A. Research Proposal (9 pages)
Improving access to the hearing services program for people from culturally and linguistically diverse backgrounds

Hearing loss impacts communication, quality of life, educational and employment opportunities, social engagement, and physical and mental health. People from culturally and linguistically diverse (CALD) backgrounds are more likely to experience hearing loss and less likely to access hearing services. Because Australia is a culturally diverse country with 30% of people born overseas, hearing health inequality is a serious challenge. Effective interventions for hearing loss are available via the Australian Government Hearing Services Program (HSP). A 2021 review of the HSP recommended that the Government identify and analyse shortfalls in engagement with, and outcomes from, the HSP for CALD populations. The review recommended a co-design approach, working with CALD communities to address issues impacting on access to the HSP.

This project will address the recommendations of the HSP review to inform the development and delivery of accessible, equitable and culturally safe hearing services and provide an evidence base for strategies to encourage and promote behaviours that preserve and protect hearing health in vulnerable CALD populations across the life stages. The project will assure providers and consumers that the HSP is based on the best available evidence to adapt to client needs.

Our transdisciplinary applicant team of researchers, consumers from CALD communities and HSP audiologists have internationally recognised skills and expertise in adult and paediatric hearing services, patient-centred care, co-design, health inequalities for CALD communities, health behaviour, and translation and interpreting. Our team draws on highly networked alliances with CALD community organisations and HSP providers to:

1. Work with people from CALD communities to understand their engagement with, and outcomes from HSP services;
2. Conduct interviews with HSP clinicians to understand barriers and facilitators for culturally responsive practice;
3. Partner with people from CALD communities and HSP audiologists to co-design interventions for access to culturally safe HSP services; and
4. Trial and evaluate co-designed interventions in HSP clinics.

This project addresses the following recommendations of the Hearing Services Program review: 1A. Have equitable access to hearing services that are culturally safe, appropriate, and that respond to the needs of people with hearing loss in their local area; 9. Availability of translation and interpreting services; and 14. Improving access to the HSP for people from CALD backgrounds.

Background
We want all people to have sufficient usable hearing to achieve their goals in life. One in five Australians live with hearing loss. Untreated hearing loss negatively impacts communication, quality of life, productivity, social engagement, physical and mental well-being. Unfortunately, people from CALD backgrounds are both more likely to experience hearing loss and less likely to access hearing services. The Australian Bureau of Statistics defines ‘CALD’ background mainly by country of birth, language spoken at home, English proficiency, and other characteristics including year of arrival in Australia, parents’ country of birth and religious affiliation1.
Research conducted by CI Dawes demonstrated that hearing impairment is up to 5 times more common among adults from CALD communities in the UK, but adults from CALD communities were half as likely to access hearing services and use hearing aids compared to those with white British background\textsuperscript{2,4}. Our recently completed systematic review (by CIs Dawes & Newall) indicates similar inequalities in adult hearing health in Australia.

Among children, population surveys (including those by CI Ching) suggest that the prevalence of congenital hearing loss is up to three times higher among children born in regions such as Africa and the Middle East compared to those born in higher income countries including Australia\textsuperscript{5-7}. In addition, research by CIs Scarinci, Hickson, Ching, and Waite and Als Ekberg, Beswick & King found that access to hearing services for children from CALD families is challenging for many reasons including language barriers, working with interpreters, stigma and shame towards hearing loss, cultural barriers and attitudes towards the role of caregivers in early intervention services, and cross-cultural miscommunication, including difficulties accessing information\textsuperscript{8-12}.

Australia is one of the most CALD countries in the world, with 30% of the Australian population being born overseas and more than 20% of Australians speaking a language other than English at home. The proportion of people with CALD background is set to increase, particularly among older age groups where hearing loss is particularly prevalent\textsuperscript{13}. Hearing health inequality related to CALD background therefore presents a major challenge to attaining sustainable development goals around health and well-being, work, and sustainable and cohesive communities\textsuperscript{14}. A key priority for state and national Governments is to reduce health inequalities\textsuperscript{15,16}.

Hearing interventions (e.g. hearing aids) are effective in improving communication and other outcomes in adults and children\textsuperscript{17,18}. Socially subsidised hearing services are provided via the HSP for children (up to age 26) and adults (predominantly people aged over 60 who have a pensioner concession card, serving or ex-members of the defence forces, and people with complex hearing or communications needs).

**Recommendations from the review of the Hearing Services Programme**
A government commissioned independent review of the HSP was published in August 2021\textsuperscript{19}. The review involved meetings and submissions from consumer advocacy groups, clients, industry, professional associations and academics, as well as drawing on previous reports and research, and analysis of Department of Health data.

The review recognised that people from CALD backgrounds experience difficulty accessing health services which are culturally responsive to CALD communities. The review recommended that the Government should identify and analyse shortfalls in engagement with, and outcomes from, the HSP for CALD populations, including issues related to availability of information and advice in community languages to promote equitable access to hearing services (Recommendations 1 and 14). The report also recommended addressing availability and access to the national Translating and Interpreting Service (TIS National) for audiologists and audiometrists as approved users (Recommendation 9). The report recommended a co-design approach, working with CALD communities to address any identified issues impacting on access to the HSP.

**Aims**
This project aims to address the recommendations of the HSP report\textsuperscript{19} in improving models of service delivery for vulnerable CALD communities who are at risk of, or are impacted by hearing loss and access to translating and interpreting services. The project involves co-design with
consumer, family, carer and HSP stakeholders in the research continuum to strengthen the hearing sector’s capacity to deliver appropriately focused services.

Project methodology

Through interviews, focus groups and surveys with stakeholders, this project will identify barriers and facilitators to provision of quality hearing care via the HSP for children and adults from CALD communities, and co-design and trial strategies to facilitate access to and continued engagement with the HSP. An Experience Based Co-Design (EBCD) model\(^2\) is adopted with the overarching aims of achieving equity, inclusion, capacity building, purposeful co-creation, sustained innovation, and evaluability. The project is designed according to the framework for culturally competent health research (by CI Harris-Roxas)\(^2\) and the NHMRC guide for cultural competency in health\(^2\). The project draws on the extensive experience of the CI team in working with people from CALD communities in research\(^4,8,11,23\).

Research questions:

- What are the barriers and facilitators that influence their engagement with, and outcomes from, HSP services for children and adults from CALD communities?
- What factors influence HSP hearing clinicians’ provision of culturally safe and appropriate services that respond to the needs of these communities?
- What are effective, acceptable and sustainable strategies to promote access and provide culturally safe and appropriate HSP services for CALD communities?
- How should these strategies be implemented in HSP clinical settings?

Objectives:

- Include stakeholders (i.e. consumers, families, carers and HSPs) at all stages of the research continuum to ensure that the research outcomes are aligned with the needs and preferences of the community and strengthen the hearing sector’s capacity to deliver appropriate clinically focused services.
- Understand the experiences of people from CALD communities concerning needs and access to hearing care for children and adults.
- Map the barriers and facilitators for hearing care for people from CALD communities to the Candidacy Framework.
- Understand the barriers and facilitators to providing culturally safe and appropriate hearing services from the perspective of HSP clinicians.
- Map the barriers and facilitators to provision of culturally safe and appropriate hearing services by HSP clinicians to the Theoretical Domains Framework.
- Use the behaviour change wheel to facilitate co-design strategies with CALD communities and HSP clinicians to set up culturally safe and appropriate HSP services and promote access to services using an Experience Based Co-Design (EBCD) model.
- Evaluate strategies according to APEASE criteria, looking at their affordability, practicality, effectiveness & cost effectiveness, acceptability, side-effects & safety and equity.
- Implement and evaluate co-designed strategies to promote access and provide culturally safe and appropriate HSP services for CALD communities in HSP clinics.

Participants

The study will involve i) CALD children and adults with hearing loss and their family members from diverse CALD communities and ii) HSP clinicians and managers in urban and regional centres of New South Wales, Victoria and Queensland.
Up to 10 CALD communities will be involved in the project, selected in consultation with local CALD community organisations who are partners on this project (the Migrant and Refugee Health Partnership; AMES Australia; The Multicultural Disability Advocacy Association, NSW; Action on Disabilities in Ethnic Communities, Victoria; Multicultural Australia, Queensland; Ethnic Communities Council, Queensland; the National Accreditation Authority for Translators and Interpreters (NAATI)). CALD communities will be selected to include larger, established communities (e.g. Italian, Greek, Cantonese, Mandarin, Vietnamese) as well as ‘new and emerging communities’ (e.g. Afghan). Because Aboriginal and Torres Strait Islander people and people from the Deaf community have specific experiences and needs that differ from those of people with CALD backgrounds, this project focuses on CALD communities only.

