



Cathy Birman

- Clinical Professor Catherine Birman is the Medical Director of Next Sense- formerly Sydney CI Centre.
- She was the NSW Premier's Woman of the Year in recognition of her work for Cochlear implant recipients.
- She is passionate about awareness, access and long term maintenance of hearing through Cochlear Implants and about hearing screening- for children and adults

Living Guidelines Impact on cochlear implant adult services and access

Clinical Prof Catherine Birman OAM
MBBS PhD FRACS GAICD
Medical Director of NextSense Cochlear Implant
Programme (formerly SCIC)

CIICA July 2023



think. kids.
Proudly supporting
The Children's Hospital at Westmead



MACQUARIE
UNIVERSITY



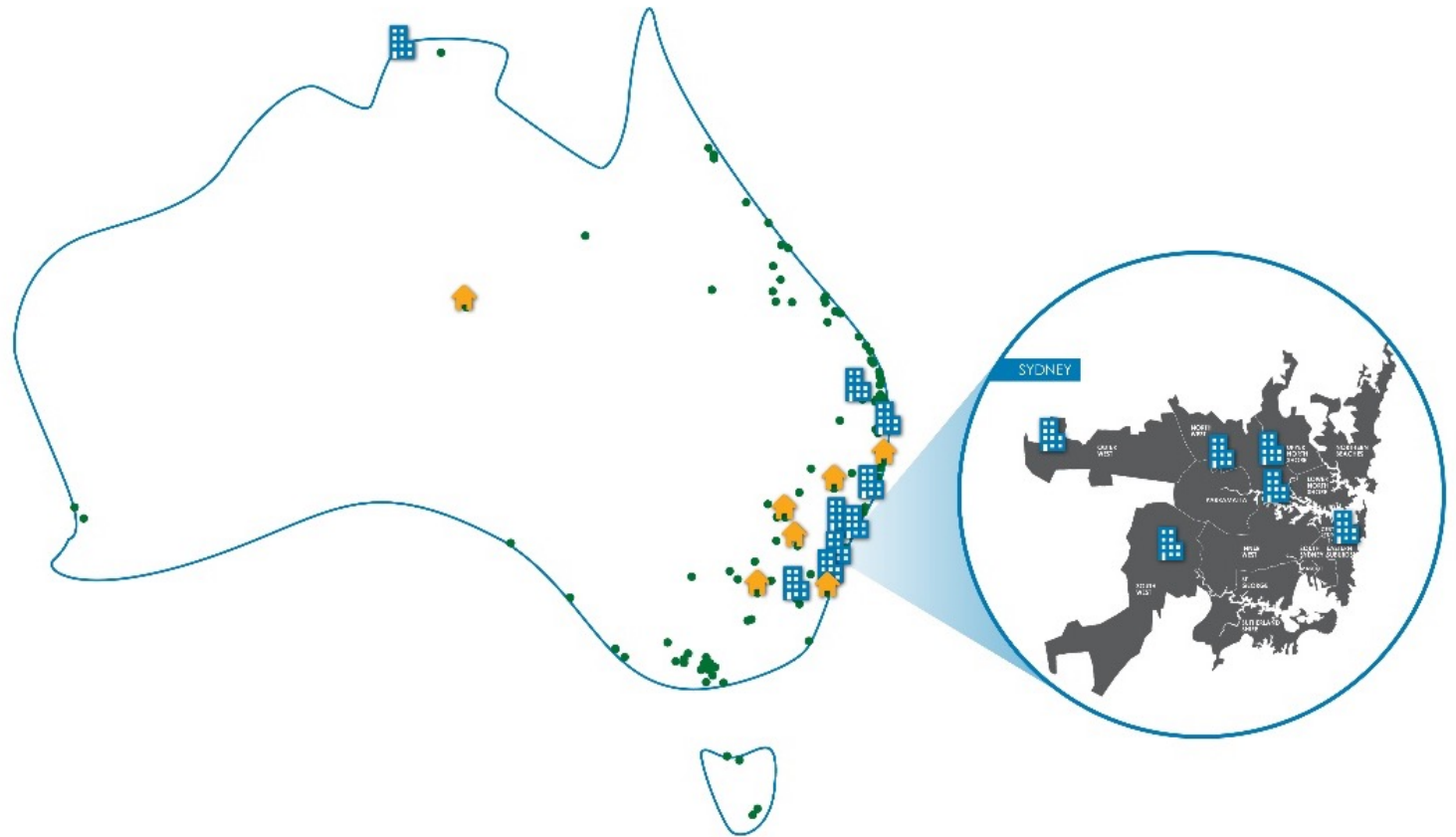
NextSense Cochlear Implant Programme: (formerly SCIC and RIDBC)

