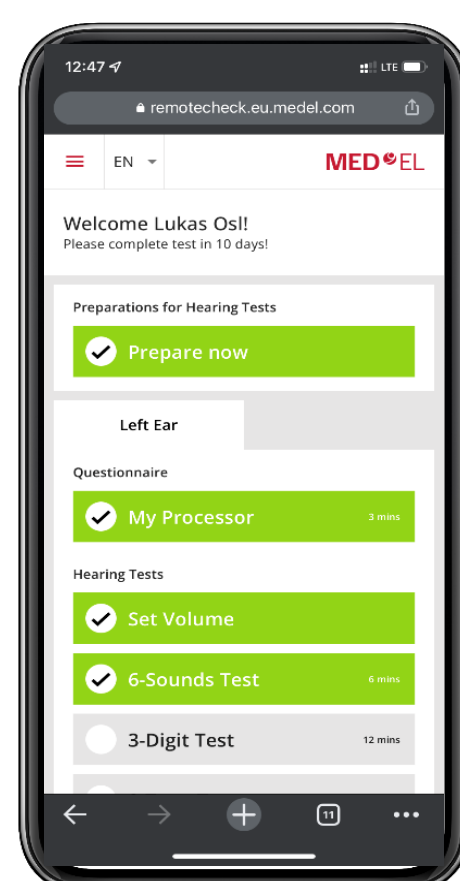
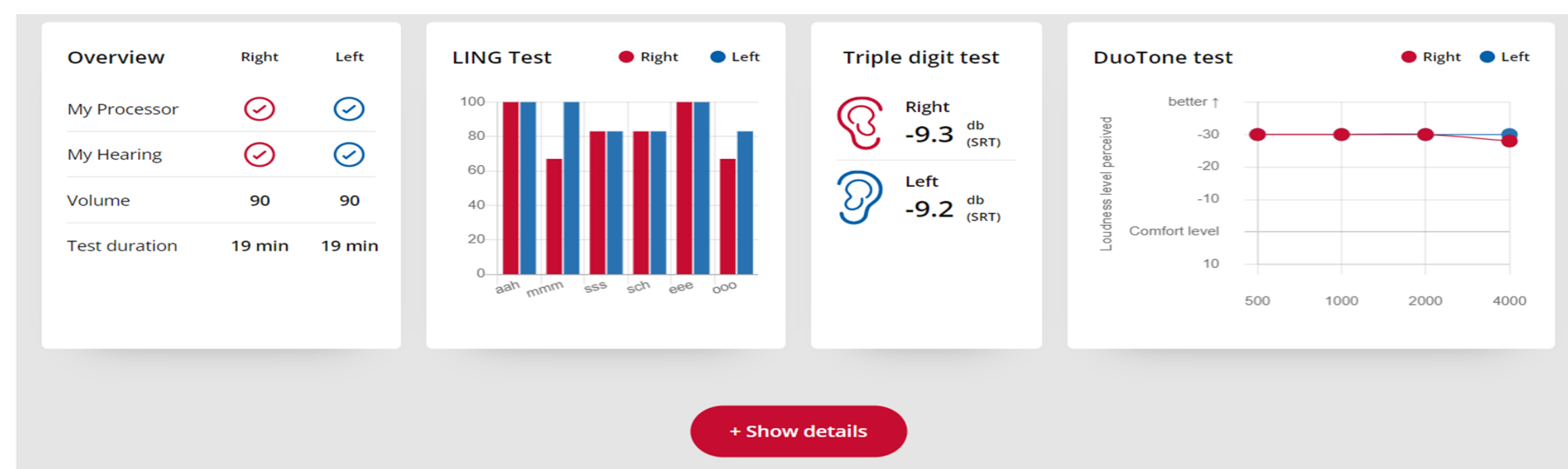


## Abstract

Telemedicine opened a new scenario that is helping right now patients and health professionals and could even go further in next years. Cochlear implant (CI) users are followed up regularly in their clinic sites, so many users must travel to the clinic for some hours, having expenses, time-off from work, etc (1). Remote Check tool was developed with the aim of remote hearing evaluation of CI users. It is a web-based application which contains a battery of hearing performance tests, pictures and questionnaires for patients.