HSP clinicians and managers will include those from the Australian government provider (Hearing Australia) as well as private providers that provide clinical services under the HSP (Connect Hearing; Neurosensory; Bloom), who are partners on this project.

Recruitment
Recruitment draws on methodology successfully used by the CIs in previous projects with CALD communities. Recruitment will be facilitated in collaboration with partner CALD community organisations and HSP service providers. Participants will be provided with professionally translated study information leaflets/documents and the research team’s contact details. Consenting participants will have an initial interview scheduled at a time and place to suit them. Interviews may take place in any of the 10 languages of the communities involved in the study. All study materials (including recruitment materials and questionnaires) will be professionally translated. Professional interpreters (via All Graduates Translating and Interpreting Services) will be employed for interviews, focus groups and workshops. Project investigators (Orlando and Kruger) have a successful track record of collaboration with this language service provider. Maximum variation sampling will allow us to recruit participants with a range of backgrounds and views regarding access to HSP services. Specifically, recruitment aims to include: people who have not accessed HSP services as well as people who have used/are using HSP services; people of varying gender; people with a range of educational and socioeconomic levels; regional and urban locations; and English language ability.

Stakeholder involvement in the research continuum
The project involves planned Community and Consumer Involvement (CCI) throughout its development, design, implementation and dissemination. The engagement and consultation that was undertaken with patients, their families, carers, and the wider community in planning the research proposal is described in detail in section D (Community and Consumer Representative Summary).

To achieve best practice and meaningful input, we have planned an appropriate budget for CCI according to Consumers Health Forum of Australia guidelines. To ensure CCI throughout the research continuum, we have planned:

1. **CCI members of the investigator team:** Two CCI representatives (people from CALD communities and with lived experience of hearing loss; AIs Dib and Ginis) join the project steering group to provide a CCI perspective on all aspects of study conduct.
2. **Co-production and co-design at each stage of the research:** Developing the study protocol and study materials, data collection, analysis and interpretation, review and decisions around optimal public dissemination.
3. **CCI Project Steering Group:** Key state and national CALD community organisations will provide strategic advice on the design and running of the project via membership and
quarterly meetings of the project steering group. CCI organisations include key stakeholders: the Migrant and Refugee Health Partnership; AMES Australia; The Multicultural Disability Advocacy Association, NSW; Action on Disabilities in Ethnic Communities, Victoria; Multicultural Australia, Queensland; Ethnic Communities Council, Queensland, and National Accreditation Authority for Translators and Interpreters (NAATI).

We will report consumer and community involvement in all study outputs as per Guidance for Reporting Involvement of Patients and the Public-2 (GRIPP2) recommendations.

**Procedure**

The EBCD model-based procedure occurs over five steps: setting up, gathering the experience, understanding the experience, improving the experience, and monitoring and maintaining the experience. These steps, with associated tasks and the stakeholder co-design plans along the research continuum are shown in figure 1.

![Experience Based Co-Design steps, tasks, and community stakeholder co-design at each step.](image)

Figure 1. Experience Based Co-Design steps, tasks, and community stakeholder co-design at each step.
Step 1. Setting up
A research team with appropriate skills and background has already been identified and recruited. Our project steering group - comprising of people from CALD backgrounds with lived experience of hearing loss, CALD community organisations, HSP service representatives and academic researchers - has been established and will provide input on development of the study protocol, informed by our recent literature reviews8, 10. The steering group will meet twice annually throughout the study to provide continuing oversight and guidance for the project.

Step 2. Gather experience
Consenting CALD community members including i) 30 family members of children with hearing loss of CALD background and <26 year-old young people, ii) 30 adults of CALD background >65 years of age will be invited to complete a demographic questionnaire and an in-depth 60–90-minute individual semi-structured interview examining the barriers and facilitators to HSP service access and outcomes. Sample sizes will be subject to a data saturation-based stopping criterion.

The demographic questionnaire collects information on age, gender, education level, previous employment, location (urban or rural/regional/remote), cultural and linguistic background and English language proficiency. The qualitative topic guide for interviews will be iteratively developed from different data sources, including the Capability, Opportunity, Motivation-Behaviour (COM-B) model27 and our recent literature reviews8, 10. These data will inform a prototype list of questions, which will then be reviewed by study investigators and CCI collaborators for ease of administration, use of language, level of understanding and other key aspects related to the delivery of the topic guide.

Focus groups with 15 HSP clinicians and managers from paediatric and adult services will be conducted to examine HSP providers’ perspectives on barriers and facilitators to successful hearing service delivery. A focus group topic guide will be developed like that for the interviews with CALD community members.

All study interviews and focus groups will take place at a location preferred and convenient for participants. If local health regulations permit and in order to facilitate participation, participants would have the option of a study visit at their home. If in-person session is not permitted due to health regulations or is not preferred by the participant, there will be the option of an interview via teleconference (Zoom or Microsoft Teams) or a phone call. Interviews will be aided by professional interpreters as required.

Samples of HSP-related written material in English and in CALD community languages will be collected from the consumer facing HSP providers’ websites for analysis to ascertain the reading level and acceptability of the material.

Step 3. Understand the experience
All interviews will be transcribed and qualitative template analysis28 conducted according to the Candidacy framework29, 30 (for CALD community members) and the Theoretical Domains Framework (TDF)27 (for HSP clinicians and managers). A working group of 5-6 community members will be recruited and trained on the Candidacy Framework and the TDF. They will work with the research team to co-produce the analysis and mapping of extracted themes to the frameworks. CIs Dawes, Scarinci, Hickson, and Waite have extensive experience with such analysis.
The Candidacy Framework encompasses seven dimensions that explore people’s perceptions of their need for care, their past health experiences, and discontinuities in care. The Candidacy framework has been widely used to understand health service use by under-served populations, including CALD communities (e.g.,). The TDF is comprised of fourteen dimensions that influence health practitioners’ behaviours. The TDF is one of the most widely used implementation science frameworks to understand and address the challenges of changing the behaviors of healthcare professionals. We will apply the TDF to map the barriers and facilitators for HSP providers in delivering culturally safe and appropriate HSP services, according to the Competency Standards Framework for Culturally Responsive Clinical Practice, developed by our partners the Migrant and Refugee Health Partnership. The Competency Standards Framework is the national standard for culturally responsive clinical practice, and it is endorsed by Audiology Australia.

**Step 4. Improve the experience**

Co-design workshop

20 people from CALD communities and 10 HSP clinicians/managers will be invited to participate in half-day workshops at a convenient location (e.g. community centre) to co-design strategies to provide culturally safe and appropriate HSP services for CALD communities and to promote access and engagement. Methodology for the workshop is based on a similar multi-disciplinary co-design workshop to develop international guidelines for hearing and vision care for older people (by CI Dawes). Interpretation in and from the represented languages will be provided.

Attendees will receive an initial didactic session to present the ‘co-design vision’ (i.e. a summary of the barriers and enablers identified in Step 3). Participants will then be divided into 5 breakout groups of 5-6 attendees to brainstorm potential strategies utilising video recordings of simulated clinical interactions to stimulate discussion (video reflexive ethnography methodology). The videos will be professionally re-enacted clinical scenarios, developed for the study based on themes identified in Steps 2 and 3. This approach facilitates first-hand insight on the lived experience and complexity of health interactions and has been used successfully by CIs Scarinci, Hickson and AI Ekberg in other qualitative studies involving families.

A member of the research team will facilitate each group by guiding the discussion and capturing feedback using field notes. Groups will be purposefully balanced a priori to include a mix of expertise, gender, and CALD background to ensure a range of views and perspectives are achieved. Groups may be organised by language, to facilitate participation via professional translators. Facilitators will keep participants on topic with guided questions and probe suggestions made by the group to achieve depth and clarity. Following the breakout sessions, the participants will reconvene for a shared plenary discussion, led by a member of the research team, at which the facilitators will feed back the discussion findings from each of the groups. This will enable group themes and differences to be highlighted and discussed and further summary points to be elicited and captured. Feedback will be captured from all groups using field notes and added to the draft list of strategies. Strategies to address the specific barriers and facilitators will be identified and mapped to specific behaviour change techniques using the Behavior Change Tool. The CIs (Armitage, Dawes, Scarinci, Hickson) have extensive experience in using behaviour change techniques in hearing health.

**Evaluating and prioritising strategies**

All HSP providers and CALD community members will be invited to complete an online “prioritisation” exercise of the strategies generated by the co-design workshop. The methodology for the prioritisation exercise was adapted from a robust decision-making method developed by the
Child Health and Nutrition Research Initiative\textsuperscript{41}. We will present the initial recommended strategies according to the 6 APEASE criteria (Affordability, Practicability, Effectiveness & cost effectiveness, Acceptability, Side-effects & safety and Equity)\textsuperscript{42}. Respondents will be asked to rate each strategy as: (1) “yes,” (0) “no,” (0.5) “I do not know,” or “unsure,” for each of the APEASE criteria. We will then rank each recommendation according to the mean score for each (i.e. a score with a possible range of 0–1 for each recommendation). A final list of the top-rated strategies will be selected for implementation.

