

# HAs in the CI department - The smart alliance?



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## Background

The change in the NICE guidelines<sup>1</sup> has led to more cochlear implant (CI) recipients using a hearing aid (HA) in their contralateral ear. Along with a more natural hearing experience, the evidence suggests additional benefits of a bimodal solution being improved speech understanding in quiet and noise<sup>2</sup>.

In 2021 Cochlear and GN Hearing began their collaboration to create a system where both the CI and HA work together to optimise both connectivity and wireless streaming<sup>3</sup>.

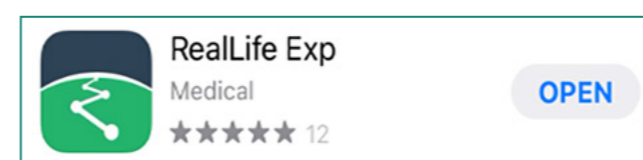
Many Auditory Implant Centres do not routinely manage the HA in the contralateral ear, resulting in the patient attending two different centres for their Audiological care.

## Method

Recipients of the Cochlear Nucleus® 7 sound processor with usable contralateral hearing were offered the opportunity to exchange their current HA for a danalogic Ambio Smart HA.

After training audiologists followed the bimodal fitting flow for Cochlear sound processors and danalogic Ambio Smart HAs. Devices were linked and then Bluetooth paired to the patient's mobile device for streaming.

Over a 10 day period patients completed a short survey on their phone using the 'RealLife Exp' app. Each day they responded to the same 8 questions providing us with an ecological momentary assessment of their experiences each day.



Audiologists recorded their clinical experiences after each fitting and consolidated their findings at the end of the trial.

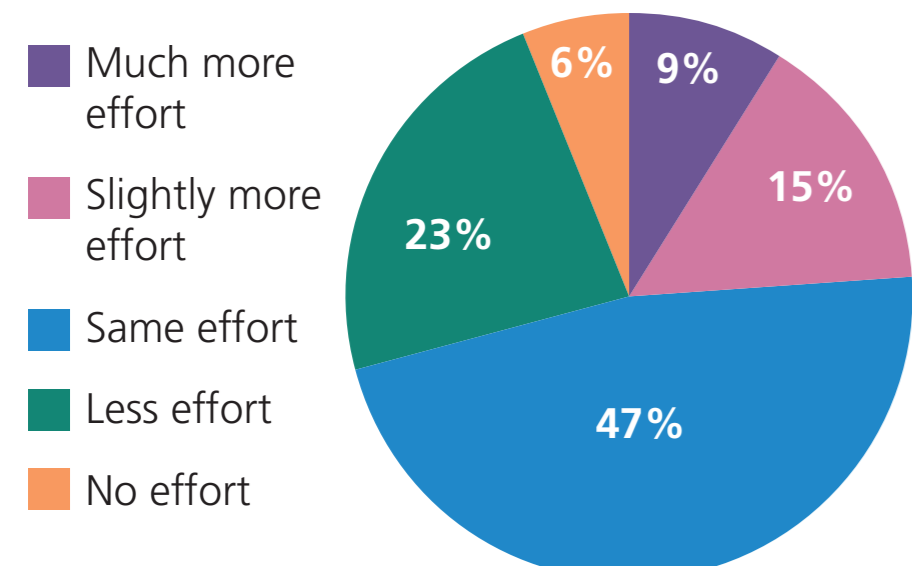
## Aim

- To fit patients bimodally in an Auditory Implant Centre with the Cochlear and GN Hearing collaboration system.
- To obtain initial feedback on the clinicians' experience of fitting a HA in an Auditory Implant Centre.
- To evaluate the patient's everyday reflections with a new bimodal solution compared to that of their previous solution, and assess their experience of Bluetooth streaming.

