



# Towards equitable access and outcomes for tamariki and whānau within early childhood ear and hearing services in South Auckland

Dr Elizabeth Holt<sup>1</sup>, Dr Joan Leung<sup>1</sup>, Ms Louise Dickinson<sup>2</sup>, Prof Randall Morton<sup>2</sup>, Dr Alehandrea Manuel<sup>1</sup>, Prof Alain Vandal<sup>1</sup>, Mr. William J. Taylor<sup>1</sup>, Prof Suzanne Purdy<sup>1</sup>

<sup>1</sup> University of Auckland, New Zealand. <sup>2</sup> Manukau Superclinic, New Zealand

*11am-1215pm: 4b. Childhood & Childbearing Session  
Venue: Room 405-430*



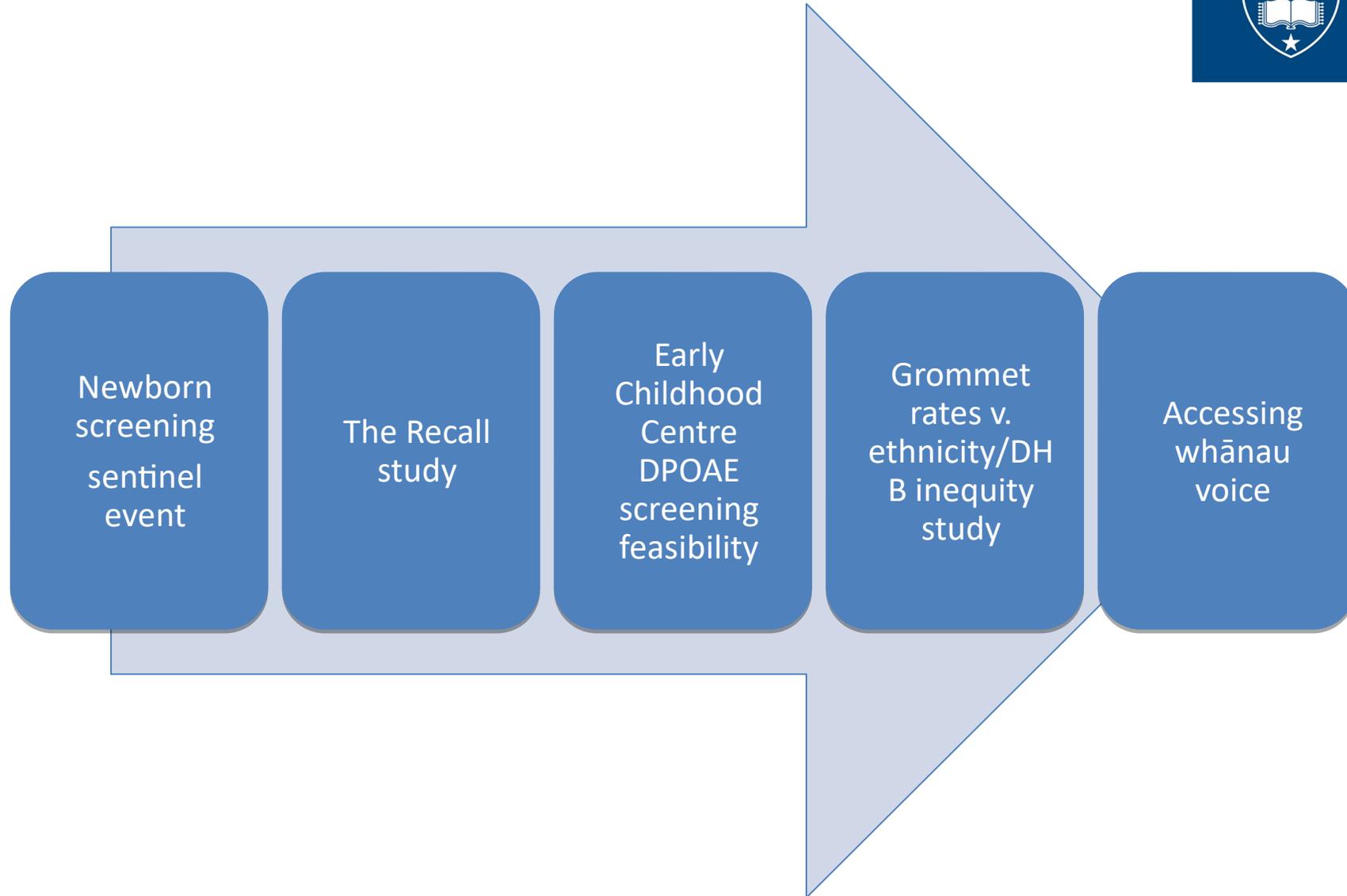
<https://www.nsu.govt.nz/health-professionals/universal-newborn-hearing-screening-programme/procedures-guidelines-and-repor-1>