A whole of life hearing implant program

Over 7000 CIs provided,
supporting over 5000 CI users

Caring for 1/3 of Australia's
recipients

**Second oldest charity in Australia
established 1860**



20 centres + 6 outreach sites

Audiologists; Speech pathologists; Teachers of the Deaf; Biomedical Engineers; Social Workers; Allied Health; Admin support; Spare Parts and CI User support +afterhours emergency support; 20 surgeons

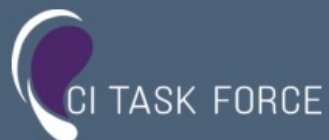
Acknowledging of our patients, families and multidisciplinary team

'NextSense' is a registered trade mark of Royal Institute for Deaf and Blind Children
(ABN 53 443 272 865)

**Next
Sense**

Advancing the RIDBC SCIC experience.

NextSense- CICA July 2023



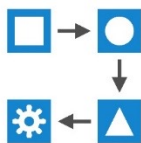
Development of living guidelines

For cochlear implantation in adults

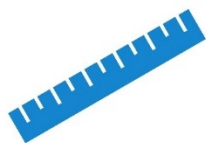
BENCHMARKING



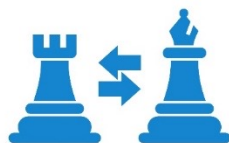
PERFORMANCE



PROCESS



MEASUREMENT



COMPARE



INDICATOR



IMPROVEMENT



STRATEGY

NextSense- CICCA July 2023

Guidelines highlight what we do well



R

Guideline
recommendationAdults ≥ 50 years of age (unless concerns about
hearing loss are expressed before this age)Primary healthcare
practitioner including
General PractitionersHearing loss screening
should be administered
every 1-3 yearsHearing loss screening:
"Do you feel you have
hearing loss?"R1
R2

NO

YES

Referral hearing healthcare
evaluation and management

R3

Audiologist if available
in your country
(or equivalent)

R5

Cochlear implant referral
criteria should be
assessed at least every
1-3 yearsMeets cochlear implant
referral criteria?

NO

YES

R4

Hearing care and
reassessment of cochlear
implant eligibility at the
discretion of cochlear
implant specialist

Cochlear implant eligibility evaluation

YES

NO

Cochlear implant surgery

Intra and post-operative care

Multidisciplinary
cochlear implant teamMultidisciplinary
cochlear implant team

R6

Initial activation and
programming of
cochlear implant

R7

Cochlear implant
rehabilitationEvaluation of cochlear
implant progress
and successR8
R9

The recommendations are spaced across six key areas



HEARING LOSS SCREENING AND ASSESSMENT

PROSPERO questions.

1. Who should hearing loss screening be offered to?
2. What screening tools (questionnaires or assessments) should be used by primary healthcare professionals to screen for hearing loss?



REFERRAL

PROSPERO question.

3. Once adults with any level of hearing loss are identified, who and when should they be referred to for hearing healthcare evaluation/ management?



SPECIALIST EVALUATION

PROSPERO questions.

4. In adults with any level of hearing loss, what criteria should be met by routine assessment tools (audiological and/or clinical) to determine referral for a complete cochlear implant evaluation? What is the diagnostic accuracy for each of the routine assessment tools?
5. In adults with hearing loss who may not meet the eligibility criteria for a cochlear implant, what is the optimal frequency of assessment for monitoring hearing loss and for re-assessing them to determine referral for a complete cochlear implant evaluation?



SURGERY

(No PROSPERO question). This area is well served by existing guidelines, subsequently the Task Force have reviewed and included these guidelines, with appropriate citing's and links to original material.



REHABILITATION

PROSPERO questions.

6. For adult cochlear implant users with severe to profound sensorineural hearing loss (SNHL), what is the most effective number of follow-up appointments one year post cochlear implantation to achieve optimal programming/ stimulation levels?
7. For adult cochlear implant users with severe to profound SNHL what are the essential components of an appropriate clinical pathway for rehab after surgery?



