Predicting one-year post-operative outcomes for adults with cochlear implants

Nikki Tromp[1], Birgit Philips[2] & Wendy Huinck[1]

[1]Donders Center for Medical Neuroscience, Radboud university medical center, Nijmegen, The Netherlands
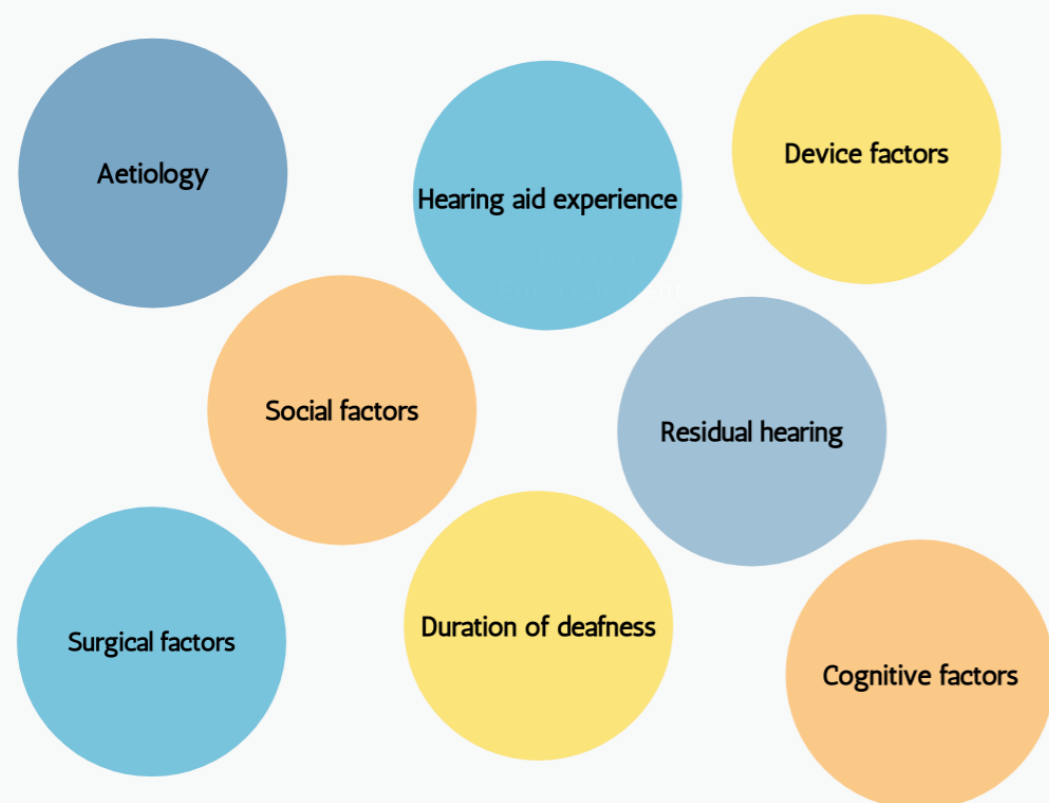[2]Cochlear Ltd, Mechelen, Belgium

Fig 1. Factors known to influence post-implantation outcomes [1,2,3,4,5]

Variability in patient outcomes post-cochlear implantation continues to be a prevalent topic for investigation. While continuous technological advancements and increasing clinical knowledge have improved recipients' cochlear implantation (CI) outcomes, there continues to be large outcome variability post-CI. Various factors are known to contribute to outcome variability (see Fig. 1)[1,2,3,4,5]. These predictive factors are important for the CI team in deciding the management of patients pre-, peri- and post-operatively. However, the ability of the CI team itself to accurately predict performance outcomes in adult CI recipients remains to be studied.

In theory, if clinicians can accurately predict poor performance, then early interventions can be put in place either to mitigate poor performance, or to help poor performers become better performers.

1. OBJECTIVES

1. To determine how **accurately** clinicians can predict performance of adults with a CI one-year post-implantation.
2. To determine which **5 factors** clinicians consider to be most important when making post-operative outcome predictions for adults with a CI.
3. To determine how **confident** clinicians are in their one-year post-CI outcome predictions.
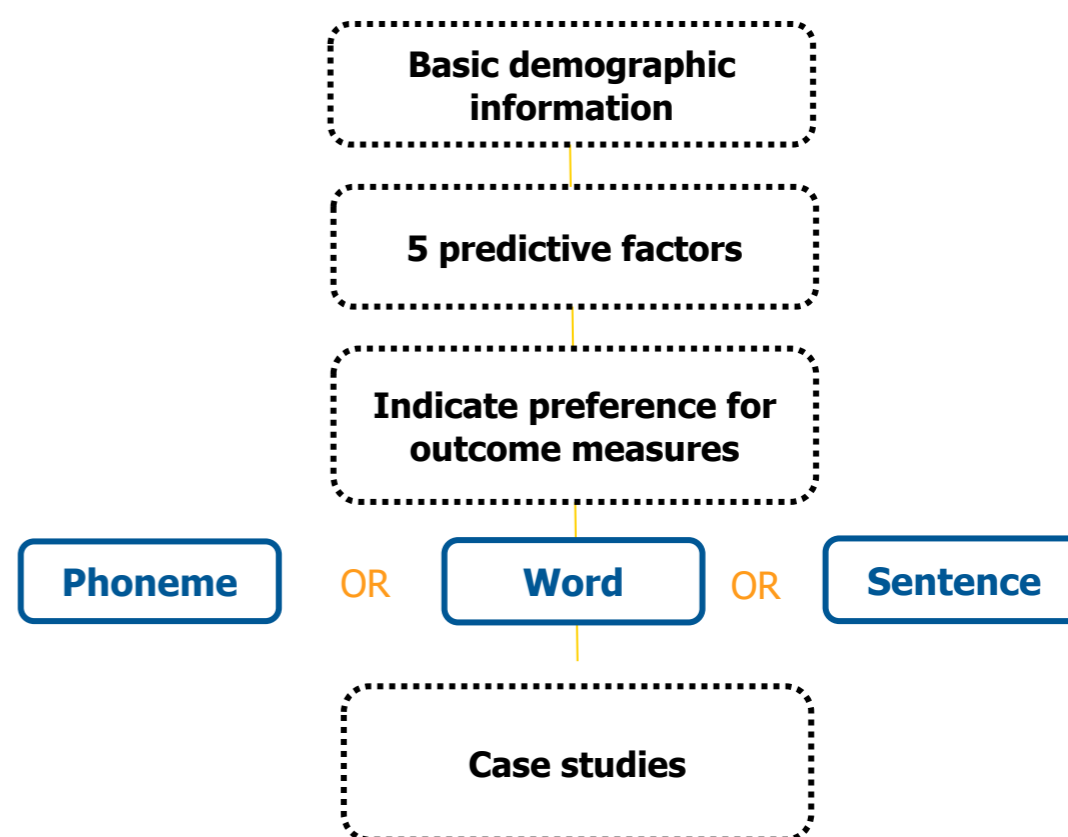
TARGET POPULATION