**Our Hearing Technicians undertake FREE screening for children including:**

- Hearing screening
  - Tympanometry screening from 18 months
  - Audiometry at 4 years to 18 years

<https://www.midcentraldhb.govt.nz/HealthServices/PublicHealth/Pages/Vision-Hearing-Technicians.aspx>



# OAE newborn hearing screening 'event'

## Summary of the event

Eight newborn hearing screeners across six DHBs have been identified as not screening babies according to known programme protocols, potentially leading to missed detection of a hearing loss among these babies. The screeners were not conforming to screening protocol in one or more of three ways, each resulting in the baby appearing to have successfully completed the hearing test:

- screening the same ear of a baby twice
- screening one ear of the baby, and then testing one of the screener's own ears as if it were the baby's other ear
- testing both of his / her own ears, in place of the baby's ears.

**Quality  
improvement  
review of a  
screening event in  
the Universal  
Newborn Hearing  
Screening and  
Early Intervention  
Programme**

December 2012

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journal homepage: [www.elsevier.com/locate/ijporl](http://www.elsevier.com/locate/ijporl)



# Screening recall study at Counties Manukau District Health Board (Dickinson et al., 2018)

‘Asymptomatic’ South Auckland preschool children have significant hearing loss and middle ear disease

Louise J. Dickinson<sup>a</sup>, Moea Nimmo<sup>a,b</sup>, Randall P. Morton<sup>a,b,\*</sup>, Suzanne C. Purdy<sup>c</sup>

<sup>a</sup> Counties Manukau Health, Dept of Otorhinolaryngology (ORL), New Zealand

<sup>b</sup> Faculty of Medical and Health Sciences, University of Auckland, New Zealand

<sup>c</sup> School of Psychology, University of Auckland, New Zealand

## ARTICLE INFO

### Keywords:

Hearing loss  
Otitis media  
Tympanometry  
Screening  
DPOAE  
Audiometry  
Otolaryngology  
Preschool children

## ABSTRACT

**Background:** Seven hundred children were recalled for hearing screening at age 2–3 years due to a problem with their newborn hearing screen. They had all been well babies with no identified risk factors for hearing loss and hence were not scheduled for targeted follow-up to retest hearing.

**Methods:** There were 485 children (69%) that attended the recall. The average age was 36 months (SD 3.7). Family ethnicity was Pacific Island (36%), Asian (26%), NZ European (13%), and Māori (11%), and there was a high level of deprivation in the study population. Children were screened using distortion product otoacoustic emission (DPOAE) and a parent or caregiver completed a 14-item questionnaire about ear health. The children that did not pass screening were given appointments for audiology testing. Children with hearing loss and/or middle ear problems were referred for otolaryngology review and further hearing assessments.

**Results:** About one third (36%; n = 176) of children did not pass DPOAE screening; 82 (17%) had abnormal type B tympanograms and hearing loss; 29 underwent insertion of ventilation tubes, and one had a perforated tympanic membrane. There was a significant association between failed tympanometry and hearing loss (Chi-squared = 16.67, p < .001).

Five children had permanent sensorineural hearing loss (SNHL), two of whom required cochlear implants for idiopathic hearing loss, with no specific risk factors. Overall 380 of 485 children screened were deemed to have normal hearing (i.e. 22% failed hearing). From the questionnaire, 15% of the caregivers with no suspicion of hearing problems did have children with significant hearing loss. Regression analysis showed that Pacific/Māori ethnicity was significantly associated with risk of hearing loss, together with questionnaire items identifying hearing problems and breathing problems.



