Training and Implementation

Percent	What prevents you from fitting and educating patients about telecoils?
33.7%	I am forced to choose between telecoil and rechargeability, with rechargeability being the deciding factor.
30.2%	No hearing loops in the office for easy demonstration.
29.0%	Other*
26.0%	There are no hearing loops in my area.
21.3%	There are no venues/site/institution with assistive listening systems (FM, infrared) with neck loops in my community.
14.2%	Auracast will be replacing telecoils soon.
13.6%	The manufacturer I use most does not offer cosmetically appealing options with telecoil for my patient.
13.0%	The manufacturer that I use the most does not include telecoils.
7.7%	I do not know enough about telecoils to fit and educate patients.
6.5%	I do not have enough time to educate patients about telecoils.
5.9%	If the patient cannot connect at the local venue/site/institution I will be blamed, rather than the venue.
4.1%	Hearing aids alone are enough.
2.4%	Insurance will not reimburse me for the office visit.
0.6%	The patient is responsible for knowing their rights under the ADA with assistive listening systems; the audiologist is not responsible for informing the patient.

"Other" (29.0%): Responses in this category included issues like limited local venue access, patient disinterest in telecoils, time constraints, and a preference for Bluetooth. Some respondents fit or educate about telecoils but face barriers with device features, resources, or patient demand.



Conclusions and Future Directions

Telecoils improve speech intelligibility and satisfaction for hearing aid users, yet many patients remain uncertain about telecoils and their functionality. From a clinical perspective, 30.4% of respondents always include telecoils in hearing aids when size permits, while 42.9% do so based on individual patient needs.

Telecoil education and counseling can be dependent upon the type of appointment:

- Hearing aid consultations (33.9%)
- Hearing aid fittings (54.9%)

Survey results identified key barriers to telecoil implementation and education, including:

- Connectivity trade-offs, waterproofing, and rechargeability concerns (33.7%)
- Lack of looped venues (26%)
- Inability to demonstrate telecoils in-office (30.2%)

Respondents highlighted effective educational methods, such as:

- One-on-one counseling (71.3%)
- In-office demonstrations using installed IL systems (48.8%)

Conversely, less effective strategies included virtual support options (e.g., Zoom office hours) and manufacturer-supplied materials, with respondents noting challenges such as patients not reading materials or struggling with virtual platforms. Comments emphasized the importance of tailored, hands-on education:

- *"People don't read. Many older people are not comfortable with virtual support."*
- *"The patients that have the most trouble learning usually have trouble with Zoom or online videos."*

Reflections on Clinician Perspectives

Overall, these results suggest that the implementation and education of telecoils vary widely among clinicians. While some clinicians prioritize including telecoils in all hearing aids to activate immediately or at a later date, others base their decisions on individual patient needs or concerns that arise over time. The growing popularity of features like rechargeability, Bluetooth connectivity, and waterproofing in hearing aids has led many clinicians and patients to forgo telecoils.

The uncertainty and unawareness of telecoils among hearing aid users, as highlighted in consumer research (Kochkin et al., 2014; Picou, 2020; Özay et al., 2021), aligns with this study's findings. Clinicians may provide the minimum required information about telecoils but delay a more detailed discussion until a follow-up appointment when specific patient complaints arise. Additionally, some clinicians may opt for hearing aids without telecoils to accommodate patient preferences for Bluetooth, rechargeability, or waterproofing—features that may not be compatible with telecoils. These trade-offs should be thoroughly discussed with patients prior to ordering hearing aids, based on manufacturer specifications. The lack of looped venues in many areas further reduces the perceived necessity of telecoils. One respondent remarked:

- *"There are some, but not a lot of venues with loops systems. I want to provide realistic expectations and not get my patient's hopes up"*

Despite this, including telecoils in hearing aids could enable future use of induction loop (IL) systems become more prevalent in these areas. Programs like the Hearing Loss Association of America's (HLAA) "Getting in the Hearing Loop" initiative advocate for the installation and awareness of hearing loops in public spaces to improve accessibility for hearing aid users (HLAA, 2024). However, the advent of Auracast has introduced mixed opinions about the future of telecoils and other assistive listening systems.

Diverging Opinions on Auracast:
While 14.2% of respondents cited Auracast as a reason for not fitting telecoils, opinions were mixed:

- **Positive toward telecoils:** *"I love telecoils and know how great they work… Auracast will not deplete telecoils. Wish we had more in America and homes too."*
- **Hope for change:** *"I hope Auracast will replace telecoils soon. It would be nice to have a universally accepted and accessible audio system."*
- **Criticism of telecoils:** *"We need to recognize that t-coils are very old tech. Sound quality is not great, lots of room for user error. The advent of Auracast and current streaming capabilities are supplanting t-coils quickly."*

Future Directions:

- Conducting a similar survey with a larger sample size could improve the representation of hearing care professionals and allow for a demographic analysis of trends.
- Future research should focus on understanding the types of telecoil and assistive listening device (ALD) education provided in various clinic settings and evaluate the effectiveness of these approaches.
- With the introduction of Auracast, investigating clinician perspectives on this emerging technology versus telecoils and ALS would be valuable.

Acknowledgements

Special thanks to Dr. La Fratta and Dr. Strickland for their guidance and support throughout this project.

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