**Step 5. Monitor and maintain the experience**
The top-rated strategies will be implemented and evaluated in one adult and one paediatric HSP clinic. Specific strategies may include i) providing accessible health information to HSP clients in written, visual, and/or video format; ii) training for HSP audiologists on working in culturally and linguistically responsive ways with clients; iii) training for HSP audiologists on how to effectively work with interpreters; iv) training for interpreters on working with people with hearing loss, and audiological concepts and hearing assessment and treatment; iv) tackling stigma of hearing loss. System-level strategies identified in Step 4 that are beyond scope for implementation and evaluation in Step 5 (e.g. fiscal measures, legislative changes) will be communicated to policy makers.

Outcome measures will be collected at baseline (pre-implementation) and after 6 months post-implementation, with a sample of 5 clinicians and 5 CALD recipients of HSP services recruited for in depth interviews and a further 50 CALD recipients of HSP services completing questionnaires at each assessment point. Outcome measures include: evaluation of service data (interpreter use, non-attendance rates, audit of clinical notes), clinician and client structured interviews, and clinician shadowing. Clinician shadowing involves the observation of a clinician’s clinical interactions with the aim of gaining a direct understanding of the area being explored in its natural context. Clinician behaviours will be mapped against the Competency Standards Framework for Culturally Responsive Clinical Practice\textsuperscript{33}. Field notes relating to the relevant strategies and their implementation will be taken.

**Outcomes and impact**
The main outcomes of this study will be evidence-based strategies that encourage and promote hearing health in vulnerable CALD populations across the life stages. Strategies will be co-designed with CALD communities with an interdisciplinary team including CALD consumers, adult and paediatric HSP audiology services, health care inequalities researchers and health behavioural scientists. Strategies will be evaluated and reported according to their affordability, practicability, effectiveness, acceptability, side-effects & safety and equity (APEASE criteria) to ensure that they are practical, implementable and effective. Implementation of the strategies will be evaluated in adult and paediatric HSP clinics. The project will inform the development and delivery of hearing health services in the future and assure providers and consumers that the HSP services are based on the best available evidence to adapt to client needs and technology changes.
**Project timeline**

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<th>Step</th>
<th>Pre-study</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<td>Step 1: Assemble academic team and CALD steering group (complete)</td>
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<td>Preparatory work: refining protocol, ethics</td>
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<td>Step 2: Community and clinician interviews</td>
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<td>Step 3: Extract key themes and map to frameworks</td>
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<td>Step 5: Implementation and evaluation of strategies in clinics</td>
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<td>Reporting study findings to participants</td>
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<td>Close out, placement of data in repository</td>
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<td>Publication of roadmap for implementation</td>
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B. References (2 pages)

Publications of study CIs and AIs are indicated with **

23. Sydney Local Health District and South Eastern Sydney Local Health District, Strategies to increase the participation of Chinese-speaking people in the Get Healthy Information and Coaching Service. 2019: NSW Office of Preventive Health and the Chinese Australian Services Society. **
34. Littlejohn, J., et al., International Practice recommendations for the recognition and management of hearing and vision impairment in people with dementia. Gerontology, 2021
C. Indigenous Research Excellence Criteria (2 pages)

Not applicable.

We acknowledge that Aboriginal and Torres Strait Islander Peoples have a singular place within Australia’s culturally diverse society. Aboriginal and Torres Strait Islander Peoples and people from migrant and refugee backgrounds have vastly distinct starting points, and experience different access challenges accessing and engaging with clinicians and the healthcare system more broadly.

It is critical that there is a dedicated focus on cultural safety in the provision of care to Aboriginal and Torres Strait Islander Peoples. It is beyond the scope of this project to address cultural safety in the provision of care to Aboriginal and Torres Strait Islander Peoples. This project is therefore specific to people from culturally and linguistically diverse migrant and refugee backgrounds.
D. Community and Consumer Representative Summary (2 pages)

Plain English summary
1 in 5 people in Australia have hearing loss. Hearing loss causes communication difficulties and limits education and employment opportunities. Hearing loss also makes it hard to take part in social activities and reduces people’s physical and mental health. Effective help for hearing loss is available, but people from culturally and linguistically diverse (CALD) communities are less likely to access it. The reasons for this are not well understood. It may be because of different cultural beliefs about hearing loss, not knowing about hearing services and/or difficulties accessing information about hearing services. It may also be because people have not had a good experience with health professionals when they needed help for their hearing.

Australia is one of the most culturally diverse countries in the world, with 30% of people born overseas and more than 20% speaking another language at home. Providing accessible and appropriate hearing health care for people from different cultural and language backgrounds is really important. In this project, we will work with people from CALD backgrounds and hearing health care providers to:

1. Understand what helps and hinders children and adults from CALD backgrounds and their families access hearing health care.
2. Co-develop and test strategies to help people from CALD communities access hearing health care.

The results of this project will help the Australian Government provide hearing health care to everyone who needs it. The project will help to make hearing services appropriate for people with hearing loss in their local area. Most importantly, the project will help people from CALD communities to achieve their goals in life without being limited by hearing loss.

The engagement and consultation undertaken with patients, their families, carers and the wider community in planning the research proposal

Engagement and consultation with state and national CALD community organisations
We contacted and consulted in person with community organisations about the planning of this research proposal, including:

- Migrant and Refugee Health Partnership
- National Accreditation Authority for Translators and Interpreters
- Multicultural Disability Advocacy Association, NSW
- Action on Disabilities in Ethnic Communities, Victoria
- AMES Australia, Victoria
- Multicultural Australia, Queensland
- Ethnic Communities Council, Queensland
- Refugee Health Network, Queensland

Engagement and consultation with CALD patients, their families and carers
In addition to the community organisations above, we consulted with 20 people from CALD background (Chinese, Lebanese, Bangladeshi, Japanese, Afghan, Korean, Nepali, Iraqi, Irani, Kuwaiti, Saudi, Malaysian and Pakistani) about the planning of this project. These people had lived experience of hearing loss, received hearing services for themselves or their children, and/or knew someone with hearing loss in their community. Feedback from patients, their families, carers and CALD community organisations included:

Need for understandable materials explaining the project. Materials should mention availability of interpreters. Research materials should be in simple English to be translated to other languages as some of the CALD population may not be able to read complex texts in their own languages.
Our response: We will co-develop study materials in consultation with our CCI co-investigators and via co-production with people from CALD communities to make sure they are easy to read and understand. We will ensure study materials meet recommended readability indexes. We will use professional translation services to translate all the study materials.

Capacity building for consumer and community contributors to the project.
Our response: To support meaningful involvement in the research, we will provide training for CCI advisors with respect to hearing loss, hearing interventions and the Hearing Services Program as well as the aims and design of the project.

Recruitment. It is important that we recruit a wide range of people including recent/new arrivals and migrants who speak or do not speak English. Consider community members’ preferences for participation. Importance of family members.
Our response: We will recruit participants who have been in the country for a long time and those who have arrived recently, as well as those who do not speak English (supported by professional interpreters) in several established CALD communities in Australia as well as those from emerging CALD communities. We will offer alternatives for research participation, electronic participation via video conference, email or electronic survey. Participants will be able to choose convenient times and venues for participation including at participants’ homes, local community centres, hearing clinics or University campuses. We will explore people’s experiences as users and as family members of people using hearing health services.

CALD community organisations advised that the study should explore both structural (e.g., financial, organisational) and cultural barriers (e.g., stigma, language barriers, receiving culturally appropriate responses from clinicians). Other areas that need to be investigated are readability of hearing health information; the influence of and the availability/performance of interpreters; training needs of interpreters and clinicians for working with each other and CALD communities.
Our response: We will systematically explore both structural and cultural barriers, as well as test the readability of hearing health information (Step 2), including issues with accessibility and use of interpreters.

Impact of research. The project should improve CALD communities’ access and use of the HSP. The outcome and developed strategies should be sustainable, not temporary.
Our response: We will work with CALD communities and HSP providers to co-develop appropriate strategies to improve access and use of the HSP. We will select strategies based on their affordability, practicality, effectiveness & cost effectiveness, acceptability, side-effects & safety and equity. We will implement and evaluate strategies in clinics to ensure they are effective and sustainable.