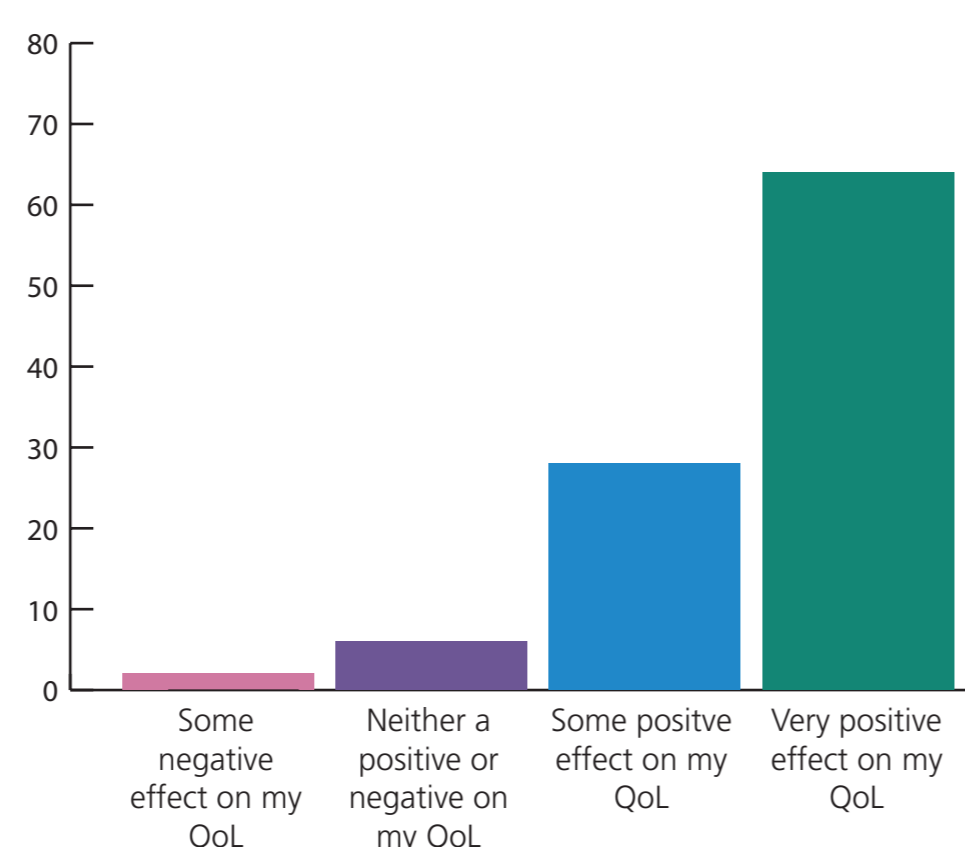
## Results

N=10. Average age 47 years (range 18-70 years) Average time with this bimodal solution = 4.4 months. The survey returned an 89% response rate with patients completing 91 surveys in total.

