AUSTRALIAN GOVERNMENT DEPARTMENT OF HEALTH AND AGEING

Evaluation of the National Indigenous Ear Health Campaign - Final Report

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circa
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TABLE OF CONTENTS

List of tables

List of figures

Acknowledgements

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Executive summary

The incidence of ear disease and hearing loss among Aboriginal and/or Torres Strait Islander people(s) is significantly higher than among the general Australian population, particularly among children and young adults.

As part of the Australian Government's commitment to closing the gap in Indigenous disadvantage, $58.3 million was allocated over four years from 2009 to 2013 to improving eye and ear health services for Aboriginal and/or Torres Strait Islander people(s), and part of this funding was allocated to developing and implementing the National Indigenous Ear Health Campaign. The campaign, branded as Care for Kids' Ears, was launched on 1 July 2011 and is the first national campaign to address ear health in Aboriginal and Torres Strait Islander communities. From July 2011 to June 2013, the Cultural and Indigenous Research Centre Australia (CIRCA) was commissioned to conduct an evaluation of the campaign. This report presents the findings of this evaluation.

The campaign

The National Indigenous Ear Health Campaign comprised two main elements:

- The national distribution of Care for Kids' Ears resources, including resources for parents and carers; resource kits for teachers and teachers' aides, early childhood and community groups and health professionals (with which the Otitis Media Guidelines were jointly distributed); and the Care for Kids' Ears campaign website, providing information on otitis media and links to download or order the resources

- Media partnerships with 35 community media organisations across Australia designed to develop and deliver ear health communications at a local community level.

The overarching goal of the campaign was to increase awareness of ear disease and highlight the importance of seeking and following treatment to prevent hearing loss in Aboriginal and Torres Strait Islander communities. The campaign is focused on achieving a number of knowledge-based, attitudinal and action-based objectives.

The primary target audience for the campaign is Aboriginal and/or Torres Strait Islander parents and carers of children aged 0-5 years of age, particularly mothers and female carers. Intermediaries from the health and education sectors, such as health workers, doctors, nurses, early childhood educators and teachers, are a secondary target audience, as are Aboriginal and/or Torres Strait Islander children aged 6 years and over.

Evaluation objectives

The objectives of this evaluation were to:

- Establish the level of awareness of, access to and engagement with each of the Care for Kids' Ears communication resources among the intended target audiences
- Establish the extent to which the range of communication resources and activities undertaken across the broader campaign is helping to achieve the knowledge-based, attitudinal and action-based objectives of the campaign for the intended target audiences, with specific reference to the key segments identified for the primary target audience
- Provide detailed recommendations on how the communication resources and activities associated with each of the campaign elements could be enhanced for future communications and ear health promotion activity.

Methodology

The evaluation comprised five key components:

- Thirty-two in-depth interviews conducted from April to June 2012 with teachers, early childhood educators and other staff working with Aboriginal and/or Torres Strait Islander children, to gather feedback on the resources for parents and carers and the resource kits for teachers and teachers' aides and for early childhood and community groups.

- Twenty-two in-depth interviews conducted from November to December 2012 with health professionals to gather feedback on the resources for parents and carers and the resource kit for health professionals.

- A review of feedback provided in an online survey completed voluntarily by health professionals, teachers and early childhood educators who ordered resources via the Care for Kids' Ears website. The sample included n=101 teachers and early childhood workers and n=20 health professionals.

- Ten individual case studies undertaken to examine the approaches taken by the Media Partnership Projects to deliver ear heath messages and information at a local community level. The case studies were conducted from July to August 2012 and from October 2012 to May 2013 to capture a wide range of projects across the campaign timeline, and included focus groups with 29 parents and interviews with 70 project staff.

- A quantitative survey conducted with mothers and female carers of children aged 0-5 years (baseline in July 2011 and follow-up from November 2012 to February 2013), with a sample size of n=200 in each round. All differences reported in the text are statistically significant differences ($p<0.05$).

Evaluation findings – Care for Kids' Ears resources

The Care for Kids' Ears resources received consistently positive feedback in interviews conducted with health professionals, teachers and early childhood educators, who expressed enthusiasm and appreciation for the resources and reported that they were very well received by parents, carers and children. The resources were consistently identified as credible, professional, useful, attractive and culturally relevant. The evaluation identified a number of key features of the resources which were felt to contribute to their success with Aboriginal and/or Torres Strait Islander parents and carers, health professionals and teachers:

- Comprehensive, current and reliable information
- Relevance to Aboriginal and/or Torres Strait Islander communities
- Simple, easy-to-understand messages
- The resources being professional, attractive and of high quality, free, readily accessible, easy to use and flexible.