PACIFIC ISLANDS  
FAMILIES STUDY

Paterson et al. (2006). "Population prevalence among Pacific 2-year-old children was estimated as 25.4% for OME, 1.9% for AOM"

## Hearing and ear status of Pacific children aged 11 years living in New Zealand: the Pacific Islands families hearing study

Suzanne C. Purdy, Steve Taylor, Philip J. Schluter, el-Shadan Tautolo, Leon Iusitini, Zahoor Ahmad, Gerhard Sundborn & Janis Paterson

International Journal of Audiology, 58:2, 77-86, DOI: [10.1080/14992027.2018.1506170](https://doi.org/10.1080/14992027.2018.1506170)

**25% referral** to ORL at 11 yrs vs. **16% referral** at 18 yrs





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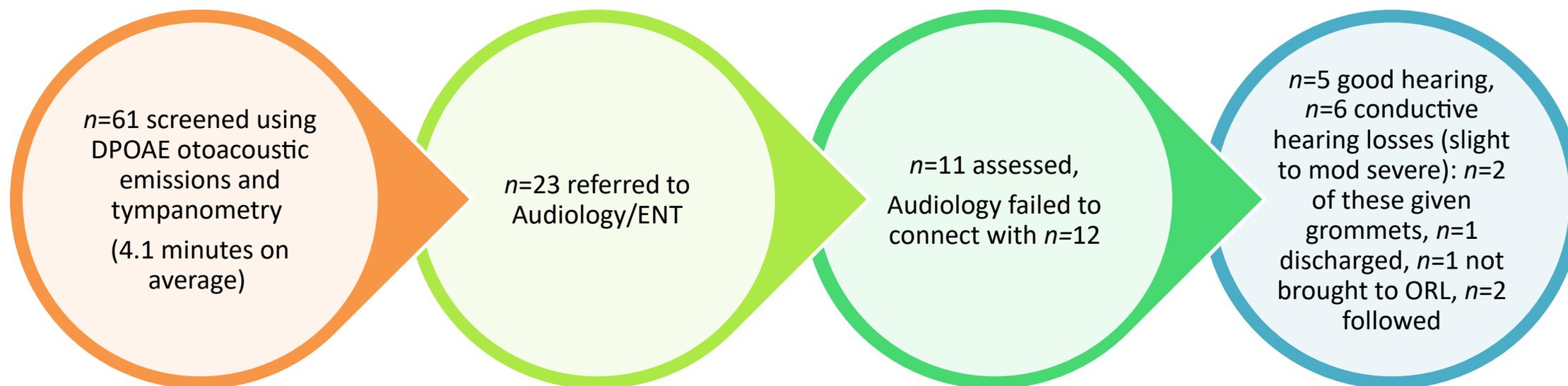
# International Journal of Pediatric Otorhinology

journal homepage: [www.elsevier.com/locate/ijporl](http://www.elsevier.com/locate/ijporl)



## Feasibility of a hearing screening programme using DPOAEs in 3-year-old children in South Auckland

Emily Su<sup>a</sup>, Joan H. Leung<sup>b,c,\*</sup>, Randall P. Morton<sup>d,e</sup>, Louise J. Dickinson<sup>f</sup>, Alain C. Vandal<sup>g,h</sup>, Nelson B. Balisa<sup>f</sup>, Suzanne C. Purdy<sup>b,c</sup>



**Māori don't care**

**They don't  
engage**

**Hearing loss isn't a  
priority for them**

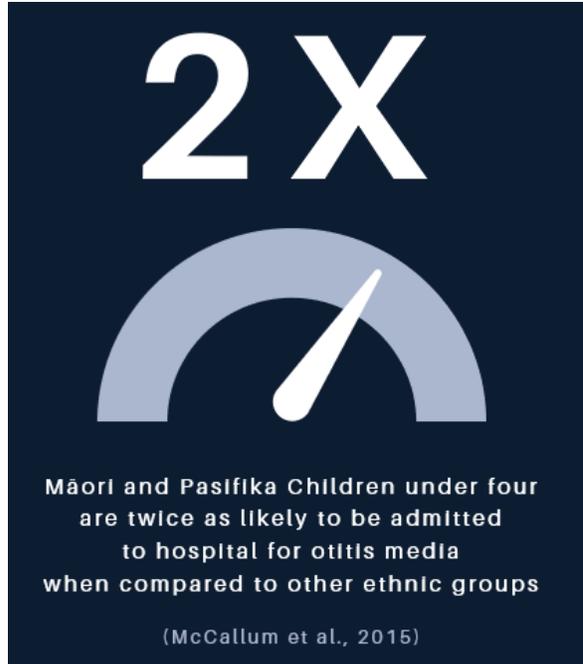
“Can you imagine what it's  
like to not hear your  
mokopuna  
(grandchild)...call your  
name - and that's what the  
kids do, right, when they  
see you they go “nanny”.  
and the sound of that  
“nanny” is just uplifting.”

