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# BMJ Open

## Identifying hearing care access barriers among older Pacific Island people in New Zealand : a qualitative study

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## Abstract

**Objectives** Hearing loss is one of the most prevalent conditions affecting older people and there is little known about the factors influencing the uptake of hearing services among underserved communities. Our objective was to identify the barriers to accessing hearing care services among older Pacific Island people in New Zealand.

**Settings** Eligible participants from Auckland City, New Zealand.

**Participants** Individual face-to-face in-depth interviews were conducted with thirty-six older Pacific Island people who were experienced hearing difficulties.

**Methods** A Pacific Island research methodology (*Talanoa*) and the “Health Care Access Barriers” (HCAB) model, which identifies modifiable barriers to healthcare, was used as a theoretical framework for this research. The interviews were transcribed and analysed using a deductive approach to identify HCAB themes and subthemes experienced by older Pacific Island people.

**Results** Identified themes aligned with HCAB’s themes of financial, structural and cognitive barriers and sub-themes described Pacific Island perspectives related to hearing care access in New Zealand. The financial barriers related to the high cost of hearing care and the structural barriers included transportation difficulties, limited family support, preference for community-based services and the absence of hearing care delivered by family doctors. Community norms and attitudes, communication limitations and limited awareness of hearing care services formed cognitive barriers among older Pasifika people in this study.

**Conclusion** We identified financial, structural and cognitive barriers that dissuaded older Pasifika people from accessing hearing care services. These modifiable barriers need to be eliminated or minimised to enable people to readily receive the hearing care assistance they need. It is essential to improve and develop culturally responsive models of hearing service delivery to ensure equitable access to hearing care, especially for under-served groups such as Pacific Island communities.

### Strengths and limitations of this study

- This is the first study to investigate barriers influencing hearing care access among older Pacific Island people in New Zealand.
- In addition, this research was guided by a Pacific Island research methodology that acknowledged Pacific Island cultural responsiveness.
- This study provides a foundation to inform and develop policies and strategies aimed at ensuring equitable hearing care for underserved groups like older Pacific Island people.
- The main limitation of this study is that its sampling frame reflected an urban demographic from one city. Further studies including participants from other areas may establish whether differences exist.

## Introduction

Hearing loss is one of the most prevalent conditions influencing the quality of life of older people in our communities<sup>1</sup>. Hearing deteriorates naturally with age<sup>2</sup>, undermining the most crucial sense for communication and social interaction and it also exacerbates other burdens carried by older people<sup>3</sup>. It is estimated that hearing impairment significantly affects 22% of people aged over 65, compared to 7.5% aged over 15 years old in New Zealand<sup>4</sup>. The severity and incidence rate increase as people age beyond 65 years<sup>5</sup> and the number with hearing loss among this demographic in New Zealand is expected to double in the next 50 years<sup>4</sup>. The number of people over the age of 65 in New Zealand will double to around 1.2 million in 2038 accounting for 23% of the total population, compared to 14% in 2013 and this will include 9.2 % of people of Pacific Island ethnicity (Pasifika), compared with 4.7% in 2013<sup>6</sup>. 'Pasifika' is a term used throughout this article when referring to people of Pacific Islands ethnicities. It is a term that is in formal usage by the Ministry of Education to refer to those peoples who have migrated to New Zealand from the Pacific Islands or identify with the Pacific Islands due to their ancestry or heritage<sup>7</sup>.

Pasifika people experience a higher burden of poor health outcomes and poorer access of health care compared to non-Pasifika people New Zealand. This has been attributed to health inequalities resulting from socioeconomic determinants such as higher unemployment rates, fewer economic resources and lower than average income levels<sup>8</sup>. There are limited data and information about hearing loss among Pasifika people in New Zealand. The factors that affect access to hearing health services and the delivery of services need to be better understood in order to improve hearing-related outcomes of Pasifika peoples.

The Health Care Access Barriers (HCAB) Model<sup>9</sup> is used as the theoretical framework for this research. The HCAB Model is a framework that identifies and targets modifiable health care access barriers that limit healthcare setting-patient interactions. It describes three categories of modifiable health care access barriers (financial barriers, which includes the cost of treatment; structural, which

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3 includes the organisational barriers; and cognitive barriers, which include inadequate information,  
4 prejudices, communication etc.). It is argued that these barriers are associated with decreased  
5 screening, late presentation to care, and lack of treatment, which in turn result in poor health  
6 outcomes and health disparities.  
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12 The aim of this research was to identify barriers experienced by older Pasifika people to hearing care  
13 access. This study adds much-needed information and provides information to improve hearing care  
14 outcomes for the underserved Pasifika communities in New Zealand.  
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## 19 **Materials and Methods**

### 20 **Design**

21  
22 A qualitative research methodology was used, with semi-structured interviews conducted to allow  
23 an in-depth exploration of the perceptions, attitudes and personal experiences related to hearing  
24 care services among older Pasifika people. A phenomenological and collaborative story-telling  
25 approach was selected to explore people's experiences within a Pasifika context and was focused on  
26 the issues as experienced and lived by the participants<sup>10</sup>. The Talanoa research methodology was  
27 used to allow participants to have a more meaningful engagement in the research process by  
28 ensuring cultural appropriateness, and encouraging the flow of stories and ideas during the  
29 interviews<sup>11</sup>. This Pasifika research methodology ensured that there was respect, understanding,  
30 and trust between the researchers and participants. As it is a feature of the Talanoa methodology,  
31 Research Assistants (2 males; 3 females) who were fluent in the Pacific language of the interviewee  
32 and were culturally knowledgeable conducted the interviews. All research assistants undertook a  
33 half day training conducted by the lead researcher on how to interview participants. This included  
34 the importance of the Talanoa methodology, tips and practice sessions. Free and informed written  
35 consent of the participants was obtained and the University of Auckland Human Participants Ethics  
36 Committee (UAHPEC-016878) granted ethical approval. The study conformed to the principles  
37 embodied in the Declaration of Helsinki.  
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## Participants

To be eligible, participants had to indicate that they were at least 65 years old and had some form of hearing loss. Thirty-six participants were selected from both genders (male-17; female-19) and included those who had sought hearing care assistance (n=16) and those who had not (n=20). Eight participants were from the Samoan, Tongan and Cook Island Maori ethnicities, and six each from Niuean and Fijian ethnicities. Interviews were conducted using snowball sampling techniques<sup>12</sup> facilitated through networks between the investigators, audiology clinics, and community organisations. In addition, a news article was published in a local community newspaper, which generated interest and offers to participate in this study.

## Data collection

Data were collected through face to face semi-structured interviews that took place with individual participants and a Pasifika language speaking research assistant at a public place convenient to the participant or their homes. Interviews took between 30 to 45 minutes to complete. No one else was present during the interviews to maintain privacy. An audio recording was made with a dictaphone and the audio data files were saved to password-protected computers. Interviews were transcribed, and those conducted in Pasifika languages were translated by the research assistants into English. All transcripts were returned to the participants for comment or correction and no alterations or repeat interviews were needed. Participants were recruited until theoretical saturation was achieved<sup>12</sup> and no new information was emerging.

## Coding and thematic analysis

Thematic analysis was undertaken using the six phase steps described by Braun and Clarke<sup>13</sup>. This included familiarisation with data content and the generation of codes that described features of the data. This study used a deductive thematic analysis to identify HCAB model themes. The codes were examined to enable mapping to potential themes. Finally, the themes and sub-themes were



1  
2  
3 reviewed, edited for suitability, and labelling. QSR International's NVivo 12 Software was used to  
4  
5 conduct the coding and label themes.  
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### 8 **Patient and public involvement**

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10  
11 Patients and/or public were not involved.  
12

### 13 **Results**

#### 14 **Financial Barriers**

##### 15 ***Hearing care is expensive***

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20 The participants described how the perceived high costs and a sense of embarrassment for not being  
21  
22 able to afford hearing care services discouraged them from seeking assistance.  
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27  
28 *“Some people panic when there is no money to buy the thing to put on their ear because it is*  
29  
30 *too expensive to buy them. It is in the thousands and people cannot afford it. So, they just sit*  
31  
32 *around and not worry about it and seek help”.*  
33

34  
35 *“I also think that prices need to be reasonable and affordable to our Pasifika elders. So that*  
36  
37 *our people are not ashamed to seek help and not reluctant because they are poor”.*  
38

#### 39 **Structural Barriers**

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41  
42  
43 Structural barriers related to the difficulties older Pasifika people faced when physically visiting  
44  
45 service delivery organisations despite their desire to seek assistance. This was justified by their  
46  
47 desire to have local community-based services. In addition, the participants questioned the role of  
48  
49 family doctors in promoting in promoting hearing care.  
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##### 51 ***Transportation difficulties***

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54 The lack of personal transportation and the inability to drive was reported as reason for not  
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56 accessing services, even if they wish to seek assistance.  
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3 *“Older Pasifika people do not seek help is because they do not have cars, they cannot drive*  
4 *themselves to the doctors”.*  
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### 8 **Limited family support**