Evaluation findings – Media Partnership Projects

The development and implementation of media partnerships as part of the campaign is a unique approach which has enabled community media organisations (predominantly Aboriginal and/or Torres Strait Islander broadcasters) to build effective partnerships with local communities and health services in order to develop and deliver highly effective ear health social marketing strategies. The communications organisation Independent and General Pty Ltd. (I&G), in the role of Executive Producer, managed the media partnerships on behalf of the Government and provided radio and media production expertise and support directly to the media partnership organisations. The key factors in relation to the success of this approach, as evidenced in the 10 case studies evaluated, were:

- The media partnership organisations already having the trust, respect and confidence of the Aboriginal and/or Torres Strait Islander communities they are part of and being able to effectively engage local communities in the ear health campaign
- The development of local and culturally relevant campaigns, which received an extremely positive response in all 10 case studies and were noted as key factors in community engagement
- The development of effective local partnerships, enabling creative production skills, community knowledge and ear health expertise to combine to deliver project outcomes
- Localised yet comprehensive coverage, combining health promotion and media responses with the delivery of direct ear health services; building partnerships between health services,

media partners, schools and communities; and enhancing community capacity and strengthening the overall response to ear health locally

- The availability of the Care for Kids' Ears resources, ensuring quality and consistent messaging, providing a positive contribution to local services and community events, and being well received in communities and highly valued by professionals
- A large amount of high-quality and accurate ear health media being produced and distributed
- Significant capacity-building of radio and media organisations by increasing staff knowledge of ear health, enhancing organisational ability and staff skills in producing high-quality social marketing material, and improving capacity to build partnerships with health services
- I&G, as Executive Producer, providing culturally appropriate and flexible support and technical expertise to the media partnership organisations and a management role for Government – complex roles that were critical to the success of the projects explored in the case studies.
- Using a large and effective existing national distribution network of Aboriginal Torres Strait Islander radio stations, thereby providing access to significant audiences
- Project timelines allowing adequate time for effective community engagement, building community ownership and developing partnerships with the health sector, community members and Aboriginal and/or Torres Strait Islander organisations.

Evaluation findings – Campaign awareness and engagement

Overall, the evaluation findings indicate that the campaign has had a positive impact on awareness of ear disease among Aboriginal and/or Torres Strait Islander communities. The quantitative research, undertaken with mothers and female carers as the primary target audience, found that campaign exposure was linked to increased knowledge of symptoms and prevention and to increased help-seeking behaviours. Around four in 10 mothers and carers in the follow-up survey had been exposed to at least one element of the campaign. Given that the campaign did not use traditional paid advertising through mass media and was based on the distribution of national resources and a community-level approach through media partnerships, with localised delivery and broadcasting, this is a positive result. In particular, prompted recall of the Care for Kids' Ears logo and the Parents and Carers Brochure was relatively high, with 24.5% and 21.5% exposed to these campaign elements respectively, and 11.0% recalling the media partnerships.

Among the mothers and carers in the quantitative research who had read or looked at the resources, almost all said that the materials were easy to understand, that they liked the way they looked, and that they were helpful. Care needs to be taken, however, as the sample size was small (n=31 who had read the Parents and Carers Brochure and n=20 who had read the Strong Hearing Strong Start photobook). This positive response to the resources in the quantitative research is supported by

findings from the qualitative research conducted with intermediaries (as outlined above). Feedback from mothers and carers in the follow-up survey in relation to media partnership activities was also very positive, with comments that the approach was informative, easy to understand and culturally appropriate (again caution is needed due to the small sample of n=22 who had been exposed to the media partnerships).

Evaluation findings – Achievement of knowledge-based objectives

The campaign aimed to achieve a number of knowledge-based communication objectives, as outlined below.

Objective 1: Increase understanding of the role that modifiable behaviours such as regular ear examination/surveillance, treating early infections to completion, not smoking, improving hygiene, breastfeeding and improving nutrition have in preventing the development of ear disease

Overall, the quantitative research suggests the campaign has been successful in achieving improved understanding of these behaviours among those who had been exposed to the resources compared to those who have not been exposed to them:

- Results from the follow-up survey indicate that those exposed to the campaign[1] were more likely to:
    - Say they knew a lot about keeping ears healthy (32.1% compared to 16.0%)
    - Identify at least one prevention action unprompted (74.1% compared to 51.3%)
    - Identify regular ear checks as a preventative action unprompted (49.4% compared to 26.1%).
- Results suggest that awareness of messages in relation to modifiable behaviours such as breastfeeding and not smoking around children were not as strong as messages in relation to regular ear checks; this points to opportunities to improve prevention awareness in future campaigns.