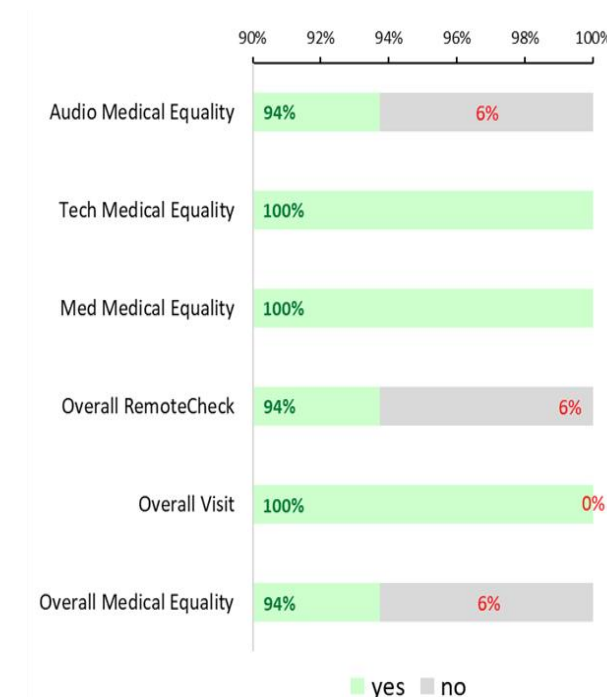
CI user view



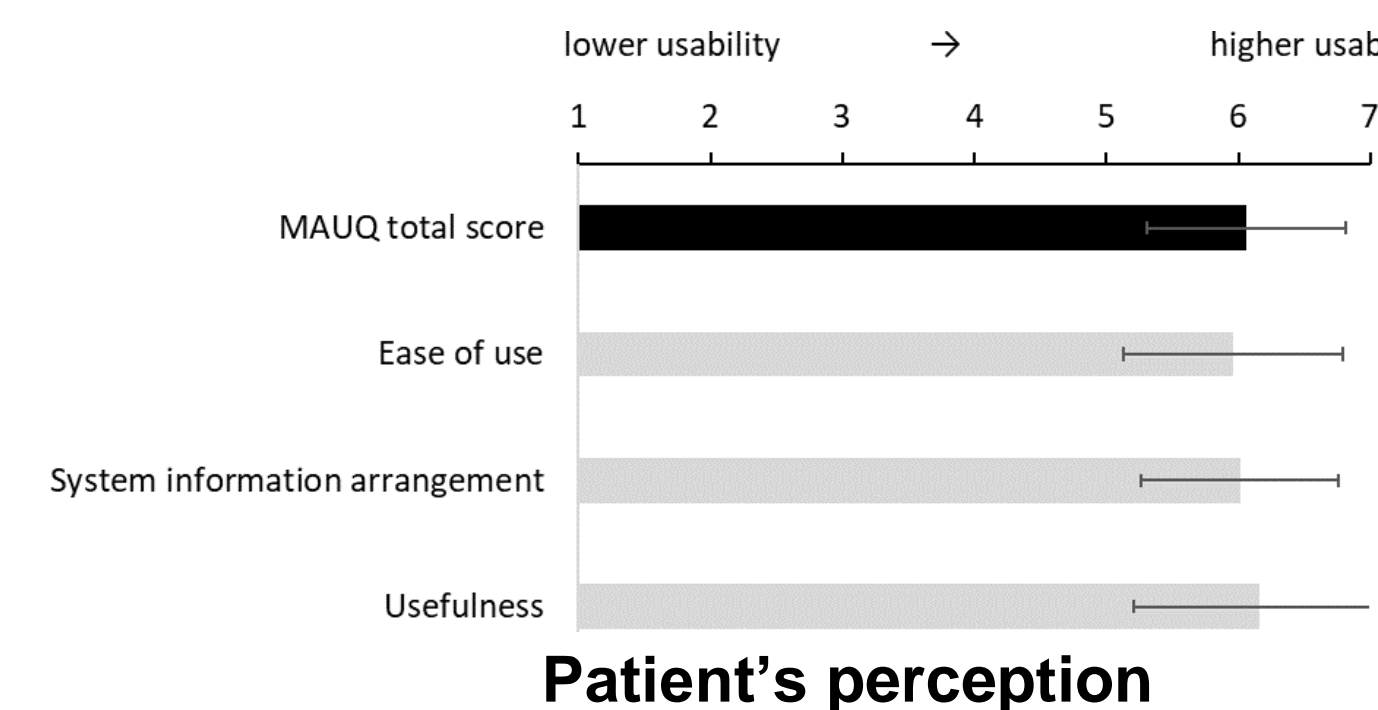
Health professional view showing an example of Remote Check results