*Acknowledgement:*

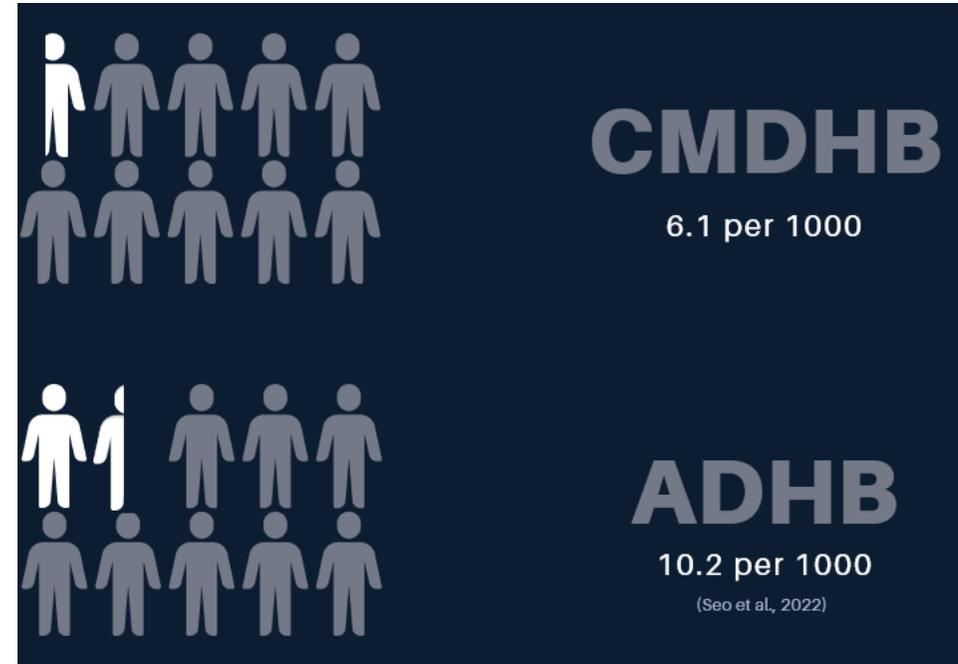
*Dr Alehandrea Raiha Manuel  
(Ngāti Pōrou)*

WHAEA JULIE  
TARINGA WHĀKARONGO

# Inequity in ear and hearing healthcare



McCallum, J et al. (2015). Ethnic differences in acute hospitalisations for otitis media and elective hospitalisations for ventilation tubes in New Zealand children aged 0-14 years. *NZ Med J*, 128(1416), 10-20.



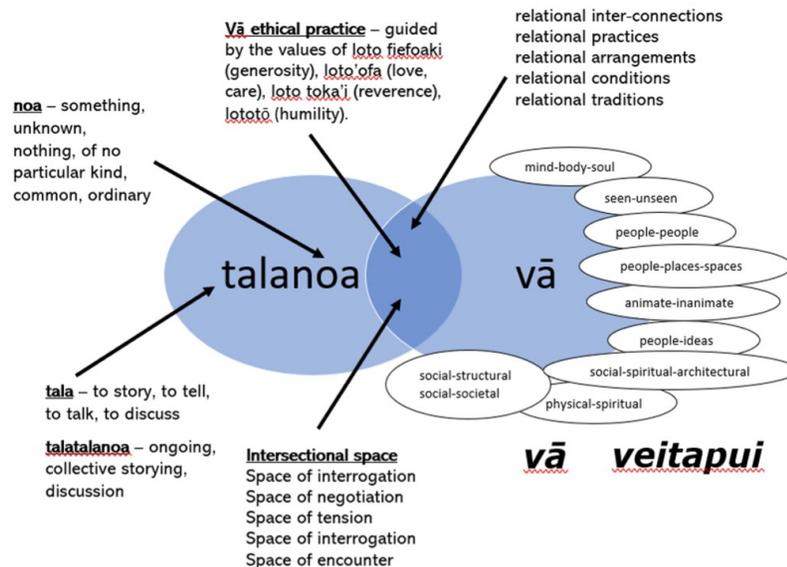
Seo, J. Y., Morton, R. P., Gerard, C., Salkeld, L., & Purdy, S. C. (2022). Persisting variance in middle ear ventilation tube insertion in Auckland children: Why ethnic disparity continues. *NZ Med J*, 135(1553), 83-90.