PATIENT OUTCOMES AND MEASURES

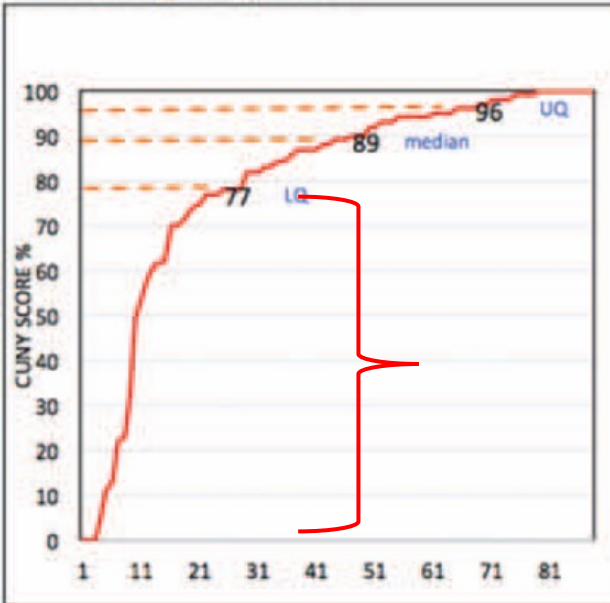
PROSPERO questions.

8. For adult cochlear implant users with severe to profound SNHL, which outcome domains are most meaningful to patients to assess for improvement with a cochlear implant?
9. For adult cochlear implant users with severe to profound SNHL, what measurement tools and/or questionnaires (e.g. speech tests, quality of life questionnaires) should be utilised to measure patient outcomes?

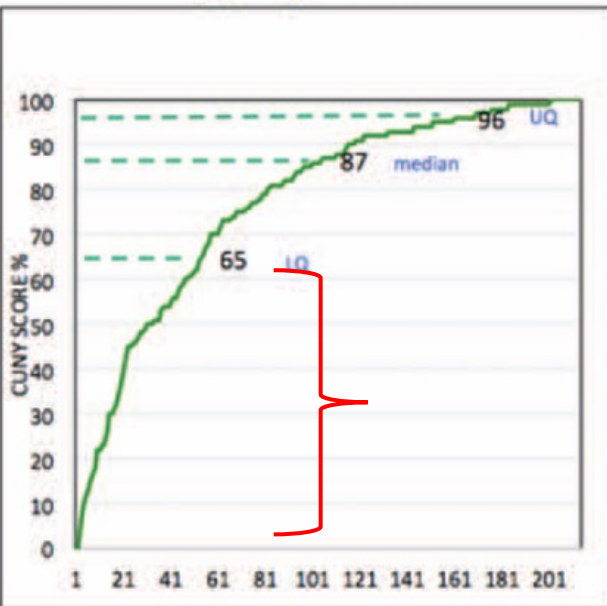
NextSense- Flagging poor performers at 3 months' postoperatively to check for further optimisation

Review- history, mapping, and assess the need for formal adult auditory training/ habilitation with an speech pathologist for adult patients