## Results

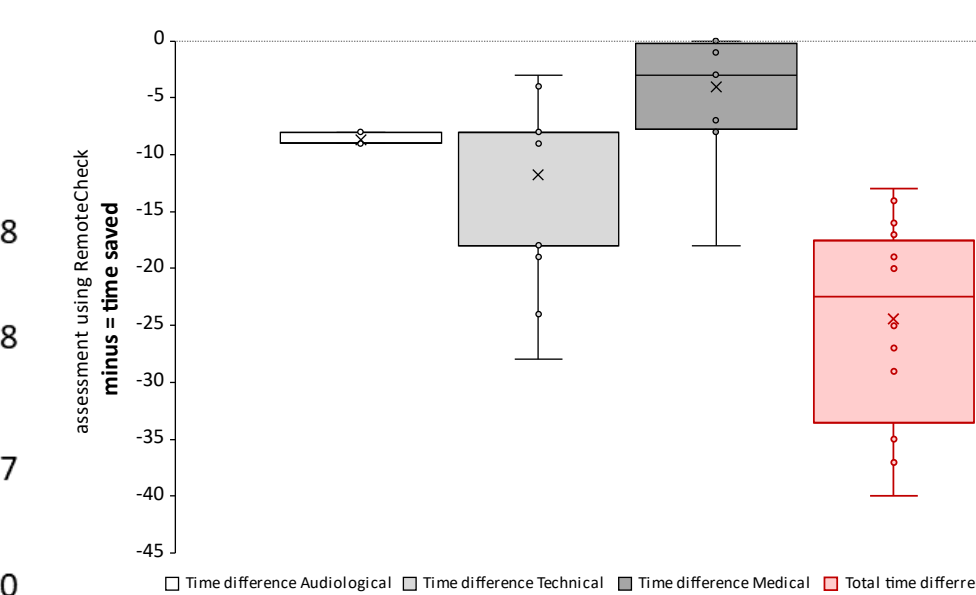
Technical checks of the CI and evaluation of hearing performance were possible with Remote Check. Conducted test were: Two-Tone Test, Three-Digit Test and a Six-Sound Test, also pictures of the implant area, performance questions and questionnaires to evaluate the mHealth App Usability Questionnaire (MAUQ, (2)) were used in the study.



Medical equality 94%



Patient's perception



Time saved per session  
24.4 min

Posterior results analyses rated the tool highly by users and professionals on the MAUQ instrument. Shorter session times were needed through the tool, with a strong agreement with face-to-face follow up sessions.

## Objective

To check if the Remote Check tool could be considered as an alternative to the face-to-face cochlear implant follow-up session of patients avoiding travel time, expenses, time lost from work, etc. As well as it could provide a more accessible follow-up to patients with mobility challenges or those who lives in medically underserved areas.

## Conclusion

In general, users perceived Remote Check tool as a positive aftercare improvement, offering the possibility of saving them money. The professionals involved indicate that the tool saves time in patient care and is useful for diagnosing and detecting problems.

- ✓ 93% Patient likes it
- ✓ 24.4 min less per session
- ✓ Equivalent medical evaluation

## Methods and materials

**Sample:** 15 CI MEDEL adults with more that 1 year CI experience, unilateral or bimodal CI patients. Audioprocessor compatible with RemoteCheck tool (Opus 2, Rondo 1, 2 y 3 y Sonnet 1 y 2).

**Procedure:** First, follow up session through the Remote Check tool and second, regular face-to-face cochlear implant follow up session, on the same day in clinic facilities.

## Bibliography

- Coco, L., Titlow, K. S., & Marrone, N. (2018). Geographic distribution of the hearing aid dispensing workforce: A teleaudiology planning assessment for Arizona. *Am J Audiol*, 27(3s), 462-473. [https://doi.org/10.1044/2018\\_aja-imia3-18-0012](https://doi.org/10.1044/2018_aja-imia3-18-0012).
- Zhou, L., Bao, J., Setiawan, I. M. A., Saptono, A., & Parmanto, B. (2019). The mHealth App Usability Questionnaire (MAUQ): Development and Validation Study. *JMIR Mhealth Uhealth*, 7(4), e11500. doi:10.2196/11500.