# Developmental outcomes of South Auckland 3-year-olds who had hearing screening

< Back to the HRC-funded research repository

Year: 2021  
Duration: 30 months  
Researchers: Dr Joan Leung, Professor Suzanne Purdy, Associate Professor Alain Vandal, Louise Dickinson, Ms Alehandrea Manuel, Dr Elizabeth Holt, Professor Randall Morton  
Proposal type: Research Activation Grant

Research design and analysis informed by Kaupapa Māori and Pan-Pacific research methodologies



[https://www.saanz.net/wp-content/uploads/2022/06/4\\_Faavae-et-al\\_Fakaloa.pdf](https://www.saanz.net/wp-content/uploads/2022/06/4_Faavae-et-al_Fakaloa.pdf)

**Tino Rangatiratanga**  
*The Principle of Self-determination*  
Tino Rangatiratanga relates to sovereignty, autonomy, control, self-determination and independence.

**Taonga Tuku Iho**  
*The Principle of Cultural Aspiration*  
Centrality and legitimacy of Te Reo Māori, Tikanga and Mātauranga Māori. Within a Kaupapa Māori paradigm, these Māori ways of knowing, doing and understanding the world are considered valid in their own right.

**Kia piki ake i ngā raruraru o te kainga**  
*The Principle of Socio-Economic Mediation*  
Mediation and assistance in the alleviation of negative pressures and disadvantages experienced by Māori communities.

**Whānau**  
*The Principle of Extended Family Structure*  
The principle of Whānau sits at the core of Kaupapa Māori. It acknowledges the relationships that Māori have to one another and to the world around them. Whānau, and the process of whakawhānauanga are key elements of Māori society and culture.

**Kaupapa**  
*The Principle of Collective Philosophy*  
The 'Kaupapa' refers to the collective vision, aspiration and vision of Māori. Kaupapa refers to the aspirations of the community.

**Te Tiriti o Waitangi**  
*The Principle of the Treaty of Waitangi*  
Te Tiriti o Waitangi (1840) is a crucial document which defines the relationship between Māori and the Crown in New Zealand. It affirms both the tangata whenua status of whānau, hapū and iwi in New Zealand, and their rights of citizenship. The Tiriti therefore provides a basis through which Māori may critically analyse relationships, challenge the status-quo, and affirm Māori rights.

**Ata**  
*The Principle of Growing Respectful Relationships*  
Ata relates specifically to the building and nurturing of relationships. It acts as a guide to the understanding of relationships and wellbeing when engaging with Māori.

[https://www.researchgate.net/publication/334450262\\_A\\_principles\\_framework\\_for\\_taking\\_action\\_on\\_MaoriIndigenous\\_Homelessness\\_in\\_AotearoaNew\\_Zealand](https://www.researchgate.net/publication/334450262_A_principles_framework_for_taking_action_on_MaoriIndigenous_Homelessness_in_AotearoaNew_Zealand)