Dissemination: Findings could be shared via social media and community groups. Verbally introducing the findings would have more impacts, and people in each community committee might be willing to share the outcome of the study with their communities. Dissemination could be done via CALD community organisations and local radio.
Our response: We will establish social media accounts and work with CALD community organisations to disseminate outcomes. We will produce media releases for local CALD radio stations. We will plan community engagement events to feedback study outcomes to local communities and produce written summaries of the project outcomes for research participants and CCI organisations.
E. Team Quality and Capability relevant to this proposal (1 page)

The expertise and productivity of team members relevant to the proposed project; their influence in this specific field of research

The team includes internationally recognised expertise in adult and paediatric hearing services, health inequalities for CALD communities, person- and family-centred care, culturally responsive practice, and health behaviour and translation and interpreting. Via a €6.2 million EU Horizon 2020 project, Dawes published the first evidence of hearing health inequalities in CALD communities in the UK and Europe and is lead investigator for the NIHR Manchester Biomedical Research Unit in Hearing for hearing health inequality. Scarinci is an international leader in the development, implementation, and evaluation of person- and family-centred services for people with hearing loss and their families across the lifespan. Hickson is a global leader in audiology research aimed at improving quality of life for children and adults with hearing loss. Hickson has a track record of collaboration with speech pathology researchers Scarinci and Waite around providing person- and family-centred, and culturally-responsive care for children and adults with hearing loss. Newall and Dawes led a United Nations-funded project grant to understand hearing needs and trial accessible hearing care solutions in low- and middle-income countries, offering potential for knowledge transfer between the ‘global North and global South’ with respect to accessible, equitable and culturally safe hearing services. Ching led the globally influential Longitudinal Outcomes of Children with Hearing Impairment (LOCHI) study and has a track record of collaborating with Scarinci and Hickson on projects with children with hearing loss, including CALD families. The LOCHI study informs Australian and international guidance on childhood hearing loss and paediatric hearing intervention. Armitage is an international leader in health behaviour change, and deputy lead for the hearing health theme of the £28.5M, NIHR-funded Manchester Biomedical Research Centre. Armitage’s research focuses on using psychological theory to develop tools for effective behaviour change among diverse populations. Harris-Roxas is a health services researcher who brings links with CALD communities in the South Eastern Sydney Local Health District, and a track record of impactful projects improving health care for CALD communities, including NSW Ministry of Health-funded projects on the use of translation apps and websites in health care settings and on supporting the COVID-19 vaccination program in NSW CALD communities. Orlando is director of Translation and Interpreting and Macquarie University. Orlando led several national projects to improve translation and interpreting services, including accessible online health communication co-funded by the Australian government and industry partners.

How the team will work together to achieve the project aims

We view involvement of consumer, family, carer and HSP stakeholders in the research continuum as vital to the success of the project. Several CIs have expertise in consumer and community involvement (Dawes, Hickson, Scarinci, Waite, Newall, Harris-Roxas); Dawes led extensive international consumer and community involvement work in SENSEog, developing and evaluating training to support involvement of consumers in research. The CI team have close collaborative links with Hearing Australia and will work with the adult and pediatric hearing service leads (AIs Scanlon and King) to deliver this project. The CIs’ links with other key stakeholder organizations including the Migrant and Refugee Health Partnership and the National Accreditation Authority for Translators and Interpreters (NAATI), Audiology Australia, and the Deafness Forum of Australia facilitate rapid translation and implementation of project findings.

How junior members are contributing to the overall track record of the team

The CI team includes senior researchers (Dawes, Scarinci, Hickson, Armitage, Ching) with mid- and early-career researchers (Newall, Waite, Orlando, Harris-Roxas).
F. CI Track Records (2 pages per CI)

CI-A –Professor Piers Dawes

Top 5 publications in the last 5 years


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<th>Career refereed publications: 135</th>
<th>Refereed journals in last 5 years: 78</th>
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Overall Track Record in the last 5 years

Career summary: Professor Piers Dawes is an internationally recognised expert in hearing impairment, and hearing service development and evaluation. Professor Dawes pioneered research in describing and identifying reasons for higher levels of hearing loss and low levels of hearing aid use among culturally and linguistically diverse groups in the UK. CIA Dawes leads a project “Hearing Health Inequality in Australian Immigrants” involving analysis of population hearing data and consumer and community co-production to describe hearing health inequalities among adults in Australia. Via co-lead of the €6.2 million EU Horizon 2020 project SENSECog, Dawes developed gold-standard methodology for consumer and community involvement older people with cognitive and/or sensory impairments.

Research support: Professor Dawes has been awarded 8 grants as CI in the last 5 years totalling AUD$10.9 million from competitive sources including the NHMRC, the NIHR, the Alzheimer’s Society UK, the European Commission, industry and charity funders.

Contribution to field of research: Professor Dawes’s research is cited in national & international guidelines & policy, including the US National Academies of Sciences Engineering and Medicine report ‘Hearing Health Care for Adults: Priorities for Improving Access and Affordability’; the UK National Institute for Health and Care Excellence guidance ‘Hearing
Loss in adults: Assessment and management'; the Australian Parliamentary report on hearing loss ‘Still waiting to be heard’. Professor Dawes’s work on developing European networks for consumer and community involvement (CCI) of older adults with lived experience of hearing/vision/cognitive difficulties to inform multi-centre health research was identified for a keynote presentation to open the 2018 INVOLVE (the UK NIHR CCI organization) conference.

**Awards:** Professor Dawes was a US-UK Fulbright scholar and received the British Society of Audiology TS Littler prize for services to audiology for CIA Dawes work on the epidemiology of hearing impairment. Professor Dawes’s first authored paper won the Ear & Hearing readers award in 2020.

**Collaborations:** Professor Dawes has an extensive track record of collaborations with government, charity, health care organisations. CIA Dawes led several industry-funded research projects by the Hearing Industry Research Consortium and hearing device manufacturers Oticon, Starkey and Phonak.

**Community engagement and participation:** Via SENSEcog, Professor Dawes developed a European network of charities, users, carers and professionals interested in sensory and cognitive health and promoting research involvement of ethnic minority groups across Europe. Professor Dawes regularly disseminates research via a variety of media (including television, radio, newspaper, magazine, blog and twitter) to a variety of audiences (including doctors, audiologists, the general public and high school students).

**Professional involvement:** Professor Dawes is on the national committee of the Hearing Health Sector Alliance and the research board of the Deafness Foundation, the national organisation to support deaf and hard of hearing people in the community. Professor Dawes is a lead investigator for the NIHR Manchester Biomedical Research Unit in Hearing and is an executive member of the NSW Division of the Australian Association of Gerontology (AAG) and the AAG Culturally and Linguistically Diverse (CALD) special interest group.

**International standing:** Professor Dawes’s research is regularly featured in international news media, including print and internet (The Times, the Daily Telegraph, the Guardian, US news.com), radio and television (ITV, the BBC, PBS). CIA Dawes holds an honorary appointment at University of Manchester, UK. Professor Dawes was a Fulbright visiting scholar at University of Wisconsin, Madison and visiting scholar at Hallym University, South Korea. CIA Dawes has strong links with international hearing and vision industry partners.

**Supervision and mentoring:** Professor Dawes has supervised 7 PhD students and 31 MSc students to completion. CIA Dawes supervises 13.5 FTE research positions and is a mentor for 6 ECR staff at University of Queensland and Manchester Universities. CIA Dawes is a mentor for postdoctoral researchers in the Faculty of Health and Behavioural Sciences via early career researcher network.

**Peer review involvement:** Professor Dawes is an editor of Ear & Hearing, the International Journal of Audiology and the Journal of Audiology and Otology. CIA Dawes is a peer review for >45 journals as well as the Economic and Social Research Council, Medical Research Council, National Institute of Health Research, Aguir pour L’Audition, Social Sciences and Humanities Research Council of Canada, Norges forskningsråd, the RNID, the Alzheimer’s Society UK and Alzheimer’s Research UK.

**Other contributions to NHMRC:** Professor Dawes is a registered reviewer for the NHMRC.
CI-B – Associate Professor Nerina Scarinci

Top 5 publications in the last 5 years

1. Scarinci, N., Meyer, C., & Hickson, L. (2021). “When that understanding is there, you work much better together”: The Role of Family in Audiological Rehabilitation for Older Adults. International Journal of Audiology. The first paper to describe the preferences of adults with hearing loss and family members regarding the implementation of family-centred care in the Hearing Services Program.