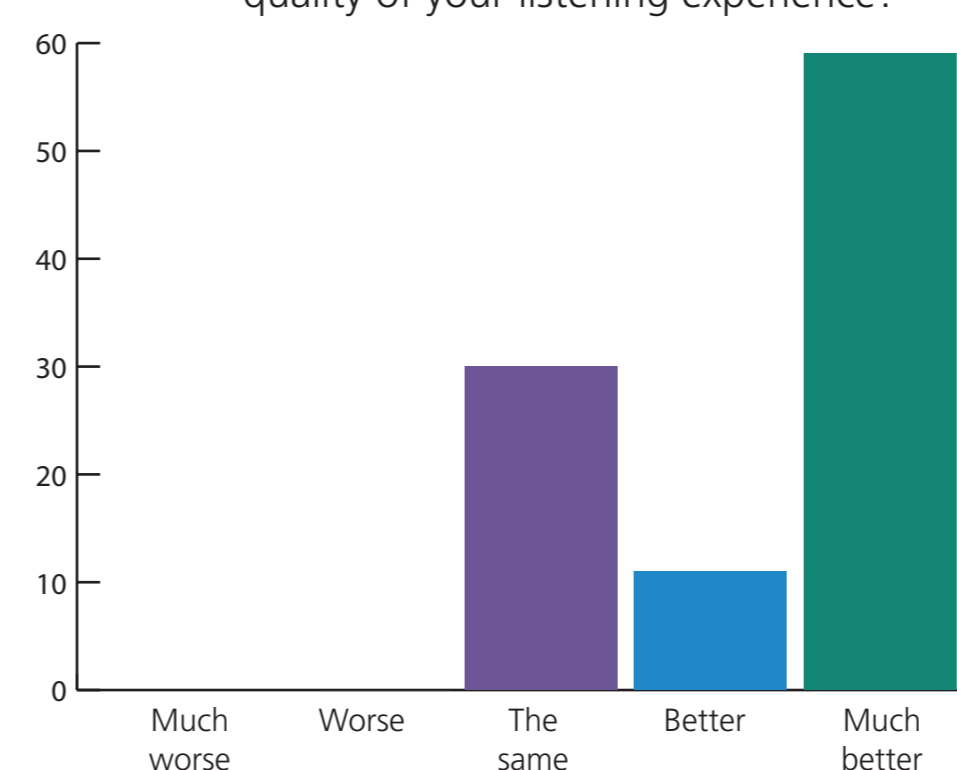
On average, how much effort did you put in to listen effectively today with your new bimodal system, compared to your previous bimodal system?



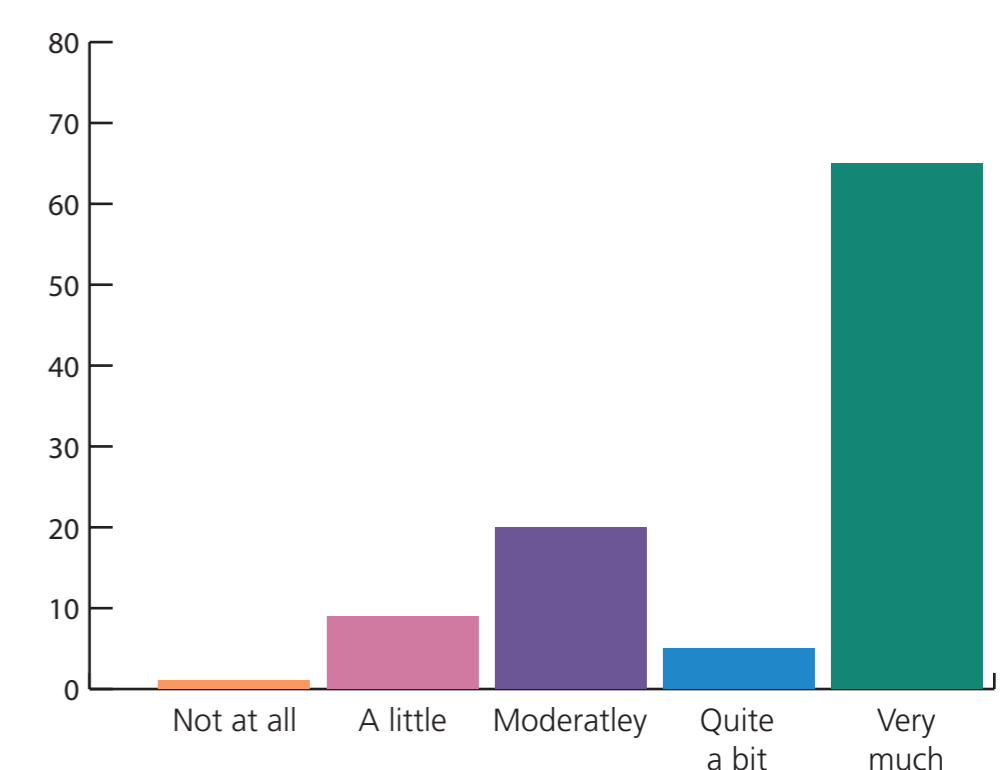
How does your bimodal hearing system impact your quality of life?