Severe group n=88

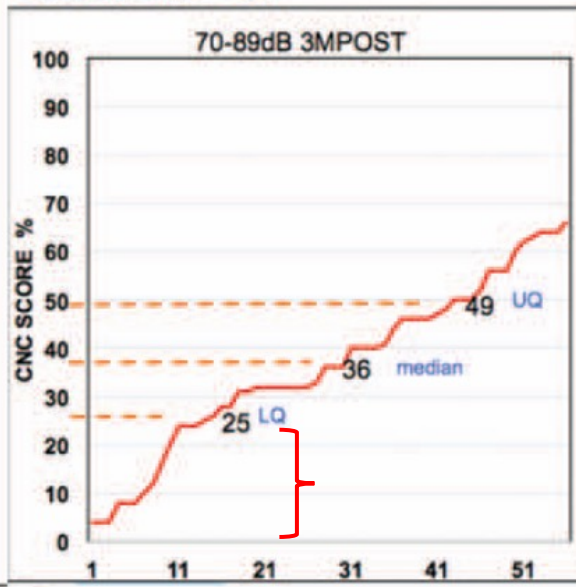


Profound group n=214

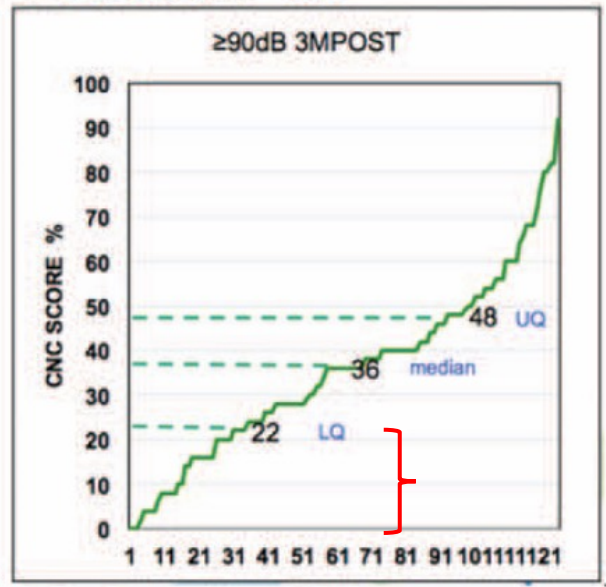


CUNY sentence scores
@ 3 months post-CI

Severe n= 56



Profound n=125

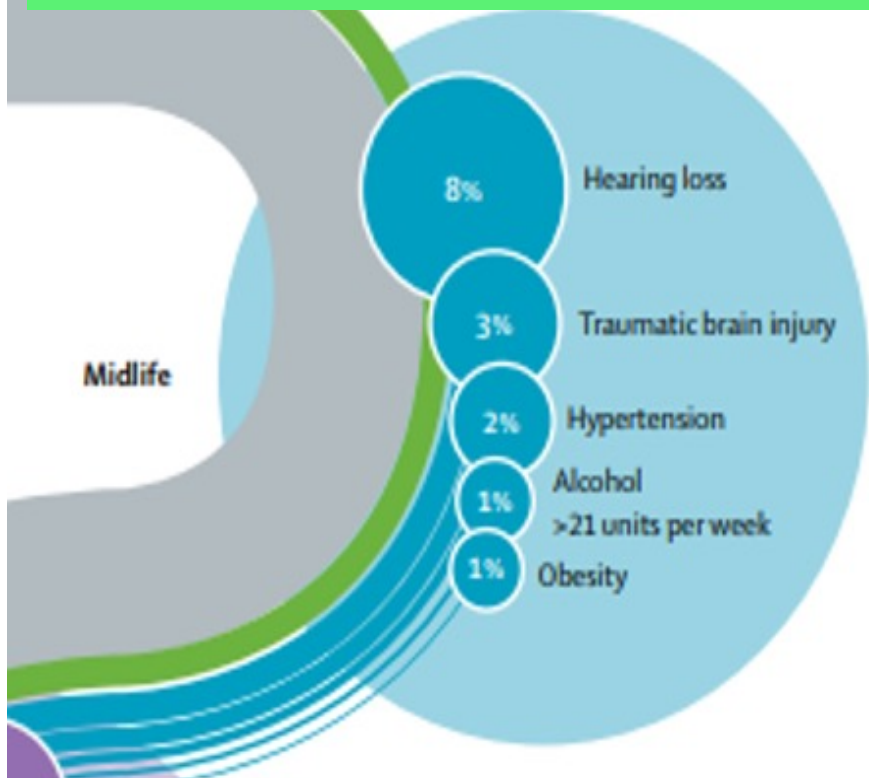


CNC word scores @
3 months post CI

Birman and Sanli *Otology Neurotology* 2020

Further improvement guided by the Living Guidelines

Recommendation 1- adult hearing screening



We need to have regular hearing screening from 50 years onwards

Adult Hearing Screening: Can we afford to wait any longer?

Brian Lamb OBE, Sue Archbold PhD

Report and research supported by a grant from Advanced Bionics.

The report is the work of the authors.