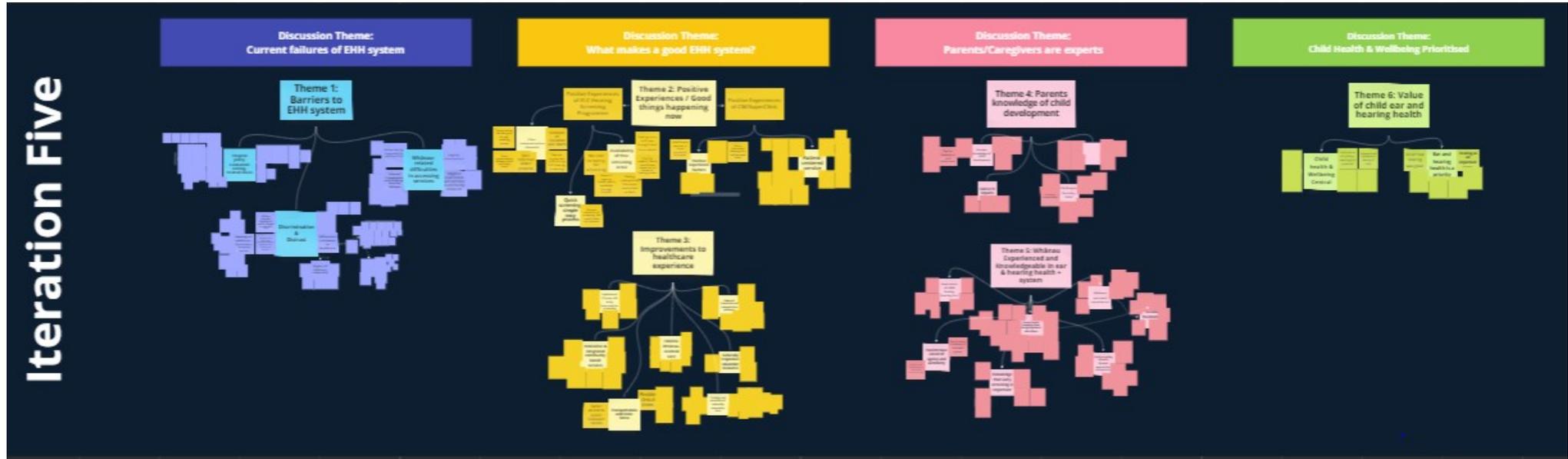
# Whānau voice and worldviews



"It's important for us to be able to look after our ears and make sure that they're working properly. And, you know, keep looking after them, because it's such an important sense." [P1]

*Question? "What are the gaps, barriers, and facilitators for Māori and Pasifika whānau when accessing hearing health services for their children?"*

# Thematic analysis...ongoing





"My problem is with the professionals, they do their job, but they have that smug sense of... that kind of... put me down. I know they do it." [P6]



"He's a six foot tall Tongan man, so sometimes people go "ooo you're big", you know, but that's their own personal, you know unconscious bias" [P2]



*“she was a little bit, sensitive and a little bit like, ....apprehensive with new people. But the people ....made her feel really comfortable, and, that made us feel comfortable. Because if she was nervous or upset, then it just would have not been a, a good time. But they explained it in a way, and we'd already, we'd kind of done a little bit of prep work beforehand” [P2]*

*“Because it's a very, sort of pākehā place. It's a very palangi kind of place and some people who are not palangi, Māori and Pasifika people particularly find it a bit difficult or unfriendly” [P4]*

# Whānau experienced and perspective

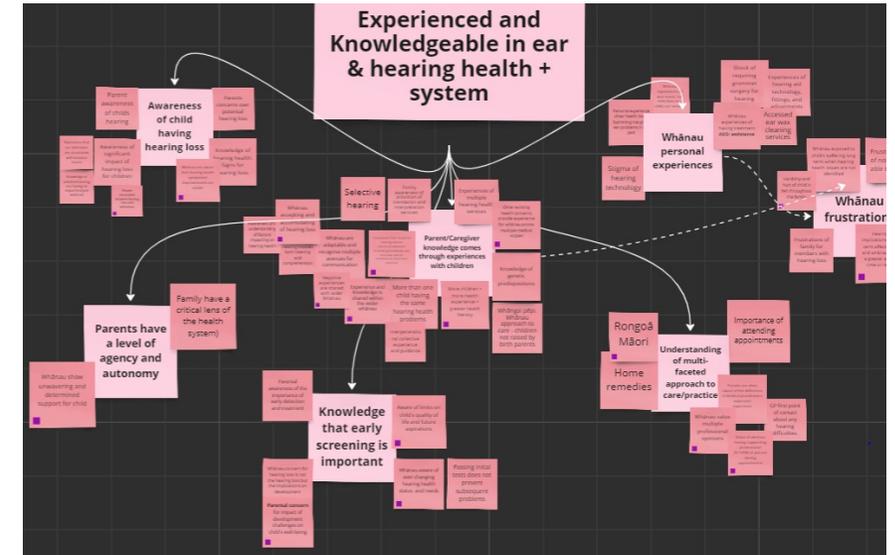
“It's very important, it's for their wellbeing. It's important for their learning, yeah, and their surrounding with family. To understand .....And she doesn't understand, how to break it down [inaudible]. So the word “watch”, you know like the /wa/, /a/, /t/, /ch/, you know, she doesn't understand that.” [P6]