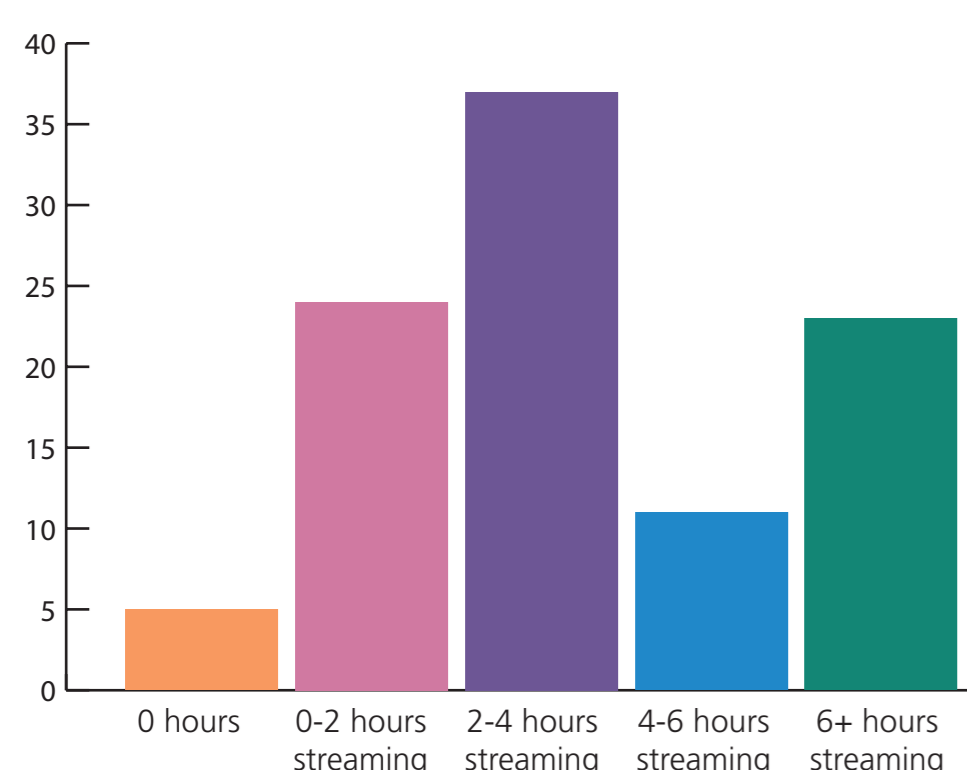
In comparison to using your cochlear implant with your old hearing aid and your new bimodal system, how is the quality of your listening experience?



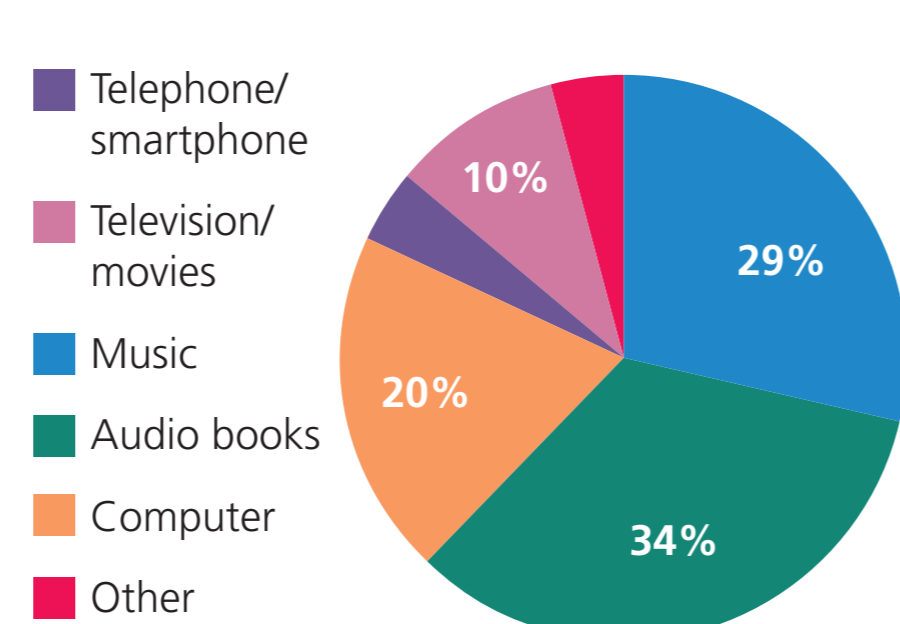
How satisfied are you with your new bimodal hearing solution?