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Overall Track Record in the last 5 years

Career summary: CIB Scarinci is Associate Professor and Head of Speech Pathology at The University of Queensland. CIB Scarinci is a Senior Member of the Speech Pathology Australia Board of Ethics and member of the Senior Executive in the School of Health and Rehabilitation Studies at The University of Queensland. Associate Professor Scarinci started a full-time academic career in 2007. CIB Scarinci has over 20 years’ clinical and research experience in hearing healthcare and is an internationally recognised expert in hearing rehabilitation, and person- and family-centred care. CIB Scarinci pioneered research in describing and managing the impact of hearing loss on family members of individuals with hearing loss using the World Health Organization’s International Classification of Functioning, Disability and Health. CIB Scarinci was a CI on the HEARing CRC project “Enabling Equal Access Using eHealth”, valued at AUD$1.89 million. CIB Scarinci leads a program of research in person- and family-centred practice and engagement in communication rehabilitation programs. Many of CIB Scarinci’s grants and publications are in collaboration with CIs Hickson, Ching, and Waite.
Research support: Associate Professor Scarinci has obtained over AUD$2.85 million from competitive sources including the CRC program, Hearing Industry Research Consortium, Ida Institute, and Speech Pathology Australia, industry and charity funders.

Contribution to field of research: Associate Professor Scarinci’s research is cited in national & international guidelines & policy, including the Phonak Industry Clinical Guideline on best practice in the audiological management of adults with severe and profound hearing loss and the British Society of Audiology Practice Guidance document: Common Principles of Rehabilitation for Adults in Audiology Services.

Awards: Associate Professor Scarinci was awarded the Hearing Review’s Top Feature Articles List for a publication on family-centred care in adult audiological rehabilitation in 2019, and a publication on family-centred practice in early intervention for children with hearing loss in 2017, along with an Award for Excellence in Rehabilitation and Counselling for a paper presented at the American Academy of Audiology in 2017 for a paper reporting outcomes of audiological rehabilitation for family members.

Collaborations: Associate Professor Scarinci has an extensive track record of collaborations with government, health care, and research organisations. CIB Scarinci has led several industry-funded research projects by the Hearing Industry Research Consortium and hearing device manufacturers Oticon and Phonak.

Community engagement and participation: Associate Professor Scarinci regularly disseminates research via a variety of media (including social media, radio, magazines, blog, trade journals) to a variety of audiences (including doctors, audiologists, the general public and high school students).

Professional involvement: Associate Professor Scarinci is a Senior Member of the Speech Pathology Australia Board of Ethics. CIB Scarinci is the Queensland representative on the Ida Institute’s Person Centred Hearing Network, an international network of researchers, clinicians and consumers with a focus on the implementation of person-centred care in hearing health care and university training programs around the world. CIB Scarinci is also a foundation member of the Phonak Family-Centred Care Expert Panel.

International standing: Associate Professor Scarinci has been an invited speaker at numerous national and international meetings with a focus on family-centred interventions for individuals with hearing loss and their family members. CIB Scarinci is an invited lecturer at University College London and Hong Kong University, where CIB Scarinci provides intensive teaching on the application of person- and family-centred interventions for individuals with hearing loss. CIB Scarinci has strong links with international hearing industry partners and institutes.

Supervision and mentoring: Associate Professor Scarinci has supervised 9 PhD students and 31 Honours students to completion, with a further 7 PhD students currently completing their candidature. As Head of Speech Pathology at The University of Queensland, CIB Scarinci supervises 11 FTE teaching and research positions and is a mentor for 9 ECR staff at The University of Queensland.

Peer review involvement: Associate Professor Scarinci is an Associate Editor of the International Journal of Audiology, and an Editorial Consultant for the International Journal of Speech-Language Pathology. Associate Professor Scarinci is a peer reviewer for >20 journals (e.g., Ear and Hearing, Clinical Interventions in Ageing, Disability and Rehabilitation, BMC Geriatrics, Child Language Teaching and Therapy, and the American Journal of Audiology), and numerous national and international grant schemes.
CI-C –Dr John Newall

Top 5 publications in the last 5 years


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Overall Track Record in the last 5 years

Career summary: Dr John Newall is deputy director of the Master of Clinical Audiology at Macquarie University, and also maintains a clinical caseload. Dr Newall is an internationally recognised expert in hearing loss and hearing intervention in low- and middle-income countries. Dr Newall worked for many years as a qualified practitioner delivering services within the HSP program in both urban and rural locations. Dr Newall is co-supervising a PhD candidate (with CI Dawes) on “Hearing Health Inequality in Australian Immigrants”, a project taking a co-production approach to the investigating hearing health inequalities in immigrant populations in Australia. Dr Newall led a recent international, multi-site (23 sites/16 countries) United Nations administered grant investigating clinical hearing profiles, and scalable hearing rehabilitation solutions focused on low- and middle-income countries. Dr Newall teaches on the Public Health Planning for Hearing Impairment (PHPHI) course run by the London School of Hygiene and Tropical Medicine. This course aims to build capacity in public health knowledge and skills in ear and hearing health (EHHI) amongst health professionals and health planners. The course has a global reach with 1501 participants from 54 countries attending between its inception and 2020.

Research support: Dr Newall has been awarded 2 grants as CI in the last 5 years totalling AUD$327,000 from competitive sources. Dr Newall is an AI on further grants totalling AUD$1.2million in the last 5 years. Dr Newall has been awarded an additional AUD$157,000 in internal funding in the last 5 years.

Contribution to field of research: Dr Newall is an emerging leader in the field of hearing loss and intervention in low- and middle-income countries. Dr Newall provided the first peer reviewed
publication evaluating philanthropic hearing rehabilitation programs delivered with low- and middle-income populations. Dr Newall published the first peer reviewed epidemiological data on hearing loss in the Philippine population. Dr Newall’s expertise working with disadvantaged populations was recognised with the award of a UN administered grant investigating hearing loss and its intervention in low- and middle-income countries.

**Collaborations:** Dr Newall has a track record of collaborations with the government (NSW Department of Education), charities (Deafness forum, Better Hearing Philippines, All Ear Cambodia, and Ears Inc.), and manufacturers (GN ReSound). Dr Newall recently led a collaboration with 23 organisations across 16 countries as part of a UN funded project.

**Community engagement and participation:** Dr Newall has undertaken research involving co-design principles, recent examples include working with tinnitus patients to examine the optimal design of online tinnitus services, with teachers on the design of a classroom acoustic application and works directly with community members from the Western suburbs in clinical practice. Dr Newall regularly teaches on low- and middle-income country clinical audiology programs, has collaborated with Rotary on humanitarian hearing aid programs, has participated in community health worker training programs in the Philippines, and regularly delivers public health training to hearing healthcare workers in a wide variety of low- and middle-income countries. Dr Newall disseminates CIC Newall’s research via a variety of media (including radio, twitter and social media) to a variety of audiences (including doctors, audiologists, the general public).

**Professional involvement:** Dr Newall is a member of Audiology Australia, the American Academy of Audiology, and the Coalition for Global Hearing Health. Dr Newall holds a Clinical Certificate of Practice in Australia. Dr Newall is a member of Australian and New Zealand Audiology Programs Group and participates in Accreditation of Australian Audiology programs (recently in 2016 and 2021). Dr Newall is a Medicare eligible provider of hearing services and worked for many years as a Qualified Practitioner within the Hearing Services Program.

**International standing:** Dr Newall has recently been an invited speaker at conferences in Indonesia (19th ASEAN ORL-HNS Congress 2021), and the UK (ENT UK Global Health Virtual Conference 2021). Dr Newall has acted as an (unpaid) consultant for the Clinton Health Access Initiative.

**Supervision and mentoring:** Dr Newall has supervised 1 PhD to completion and is currently supervising 1 PhD student. Dr Newall has supervised 25 Master of Clinical Audiology student projects to completion.

**Peer review involvement:** Dr Newall has been a reviewer on a number of journals, including: Ear and Hearing, International Journal of Audiology, International Journal of Pediatric Otorhinolaryngology, Journal of the American Academy of Audiology, Journal of Medical Ethics (BMJ), Journal of Speech Language and Hearing Research. Dr Newall is a RNI:D flexi grant review panel member

**Other contributions to NHMRC:** Dr Newall is a registered reviewer for the NHMRC.
CI-D –Professor Louise Hickson

Top 5 publications in the last 5 years relevant to this application


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Overall Track Record in the last 5 years

Career summary: Prof Hickson is recognised nationally and internationally as a leader in hearing healthcare for children and adults and CID Hickson is deeply committed to working with people with hearing loss and their families to improve their communication and quality of life. Prof Hickson co-edited the first text on evidence-based practice in audiology, published in 2012, and most recently in 2019 published the first text on patient and family-centred care in speech pathology and audiology. CID Hickson is a Fellow and Past President of Audiology Australia, representing some 3500 audiologists. CID Hickson has given more than 50 invited keynote addresses over the last 10 years, including being lead presenter at the prestigious American Academy of Audiology Conference for the past 3 years.

Research support: Prof Hickson has received $6.2 million in research grant funding. Primary sources of income were as follows: $3.2 million from the HEARing Cooperative Research Centre (Prof Hickson was a program theme leader for the CRC); $796,000 from Sonova; $600,000 for an ARC-Linkage Grant as CIA; $254,000 from the Oticon Foundation; $248,000 from the Hearing Industry Research Consortium as CIA; $243,000 from the NHMRC as CIA. Prof Hickson was also a Chief Investigator on a $361,000 grant from the National Institute for Health Research in the UK.