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11 The absence of family assistance was reported as a reason for not seeking hearing care services. The  
12 participants discussed the reliance on family members, mostly their offspring, to get them to service  
13 providers. They hoped family members would transport them to seek assistance and also support  
14 them emotionally. They reported that they need family members to communicate for them in the  
15 English language.  
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23 *“The only thing for you to be able to go is if there was someone in the family who can speak*  
24 *well and can take us. If not, no way I can go see the doctor. I am embarrassed/shy of going*  
25 *because I cannot speak well”.*  
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30 Interestingly, the participants reported that while it is in their culture for younger generations to  
31 support and care for their elderly, times have changed.  
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35 *“There is a big change in times. In those days, while I was growing up, parents were the first*  
36 *and main priority of their children but nowadays, children get brainy, get blessed, and then*  
37 *they stop caring for their parents. They stop giving their time for their parents because they*  
38 *are busy with other things”.*  
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### 45 **Preference for community-based services**

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47  
48 Older Pasifika people reported that they would be more comfortable with a service that could come  
49 to them rather than them having to go out and seek assistance.  
50  
51  
52

53 *“I have always thought about it but I think it is easier and better if there are people that*  
54 *came around to the house to check up on people’s ears and their health. It just makes it*  
55 *easier”.*  
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### ***Expectation of family doctors***

The participants reported that family doctors could take a more active role in supporting them to seek assistance for their hearing difficulties. It was relayed that family doctors could talk to them about their hearing when conducting routine examinations.

*“When I used to visit my doctors on a monthly basis for my check-ups, they never checked my ears, despite me having ear problems”.*

*“It is not like my doctor checks my ears when I go to see him. That made me think that my ears were fine”.*

### **Cognitive Barriers**

Cognitive barriers identified in this study were those associated to Pasifika community norms, communication limitations and the lack of awareness of accessible hearing care services and funding on offer.

### ***Community norms and attitudes***

There appears to be the attitude of not acknowledging the severity of hearing difficulties among older Pasifika people. This attitude may influence people to defer seeking hearing care intervention to much later.

*“It is like they wait until their condition is worse or very bad, that is when they will start to seek help”.*

The participants described a culture of diffidence among Pasifika people, where they regard themselves as shy and reserved. Their lack of engagement with hearing health services could be because of the perceived fear of stigmatisation, being mocked and having perceptions of criticism or rejection.

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3 *"This is also the first time I am speaking about this. I am really ashamed to speak about my*  
4 *hearing loss".*  
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8 *"I know that I do not tell people that I have hearing aids on because I know that if I tell them*  
9 *then they would jokingly make remarks and tease me about the situation".*  
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13 There was also the emergence of a sub-theme that explored religious beliefs about impairment  
14 among older Pasifika people. There is a belief that it is God's will that one has hearing impairment  
15 and that only God can fix it.  
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20 *"I am a strong believer that whatever happens to me is the will of God. I always pray, and*  
21 *beg God to show me ways so that I can get better. Remember always, that the doctor of all*  
22 *doctors is God".*  
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### 28 **Communication limitations**

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31 The participants described how having limited English, the service workforce having limited or no  
32 capacity to converse in Pasifika languages and the absence of interpreter services reasons for not  
33 seeking assistance.  
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38 *"Doctors need to be able to speak Pasifika languages. Language is huge barrier for us older*  
39 *Pasifika people".*  
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43 *"It is easier to talk in our language and maybe that is the reason why our elderly people are*  
44 *like that (not seeking services)".*  
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48 *"Interpreters are really important. For Pasifika people with no children, maybe an interpreter*  
49 *at the doctors can help".*  
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### 54 **Awareness of available hearing care services and funding**

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3 The participants suggested that there was little awareness of hearing care services offered. It  
4 appears that older Pasifika people do not understand what services are available and have difficulty  
5 understanding existing information.  
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10 *“Older people do not really have any knowledge of services that exist that they are able to*  
11 *seek out for help and there is very little communication on who can help and where help can*  
12 *be found so they are left on their own to find it out themselves”.*  
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18 In addition, people do not know of existing financial assistance schemes to help them access hearing  
19 care services. This demotivates older Pasifika people who are already put off by the high costs to  
20 access assistance for the hearing difficulties.  
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25 *“If there was a scheme to subsidise the cost of hearing aids it would be better especially for*  
26 *those that have work related issues with hearing”.*  
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## 30 **Discussion**

### 31 **Summary of the results**

32  
33 We identified Pasifika perspectives of financial, structural and cognitive barriers to hearing care  
34 access. Cognitive access barriers that may, alone or in combination, adversely affect access to  
35 hearing care services may further compound financial and structural barriers.  
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### 43 **Comparison with the existing literature**

44  
45 Cost remains a reason for deferring primary care in New Zealand <sup>14</sup>. Older Pasifika people believe  
46 that the financial costs associated with accessing hearing care is too expensive. This has been  
47 reinforced by their own experiences and that of others. The NZ hearing healthcare sector is mostly  
48 administered by privately owned audiology practices (for adult hearing loss) and the public sector  
49 (for paediatric hearing loss and medical conditions). For adults, the audiology practices often provide  
50 free hearing screening testing, and the costs are bundled into the price of hearing aids when  
51 purchased. Patients are required to pay, as a co-payment fee, on average \$1500 to acquire hearing  
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3 aids and a further cost of approximately \$165 for maintenance services<sup>15</sup>. Older Pasifika people  
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5 were unaware of financial support schemes available to help people access services. The NZ  
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7 government provides funding via several schemes that will either partially or fully fund a person's  
8  
9 hearing aids depending upon the cause of the loss and their situation. There are funding options  
10  
11 such as hearing aid government subsidy of \$511 per ear, possible government funding for eligible  
12  
13 occupational hearing loss and social welfare deductible loans of \$1000 to assist with purchasing  
14  
15 hearing aids<sup>16</sup>. While it is recognised that financial barriers to hearing care services exist in many  
16  
17 low-to-middle-income countries<sup>17</sup>, this study shows that it is also an issue among underserved  
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19 communities in developed nations.  
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24 Transportation to service providers was a structural barrier identified in this study that could be  
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26 modified to some extent. This could be in the form of service provider-led transportation service,  
27  
28 subsidised transportation costs and the provision of local community-based services. This could also  
29  
30 be extended to family members who act as support resource for older Pasifika people. Family  
31  
32 connectedness has been seen as an integral part of the Pasifika lifestyle, where there is  
33  
34 interdependence between individuals<sup>18</sup> and implicit in this would be the understanding that the  
35  
36 younger family members would look after the elderly. However, this way of living may be changing  
37  
38 owing to busy work commitments and the negative impact and challenge of New Zealand  
39  
40 mainstream culture on the younger Pasifika generation<sup>18 19</sup>. It also appears that family doctors who  
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42 routinely examine older Pasifika people for other ailments are trusted to flag hearing issues. There is  
43  
44 a perception among older Pasifika people that doctors should talk to their patients about the state  
45  
46 of their hearing and refer them to appropriate hearing care services if needed. This may be  
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48 something to consider for health policy makers as doctors have a greater access to people seeking  
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50 assistance for conditions unrelated to hearing.  
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56 Cognitive barriers included community norms and attitudes having a negative influence on the  
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58 uptake of hearing services. There may be an attitude of denial or minimising the severity of hearing  
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3 impairment in the community. This attitude corroborates other evidence that people defer hearing  
4 care intervention for up to ten years following the onset of their hearing problems<sup>20</sup>. Pasifika people  
5 regard themselves as shy and reserved, and individuals fear being subjected to ridicule and stigma.  
6  
7 Personal ailments are therefore private, and a feeling of embarrassment prevents them from  
8  
9 acknowledging their hearing difficulties and older Pasifika may not want to emotionally and  
10 financially burden their loved ones with their problems<sup>18,19</sup>. In addition, a religious or spiritual belief  
11 that hearing difficulties is Gods' Will and only God can heal them has dissuaded older Pasifika people  
12 from accessing medical care. Pasifika people have a holistic view of health where a positive and  
13 balanced relationship with God, people and the environment are regarded as paramount to  
14 achieving health and wellbeing<sup>18</sup>. Spirituality may be used as a motivator to seek hearing care  
15 assistance and may require the influence of religious leaders in the community.  
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28 Linguistic barriers together with the absence of interpreter assistance negatively influence older  
29 Pasifika people's experience when engaging with hearing care services. Language barriers and mono-  
30 cultural assumptions and practices of health care professionals and health care service providers are  
31 known to be barriers to health care access among older Pasifika people<sup>19</sup>. Hearing service providers  
32 should ensure that services and policies are culturally responsive to Pasifika needs and are  
33 entrenched in community settings such as churches and local organisations. Given the other barriers  
34 identified in the hearing sector, and the growing numbers of Pasifika people with age-related  
35 hearing loss, this barrier may be the most easily addressed by audiology practices.  
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### 47 **Strengths and limitations**