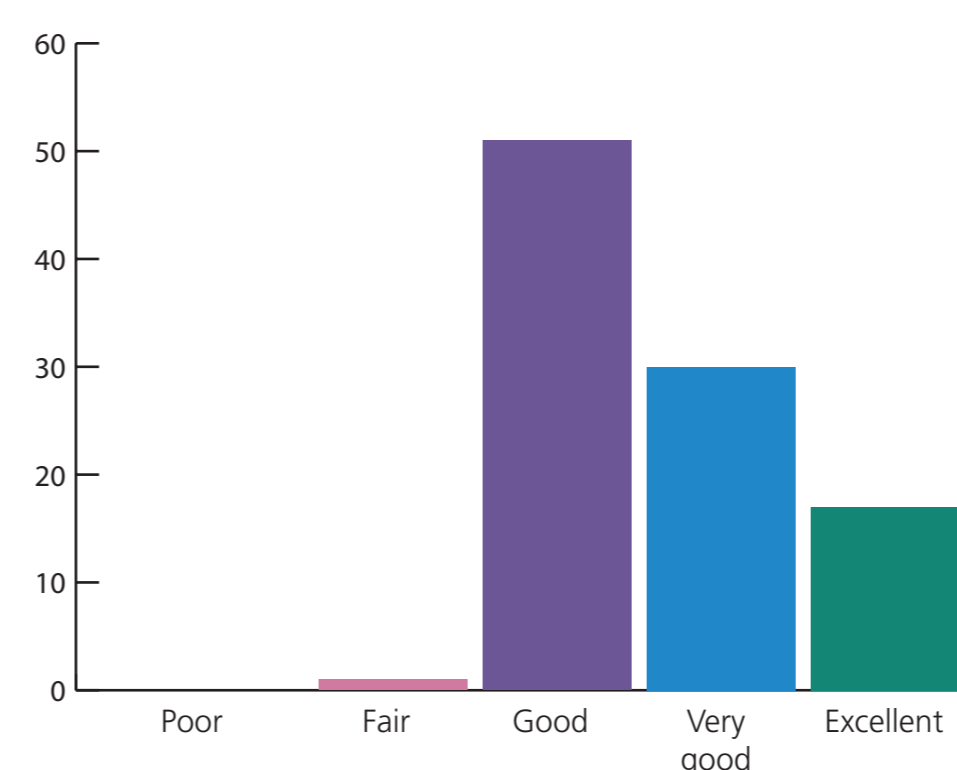
How many hours today have you streamed technology to your bimodal system?