“they [nieces] got blessed because they found the problem” [P5]

“I still have really big trust issues with our health system” [P1]

“even if I speak to them in te reo.....And then you get the doctor saying “oh can you explain to me what you just said”, and I say “I'm just saying what you just said”.” [P6]

“just being able to maybe put yourself in, your client's shoes or understanding that everyone comes from different walks of life, and not just paint everyone with the same brush, or not come in with those assumptions....don't start off nasty.” [P2]



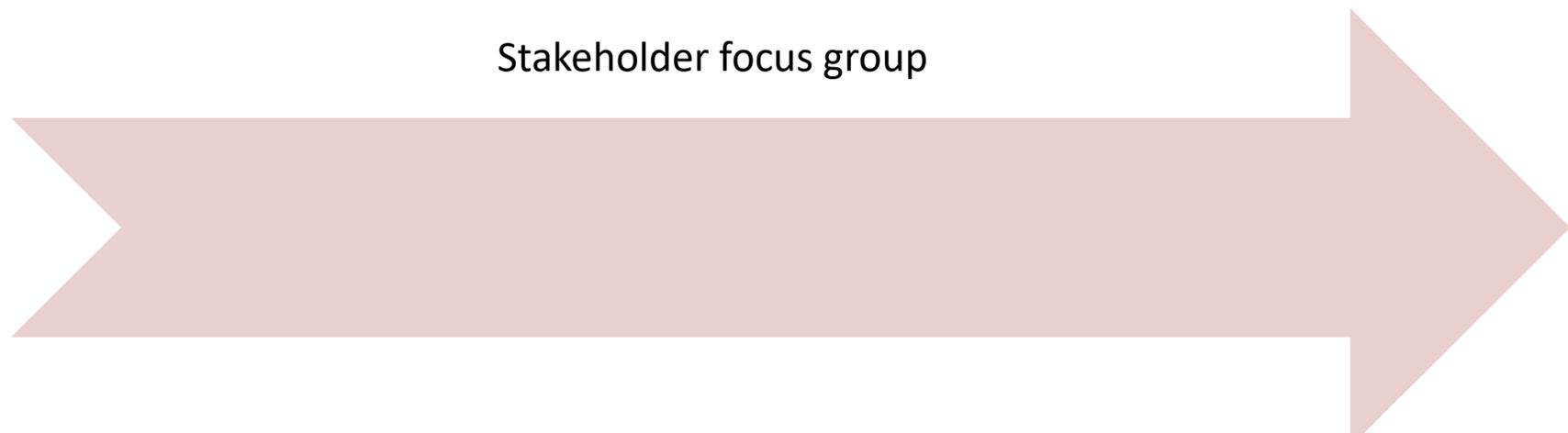
**Rich data  
from  
interviews  
informative  
about  
optimising  
services to  
support and  
engage  
whānau.....**

Partner with  
community  
groups/health to  
design evaluation of  
new ear and hearing  
healthcare  
community-based  
approaches

Complete analysis



Stakeholder focus group



# Key takehome points

- Current ear health and screening services can be improved to provide a more equitable, responsive service
- Parents and whanau are supportive of hearing screening services well before children reach school, to ensure that children with middle ear disease ('glue ear') and acquired hearing losses are identified early
- While there are a number of barriers to accessing current services, there are also strengths that can be built upon.
- To be more responsive and to identify children with hearing losses well before school, it may be feasible to screen children at the age of three in early childhood education centres – stakeholder focus groups are required to further understand how feasible this will be.



**Ngā mihi nui | Thank you**  
e.holt@auckland.ac.nz

