

A Pilot Study of Individual Management Plans for Cochlear Implant Recipients.

Susan Boon Advanced Practitioner Audiologist, Glan Clwyd Hospital, Bodelwyddan, Betsi Cadwaladr University Health Board

Introduction

Individual Management Plans (IMP) have been widely used in Betsi Cadwaladr University Health Board (BCUHB) Adult Hearing Rehabilitation Services since 2013. The North Wales Auditory Implant Service (NWAIS) have always incorporated management plans in patient pathways, however in 2022, we piloted the use of a more formal IMP methodology (including goal linked outcome scoring) for patients undergoing cochlear implantation.

An IMP should be patient led and usually consist of individual goals or needs, using information gathered during the assessment and immediate post-operative period. The IMP can be referred to and developed throughout the patient journey, and helps to provide patient centred care.

Both the Wales Quality Standards for Auditory Implant Services (2024) and British Cochlear Implant Group (BCIG) Quality Standards 2023 recommend the evaluation and recording of individual outcome which the IMP demonstrates.

Method

- Formal IMPs were introduced to all patients implanted in 2022/23 (N=37, Mean Age 60y 5m)
- Patients encouraged to develop goals relating to expectations and ideas of success
- Information gathered during pre-operative counselling was used to help develop individual goals
- Goals documented in patient journal and the IMP module within Auditbase.
- Goals scored at 12 month formal review.
- Outcome score of 0 to 100 in relation to each individual goal and documented in IMP module.
- During data analysis, goals were categorised into 8 themes (Fig 1 see themes in *Italics*).
- Mean outcome scores were compared with International Outcome Inventory – Cochlear Implant (IOI-CI), Glasgow Benefit Inventory (GBI) & 12 Month AB Word % Phoneme Scores

References:
 - H. E. Cullington, D. Jiang, S. J. Broomfield, M. Chung, L. C. Craddock, S. Driver, D. Edwards, J. M. Gallacher, L. Ll. Jones, T. Koleva, J. Martin, H. Meakin, R. Nash, C. Rocca, D. R. Schramm, N. S. Willmott & Z. H. Vanat (2023) Cochlear implant services for children, young people and adults. Quality standard, Cochlear Implants International, 24:sup1, S1-S13
 - Wales Quality Standards for Auditory Implant Services 2024