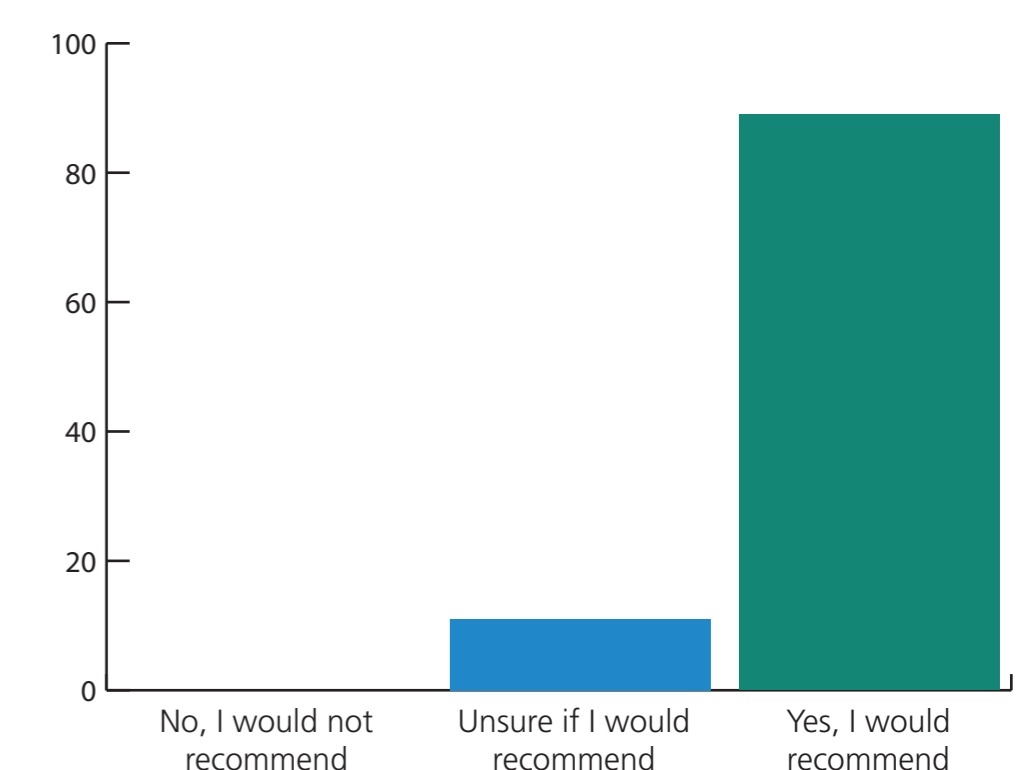
What technology are you streaming today?



How is the sound quality of what you are streaming?



Would you recommend your new bimodal system to a friend or relative?



## Clinician's experiences:

"Once we had received training, fitting the hearing aids and pairing them to the CI was very straightforward."

"The software was nice to use and gives you the option of either keeping things simple or exploring the more advanced features. Linking the HA with the CI and then pairing with the patients phone was seamless."

"The bimodal fitting flows created by Cochlear and GN hearing ensure you can follow a step-by-step fitting guide that gives you confidence to ensure the best outcomes."

## Conclusion

10 participants were fitted bimodally by the Cochlear Implant Team. With training and use of the bimodal fitting flow, staff felt confident in carrying out the fittings in the clinic.

- 47% used the same amount of effort to listen with their new bimodal system whilst 1/4 found it more effortful and the remaining 1/4 less effortful.
- 2/3 of participants reported their bimodal system to have a very positive impact on their QoL.
- 70% reported better or much better quality of listening experience.
- 3/4 of participants were very much satisfied with their bimodal system.
- 95% of participants streamed daily.
- The majority of participants streamed phone calls, television, movies and music.
- All study participants reported the sound quality of their streaming to be good, very good or excellent.
- 89% would recommend their new bimodal system to friends and family.

## Recommendations

CI departments should consider fitting patients bimodally to provide the optimal hearing experience for their patients.

If the hearing aids could be included in a bundle with the CI it would be much easier for Departments to order.

Participant follow ups were done via text message/email. Offering a face to face review may improve patient outcomes further.

## Acknowledgements

We would to thank the following people for their help in this study, Megan Quilter, GN Hearing A/S, Kate Pick, GN Hearing UK LTD, and Anne Small, Cochlear Europe Ltd.

## References

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- Morera C, Cavalle L, Manrique M, et al. Contralateral hearing aid use in cochlear implanted patients: Multicenter study of bimodal benefit. Acta Otolaryngol (2012 Jun); 132, 1084-1094.
- Smart bimodal hearing solution (cochlear.com)