Speech therapists, rehabilitation therapists & audiologists who:
- ✓ Actively work in the clinical setting
- ✓ Manage adult CI patients
- ✓ Are able to read and write in English (in order to complete the questionnaire)
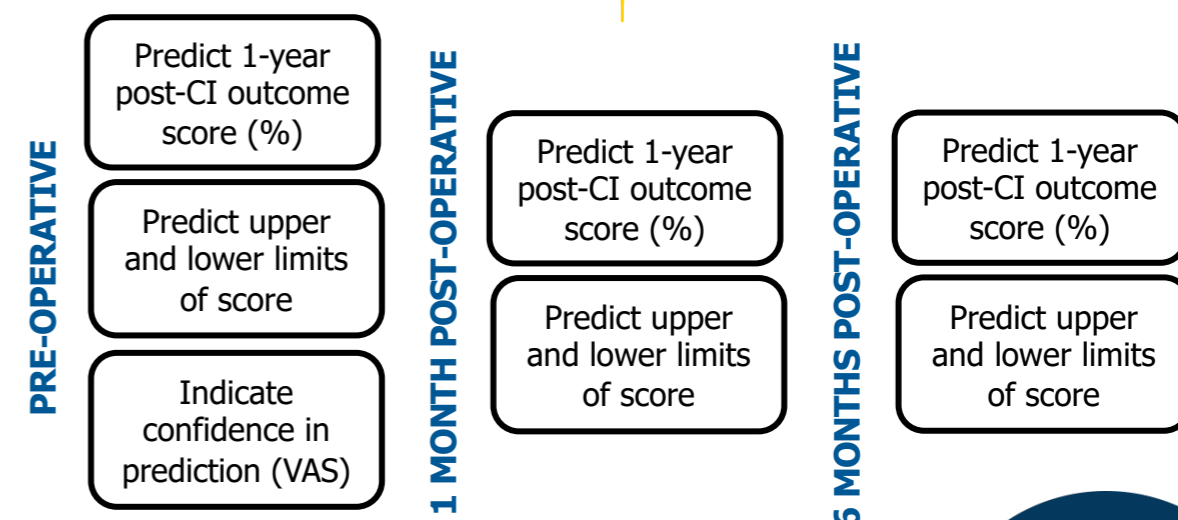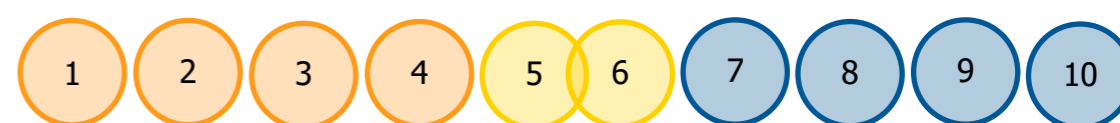
3. KEY QUESTIONS

- Do good predictors consider the **same factors** to be most important for outcome predictions?
  - → Can we use this knowledge to help other clinicians become better predictors?

- Are clinicians **equally accurate** in predicting good vs. poor performance?
  - → Does this translate to pre-operative counselling and expectation management in the clinic?

- Does accurate prediction correlate with level of **clinical experience**?
  - → Can we utilise the expertise of these clinicians to help those less experienced?

- Does pre-operative prediction accuracy increase when **more case information** (first fitting & 6-month post-operative) is provided?
  - → What can be done to facilitate accurate prediction earlier on in the CI journey?

2. DATA COLLECTION

SurveyMonkey®

- **Basic demographic information**
- **5 predictive factors**
- **Indicate preference for outcome measures**

Phoneme OR **Word** OR **Sentence**

Case studies

Version A ———— **Version B**

1 2 3 4 5 6 7 8 9 10

PRE-OPERATIVE
- Predict 1-year post-CI outcome score (%)
- Predict upper and lower limits of score
- Indicate confidence in prediction (VAS)

1 MONTH POST-OPERATIVE
- Predict 1-year post-CI outcome score (%)
- Predict upper and lower limits of score

6 MONTHS POST-OPERATIVE
- Predict 1-year post-CI outcome score (%)
- Predict upper and lower limits of score

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