Fig. 1 Examples of categorised pre-operative patient goals

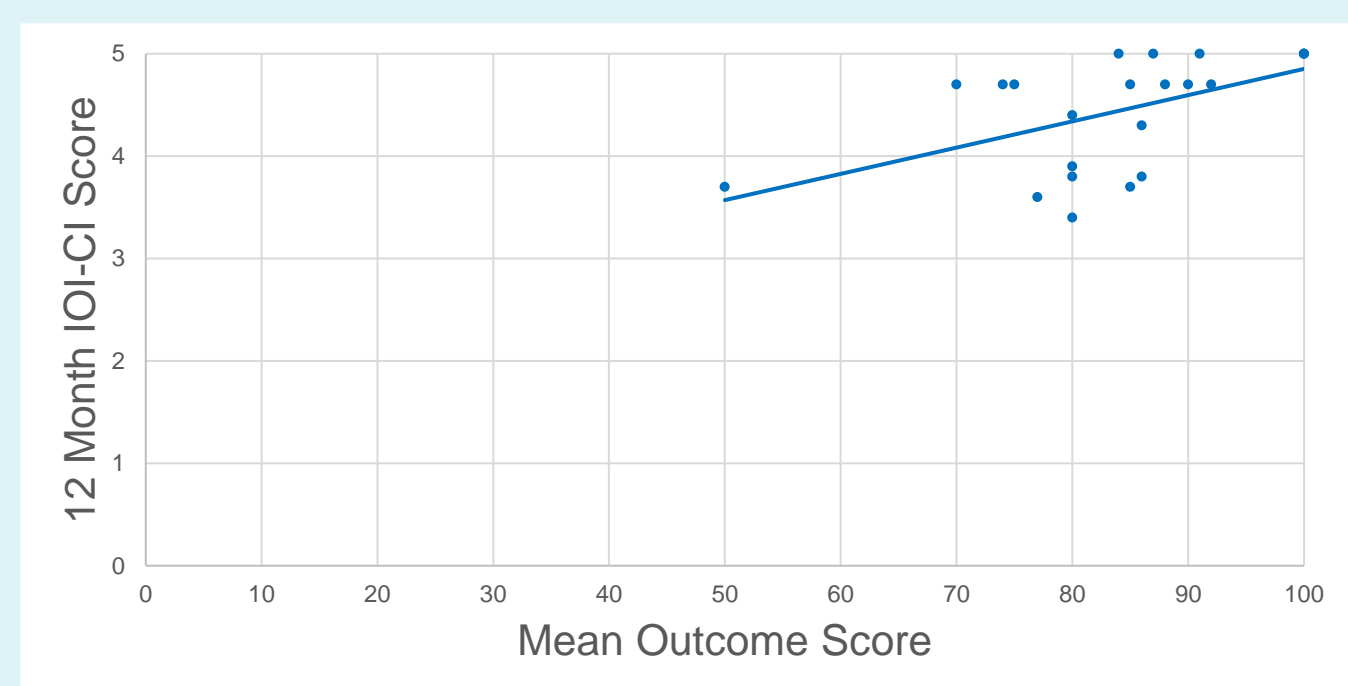


Fig. 2 Mean patient outcome score vs 12 Month IOI-CI Score

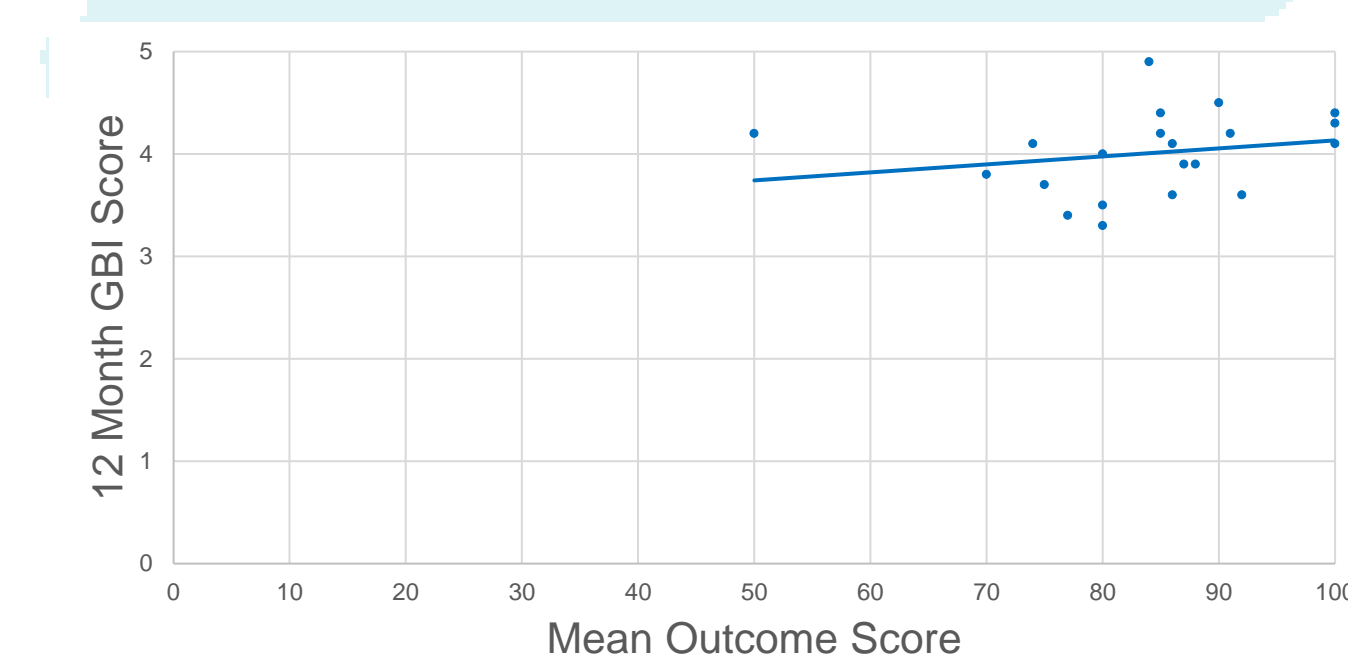


Fig. 3 Mean patient outcome score vs 12 Month GBI

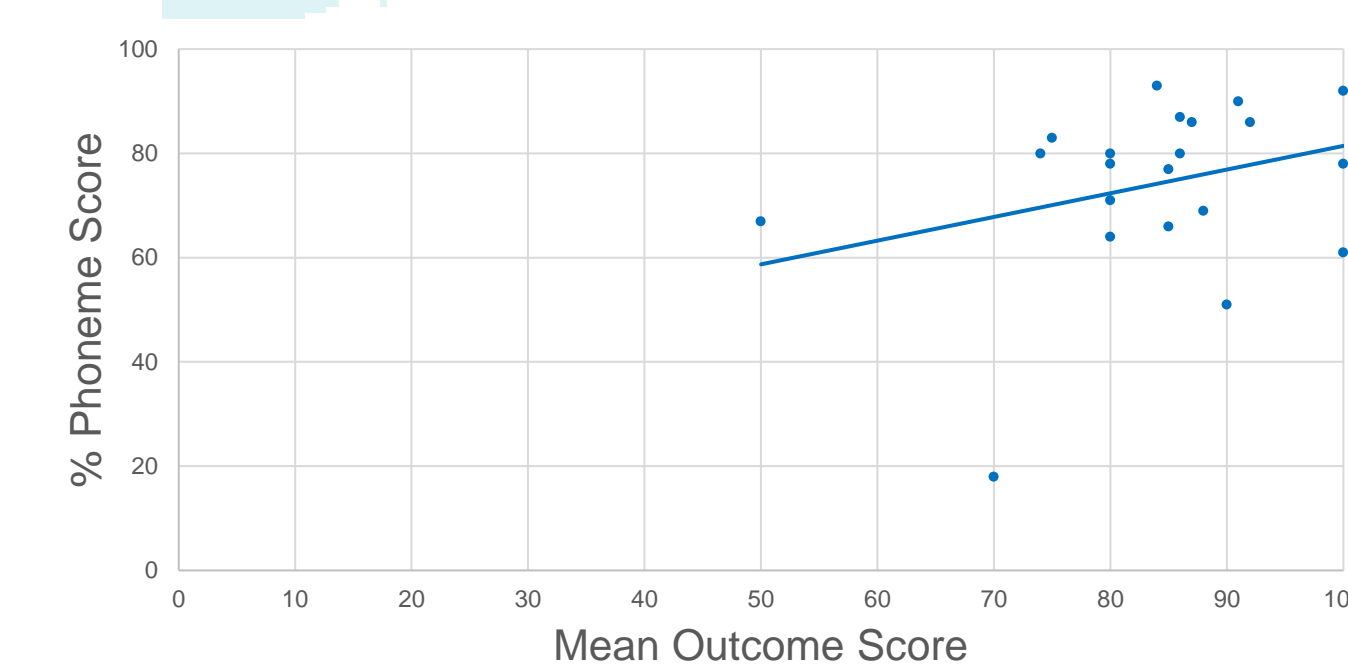


Fig. 4 Mean patient outcome score vs 12 Month AB Word % Phoneme Score

Goal Category	Average Outcome Score
Television	88
Telephone	88
Music	87
Other	86
Communication	83
Psychosocial	83
Complex communication	81
Environmental	81

Fig. 5 Average outcome score per goal category

Results

- 89% of patients had goals documented during their pre-operative pathway
- 58% of patients had 12 month outcome scores documented in their patient record
- Reasons for missing outcome scores included time constraints, clinician forgot to complete, scored but not documented
- One patient did not wish to provide outcome scores as felt there had been no improvement following implantation
- Mean outcome score vs 12 month IOI-CI score suggested a moderate positive correlation ($r=0.52$) (Fig.2)
- Mean outcome score vs 12 month GBI score suggest no correlation ($r=0.22$) (Fig.3)
- Mean outcome score vs 12 month AB Word % phoneme score suggest a weak positive correlation ($r=0.3$) (Fig.4)
- Average outcome scores were >80% for all 8 goal categories (Fig.5)
- Television and telephone categories had highest average outcome score with 88%
- Environmental category had lowest average outcome score with 81%

Discussion and Conclusions

Compliance with the development and recording of pre-operative patient goals suggest clinicians are aware of the importance of developing an IMP. However compliance with scoring and recording of goals was much lower than anticipated.

Average outcome scores suggest the majority of NWAIS CI patients have satisfactory outcomes in their pre-operative goals covering all categories, especially goals relating to television and telephone use.

Initial analysis of data suggests the development of an IMP and the scoring of patient goals provides useful patient & department specific outcomes.

Recommendations

- Training of all clinicians to increase compliance in scoring and recording of patient goals
- Develop CI specific goal categories in IMP module within Auditbase & allocate goal category when recording patient goals
- Better use of goals to provide individual post-operative rehabilitation
- Provide patients with BCUHB category specific outcome data to support pre-operative counselling
- Analysis of outcome data relating to aetiology, age and pre/post lingual patients