48  
49 The strength of this research is that it is the first to look at hearing care access among older Pasifika  
50 people in New Zealand. In addition, it was guided by a Pasifika research methodology that  
51 responded to Pasifika cultural responsiveness, interviews were conducted in appropriate languages  
52 by culturally appropriate researchers, and the analysis had a strong theoretical basis through the  
53 HCAB Model, which led to insights that will allow practical changes to the hearing health service. The  
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3 main limitation of this study is that its sampling frame reflected an urban demographic from one  
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5 city. There are Pasifika communities in other parts of the country that may not be representative of  
6  
7 this sample. Further studies in these other groups may establish whether differences exist.  
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9

### 10 **Implications for policy, practice and future research**

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12  
13 The findings of this research provide an important foundation to improve the uptake of hearing  
14  
15 health services. The modifiable financial, structural and cognitive factors identified need to be  
16  
17 targeted to minimise and or eliminate its influence on hearing service seeking behaviour. There  
18  
19 could be a tailored awareness programme targeting Pacific Island communities promoting hearing  
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21 care and providing information that supports people to seek assistance. In addition, hearing service  
22  
23 delivery needs to recognise Pacific Island cultural responsiveness in their practice to motivate people  
24  
25 to seek assistance. Future research should be aimed at testing community-based interventions that  
26  
27 motivate people to seek hearing care services.  
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### 31 **Conclusion**

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33  
34 It is a public health failure that modifiable barriers deny access for essential hearing care services to  
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36 underserved communities, even in high-income countries. The combination of these factors  
37  
38 eventually contributes to poor hearing-health outcomes and health disparities. There needs to be  
39  
40 further research and evidence-based development of interventions that mitigate these barriers to  
41  
42 enable people to readily receive the hearing care assistance they need. It is essential to improve and  
43  
44 develop culturally responsive models of hearing service delivery to ensure equitable access to  
45  
46 hearing care, especially for underserved groups such as Pasifika communities.  
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## Footnotes

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26  
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28  
29 IL, PT and VN) significantly contributed in the study design and the critical review of the manuscript.  
30  
31 The principal investigator (RR) collected, analysed, interpreted the data and wrote the first draft of  
32  
33 the manuscript. The authors (DW, IL, PT and VN) highly contributed in the analysis and  
34  
35 interpretation of data. Final approval was given by all authors.  
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40  
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42  
43

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45

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49  
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51  
52 (Ref: UAHPEC-016878). Written consent has been obtained from all interviewees to participate after  
53  
54 giving them brief explanations about the purpose of the study. The study participants were informed  
55  
56 about their right to participate or not to participate in the study.  
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3 **Data sharing statement** The interview guide is available from the first author on request.  
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For peer review only

**Manuscript:** Identifying hearing care access barriers among older Pasifika people in New Zealand

Ravi Reddy, David Welch, Ieti Lima, Peter Thorne, Vili Nosa

### Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

Developed from:

Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

No. Item	Guide questions/description	Reported in Section
<b>Domain 1: Research team and reflexivity</b>		Page 1
<i>Personal Characteristics</i>		
1. Interviewer/facilitator	Which author/s conducted the interview or focus group?	Methods; Design
2. Credentials	What were the researcher's credentials? E.g. PhD, MD	Submission
3. Occupation	What was their occupation at the time of the study?	Submission
4. Gender	Was the researcher male or female?	Methods; Design
5. Experience and training	What experience or training did the researcher have?	Methods; Design
<i>Relationship with participants</i>		
6. Relationship established	Was a relationship established prior to study commencement?	No
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Methods; Design/Participants
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Methods; Design

<b>Domain 2: study design</b>		
<i>Theoretical framework</i>		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Methods; Design/Coding and thematic analysis
<i>Participant selection</i>		
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Methods; Participants
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Methods; Participants
12. Sample size	How many participants were in the study?	Methods; Participants
13. Non-participation	How many people refused to participate or dropped out? Reasons?	Not determined.
<i>Setting</i>		
14. Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	Methods; Data collection.
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	Methods; Data collection.
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Methods; Participants
<i>Data collection</i>		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Available on request. No
18. Repeat interviews	Were repeat inter views carried out? If yes, how many?	No
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Methods; Data collection.
20. Field notes	Were field notes made during and/or after the inter view or focus group?	No

21. Duration	What was the duration of the inter views or focus group?	Methods; Data collection.
22. Data saturation	Was data saturation discussed?	Methods; Data collection.
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	Methods; Data collection.
<b>Domain 3: analysis and findings</b>		
<i>Data analysis</i>		
24. Number of data coders	How many data coders coded the data?	N/A
25. Description of the coding tree	Did authors provide a description of the coding tree?	N/A
26. Derivation of themes	Were themes identified in advance or derived from the data?	Methods; Coding and thematic analysis
27. Software	What software, if applicable, was used to manage the data?	Methods; Coding and thematic analysis
28. Participant checking	Did participants provide feedback on the findings?	Not yet. Will be done in a seminar presentation.
<i>Reporting</i>		
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Results. Quotations were not identified by participant number.
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Yes, Results and discussion
31. Clarity of major themes	Were major themes clearly presented in the findings?	Yes. they were. Results
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Discussion

# BMJ Open

## Identifying hearing care access barriers among older Pacific Island people in New Zealand : a qualitative study

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40 *and Health Sciences, University of Auckland, New Zealand.*  
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48 **Keywords:** access to health care; ageing; health inequalities; health services; qualitative research  
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51 **Word count:** 3181 words  
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## Abstract

**Objectives** Hearing loss is one of the most prevalent conditions affecting older people. In addition, there is little known about the factors influencing the uptake of hearing services among underserved communities. Our objective was to identify the barriers to accessing hearing care services among older Pacific Island people in New Zealand.

**Settings** Eligible participants from Auckland City, New Zealand.

**Participants** Individual face-to-face in-depth interviews were conducted with thirty-six older Pacific Island people who were experienced hearing difficulties.

**Methods** A Pacific Island research methodology (*Talanoa*) and the “Health Care Access Barriers” (HCAB) model, which identifies modifiable barriers to healthcare, was used as a theoretical framework for this research. The interviews were transcribed and analysed using a deductive approach to identify HCAB themes and subthemes experienced by older Pacific Island people.

**Results** Identified themes aligned with HCAB’s themes of financial, structural and cognitive barriers and sub-themes described Pacific Island perspectives related to hearing care access in New Zealand. The financial barriers related to the high cost of hearing care and the structural barriers included transportation difficulties, limited family support, preference for community-based services and the absence of hearing care delivered by family doctors. Community norms and attitudes, communication limitations and limited awareness of hearing care services formed cognitive barriers among older Pasifika people in this study.

**Conclusion** We identified financial, structural and cognitive barriers that dissuaded older Pasifika people from accessing hearing care services. These modifiable barriers need to be eliminated or minimised to enable people to readily receive the hearing care assistance they need. It is essential to improve and develop culturally responsive models of hearing service delivery to ensure equitable access to hearing care, especially for under-served groups such as Pacific Island communities.

### Strengths and limitations of this study

- This is the first study to investigate barriers influencing hearing care access among older Pacific Island people in New Zealand.
- In addition, this research was guided by a Pacific Island research methodology that acknowledged Pacific Island cultural responsiveness.
- This study provides a foundation to inform and develop policies and strategies aimed at ensuring equitable hearing care for underserved groups like older Pacific Island people.
- The main limitation of this study is that its sampling frame reflected an urban demographic from one city. Further studies including participants from other areas may establish whether differences exist.

## Introduction

Hearing loss is one of the most prevalent conditions influencing the quality of life of older people in our communities<sup>1</sup>. Hearing deteriorates naturally with age<sup>2</sup>, undermining the most crucial sense for communication and social interaction and it also exacerbates other burdens carried by older people<sup>3</sup>. It is estimated that hearing impairment significantly affects 22% of people aged over 65, compared to 7.5% aged over 15 years in New Zealand<sup>4</sup>. The severity and incidence increase as people age beyond 65 years<sup>5</sup>. Interestingly, the number of people with hearing loss among this demographic in New Zealand is expected to double in the next 50 years<sup>4</sup>. This will include 9.2 % of people of Pacific Island ethnicity (Pasifika), compared with 4.7% in 2013<sup>6</sup>. 'Pasifika' is a term used throughout this article when referring to people of Pacific Islands ethnicities<sup>7</sup>.

Pasifika people experience a higher burden of poor health outcomes and poorer access of health care compared to non-Pasifika people New Zealand. This has been attributed to health inequalities resulting from socioeconomic determinants such as higher unemployment rates, fewer economic resources and lower than average income levels<sup>8</sup>. There are limited data and information about hearing loss among Pasifika people in New Zealand. The factors that affect access to hearing health services and the delivery of services need to be better understood in order to improve hearing-related outcomes of Pasifika peoples.

