It’s not me, it’s the equipment... or is it?
Testing perceptions using data

Larissa Ralph
Royal Children’s Hospital
ANHS March 2019
The Hearing Screen

- Automated Auditory Brainstem Response (ABR)
- ABR matched against stored template
- Typical screen completed in 15 minutes or less
Factors Influencing the Screen
Available Data

During screen
▪ Impedance monitor
▪ Myogenic noise bar
▪ Ambient noise bar
▪ Elapsed screening time

Downloaded data
▪ Screen results
▪ Myogenic
▪ Screen duration
Ideal Screening Conditions

- Low impedance
- Low myogenic interference
- Low ambient noise
- Fewer false refer results
- Screen duration from 34 seconds up to 10 minutes
Variables During Screening
Variables During Screening
Measures of a Least Favoured Device

- Longer screen duration
- High myogenic interference
- High impedance
- More troubleshooting
- High number of refer results
The Question

Is the screeners’ perception that one screening device performs worse than another supported by evidence?
Outcome

Device A

- Screen duration
- Rate of refer results
- Myogenic

Device B

- Screen duration
- Rate of refer results
- Myogenic

n = 1089
Comparison Sites

Site 2
- 974 screens (April – August 2018)

Site 3
- 1103 screens (June – November 2018)

No significant difference between devices across all measures
The Mismatch
Influences of Perception

- Confirmation bias
- Individual experience
- Shared experience
- Team dynamic
- Workload
- Work demand
- Measure of productivity
- Measure of achievement
Potential Implications

- Screener experience
- Timing of troubleshooting
- Technical fail rate
Acknowledgements

▪ Kate Francis – Biostatistician, Murdoch Children’s Research Institute
▪ VIHSP Senior Team
Centre for Community Child Health
The Royal Children’s Hospital Melbourne
50 Flemington Road Parkville Victoria 3052 Australia
www.rch.org.au/ccch

The Centre for Community Child Health is a department of The Royal Children’s Hospital and a research group of Murdoch Childrens Research Institute.