

**SEARCH: Study of Environment on Aboriginal
Resilience and Child Health**

&

HEALS: Hearing Ear health and Language Services

a model of successful translation

Hasantha Gunasekera on behalf of team

RACP Rue Wright, Melbourne (May 2017)





Acknowledgements

In partnership with

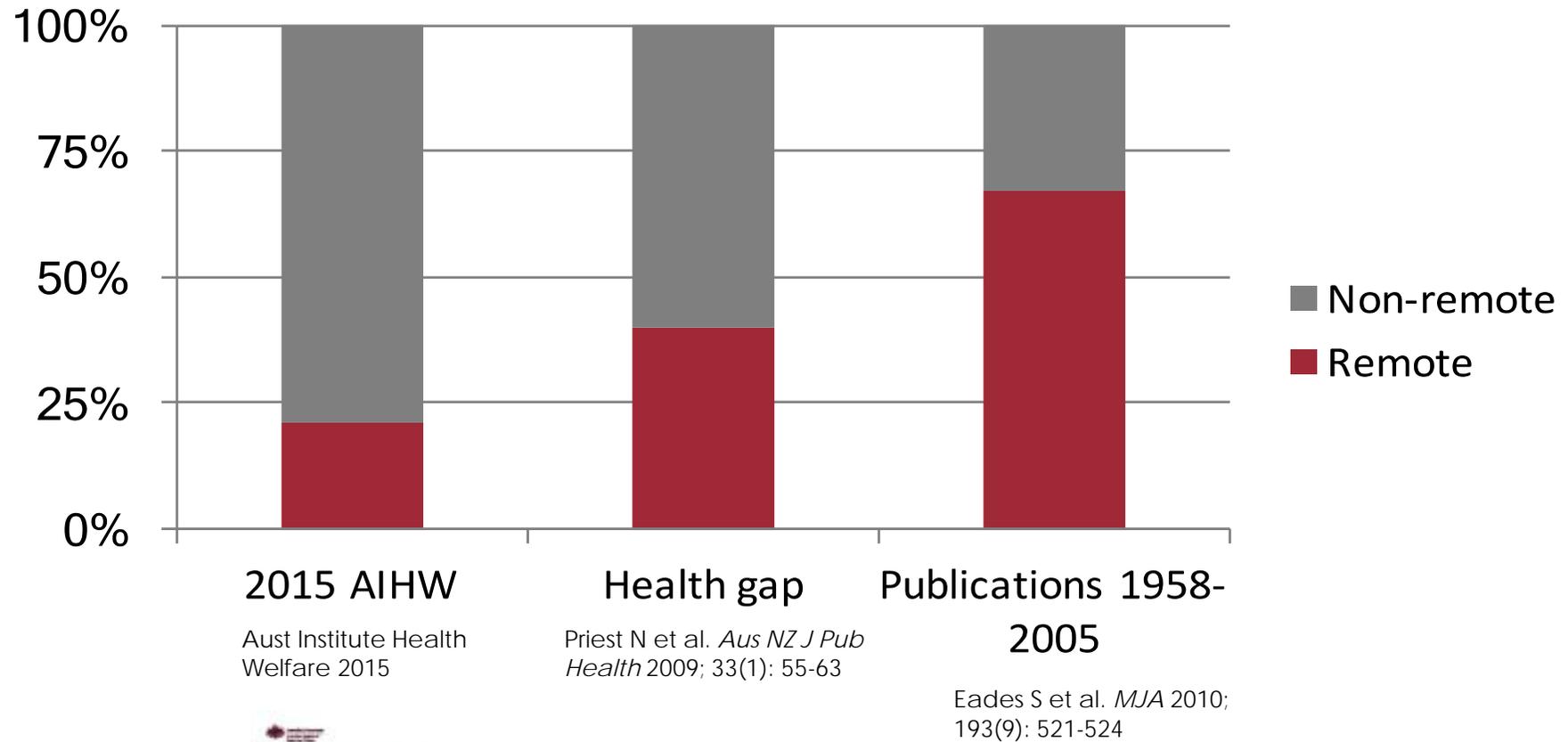


With support from



Why?

Aboriginal & Torres Strait Islander gaps



Why?