The aim of this research was to identify barriers to hearing care access experienced by older (65y+) Pasifika people. The Health Care Access Barriers (HCAB) Model<sup>9</sup> is used as the theoretical framework for this research. The HCAB Model is a framework that identifies and targets modifiable health care access barriers that limit healthcare setting-patient interactions. It describes three categories of modifiable health care access barriers (financial barriers, which includes the cost of treatment; structural, which includes the organisational barriers; and cognitive barriers, which include inadequate information, prejudices, communication etc.). It is argued that these barriers are associated with decreased screening, late presentation to care, and lack of treatment, which in turn

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3 result in poor health outcomes and health disparities. Overcoming these disparities requires  
4 improved understanding of the factors that influence the uptake of hearing care among older  
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8 Pasifika People.  
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## 10 **Materials and Methods**

### 11 **Design**

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16 A qualitative research methodology was used, with semi-structured interviews conducted to allow  
17 an in-depth exploration of the perceptions, attitudes and personal experiences related to hearing  
18 care services among older Pasifika people. A phenomenological and collaborative story-telling  
19 approach was selected to explore people's experiences within a Pasifika context and was focused on  
20 the issues as experienced and lived by the participants<sup>10</sup>. The Talanoa research methodology was  
21 used to allow participants to have a more meaningful engagement in the research process by  
22 ensuring cultural appropriateness, and encouraging the flow of stories and ideas during the  
23 interviews<sup>11</sup>. This Pasifika research methodology ensured that there was respect, understanding,  
24 and trust between the researchers and participants. As it is a feature of the Talanoa methodology,  
25 Research Assistants (2 males; 3 females) who were fluent in the Pacific language of the interviewee  
26 and were culturally knowledgeable conducted the interviews. All research assistants undertook a  
27 half-day training session conducted by the lead researcher on how to interview participants. This  
28 included the importance of the Talanoa methodology, tips and practice sessions. The University of  
29 Auckland Human Participants Ethics Committee (UAHPEC-016878) granted ethical approval. The  
30 study conformed to the principles embodied in the Declaration of Helsinki.  
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### 50 **Participants**

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53 To be eligible, participants had to identify with a Pasifika ethnicity, indicate that they were at least  
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56 65 years old and were experiencing hearing difficulties. Participants were selected from both  
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58 genders and included those who had sought hearing care assistance and those who had not.  
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## Recruitment

Recruitment was conducted using snowball sampling techniques<sup>12</sup> facilitated through networks between the investigators, audiology clinics, and community organisations. Advertisements were circulated to these organisations to promote the study. In addition, a news article was published in a local community newspaper, which generated interest and offers to participate in this study. The participants contacted the research team to express interest in participating. . The study was explained and participant information sheets distributed before each participant signed an informed consent form. The participants had the option of choosing the participant information sheet and consent form in their preferred Pasifika language. All participants received a \$50 grocery voucher as a gratitude for their time and assistance.

## Data collection

Data were collected through face to face semi-structured interviews that took place with individual participants and a Pasifika language speaking research assistant at participant homes or at a public place convenient to the participant. Interviews took between 30 to 45 minutes to complete. No one else was present during the interviews to maintain privacy. An audio recording was made with a dictaphone and the audio data files were saved to password-protected computers. Interviews were transcribed, and those conducted in Pasifika languages were translated by the research assistants into English. All transcripts were returned to the participants for comment or correction and no alterations or repeat interviews were needed. Participants were recruited until theoretical saturation was achieved<sup>12</sup> and no new information was emerging.

## Coding and thematic analysis

Thematic analysis was undertaken by the lead author using the six phase steps described by Braun and Clarke<sup>13</sup>. This included familiarisation with data content and the generation of codes that described features of the data. This study used a deductive thematic analysis to identify HCAB

1  
2  
3 model themes. The codes were examined to enable mapping to potential themes. Finally, the  
4 themes and sub-themes were reviewed, edited for suitability, and labelling. We explored if other  
5 terms could offer better description of the themes. These themes and codes were validated through  
6 consensus of the research group. NVivo 12 (QSR International Inc., Victoria) Software was used to  
7 conduct the coding and label themes.  
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### 13 14 15 **Patient and public involvement**

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18 Patients and/or public were not involved.  
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### 20 21 **Results**

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23 Thirty-six participants were selected from both genders (male-17; female-19) and included those  
24 who had sought hearing care assistance (n=16) and those who had not (n=20). Eight participants  
25 were of Samoan, Tongan and Cook Island Maori ethnicities, and six each of Niuean and Fijian  
26 ethnicities. All participants were from Auckland, New Zealand.  
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### 33 34 **Financial Barriers**

#### 35 36 ***Hearing care is expensive***

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39 The participants described how the perceived high costs and a sense of embarrassment for not being  
40 able to afford hearing care services discouraged them from seeking assistance.  
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43  
44 *“Some people panic when there is no money to buy the thing to put on their ear because it is*  
45 *too expensive to buy them. It is in the thousands and people cannot afford it. So, they just sit*  
46 *around and not worry about it and seek help”.*  
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51 *“I also think that prices need to be reasonable and affordable to our Pasifika elders. So that*  
52 *our people are not ashamed to seek help and not reluctant because they are poor”.*  
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### 56 57 **Structural Barriers**

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3 Structural barriers related to the difficulties older Pasifika people faced when physically visiting  
4 service delivery organisations despite their desire to seek assistance. This was justified by their  
5 desire to have local community-based services. In addition, the participants questioned the role of  
6 family doctors in promoting hearing care.  
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### 10 11 12 **Transportation difficulties**

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15 The lack of personal transportation and the inability to drive was reported as reason for not  
16 accessing services, even if they wish to seek assistance.  
17

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20 *“Older Pasifika people do not seek help is because they do not have cars, they cannot drive*  
21 *themselves to the doctors”.*  
22  
23

### 24 25 26 **Limited family support**

27  
28  
29 The absence of family assistance was reported as a reason for not seeking hearing care services. The  
30 participants discussed the reliance on family members, mostly their offspring, to get them to service  
31 providers. They hoped family members would transport them to seek assistance. They reported that  
32 they need family members to communicate for them in the English language. It appears that the  
33 presence of family members supported participants emotionally.  
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41 *“The only thing for you to be able to go is if there was someone in the family who can speak*  
42 *well and can take us. If not, no way I can go see the doctor. I am embarrassed/shy of going*  
43 *because I cannot speak well”.*  
44  
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48  
49 Interestingly, the participants reported that while it is in their culture for younger generations to  
50 support and care for their elderly, times have changed.  
51

52  
53 *“There is a big change in times. In those days, while I was growing up, parents were the first*  
54 *and main priority of their children but nowadays, children get brainy, get blessed, and then*  
55 *they stop caring for their parents. They stop giving their time for their parents because they*  
56 *are busy with other things”.*  
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### ***Preference for community-based services***

Older Pasifika people reported that they would be more comfortable with a service that could come to them rather than them having to go out and seek assistance.

*“I have always thought about it but I think it is easier and better if there are people that came around to the house to check up on people’s ears and their health. It just makes it easier”.*

### ***Expectation of family doctors***

The participants reported that family doctors could take a more active role in supporting them to seek assistance for their hearing difficulties. It was relayed that family doctors could talk to them about their hearing when conducting routine examinations.

*“When I used to visit my doctors on a monthly basis for my check-ups, they never checked my ears, despite me having ear problems”.*

*“It is not like my doctor checks my ears when I go to see him. That made me think that my ears were fine”.*

### **Cognitive Barriers**

Cognitive barriers identified in this study were those associated to Pasifika community norms, communication limitations and the lack of awareness of accessible hearing care services and funding on offer.

### ***Community norms and attitudes***

There appears to be the attitude of not acknowledging the severity of hearing difficulties among older Pasifika people. This attitude may influence people to defer seeking hearing care intervention to much later.

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3 *“It is like they wait until their condition is worse or very bad, that is when they will start to*  
4 *seek help”.*  
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8 The participants described a culture of diffidence among Pasifika people, where they regard  
9 themselves as shy and reserved. Their lack of engagement with hearing health services could be  
10 because of the perceived fear of stigmatisation, being mocked and having perceptions of criticism or  
11 rejection.  
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18 *“This is also the first time I am speaking about this. I am really ashamed to speak about my*  
19 *hearing loss”.*  
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22  
23 *“I know that I do not tell people that I have hearing aids on because I know that if I tell them*  
24 *then they would jokingly make remarks and tease me about the situation”.*  
25  
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27

28 There was also the emergence of a sub-theme that explored religious beliefs about impairment  
29 among older Pasifika people. There is a belief that it is God’s will that one has hearing impairment  
30 and that only God can fix it.  
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34  
35 *“I am a strong believer that whatever happens to me is the will of God. I always pray, and*  
36 *beg God to show me ways so that I can get better. Remember always, that the doctor of all*  
37 *doctors is God”.*  
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#### 42 43 **Communication limitations** 44

45 The participants described how having limited English, the service workforce having limited or no  
46 capacity to converse in Pasifika languages and the absence of interpreter services reasons for not  
47 seeking assistance.  
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52  
53 *“Doctors need to be able to speak Pasifika languages. Language is huge barrier for us older*  
54 *Pasifika people”.*  
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3 *“It is easier to talk in our language and maybe that is the reason why our elderly people are*  
4 *like that (not seeking services)”.*  
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8 *“Interpreters are really important. For Pasifika people with no children, maybe an interpreter*  
9 *at the doctors can help”.*  
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### 12 13 **Awareness of available hearing care services and funding** 14