Contribution to field of research: Prof Hickson’s extensive research over many decades has been highly influential in guidelines published by the World Health Organization, the British Society of Audiology, Audiology Australia and the American Speech-Language Association. Their work on
the nature of hearing service provision and outcomes for clients is also cited in the recent Hearing Services Program review and CID Hickson was interviewed a number of times by the panel.

In terms of research translation and impact Prof Hickson is most well-known for developing and evaluating the Active Communication Education program with an RCT funded by the NHMRC in the early 2000s. The program is a freely available online resource published in both English and Spanish and used in many countries around the world as a behavioural intervention alternative to and supplement for hearing aid fitting in older adults. Other known translations are in Swedish, Spanish for use in Chile and Colombia, French for use in Canada, Hebrew, Korean, German, Portuguese for use in Brazil, Farsi for use in Iran, and Italian.

**Awards:** Fellow of the Queensland Academy of Arts and Sciences as a Fellow; University Partners in Research Excellence Award (2019); Faculty of Health and Behavioural Sciences UQ Research Translation Award (2016); Chancellor’s Award for Leadership at UQ (2014); American Academy of Audiology International Research Award (2013).

**Collaborations:** Prof Hickson is a sought-after collaborator who has sustained links with numerous academic, clinical and industry partners, domestically and internationally.

**Community engagement and participation:** Prof Hickson has been actively involved with community organizations for people with hearing loss for many years and is currently a research representative on the Hearing Health Sector Alliance. CID Hickson’s research work is interprofessional, most often in collaboration with audiology, speech pathology and psychology, and consumer-led working alongside people with hearing loss and their families.

Her current role as Associate Dean External Engagement means Prof Hickson is responsible for major partnerships between with organizations external to UQ such as hospital and health services, Education Queensland, Hear and Say Wesley Mission Queensland, and many more.

**Professional involvement and international standing:** Evident in Prof Hickson’s current positions as President Elect, International Society of Audiology; Chair of the Scientific Advisory Board of the Eisdell Moore Centre, New Zealand’s national centre for hearing research; the Chair of the Ida Institute Advisory Board in Denmark; member of the Scientific Advisory Group for National Acoustic Laboratories, Sydney; Chair of the Ida Institute Advisory Board; member of a WHO Technical Committee on a Package of Rehabilitation Interventions for hearing and deafness; member of the International Federation on Ageing Expert Centre on Hearing Loss. Prof Hickson is also currently an Honorary Prof at Hong Kong University.

**Supervision and mentoring:** Has supervised 31 PhD students, 10 Masters students and 28 Honours students to completion. Currently supervises 3 PhD students. Additionally, has mentored over 65 Masters of Clinical Audiology students and numerous staff. Prof Hickson received an Excellence in Research Higher Degree Supervision Award from The University of Queensland in 2011.

**Peer review involvement:** On the Editorial Board of: International Journal of Audiology; South African Journal of Communication Disorders; Interventions for Rehabilitation, specialty section of Frontiers in Rehabilitation Sciences.

**Other contributions to NHMRC:** Prof Hickson is a reviewer for the NHMRC and has been a panel member in the past for 3 years.
**CI-E – Dr Teresa Y.C. Ching**

**Top 5 publications in the last 5 years**


2. **Ching TYC**, Scarinci N, Marnane V, Sjahalam-King J, Button L, Whitfield J (2018). Factors influencing parents’ decisions about communication choices during early education of their child with hearing loss: a qualitative study. *Deafness and Education International*. This paper reports parents’ insights into their choice of an oral or signed approach to communication intervention for their infants. The findings have been incorporated into family-centred intervention for children with hearing loss.


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**Overall Track Record in the last 5 years**

**Career summary:** Dr Ching’s career has focused on population-based research into the impact of hearing loss with the end goal of community-based strategies that reduce the negative impact of permanent hearing loss on people’s quality of life. As former Leader of Pediatric hearing loss research at the National Acoustic Laboratories, CI Ching led a research program that brings together researchers from diverse backgrounds in a set of complementary studies that focused on assessment and rehabilitation of hearing loss. These included epidemiology and aetiology of childhood hearing loss, identifying factors influencing outcomes to guide effective interventions (Longitudinal Outcomes of Children with Hearing Impairment or the LOCHI study, and the Children with unilateral hearing loss or CUHL study, partly funded by the NIH/NIDCD), development of novel techniques for measuring speech discrimination deficits in infants using electrophysiological methods and behavioural eye-tracking techniques (funded by the NHMRC), and novel methods for prescribing hearing devices and evaluating effectiveness of devices in young children with hearing loss (supported partly by the HEARing CRC). The impact of the LOCHI study findings has been widely recognised, most recently highlighted in Recommendation 22 of the 2021 Report of the Independent Review of the Hearing Services Program.
Research support: Dr Ching has been awarded 8 grants as CI in the last 5 years totalling AUD$7.5 million from the NIH/NIDCD, NHMRC, Garnett Passe and Rodney Williams Foundation, Department of Health, CRE Ear & Hearing Health, Victoria Deaf Education Institute, and industry.

Contribution to field of research: Research translation included the 1) NAL-NL2 hearing aid prescription methods co-developed by Dr Ching and colleagues, licensed to major hearing aid companies; 2) novel methods for measuring cortical responses to sounds for assessing discrimination and detection co-developed by Dr Ching and colleagues, implemented in clinical hearing centres and sold world-wide; 3) novel language-independent test for screening adults for cochlear implant referral co-developed and validated by Dr Ching and colleagues, implemented by industry as a web-based clinical tool; and 4) novel parent-report tool co-designed with Aboriginal and Torres Strait Islander communities, implemented in clinical practice to accelerate early intervention for young Indigenous children.

Awards: Dr Ching was a Commonwealth scholar and a Commonwealth Academic Staff Fellow, awarded by the Association of Commonwealth Universities in the United Kingdom. Dr Ching was awarded a Public Service Medal for Outstanding public service as a researcher, clinician, innovator and professional in the field of Audiology by the Australian Government.

Collaborations: Dr Ching has extensive collaborators – including Australia, Canada, China, New Zealand, South Africa, United Kingdom and United States, as part of recent research programs. CI Ching has a track record of collaborations with industry (hearing aid and cochlear implant companies) and government departments (health, Indigenous health, and education).

Community engagement and participation: Dr Ching has significant engagement in the field of hearing health, through government-funded research to develop and recommend a timeframe for action on hearing healthcare for Aboriginal and Torres Strait Islander children (Report, 2020); and co-design parent-report tools with Indigenous communities and healthcare workers in urban, regional and remote areas to accelerate early intervention. CI Ching regularly presents research findings to healthcare consumers, early intervention agencies, and educators of children.

Professional involvement: Dr Ching is an invited member of the Pediatric Amplification Task Force of the American Academy of Audiology that has generated evidence-based guidelines that are adopted world-wide for management of childhood hearing loss. CI Ching is a member of the Steering Committee of the COACH trial on expansion of cochlear implant candidacy for adults in the United Kingdom. Dr Ching was a committee member of the Steering Committee of the Hearing Across the Lifespan (HEAL) conference.

International standing: Dr Ching is internationally renowned for their research in hearing assessment and rehabilitation for children. CI Ching is an invited member of the Technical Working group of World Health Organisation (WHO) on Hearing Screening; Chair of the Australian Working group for the Coalition for Global Hearing Health (CGHH) on early hearing detection and intervention; and Reviewer of the EUSCREEN Manual for implementation or modification of child vision and hearing screening programs, European Union’s Horizon 2020 Program. CI Ching has delivered 31 invited keynote or panel presentations at international conferences in the last 5 years.

Supervision and mentoring: Dr Ching has supervised 8 PhD students to completion; and mentored Audiology interns from Universities and Research Institutes in China, France, and Germany.

Peer review involvement: Dr Ching is Editor of the International Journal of Audiology, and regularly reviews for journals in the fields of Audiology, Speech pathology, and Otolaryngology. Dr Ching regularly reviews grant proposals in Australia (ARC, NHMRC), Belgium (FWO), Hong Kong (GRC), the United Kingdom; as well as university-based grant schemes.