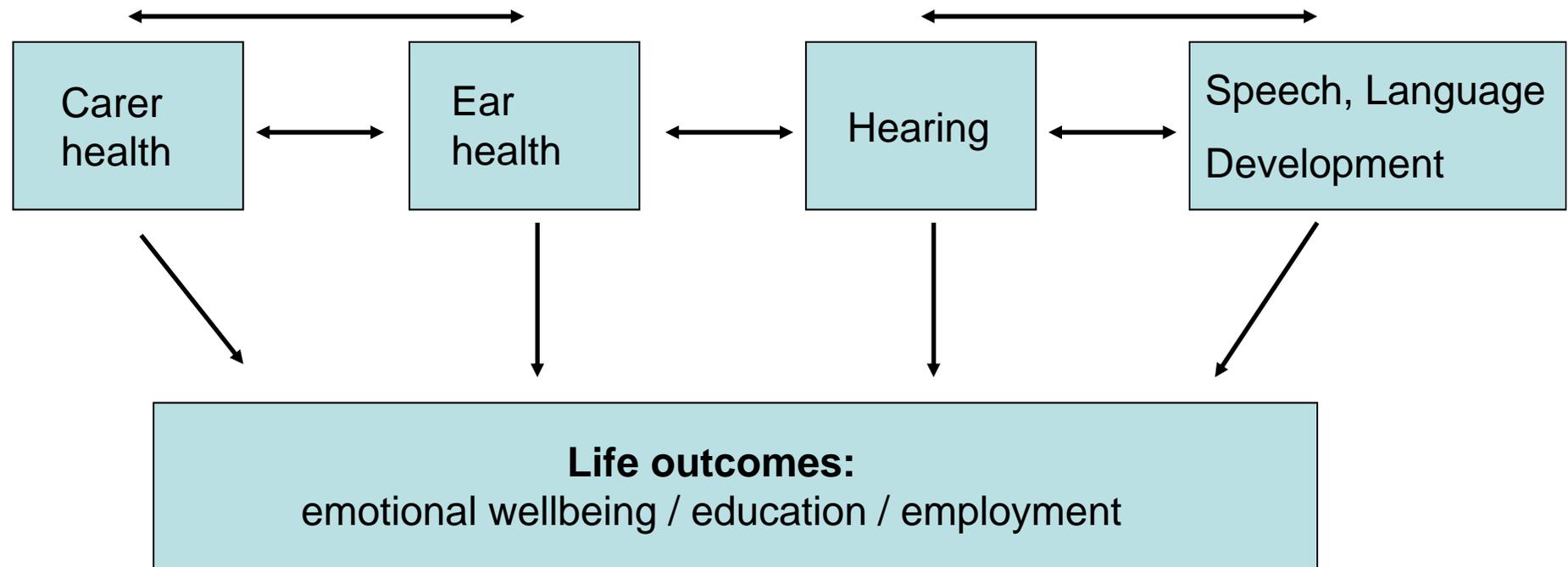
SEARCH: Study Environment Aboriginal Resilience and Child Health



Why?

A modifiable causal pathway

- communities were right, carers know, and care



Before preschool and Preschool interventions in ear health/language/development

Service enhancement: building capacity in Aboriginal Community Controlled sector



How? Cohort (n = 1700)

Step 1 (approx 15 mins)

- Sign a consent form
- Provide contact details

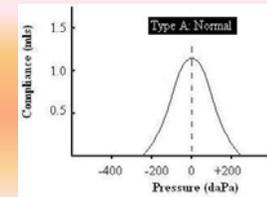


Step 2 (approx 60 mins)

- Complete age appropriate interview directed survey
- Complete clinical measurements

Step 3 (approx 30 mins)

- Attend audiologist clinic (all children)



Step 4 (approx 60 mins)

- Attend speech pathology clinic (1 to 7 year olds)



How?

Speech & language assessment

| Age | Receptive & Expressive Language Preschool Language Scale | Receptive & Expressive Language CELF | Speech DEAP Screening Test | Phonological Awareness SPAT | Narrative |
|--------------|---|---|-------------------------------|--------------------------------|-----------|
| 1 to 2 yrs | ✓ | | | | |
| 2 to 3 years | ✓ | | ✓ | | |
| 3 to 5 years | ✓ | | ✓ | | ✓ |
| > 5 years | | ✓ | ✓ | ✓ | ✓ |



What?

Summary of findings

- Audiologist assessments (n=1,491 children):
 - 31% had otitis media (including 2% perforation)
 - 10% had hearing impairment
 - 90% due to otitis media

- Speech and language
 - 27% receptive delays
 - 39% expressive delays
 - ? appropriateness of these tools
 - await narrative & functional

- Parent Evaluation Developmental Status
 - 55% moderate to high developmental risk



What?