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16 The participants suggested that there was little awareness of hearing care services offered. It  
17 appears that older Pasifika people do not understand what services are available and have difficulty  
18 understanding existing information.  
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22  
23 *“Older people do not really have any knowledge of services that exist that they are able to*  
24 *seek out for help and there is very little communication on who can help and where help can*  
25 *be found so they are left on their own to find it out themselves”.*  
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30  
31 In addition, people do not know of existing financial assistance schemes to help them access hearing  
32 care services. This demotivates older Pasifika people who are already put off by the high costs to  
33 access assistance for the hearing difficulties.  
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37  
38 *“If there was a scheme to subsidise the cost of hearing aids it would be better especially for*  
39 *those that have work related issues with hearing”.*  
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## 43 **Discussion** 44

### 45 46 **Summary of the results** 47

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49 We identified Pasifika perspectives of financial, structural and cognitive barriers to hearing care  
50 access. Cognitive access barriers that may, alone or in combination, adversely affect access to  
51 hearing care services may further compound financial and structural barriers.  
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### 55 56 **Comparison with the existing literature** 57 58 59 60

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2  
3 Cost remains a reason for deferring primary care in New Zealand <sup>14</sup>. Older Pasifika people believe  
4 that the financial costs associated with accessing hearing care is too expensive. This has been  
5 reinforced by their own experiences and that of others. The NZ hearing healthcare sector is mostly  
6 administered by privately owned audiology practices (for adult hearing loss) and the public sector  
7 (for paediatric hearing loss and medical conditions). For adults, the audiology practices often provide  
8 free hearing screening testing, and the costs are bundled into the price of hearing aids when  
9 purchased. Patients are required to pay, as a co-payment fee, on average \$1500 to acquire hearing  
10 aids and a further cost of approximately \$165 for maintenance services <sup>15</sup>. Older Pasifika people  
11 were unaware of financial support schemes available to help people access services. The NZ  
12 government provides funding via several schemes that will either partially or fully fund a person's  
13 hearing aids depending upon the cause of the loss and their situation. There are funding options  
14 such as hearing aid government subsidy of \$511 per ear, possible government funding for eligible  
15 occupational hearing loss and social welfare deductible loans of \$1000 to assist with purchasing  
16 hearing aids <sup>16</sup>. Our findings suggest that financial barriers to hearing care services is not exclusive to  
17 low-to-middle-income countries <sup>17</sup>.

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37 Transportation to service providers was a structural barrier identified in this study that could be  
38 modified to some extent. This could be in the form of service provider-led transportation service,  
39 subsidized transportation costs and the provision of local community-based services. This could also  
40 be extended to family members who act as support resource for older Pasifika people. Family  
41 connectedness has been seen as an integral part of the Pasifika lifestyle, where there is  
42 interdependence between individuals <sup>18</sup> and implicit in this would be the understanding that the  
43 younger family members would look after the elderly. However, this way of living may be changing  
44 owing to busy work commitments and the negative impact and challenge of New Zealand  
45 mainstream culture on the younger Pasifika generation <sup>18 19</sup>.

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3 It also appears that family doctors who routinely examine older Pasifika people for other ailments  
4 are trusted to flag hearing issues. There is a perception among older Pasifika people that doctors  
5 should talk to their patients about the state of their hearing and refer them to appropriate hearing  
6 care services if needed. This may not specifically relate to hearing but general healthcare. A survey  
7 exploring patient expectations of doctors found that there was high agreement that doctors should  
8 know patient health issues and coordinate necessary care over time <sup>20</sup>. This may be something to  
9 consider for health policy makers as doctors have a greater access to people seeking assistance for  
10 conditions unrelated to hearing.  
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22 Cognitive barriers included community norms and attitudes having a negative influence on the  
23 uptake of hearing services. There may be an attitude of denial or minimising the severity of hearing  
24 impairment in the community. This attitude corroborates other evidence that people defer hearing  
25 care intervention for up to ten years following the onset of their hearing problems <sup>21</sup>. Pasifika people  
26 regard themselves as shy and reserved, and individuals fear being subjected to ridicule and stigma.  
27 Personal ailments are therefore private, and a feeling of embarrassment prevents them from  
28 acknowledging their hearing difficulties and older Pasifika may not want to emotionally and  
29 financially burden their loved ones with their problems <sup>18,19</sup>. In addition, a religious or spiritual belief  
30 that hearing difficulties is God's will and only God can heal them has dissuaded older Pasifika people  
31 from accessing medical care. Pasifika people have a holistic view of health where a positive and  
32 balanced relationship with God, people and the environment are regarded as paramount to  
33 achieving health and wellbeing <sup>18</sup>. Spirituality may be used as a motivator to seek hearing care  
34 assistance and may require the influence of religious leaders in the community.  
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51 Linguistic barriers together with the absence of interpreter assistance negatively influence older  
52 Pasifika people's experience when engaging with hearing care services. Language barriers and mono-  
53 cultural assumptions and practices of health care professionals and health care service providers are  
54 known to be barriers to health care access among older Pasifika people <sup>19</sup>. Hearing service providers  
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3 should ensure that services and policies are culturally responsive to Pasifika needs and are  
4 entrenched in community settings such as churches and local organisations. Given the other barriers  
5 identified in the hearing sector, and the growing numbers of Pasifika people with age-related  
6 hearing loss, this barrier may be the most easily addressed by audiology practices.  
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### 13 **Strengths and limitations**

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15 The strength of this research is that it is the first to look at hearing care access among older Pasifika  
16 people in New Zealand. In addition, it was guided by a Pasifika research methodology that  
17 responded to Pasifika cultural responsiveness, interviews were conducted in appropriate languages  
18 by culturally appropriate researchers, and the analysis had a strong theoretical basis through the  
19 HCAB Model, which led to insights that will allow practical changes to the hearing health service. The  
20 main limitation of this study is that its sampling frame reflected an urban demographic from one  
21 city. There are Pasifika communities in other parts of the country that may not be representative of  
22 this sample. Further studies in these other groups may establish whether differences exist.  
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### 34 **Implications for policy, practice and future research**

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36 The findings of this research provide an important foundation to improve the uptake of hearing  
37 health services. The modifiable financial, structural and cognitive factors identified need to be  
38 targeted to minimise and or eliminate its influence on hearing service seeking behaviour. It appears  
39 that these factors can also be interconnected. As such, the development of multi-level interventions  
40 may be needed to promote hearing care among older Pasifika people. These interventions need to  
41 collectively target the financial, structural and cognitive factors. There could be a tailored awareness  
42 programme targeting Pacific Island communities promoting hearing care and providing information  
43 that supports people to seek assistance. There appears to be an opportunity to incorporate hearing  
44 care services into existing Pasifika health care facilities. This may alleviate concerns of transportation  
45 costs to get to another service provider and provide motivation of attending a facility people are  
46 familiar with. Until the development of such integrated services, hearing service delivery needs to  
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3 recognise Pacific Island cultural responsiveness in their practice to motivate people to seek  
4 assistance. Future research should be aimed at testing community-based interventions that  
5 motivate people to seek hearing care services.  
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## 10 **Conclusion**

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13 This study adds much-needed information and provides information to improve hearing care  
14 outcomes for the underserved Pasifika communities in New Zealand. It raises important questions  
15 about awareness, affordability and ease of access related to hearing care services. It is a public  
16 health failure that modifiable barriers deny access for essential hearing care services to underserved  
17 communities, even in high-income countries. The combination of these factors eventually  
18 contributes to poor hearing-health outcomes and health disparities. There needs to be further  
19 research and evidence-based development of interventions that mitigate these barriers to enable  
20 people to readily receive the hearing care assistance they need. It is essential to improve and  
21 develop culturally responsive models of hearing service delivery to ensure equitable access to  
22 hearing care, especially for underserved groups such as Pasifika communities.  
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### 13 **Footnotes**

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16 **Contributors** All authors have contributed significantly in this research work. The authors (RR, DW,  
17 IL, PT and VN) significantly contributed in the study design and the critical review of the manuscript.  
18  
19 The principal investigator (RR) collected, analysed, interpreted the data and wrote the first draft of  
20 the manuscript. The authors (DW, IL, PT and VN) highly contributed in the analysis and  
21 interpretation of data. Final approval was given by all authors.  
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33 **Competing interests** None declared.  
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40 (Ref: UAHPEC-016878). Written consent has been obtained from all interviewees to participate after  
41 giving them brief explanations about the purpose of the study. The study participants were informed  
42 about their right to participate or not to participate in the study.  
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49 **Provenance and peer review** Not commissioned; externally peer reviewed.  
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52 **Data sharing statement** The interview guide is available from the first author on request.  
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**Manuscript:** Identifying hearing care access barriers among older Pasifika people in New Zealand

Ravi Reddy, David Welch, Ieti Lima, Peter Thorne, Vili Nosa

### Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

Developed from:

Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

No. Item	Guide questions/description	Reported in Section
<b>Domain 1: Research team and reflexivity</b>		Page 1
<i>Personal Characteristics</i>		
1. Interviewer/facilitator	Which author/s conducted the interview or focus group?	Methods; Design
2. Credentials	What were the researcher's credentials? E.g. PhD, MD	Submission
3. Occupation	What was their occupation at the time of the study?	Submission
4. Gender	Was the researcher male or female?	Methods; Design
5. Experience and training	What experience or training did the researcher have?	Methods; Design
<i>Relationship with participants</i>		
6. Relationship established	Was a relationship established prior to study commencement?	No
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Methods; Design/Participants
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Methods; Design

<b>Domain 2: study design</b>		
<i>Theoretical framework</i>		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Methods; Design/Coding and thematic analysis
<i>Participant selection</i>		
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Methods; Participants
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Methods; Participants
12. Sample size	How many participants were in the study?	Methods; Participants
13. Non-participation	How many people refused to participate or dropped out? Reasons?	Not determined.
<i>Setting</i>		
14. Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	Methods; Data collection.
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	Methods; Data collection.
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Methods; Participants
<i>Data collection</i>		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Available on request. No
18. Repeat interviews	Were repeat inter views carried out? If yes, how many?	No
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Methods; Data collection.
20. Field notes	Were field notes made during and/or after the inter view or focus group?	No

21. Duration	What was the duration of the inter views or focus group?	Methods; Data collection.
22. Data saturation	Was data saturation discussed?	Methods; Data collection.
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	Methods; Data collection.
<b>Domain 3: analysis and findings</b>		
<i>Data analysis</i>		
24. Number of data coders	How many data coders coded the data?	N/A
25. Description of the coding tree	Did authors provide a description of the coding tree?	N/A
26. Derivation of themes	Were themes identified in advance or derived from the data?	Methods; Coding and thematic analysis
27. Software	What software, if applicable, was used to manage the data?	Methods; Coding and thematic analysis
28. Participant checking	Did participants provide feedback on the findings?	Not yet. Will be done in a seminar presentation.
<i>Reporting</i>		
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Results. Quotations were not identified by participant number.
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Yes, Results and discussion
31. Clarity of major themes	Were major themes clearly presented in the findings?	Yes. they were. Results
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Discussion

# BMJ Open

## Identifying hearing care access barriers among older Pacific Island people in New Zealand : a qualitative study

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## Abstract

**Objectives** Hearing loss is one of the most prevalent conditions affecting older people. In addition, there is little known about the factors influencing the uptake of hearing services among underserved communities. Our objective was to identify the barriers to accessing hearing care services among older Pacific Island people in New Zealand.

**Settings** Eligible participants from Auckland City, New Zealand.

**Participants** Individual face-to-face in-depth interviews were conducted with thirty-six older Pacific Island people who were experienced hearing difficulties.

**Methods** A Pacific Island research methodology (*Talanoa*) and the “Health Care Access Barriers” (HCAB) model, which identifies modifiable barriers to healthcare, was used as a theoretical framework for this research. The interviews were transcribed and analysed using a deductive approach to identify HCAB themes and subthemes experienced by older Pacific Island people.

**Results** Identified themes aligned with HCAB’s themes of financial, structural and cognitive barriers and sub-themes described Pacific Island perspectives related to hearing care access in New Zealand. The financial barriers related to the high cost of hearing care and the structural barriers included transportation difficulties, limited family support, preference for community-based services and the absence of hearing care delivered by family doctors. Community norms and attitudes, communication limitations and limited awareness of hearing care services formed cognitive barriers among older Pasifika people in this study.

**Conclusion** We identified financial, structural and cognitive barriers that dissuaded older Pasifika people from accessing hearing care services. These modifiable barriers need to be eliminated or minimised to enable people to readily receive the hearing care assistance they need. It is essential to improve and develop culturally responsive models of hearing service delivery to ensure equitable access to hearing care, especially for under-served groups such as Pacific Island communities.



### Strengths and limitations of this study

- This is the first study to investigate barriers influencing hearing care access among older Pacific Island people in New Zealand.
- In addition, this research was guided by a Pacific Island research methodology that acknowledged Pacific Island cultural responsiveness.
- This study provides a foundation to inform and develop policies and strategies aimed at ensuring equitable hearing care for underserved groups like older Pacific Island people.
- The main limitation of this study is that its sampling frame reflected an urban demographic from one city. Further studies including participants from other areas may establish whether differences exist.

## Introduction

Hearing loss is one of the most prevalent conditions influencing the quality of life of older people in our communities<sup>1</sup>. Hearing deteriorates naturally with age<sup>2</sup>, undermining the most crucial sense for communication and social interaction and it also exacerbates other burdens carried by older people<sup>3</sup>. It is estimated that hearing impairment significantly affects 22% of people aged over 65, compared to 7.5% aged over 15 years in New Zealand<sup>4</sup>. The severity and incidence increase as people age beyond 65 years<sup>5</sup>. The number of people with hearing loss among this demographic in New Zealand is expected to double in the next 50 years<sup>4</sup>. This will include 9.2 % of people of Pacific Island ethnicity (Pasifika), compared with 4.7% in 2013<sup>6</sup>. 'Pasifika' is a term used throughout this article when referring to people of Pacific Islands ethnicities<sup>7</sup>.

Pasifika people experience a higher burden of poor health outcomes and poorer access of health care compared to non-Pasifika people New Zealand. This has been attributed to health inequalities resulting from socioeconomic determinants such as higher unemployment rates, fewer economic resources and lower than average income levels<sup>8</sup>. There are limited data and information about hearing loss among Pasifika people in New Zealand. The factors that affect access to hearing health services and the delivery of services need to be better understood in order to improve hearing-related outcomes of Pasifika peoples.

The aim of this research was to identify barriers to hearing care access experienced by older (65 years of age and greater) Pasifika people. The Health Care Access Barriers (HCAB) Model<sup>9</sup> is used as the theoretical framework for this research. The HCAB Model is a framework that identifies and targets modifiable health care access barriers that limit healthcare setting-patient interactions. It describes three categories of modifiable health care access barriers (financial barriers, which includes the cost of treatment; structural, which includes the organisational barriers; and cognitive barriers, which include inadequate information, prejudices, communication etc.). It is argued that these barriers are associated with decreased screening, late presentation to care, and lack of

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3 treatment, which in turn result in poor health outcomes and health disparities. Overcoming these  
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5 disparities requires improved understanding of the factors that influence the uptake of hearing care  
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7 among older Pasifika People.  
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## 10 **Materials and Methods**

### 11 **Design**

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16 A qualitative research methodology was used, with semi-structured interviews conducted to allow  
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18 an in-depth exploration of the perceptions, attitudes and personal experiences related to hearing  
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20 care services among older Pasifika people. A phenomenological and collaborative story-telling  
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22 approach was selected to explore people's experiences within a Pasifika context and was focused on  
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24 the issues as experienced and lived by the participants<sup>10</sup>. The Talanoa research methodology was  
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26 used to allow participants to have a more meaningful engagement in the research process by  
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28 ensuring cultural appropriateness, and encouraging the flow of stories and ideas during the  
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30 interviews<sup>11</sup>. This Pasifika research methodology ensured that there was respect, understanding,  
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32 and trust between the researchers and participants. As it is a feature of the Talanoa methodology,  
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34 Research Assistants (2 males; 3 females) who were fluent in the Pacific language of the interviewee  
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36 and were culturally knowledgeable conducted the interviews. All research assistants undertook a  
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38 half-day training session conducted by the lead researcher on how to interview participants. This  
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40 included the importance of the Talanoa methodology, tips and practice sessions. The University of  
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42 Auckland Human Participants Ethics Committee (UAHPEC-016878) granted ethical approval. The  
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44 study conformed to the principles embodied in the Declaration of Helsinki.  
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### 50 **Participants**

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53 To be eligible, participants had to identify with a Pasifika ethnicity, indicate that they were at least  
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55 65 years old and were experiencing hearing difficulties. Participants were selected from both  
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57 genders and included those who had sought hearing care assistance and those who had not.  
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## Recruitment

Recruitment was conducted using snowball sampling techniques<sup>12</sup> facilitated through networks between the investigators, audiology clinics, and community organisations. Advertisements were circulated to these organisations to promote the study. In addition, a news article was published in a local community newspaper, which generated interest and offers to participate in this study. The participants contacted the research team to express interest in participating. The study was explained and participant information sheets distributed before each participant signed an informed consent form. The participants had the option of choosing the participant information sheet and consent form in their preferred Pasifika language. All participants received a \$50 grocery voucher as a gratitude for their time and assistance.

## Data collection

Data were collected through face to face semi-structured interviews that took place with individual participants and a Pasifika language speaking research assistant at participant's homes or at a public place convenient to the participant. Interviews took between 30 to 45 minutes to complete. No one else was present during the interviews to maintain privacy. An audio recording was made with a dictaphone and the audio data files were saved to password-protected computers. Interviews were transcribed, and those conducted in Pasifika languages were translated by the research assistants into English. All transcripts were returned to the participants for comment or correction and no alterations or repeat interviews were needed. Participants were recruited until theoretical saturation was achieved<sup>12</sup> and no new information was emerging.