Recommendation 8- Hearing-specific quality of life- CI related QOL questionnaire

Thanks to benchmarking with the CI Living Guidelines

We obtained administration's approval and funding to incorporate CI related QOL questionnaire into our program

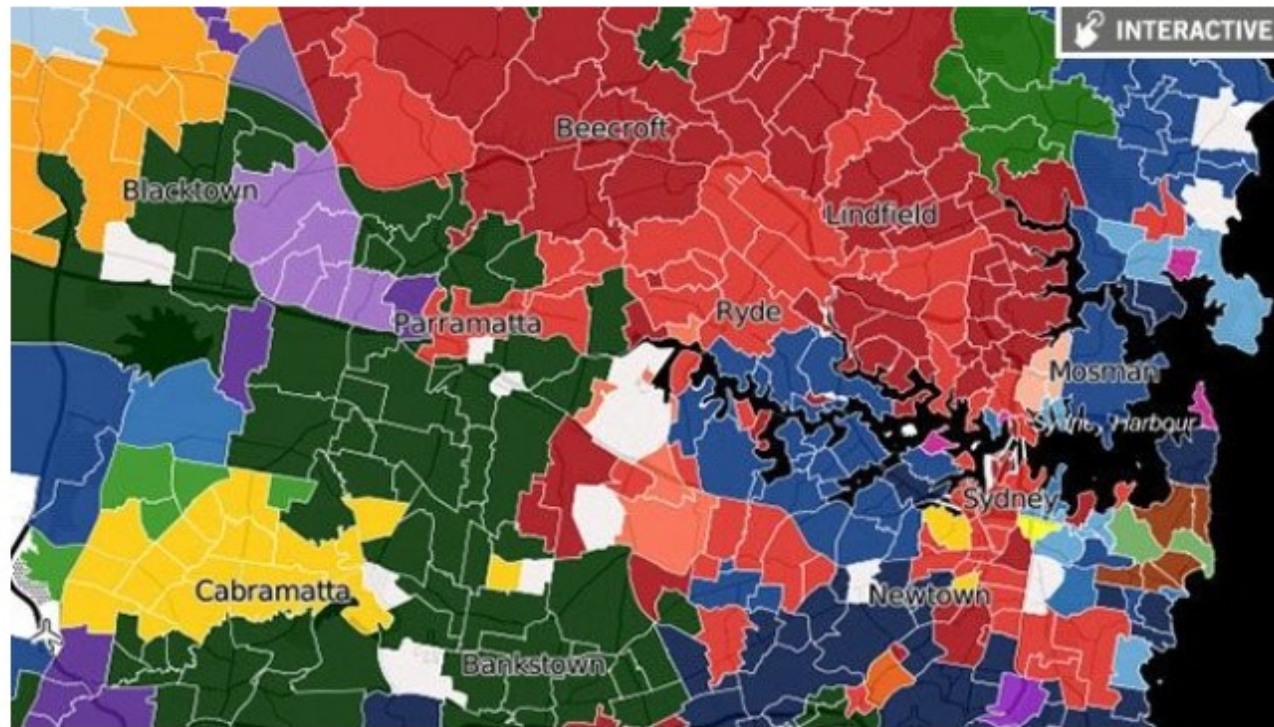


Sydney Morning Herald newspaper article 2014

Nearly 40 per cent of Sydneysiders speak a non-English language at home. More than 250 languages are spoken in Sydney.

Arabic, which dominates the western suburbs, is the most widely spoken non-English language. Mandarin and Cantonese, found predominately in the north shore, are the next most common languages.

Language groups in Sydney are more concentrated than in Melbourne, Australia's other great home to migrants.



INTERACTIVE: Click on the map to explore Sydney's language diversity.

Recommendation 9- Speech perception in the dominant language

Initial testing with hearing aids

ASSESSMENT SUMMARY (candidacy criteria in brackets)	RESULT		
	Right	Left	Binaural
Open set CUNY sentences in quiet (<80%):	-	-	-*
Live-voice BKB sentences (AA):	0%	40%*	44%
Open set CNC words (<50%):	0%	34%	26%
Phonemes:	10%	60%	58%
Vowels:	16%	80%	76%
Consonants:	7%	50%	49%

- “I can understand perfectly well in Cantonese, but I find it harder when people speak English”
- “I understand perfectly at home in Arabic”

Testing 2 years after RIGHT CI

Assessment summary (candidacy criteria in brackets)

	Result		
	Right	Left	Binaural
Open set CUNY sentences in quiet (<80%)	39%	0%	51%
Live-voice CUNY sentences in quiet translated and presented by interpreter in Arabic	96%	0%	91%

CI Living Guidelines- enables continued global sharing of good practice, CI user focused care, benchmarking
→ leading to improvement in outcomes worldwide



Thank you



<https://iconscout.com/photo/sydney-opera-house-in-australia>

nextsense.org.au