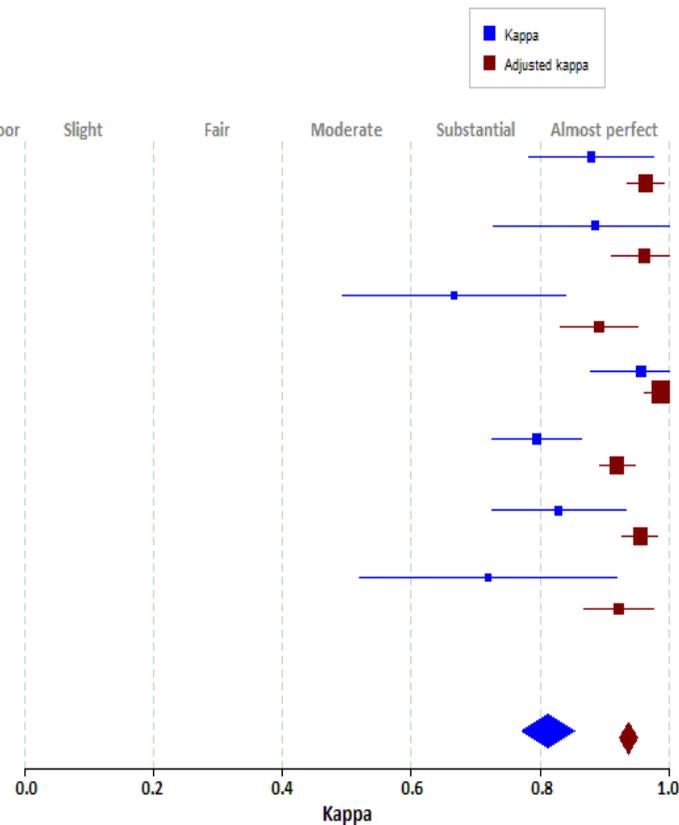
Agreement (Audiologist vs. ENT)

- Learning effect:

- 1st 100 ears vs. later:
kappa 0.66 vs. 0.81
(p=0.016)



| Comparison | N | Kappa (95% CI) | Adjusted kappa (95% CI) |
|---|-----|---------------------|-------------------------|
| Audiologist 1, Otolaryngologist 1 | 123 | 0.88 (0.78 to 0.97) | 0.96 (0.93 to 0.99) |
| Audiologist 3, Otolaryngologist 2 | 39 | 0.88 (0.73 to 1.00) | 0.96 (0.91 to 1.00) |
| Audiologist 3, Otolaryngologist 3 | 76 | 0.67 (0.49 to 0.84) | 0.89 (0.83 to 0.95) |
| Audiologist 4, Otolaryngologist 1 | 57 | 0.96 (0.88 to 1.00) | 0.99 (0.96 to 1.00) |
| Audiologist 4, Otolaryngologist 2 | 296 | 0.80 (0.73 to 0.86) | 0.92 (0.89 to 0.95) |
| Audiologist 4, Otolaryngologist 3 | 165 | 0.83 (0.72 to 0.93) | 0.95 (0.93 to 0.98) |
| Audiologist 5, Otolaryngologist 3 | 67 | 0.72 (0.52 to 0.92) | 0.92 (0.87 to 0.98) |
| All audiologists, all otolaryngologists | 863 | 0.81 (0.77 to 0.85) | 0.94 (0.92 to 0.95) |