## Coding and thematic analysis

Thematic analysis was undertaken using the six phase steps described by Braun and Clarke<sup>13</sup>. This included familiarisation with data content and the generation of codes that described features of the data. The lead author did the coding of the transcripts. A deductive approach was used where the

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3 lead author created a coding structure based on the HCAB model. Multiple coders were not used to  
4 corroborate the codes. However, the research team reviewed and edited themes and sub-themes  
5 for suitability and labelling. We explored if other terms could offer better description of the themes.  
6  
7 These themes and codes were validated through consensus of the research group. NVivo 12 (QSR  
8 International Inc., Victoria) software was used to conduct the coding and label themes.  
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### 15 **Patient and public involvement**

16  
17 Patients and/or public were not involved.  
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### 21 **Results**

22  
23 Thirty-six participants were selected from both genders (male-17; female-19) and included those  
24 who had sought hearing care assistance (n=16) and those who had not (n=20). Eight participants  
25 were of Samoan, Tongan and Cook Island Maori ethnicities, and six each of Niuean and Fijian  
26 ethnicities. All participants were from Auckland, New Zealand.  
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### 33 **Financial Barriers**

#### 34 ***Hearing care is expensive***

35  
36 The participants described how the perceived high costs and a sense of embarrassment for not being  
37 able to afford hearing care services discouraged them from seeking assistance.  
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39  
40  
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43

44 *“Some people panic when there is no money to buy the thing to put on their ear because it is*  
45 *too expensive to buy them. It is in the thousands and people cannot afford it. So, they just sit*  
46 *around and not worry about it and seek help”.*  
47  
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49

50  
51 *“I also think that prices need to be reasonable and affordable to our Pasifika elders. So that*  
52 *our people are not ashamed to seek help and not reluctant because they are poor”.*  
53  
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### 57 **Structural Barriers**

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2  
3 Structural barriers related to the difficulties older Pasifika people faced when physically visiting  
4 service delivery organisations despite their desire to seek assistance. This was justified by their  
5 desire to have local community-based services. In addition, the participants questioned the role of  
6 family doctors in promoting in promoting hearing care.  
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### 10 11 12 **Transportation difficulties**

13  
14  
15 The lack of personal transportation and the inability to drive was reported as reason for not  
16 accessing services, even if they wish to seek assistance.  
17

18  
19  
20 *“Older Pasifika people do not seek help is because they do not have cars, they cannot drive*  
21 *themselves to the doctors”.*  
22  
23

### 24 25 26 **Limited family support**

27  
28  
29 The absence of family assistance was reported as a reason for not seeking hearing care services. The  
30 participants discussed the reliance on family members, mostly their offspring, to get them to service  
31 providers. They hoped family members would transport them to seek assistance. They reported that  
32 they need family members to communicate for them in the English language. It appears that the  
33 presence of family members supported participants emotionally.  
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40  
41 *“The only thing for you to be able to go is if there was someone in the family who can speak*  
42 *well and can take us. If not, no way I can go see the doctor. I am embarrassed/shy of going*  
43 *because I cannot speak well”.*  
44  
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48  
49 The participants reported that while it is in their culture for younger generations to support and care  
50 for their elderly, times have changed.  
51

52  
53 *“There is a big change in times. In those days, while I was growing up, parents were the first*  
54 *and main priority of their children but nowadays, children get brainy, get blessed, and then*  
55 *they stop caring for their parents. They stop giving their time for their parents because they*  
56 *are busy with other things”.*  
57  
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### ***Preference for community-based services***

Older Pasifika people reported that they would be more comfortable with a service that could come to them rather than them having to go out and seek assistance.

*“I have always thought about it but I think it is easier and better if there are people that came around to the house to check up on people’s ears and their health. It just makes it easier”.*

### ***Expectation of family doctors***

The participants reported that family doctors could take a more active role in supporting them to seek assistance for their hearing difficulties. It was relayed that family doctors could talk to them about their hearing when conducting routine examinations.

*“When I used to visit my doctors on a monthly basis for my check-ups, they never checked my ears, despite me having ear problems”.*

*“It is not like my doctor checks my ears when I go to see him. That made me think that my ears were fine”.*

### **Cognitive Barriers**

Cognitive barriers identified in this study were those associated to Pasifika community norms, communication limitations and the lack of awareness of accessible hearing care services and funding on offer.

### ***Community norms and attitudes***

There appears to be the attitude of not acknowledging the severity of hearing difficulties among older Pasifika people. This attitude may influence people to defer seeking hearing care intervention to much later.

1  
2  
3 *“It is like they wait until their condition is worse or very bad, that is when they will start to*  
4 *seek help”.*  
5  
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7

8 The participants described a culture of diffidence among Pasifika people, where they regard  
9 themselves as shy and reserved. Their lack of engagement with hearing health services could be  
10 because of the perceived fear of stigmatisation, being mocked and having perceptions of criticism or  
11 rejection.  
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17  
18 *“This is also the first time I am speaking about this. I am really ashamed to speak about my*  
19 *hearing loss”.*  
20  
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22  
23 *“I know that I do not tell people that I have hearing aids on because I know that if I tell them*  
24 *then they would jokingly make remarks and tease me about the situation”.*  
25  
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27

28 There was also the emergence of a sub-theme that explored religious beliefs about impairment  
29 among older Pasifika people. There is a belief that it is God’s will that one has hearing impairment  
30 and that only God can fix it.  
31  
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34  
35 *“I am a strong believer that whatever happens to me is the will of God. I always pray, and*  
36 *beg God to show me ways so that I can get better. Remember always, that the doctor of all*  
37 *doctors is God”.*  
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#### 42 43 **Communication limitations** 44

45 The participants described how having limited English, the service workforce having limited or no  
46 capacity to converse in Pasifika languages and the absence of interpreter services reasons for not  
47 seeking assistance.  
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52  
53 *“Doctors need to be able to speak Pasifika languages. Language is huge barrier for us older*  
54 *Pasifika people”.*  
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3 *“It is easier to talk in our language and maybe that is the reason why our elderly people are*  
4 *like that (not seeking services)”.*  
5  
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7  
8 *“Interpreters are really important. For Pasifika people with no children, maybe an interpreter*  
9 *at the doctors can help”.*  
10  
11

### 12 13 **Awareness of available hearing care services and funding** 14

15  
16 The participants suggested that there was little awareness of hearing care services offered. It  
17 appears that older Pasifika people do not understand what services are available and have difficulty  
18 understanding existing information.  
19  
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22  
23 *“Older people do not really have any knowledge of services that exist that they are able to*  
24 *seek out for help and there is very little communication on who can help and where help can*  
25 *be found so they are left on their own to find it out themselves”.*  
26  
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30  
31 In addition, people do not know of existing financial assistance schemes to help them access hearing  
32 care services. This demotivates older Pasifika people who are already put off by the high costs to  
33 access assistance for the hearing difficulties.  
34  
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37  
38 *“If there was a scheme to subsidise the cost of hearing aids it would be better especially for*  
39 *those that have work related issues with hearing”.*  
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## 43 **Discussion** 44

### 45 46 **Summary of the results** 47

48  
49 We identified Pasifika perspectives of financial, structural and cognitive barriers to hearing care  
50 access. Cognitive access barriers that may, alone or in combination, adversely affect access to  
51 hearing care services may further compound financial and structural barriers.  
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### 55 56 **Comparison with the existing literature** 57 58 59 60

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2  
3 Cost remains a reason for deferring primary care in New Zealand <sup>14</sup>. Older Pasifika people believe  
4 that the financial costs associated with accessing hearing care is too expensive. This has been  
5 reinforced by their own experiences and that of others. The NZ hearing healthcare sector is mostly  
6 administered by privately owned audiology practices (for adult hearing loss) and the public sector  
7 (for paediatric hearing loss and medical conditions). For adults, the audiology practices often provide  
8 free hearing screening testing, and the costs are bundled into the price of hearing aids when  
9 purchased. Patients are required to pay, as a co-payment fee, on average \$1500 to acquire hearing  
10 aids and a further cost of approximately \$165 for maintenance services <sup>15</sup>. Older Pasifika people  
11 were unaware of financial support schemes available to help people access services. The NZ  
12 government provides funding via several schemes that will either partially or fully fund a person's  
13 hearing aids depending upon the cause of the loss and their situation. There are funding options  
14 such as hearing aid government subsidy of \$511 per ear, possible government funding for eligible  
15 occupational hearing loss and social welfare deductible loans of \$1000 to assist with purchasing  
16 hearing aids <sup>16</sup>. Our findings suggest that financial barriers to hearing care services is not exclusive to  
17 low-to-middle-income countries <sup>17</sup>.