Other contributions to NHMRC: Dr Ching is a reviewer and a member of the translational research faculty of the NHMRC.
CI-F –Professor Christopher Armitage

**Top 5 publications in the last 5 years**

   
   *The first paper to use the Behaviour Change Wheel to develop an intervention to increase uptake and sustained use of hearing protection devices in musicians.*


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**Career refereed publications: 144**

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**Overall Track Record in the last 5 years**

**Career summary:** Professor Christopher Armitage is an internationally recognised expert in using psychological theory (e.g., transtheoretical model) to develop tools for behaviour change among diverse populations. Professor Armitage has developed a program of research that is oriented towards “making a difference” through the design, development and evaluation of evidence-based *behaviour change interventions* in a range of domains (e.g., hearing aids use, hearing protection use, smoking cessation, self-harm, and antisocial behaviour) in clinical and nonclinical child and adult samples.

**Research support:** Professor Armitage has been working on (in 2021) >£50,000,000 of research grants funded by diverse sources (e.g., Technology Strategy Board, British Renal Society, AERC, CRUK, ESRC, MRC, NIHR, EU, and NICE) on which CIF Armitage is typically either principal investigator or lead psychologist.

**Contribution to field of research:** Professor Armitage has made contributions to basic theory underpinning the *psychology of behaviour change*, including (1) “implementation intentions”; CIF Armitage’s work identified the key components of what make implementation intentions change
behaviour and has begun to establish under what circumstances implementation intentions are effective in changing this behaviour. CIF Armitage developed the volitional help sheet, a tool for helping people form implementation intentions, (2) “self-affirmation”: Professor Armitage’s work established the circumstances in which self-affirmations change behaviour, (3) “theory of planned behaviour”: Professor Armitage has used the theory to identify and then manipulate variables to produce changes in behaviour. CIF Armitage had success in orienting people towards safer sexual practices, (4) “process simulations”: CIF Armitage has taken process simulations from the experimental social psychology laboratory and has demonstrated their efficacy in the real world. CIF Armitage developed an intervention based on process simulations that is effective in reducing anxiety in people considering donating blood, and (5) “transtheoretical model of change”: CIF Armitage synthesised criticisms of the transtheoretical model of change and set a research agenda that focuses on the most valuable elements of the model (i.e., processes of change), rather than the sustained debate around the ‘stages of change’.

Awards: Professor Armitage is an elected Fellow of the Academy of Social Sciences, received a “Making a Difference” award from the University of Manchester and has been nominated for a Times Higher Education award. CIF Armitage also received the “Highly Cited Article” (in the top 1% within its field) award from Web of Knowledge for Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. British Journal of Social Psychology, 40, 471-499.

Collaborations: Professor Armitage has an extensive track record of collaborations with health care organisations and the government.

Community engagement and participation: Professor Armitage’s research is conducted in partnership with members of the relevant communities and is disseminated via multiple media including blogposts, animations and personal appearances at science fairs to a variety of audiences.

Professional involvement: Professor Armitage is a member of the NICE Hearing Loss Guidance Committee, the NIHR Programme Gants for Applied Research grant awards committee, and British Psychological Society. CIF Armitage is an external reviewer in Australia’s Research Quality Framework exercise (RQF). CIF Armitage was also a member of the British Psychological Society’s Behaviour Change Advisory Group (2013-2019).

International standing: Professor Armitage has been invited to present their work at numerous departmental seminars (e.g., Oxford University, Cambridge University, University College London) and international conferences (e.g., in US; Johannesburg, South Africa). CIF Armitage’s research is regularly featured in international news media.

Supervision and mentoring: Professor Armitage has supervised 16 PhD students to completion, and CIF Armitage is currently the supervisor of 10 PhD students.

Peer review involvement: Professor Armitage is on the Editorial board of the peer-reviewed journal “Psychology of Sport and Exercise” and is Associate Editor of “Psychology & Health”. CIF Armitage is past Associate Editor of “British Journal of Psychology” and “Health Psychology”. CIF Armitage is a peer reviewer for several APA journals (e.g., Journal of Consulting and Clinical Psychology) and other leading international journals (e.g., Implementation Science, Annals of Behavioral Medicine, Health Psychology). Professor Armitage has also reviewed numerous grant proposals and final reports for several national and international funding bodies, including Breast Cancer Campaign; Chief Scientist Office, Scottish Government; Economic and Social Research Council; Ministry of Health, Singapore; National Health Service Executive; National Institute for Health Research; Social Sciences and Humanities Research Council of Canada; Netherlands Organisation for Health Research and Development (ZonMw); Netherlands Organisation for Scientific Research (NWO, the Dutch research council); and New Zealand Oncology Trust.
CI-G –Dr Monique Waite

Top 5 publications in the last 5 years


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Overall Track Record in the last 5 years

**Career summary:** Dr Waite is a Lecturer in Speech Pathology in the School of Health and Rehabilitation Sciences. Immediately prior to this appointment CIG Waite held a Research Fellowship in the HEARing Cooperative Research Centre (CRC; $812,954.45 funded), leading a large-scale project investigating the use of telehealth in improving access and outcomes of individuals with hearing loss and their families. CIG Waite is a pioneer in research in the application of telehealth in paediatric speech pathology, having completed the first PhD in this field in 2010. Since then, CIG Waite has worked in teaching and research positions focusing on innovation in clinical practice and student education in the allied health professions. This includes the Simulated Telemedicine Environment Project for Students (STEPS; Griffith University; $1,311,733 funding), a large-scale multidisciplinary study funded by the Australian Department of Health. Since being appointed to the University of Queensland in 2015, CIG Waite has received a total of $371,43 in grant funding for a number of projects focussed on telehealth and family-centred models of care in speech pathology and hearing services. CIG Waite’s telehealth work has contributed to Speech Pathology Australia’s Position Statement on Telepractice, and numerous other professional resources.
**Research support:** Dr Waite has been awarded five grants as CI in the last five years, totalling AUD$354,456.59 from competitive sources including the Hearing Industry Research Consortium, Perpetual IMPACT Philanthropy, the Ida Institute, and the University of Queensland.

**Contribution to field of research:** Dr Waite’s research is cited in national and international guidelines and policy, including Speech Pathology Australia Telepractice Position Statement and the American-Speech-Language-Hearing Association policy documents: ‘**Professional Issues in Telepractice for Speech-Language**’, and ‘**Roles and Responsibilities of Speech-Language Pathologists in Schools**’. It is also cited in telepractice guidelines published by the assessment publisher Pearson, as well as organisational guidelines and manuals, for example the ‘**University of Maine speech therapy telepractice and technology program manual**.’

**Collaborations:** Dr Waite has a track record of collaborations with Australian and international academic, clinical and industry partners.

**Community engagement and participation:** CIG Waite’s research work is largely consumer-led, working alongside people with communication disability and their families. As a member of the University of Queensland Human Research Ethics Committee, Dr Waite has also presented a workshop on understanding qualitative research methods for ethics committees at the Australian National Human Research Ethics Conference.

**Professional involvement and international standing:** Dr Waite is a member of the professional organisations Speech Pathology Australia (SPA) and the Australian & New Zealand Association for Health Professional Educators (ANZAHPE). As part of their service to SPA, CIG Waite is a member of the working party for Speech Pathology Australia Telepractice Position Statement Revision, SPA Telepractice Principles of Practice Guide for Speech Pathology and Speech Pathology Telepractice Portal, and has had co-developed a training module, and series of webisodes on providing family-centred paediatric speech pathology services using telehealth. CIG Waite regularly consults with speech pathologists on the set-up and implementation of telehealth services.

**Supervision and mentoring:** CIG Waite has supervised two PhD students and nine honours and graduate entry masters research student projects successfully to completion. Dr Waite is currently advisor to another two PhD students and has extensive experience in the supervision of research assistants.

**Peer review involvement:** CIG Waite is an Editorial Board Member for **Frontiers in Rehabilitation Sciences**. Further, Dr Waite is a peer reviewer for twelve journals in the fields of hearing healthcare, speech pathology, telehealth and health professional education. CIG Waite also acts as a grant reviewer for national (Speech Pathology Australia and Birmingham Children’s Hospital NHS Foundation Trust) grant schemes.
CI-H – Associate Professor Marc Orlando

Top 5 publications in the last 5 years


2. Orlando, M., & Hlavac, J. (2020). Simultaneous-consecutive in interpreter training and interpreting practice: use and perceptions of a hybrid mode. The Interpreters’ Newsletter, 1. By examining the nature and status of the under-researched hybrid mode of interpreting Simultaneous-consecutive, this article assessed the amenability of its use in interpreting training and practice.


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Overall Track Record in the last 5 years

Career summary: Associate Professor Orlando is a leading expert in the training of translators and interpreters who focuses on the synergies between practice, research, and pedagogy. CIH Orlando was the director of Translation and Interpreting Studies at Monash University for 10 years. Since 2020, CIH Orlando has been working as director of the Translation and Interpreting Program in the Department of Linguistics at Macquarie University. CIH Orlando has been involved in various projects dealing with the provision of translation and interpreting services and with multicultural policies. CIH Orlando is also an active conference interpreter and translator, certified by NAATI (Australia) and a member of several professional associations (International Association of Conference Interpreters (AIIC), Australian Institute of Interpreters and Translators (AUSIT)).