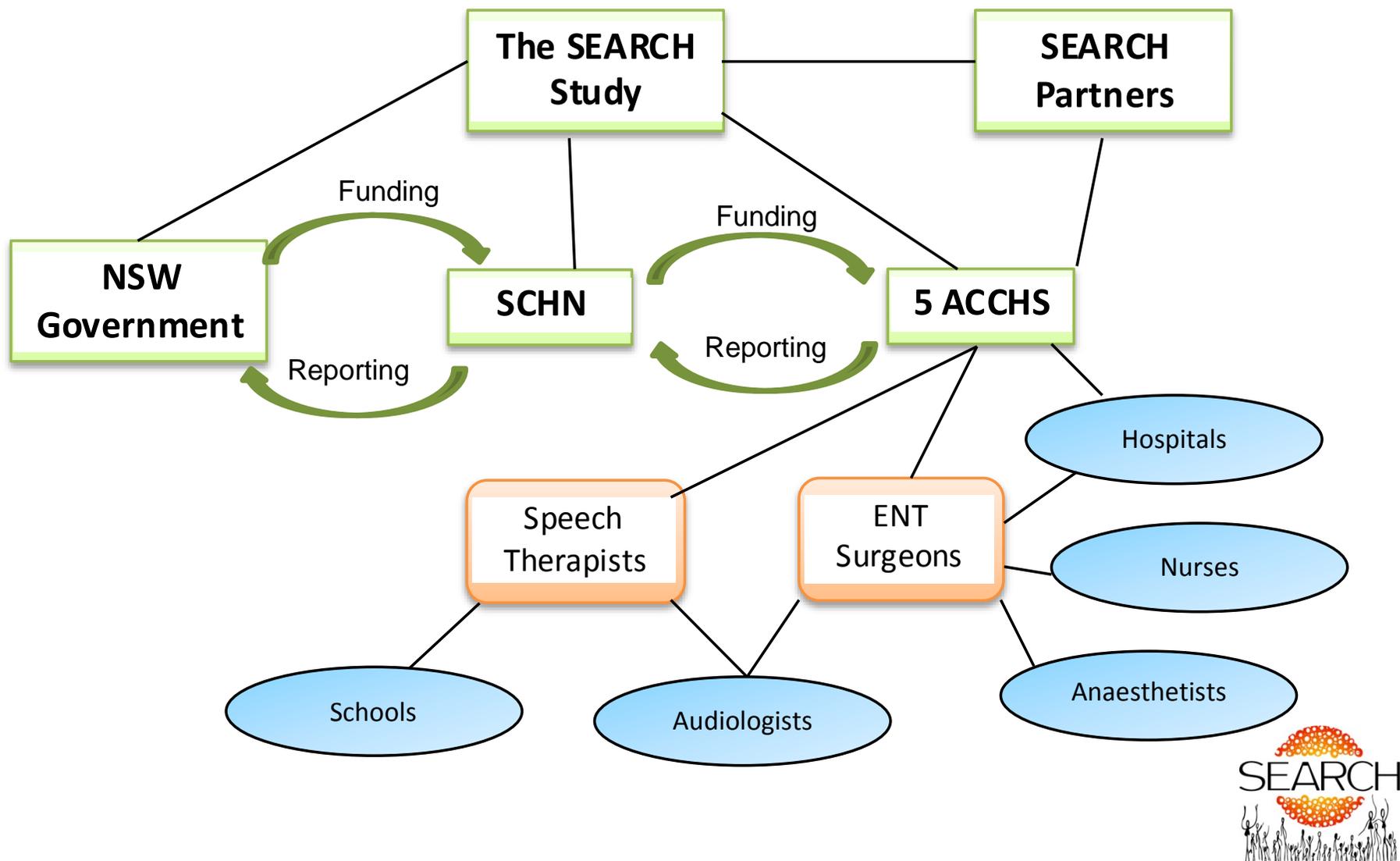


- Sensitivity: 90%
- Specificity: 94%
- Positive predictive value: 85%
- Negative predictive value: 96%



What?

HEALS Partnership



What?

HEALS achievements: outputs since 2013

- Speech therapy:
 - ~8000 sessions for 800 children
- ENT surgery:
 - ~350 children
- Other benefits:
 - Aboriginal employment
 - Audiology/Speech therapy sound proof room
 - Aboriginal Community Controlled Services have:
 - sustained their own Speech therapy clinics
 - developed relationship with local ENTs



What?

HEALS achievements: community feedback

“J is speaking a lot better and clearer”

“Other kids are talking to her more.
Teachers and extended family members
are starting to understand her now”

“A lot of therapists in the past had trouble keeping H’s
attention – I was really happy with the amount of work he
got done at AMS. I feel that his speech is coming along
really well”



Where to from here?

- **Research:**
 - Interactions
 - Ear health
 - Speech and Language (formal and narrative)
 - Developmental risk (PEDS)
 - Environment (housing, geocoding)
- **Service:**
 - HEALS
 - Expansion across State / Health priority domain
- **Future:**
 - Workforce: Tele-otology (given our agreement findings)
 - Partnership with Aboriginal Community Controlled
 - NSW Health Committee: HEALS Implementation Review



Where to from here?