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37 Transportation to service providers was a structural barrier identified in this study that could be  
38 modified to some extent. This could be in the form of service provider-led transportation service,  
39 subsidized transportation costs and the provision of local community-based services. This could also  
40 be extended to family members who act as support resource for older Pasifika people. Family  
41 connectedness has been seen as an integral part of the Pasifika lifestyle, where there is  
42 interdependence between individuals <sup>18</sup> and implicit in this would be the understanding that the  
43 younger family members would look after the elderly. However, this way of living may be changing  
44 owing to busy work commitments and the negative impact and challenge of New Zealand  
45 mainstream culture on the younger Pasifika generation <sup>18 19</sup>.

1  
2  
3 It also appears that family doctors who routinely examine older Pasifika people for other ailments  
4 are trusted to flag hearing issues. There is a perception among older Pasifika people that doctors  
5 should talk to their patients about the state of their hearing and refer them to appropriate hearing  
6 care services if needed. This may not specifically relate to hearing but general healthcare. A survey  
7 exploring patient expectations of doctors found that there was high agreement that doctors should  
8 know patient health issues and coordinate necessary care over time <sup>20</sup>. This may be something to  
9 consider for health policy makers as doctors have a greater access to people seeking assistance for  
10 conditions unrelated to hearing.  
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22 Cognitive barriers included community norms and attitudes having a negative influence on the  
23 uptake of hearing services. There may be an attitude of denial or minimising the severity of hearing  
24 impairment in the community. This attitude corroborates other evidence that people defer hearing  
25 care intervention for up to ten years following the onset of their hearing problems <sup>21</sup>. Pasifika people  
26 regard themselves as shy and reserved, and individuals fear being subjected to ridicule and stigma.  
27 Personal ailments are therefore private, and a feeling of embarrassment prevents them from  
28 acknowledging their hearing difficulties and older Pasifika may not want to emotionally and  
29 financially burden their loved ones with their problems <sup>18,19</sup>. In addition, a religious or spiritual belief  
30 that hearing difficulties is God's will and only God can heal them has dissuaded older Pasifika people  
31 from accessing medical care. Pasifika people have a holistic view of health where a positive and  
32 balanced relationship with God, people and the environment are regarded as paramount to  
33 achieving health and wellbeing <sup>18</sup>. Spirituality may be used as a motivator to seek hearing care  
34 assistance and may require the influence of religious leaders in the community.  
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51 Linguistic barriers together with the absence of interpreter assistance negatively influence older  
52 Pasifika people's experience when engaging with hearing care services. Language barriers and mono-  
53 cultural assumptions and practices of health care professionals and health care service providers are  
54 known to be barriers to health care access among older Pasifika people <sup>19</sup>. Hearing service providers  
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3 should ensure that services and policies are culturally responsive to Pasifika needs and are  
4  
5 entrenched in community settings such as churches and local organisations. Given the other barriers  
6  
7 identified in the hearing sector, and the growing numbers of Pasifika people with age-related  
8  
9 hearing loss, this barrier may be the most easily addressed by audiology practices.  
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### 12 **Strengths and limitations**

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15 The strength of this research is that it is the first to look at hearing care access among older Pasifika  
16  
17 people in New Zealand. In addition, it was guided by a Pasifika research methodology that  
18  
19 responded to Pasifika cultural responsiveness, interviews were conducted in appropriate languages  
20  
21 by culturally appropriate researchers, and the analysis had a strong theoretical basis through the  
22  
23 HCAB Model, which led to insights that will allow practical changes to the hearing health service. The  
24  
25 main limitation of this study is that its sampling frame reflected an urban demographic from one  
26  
27 city. There are Pasifika communities in other parts of the country that may not be representative of  
28  
29 this sample. Further studies in these other groups may establish whether differences exist.  
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### 34 **Implications for policy, practice and future research**

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36  
37 The findings of this research provide an important foundation to improve the uptake of hearing  
38  
39 health services. The modifiable financial, structural and cognitive factors identified need to be  
40  
41 targeted to minimise and or eliminate its influence on hearing service seeking behaviour. It appears  
42  
43 that these factors can also be interconnected. As such, the development of multi-level interventions  
44  
45 may be needed to promote hearing care among older Pasifika people. These interventions need to  
46  
47 collectively target the financial, structural and cognitive factors. There could be a tailored awareness  
48  
49 programme targeting Pacific Island communities promoting hearing care and providing information  
50  
51 that supports people to seek assistance. There appears to be an opportunity to incorporate hearing  
52  
53 care services into existing Pasifika health care facilities. This may alleviate concerns of transportation  
54  
55 costs to get to another service provider and provide motivation to attend a facility people are  
56  
57 familiar with. Until the development of such integrated services, hearing service delivery needs to  
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3 recognise Pacific Island cultural responsiveness in their practice to motivate people to seek  
4 assistance. Future research should be aimed at testing community-based interventions that  
5 motivate people to seek hearing care services.  
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## 10 **Conclusion**

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13 This study adds much-needed information and provides information to improve hearing care  
14 outcomes for the underserved Pasifika communities in New Zealand. It raises important questions  
15 about awareness, affordability and ease of access related to hearing care services. It is a public  
16 health failure that modifiable barriers deny access for essential hearing care services to underserved  
17 communities, even in high-income countries. The combination of these factors eventually  
18 contributes to poor hearing-health outcomes and health disparities. There needs to be further  
19 research and evidence-based development of interventions that mitigate these barriers to enable  
20 people to readily receive the hearing care assistance they need. It is essential to improve and  
21 develop culturally responsive models of hearing service delivery to ensure equitable access to  
22 hearing care, especially for underserved groups such as Pasifika communities.  
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### 13 **Footnotes**

14  
15  
16 **Contributors** All authors have contributed significantly in this research work. The authors (RR, DW,  
17 IL, PT and VN) significantly contributed in the study design and the critical review of the manuscript.  
18  
19 The principal investigator (RR) collected, analysed, interpreted the data and wrote the first draft of  
20 the manuscript. The authors (DW, IL, PT and VN) highly contributed in the analysis and  
21 interpretation of data. Final approval was given by all authors.  
22  
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27

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30  
31  
32

33 **Competing interests** None declared.  
34  
35

36 **Patient consent** Not required.  
37  
38

39 **Ethics approval** Ethics approval was obtained from the University of Auckland Ethics Committee  
40 (Ref: UAHPEC-016878). Written consent has been obtained from all interviewees to participate after  
41 giving them brief explanations about the purpose of the study. The study participants were informed  
42 about their right to participate or not to participate in the study.  
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49 **Provenance and peer review** Not commissioned; externally peer reviewed.  
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52 **Data sharing statement** The interview guide is available from the first author on request.  
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**Manuscript:** Identifying hearing care access barriers among older Pasifika people in New Zealand

Ravi Reddy, David Welch, Ieti Lima, Peter Thorne, Vili Nosa

### Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

Developed from:

Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

No. Item	Guide questions/description	Reported in Section
<b>Domain 1: Research team and reflexivity</b>		Page 1
<i>Personal Characteristics</i>		
1. Interviewer/facilitator	Which author/s conducted the interview or focus group?	Methods; Design
2. Credentials	What were the researcher's credentials? E.g. PhD, MD	Submission
3. Occupation	What was their occupation at the time of the study?	Submission
4. Gender	Was the researcher male or female?	Methods; Design
5. Experience and training	What experience or training did the researcher have?	Methods; Design
<i>Relationship with participants</i>		
6. Relationship established	Was a relationship established prior to study commencement?	No
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Methods; Design/Participants
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Methods; Design

<b>Domain 2: study design</b>		
<i>Theoretical framework</i>		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Methods; Design/Coding and thematic analysis
<i>Participant selection</i>		
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Methods; Participants
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Methods; Participants
12. Sample size	How many participants were in the study?	Methods; Participants
13. Non-participation	How many people refused to participate or dropped out? Reasons?	Not determined.
<i>Setting</i>		
14. Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	Methods; Data collection.
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	Methods; Data collection.
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Methods; Participants
<i>Data collection</i>		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Available on request. No
18. Repeat interviews	Were repeat inter views carried out? If yes, how many?	No
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Methods; Data collection.
20. Field notes	Were field notes made during and/or after the inter view or focus group?	No

21. Duration	What was the duration of the inter views or focus group?	Methods; Data collection.
22. Data saturation	Was data saturation discussed?	Methods; Data collection.
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	Methods; Data collection.
<b>Domain 3: analysis and findings</b>		
<i>Data analysis</i>		
24. Number of data coders	How many data coders coded the data?	N/A
25. Description of the coding tree	Did authors provide a description of the coding tree?	N/A
26. Derivation of themes	Were themes identified in advance or derived from the data?	Methods; Coding and thematic analysis
27. Software	What software, if applicable, was used to manage the data?	Methods; Coding and thematic analysis
28. Participant checking	Did participants provide feedback on the findings?	Not yet. Will be done in a seminar presentation.
<i>Reporting</i>		
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Results. Quotations were not identified by participant number.
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Yes, Results and discussion
31. Clarity of major themes	Were major themes clearly presented in the findings?	Yes. they were. Results
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Discussion