Research support: Associate Professor Orlando has been awarded 6 grants in the last 5 years totalling AU$554,000 from different competitive resources such as Deaf Victoria, the Attorney General Department, VicDeaf and ASLIA, the National Accreditation Authority for Translators and Interpreters (NAATI), the Department of Foreign Affairs and Trade (DFAT), the Multicultural Commission of Victoria, the Department of Premier and Cabinet of Victoria, and City of Darebin Council.

Contribution to field of research: Associate Professor Orlando investigates relations and synergies between research in the discipline of Translation and Interpreting Studies, professional
T&I practice and multicultural policies in different contexts and countries, and T&I curriculum design. CIH Orlando’s research activities have therefore an educational research content and scope. The integration of scholarship, research and professional activities is the centrepiece of CIH Orlando’s practice and achievements as an academic. Following a practice-informed research strategy, CIH Orlando has developed several curricula of PD courses for translators and interpreters in Australia and in particular for Auslan and deaf interpreters working in mental health settings or with media in emergency situations.

**Awards:** Associate Professor Orlando received the Monash University 2017 Faculty of Arts Award for Research Impact for the project: *From practice-informed research to social cohesion: a multidisciplinary approach to transform multicultural policy and aid equal access to social services nationally and internationally.*

**Collaborations:** Associate Professor Orlando has been collaborating with various international programmes, international organisations and government departments, including the Australian Department of Foreign Affairs and Trade (DFAT); The European Commission; or The European Language Council. CIH Orlando has been involved in several industry funded projects sponsored by public and private language service providers.

**Community engagement and participation:** Associate Professor Orlando is an active professional conference interpreter and translator, certified by NAATI, and a full member of several professional national and international associations (AIIC, AUSIT). As such, CIH Orlando is well connected with the Translation and Interpreting industry, with professional associations, with government departments and multilingual international organisations, with employers and users of Translation and Interpreting services. Such industry engagement provides CIH Orlando with a broad awareness of market needs and trends at local, regional and international levels.

**Professional involvement:** Associate Professor Orlando is the current coordinator of the Research Committee of AIIC, the International Association of Conference Interpreters; a member of the Technical Reference Advisory Committee of NAATI (Australia); and the European Language Council Working Group on Language and Rights. CIH Orlando was elected as Vice-President of the CIUTI Board in 2018, for a three-year term, and as Chair of the CIUTI Asia-Pacific Office.

**International standing:** Associate Professor Orlando was a visiting professor and guest lecturer in several universities such as Beijing International Studies University, China (2017), Antwerp University, Belgium (2018), ESIT Sorbonne University Paris, France (2018), and KU Leuven University, Belgium (2018), Shanghai International Studies University, China (2021). From 2018 to 2020, CIH Orlando also sat as VP on the Board of CIUTI, the international association of universities training translators and interpreters and was Chair of its Asia-Pacific Office.

**Supervision and mentoring:** Associate Professor Orlando has supervised 2 PhD students and 3 Master by research students to completion.

**Peer review involvement:** Associate Professor Orlando has conducted several academic program reviews as an internal or external expert, including the review of: the Master in International Relations (Monash University); the Postgraduate programs in Translating and Interpreting (Macquarie University); the programs in Interpreting and Translation (University of New South Wales); the Postgraduate programs in Translating and Interpreting (Middlebury Institute of International Studies at Monterey-USA).
CI-I –Dr Ben Harris-Roxas

Top 5 publications in the last 5 years

1. Harris M, Harris-Roxas B, Knight A. Care of patients with chronic disease: achievements in Australia over the past decade, Medical Journal of Australia 209(2):55-57, 2018. doi:10.5694/mja18.00333 Highlights achievements in chronic disease management in Australia over the past decade and identifies areas where research and intervention are required.

2. Kearns, R., Gardner, K., Silveira, M., Woodland, L., Hua, M., Katz, M., Takas, K., McDonald, J., & Harris-Roxas, B. (2018). Shaping interventions to address waterpipe smoking in Arabic-speaking communities in Sydney, Australia: A qualitative study. BMC Public Health, 18(1). I led this formative research which resulted in the Shisha No Thanks project that has received more than $500,000 in funding from the Cancer Institute NSW. The project won the 2020 South Eastern Sydney LHD Healthcare Award in the Keeping People Healthy category and the 2020 Business Campaign of the Year award in the NSW Premier's Multicultural Communications Awards


4. Welberry H, Barr ML, Comino E, Harris-Roxas B, Harris E, Dutton S, Jackson T, Donnelly D, Harris M. Do general practice management and/or team care arrangements reduce avoidable hospitalisations in Central and Eastern Sydney, Australia? BMC Health Services Research, 19(1), 2019. doi: 10.1186/s12913-019-4663-3. Recent paper that found there was no evidence that the use of general practice management plans and or team care arrangements and prevented hospitalisations in the Central and Eastern Sydney region.


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Overall Track Record in the last 5 years

Career summary: CI Harris-Roxas is a Senior Lecturer in the School of Population Health, University of New South Wales (UNSW), Sydney. Prior to commencing this role in 2021, CI Harris-Roxas was Director of the South Eastern Research Collaboration Hub (SEaRCH), a joint initiative of the UNSW and the South Eastern Sydney LHD in Sydney, Australia. Before that CII was Deputy Director of the Centre for Health Equity Training, Research and Evaluation (CHETRE) at the Ingham Institute in South Western Sydney. CI Harris-Roxas trained as a social worker and gained a Master of Policy and Social Research. CI Harris-Roxas received an NHMRC Postgraduate Scholarship to conduct their PhD in public health on “the impact and effectiveness of equity focused health impact assessment in health service planning” at UNSW, which was awarded in 2014.

In the seven years since their PhD was awarded, CI Harris-Roxas has been employed in a university setting since April 2016. Before then Harris-Roxas worked in industry as a consultant, focused on strategy and policy development, evaluation, applied research, and consultation. Project funders and clients included Australian Government agencies, the National Cancer Expert Reference Group,
NSW Local Health Districts, the NSW Ministry of Health and Pillars, WHO, Queensland Health, NSW Treasury, the National Heart Foundation, and local government.

**Research support:** Since 2017 Harris-Roxas has been an Investigator on projects valued at $5.97 million, of which $2 million was through competitive peer-reviewed research funding programs, $3.51 million through Australian government research funding, and $562,000 in international and industry funding.

**Contribution to field of research:** Indicators of CI Harris-Roxas’ contribution to their field of research at November 2021 include their h-index 13 (Scopus)/19 (Google Scholar) and their total citations 525 (Scopus)/1,344 (Google Scholar). Within the past five years, CII has been a reviewer for NHMRC Project Grants (2018), the Health Research Council of New Zealand Fellowship Grants (2018), and the Netherlands Organization for Health Research and Development grant program (2017). Harris-Roxas has examined PhDs for Deakin, Sydney, Macquarie and Flinders Universities.

**Collaborations:** CI Harris-Roxas is an investigator on current projects that involve co-investigators from UTS Sydney, the University of Sydney, and Macquarie University. CII is a member of the Healthy Urban Environments, and Age and Ageing Clinical Academic Groups within the SPHERE Academic Health Science Partnership. CI Harris-Roxas is also involved in projects funded by Mindgardens, a research Alliance focused on neurological, mental health and substance use disorders. In 2019 CI Harris-Roxas has hosted visiting academics from Université Laval, Manchester University, and the Johns Hopkins Primary Care Policy Center.

**Community engagement and participation:** In 2015 CI Harris-Roxas was identified as most-followed individual Twitter account (multi-focus) on health and medicine in Australia (doi:10.17061/phrp2531534). CI Harris-Roxas is a member of the Croakey Health and Medical Panel, an advisory network for a prominent Australian public health blog. CII is a regular media commentator.

**Professional involvement and international standing:** CI Harris-Roxas is on the editorial boards of three journals: *Environmental Impact Assessment Review, Impact Assessment and Project Appraisal*, and the recently launched *BMJ Integrated Healthcare Journal*. CI Harris-Roxas is an Associate Editor for *The Australian Journal of Primary Health* and was an Associate Editor for *BMC Public Health* from 2010-2016. They are a member of the Uniting War Memorial Hospital Research Committee, and the NSW Agency for Clinical Innovation Primary Health Care Network.

**Supervision and mentoring:** CI Harris-Roxas is currently primary or co-supervisor for five PhD candidates and two Doctor of Public Health candidates. Harris-Roxas provides informal mentoring for two ECRs currently employed by the University of Melbourne and the Sax Institute - initiated by the people mentored in both cases.

**Peer review involvement:** CI Harris-Roxas has reviewed for more than twenty journals.