

IHCON 2022

**International Hearing
Aid Seminar
(IHAS)**

August 9 – 10, 2022

**International Hearing Aid
Research Conference
(IHCON)**

August 10 – 14, 2022



**Granlibakken Conference Center
Tahoe City, California**

In memory of Sigfrid D. Soli, PhD

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Conference Support: Kevin O'Connor and Barbara Serrano

More accessible and affordable hearing aids are in view with the pending over-the-counter hearing aid regulations in the United States. While laboratory studies have validated many over-the-counter hearing technologies there is limited real-world benefit studies of these technologies and different service-delivery models. The aim of this study was to compare hearing aid outcomes reported by clients receiving hearing aids through an emerging direct-to-consumer and conventional hearing care professional service-delivery models.

A prospective cross-sectional survey design was followed and an online survey was sent during October and November 2021 to Hearing Tracker user database and to the direct-to-consumer Lexie hearing aid user database. 656 hearing aid users completed the survey; 406 through conventional hearing care professional services and 250 through the direct-to-consumer model.

Self-reported hearing aid benefit and satisfaction was measured with the 7-item International Outcome Inventory – Hearing Aids using a 5-point Likert scale. No significant difference for overall hearing aid service-delivery outcomes between hearing care professional and direct-to-consumer users were evident using regression analyses controlling for age, gender, duration of hearing loss, duration before hearing aid purchase, self-reported hearing difficulty and unilateral versus bilateral hearing aid fitting. For individual questions there were no significant differences ($p > .05$) on items of Benefit, Satisfaction, Residual participation restriction, Impact on others and Quality of life. For Daily use hearing care professional clients reported significantly longer hours of daily hearing aid use (OR = 0.50; 95% CI, 0.33 to 0.75; $p < .001$). For residual activity limitation direct-to-consumer hearing aid users reported significantly less difficulty hearing in situations where they most wanted to hear better (OR = 2.50; 95% CI, 1.80 to 3.45; $p < .001$).

Direct-to-consumer hearing aid outcomes could complement and provide similar satisfaction and benefit to hearing care professional models. Self-fitting, acclimatization programs, remote support, behavioral incentivization and payment options should be investigated for their potential role in direct-to-consumer/over-the-counter hearing aid outcomes.

C1-3. Insights into Fitting Minimal Hearing Losses

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A challenge that hearing healthcare professionals (HHPs) face every day is what hearing health recommendation to make with each patient. Whether to recommend a hearing aid is often based primarily on the level of hearing loss as measured by the audiogram, possibly in combination with a speech test and needs consultation. Recent research, however, suggests that audiograms are insufficient indicators of need, leaving HHPs with the challenge of determining who to make device recommendations to. This is particularly challenging for people who present with self-reported hearing difficulty but very little measurable hearing loss (PTA less than 25 dB HL).

This talk will answer two questions on this topic: Should HHPs recommend hearing devices to people with no-to-mild hearing loss, and how well can hearing devices benefit people with no-to-mild hearing losses? This discussion will include the context of the current hearing healthcare environment, including emerging technology innovations. Results from several research studies conducted at the National Acoustic Laboratories will be presented.

In the first study, participants with no measurable hearing loss but with speech in noise complaints were fit with hearing aids in two groups: one with the hearing aid fully featured and one with placebo devices. Participants wore devices for six weeks and data was gathered through laboratory measures, questionnaires and an environmental momentary assessment app. In the second study, a similar cohort of participants were fit with Apple AirPods Pro with a similar protocol and set of outcome measures. In a third study, electroacoustic measures were obtained

with AirPods Pro in Conversation Boost mode, a feature that provides similar functionality to hearing aids, and the results compared to traditional hearing aid performance and the NAL-NL2 fitting algorithm.

Implications from all of these investigations to the provision of hearing healthcare to people with minimal hearing loss will be discussed.