Objective 2: Increase understanding of the signs and symptoms of ear disease, especially of those that are non-visual

The evaluation suggests that awareness of signs and symptoms, including the key message that children can have ear problems without any symptoms, improved for those exposed to the campaign

[1] Comparisons have been made with the group in the follow-up survey who were exposed to at least one element of the campaign (n=81) and those not exposed to the campaign (n=119), in order to assess the potential impact of campaign exposure on this target group. Odds ratio was used to compare the odds (or likelihood) of an event occurring in the exposed group compared to the odds of an event occurring in the non-exposed group. Differences reported are statistically significant (where p<0.05).

compared to those not exposed. In the follow-up survey, those who had been exposed to the campaign were more likely to:

- Say they knew of signs and symptoms of ear infections or problems (95.1% compared to 82.4%)
- Have heard that children could have ear problems even if they do not have any symptoms (60.5% compared to 43.7%).

Objective 3: Increase understanding of the link between ear disease and associated hearing loss, and increase awareness that ear disease and hearing loss can have significant long-term consequences for language and cognition

Those who were exposed to the campaign were more likely to have heard the statements "having lots of ear infections can cause hearing loss" (87.7% compared to 71.4%) and "kids with hearing loss can have trouble at school" (95.1% compared to 86.6%).

The qualitative research findings, particularly the media partnerships case studies, also suggest this is an important outcome of the campaign.

Objective 4: Increase awareness of effective surveillance, prevention and treatment pathways

When comparing results in the follow-up survey, those exposed to the campaign were more likely to say they knew ways parents could prevent ear problems among their children (82.7% compared to 60.5%).

Those exposed to the campaign were also more likely than those not exposed to identify at least one prevention action unprompted (74.1% compared to 51.3%). In particular, when looking at specific prevention activities, those exposed were far more likely to identify unprompted having kids' ears checked regularly as a preventative action (49.4% compared to 26.1%).

The locally based nature of the media partnerships allowed for specific ear health services to be identified and for people to be given treatment messages such as "visit your health centre", "finish antibiotics" and "ear health problems can be fixed if treated early".

Evaluation findings – Achievement of attitudinal objectives

The campaign aimed to achieve a number of attitudinal communication objectives, as outlined below.

Objective 5: Reduce the normalisation of ear disease and address the perception among target groups that ear disease is an inevitable part of Indigenous childhood

The evaluation indicates that this was an important focus for the campaign in the development of the resources, the distribution of resources through intermediaries, and the implementation of the media

partnerships. However, given the long-term nature of these objectives, the evaluation did not measure the contribution of the campaign to achieving these objectives. Qualitatively, the findings suggest that secondary target audiences were exposed to these messages.

Objective 6: Address the perception that children grow out of ear disease and that it has no lasting effects

As mentioned above, the campaign has been successful in delivering messages that ear disease can have significant long-term consequences. The follow-up survey also indicated that a statistically significant higher proportion of participants exposed to the campaign believed a number of attitudinal statements compared to those not exposed. The statements for which these differences were noted were “having lots of ear infections can cause hearing loss”, “kids with hearing loss can have trouble with their language development” and “kids with hearing loss can have trouble at school”.

Objective 7: Increase the importance of ear health as a health priority

The research with parents and carers suggests that community members believe ear health is important and that this did not change as a result of exposure to the campaign. However, the qualitative feedback suggests that the campaign has been effective in some cases in increasing the importance given to ear health. It should be noted that, while several of the intermediaries consulted were already strong advocates of ear health, there were also a significant number who indicated that the campaign had increased their knowledge, capacity and willingness to be ‘ear health champions’. The media partnership case studies in particular highlighted this positive outcome.

The evaluation indicates that there is an opportunity to further enhance the priority given to ear health among teachers and early childhood educators, although there are challenges in effectively reaching this target audience given the many competing priorities and time limitations for educators.

Evaluation findings – Achievement of action-based objectives

The campaign aimed to achieve a number of action-based communication objectives, as outlined below.

Objective 8: Prompt carers to modify behaviours that contribute to ear disease

With the exception of help-seeking behaviours (see below), the evaluation did not assess changes in preventative behaviours as a result of exposure to the campaign, such as not smoking around children, hand-washing and breastfeeding, but did assess *awareness* of these modifiable behaviours, and in several cases awareness of these had increased. It is therefore not possible to draw conclusions on changes to modifiable behaviours as a result of the campaign.

Objective 9: Encourage carers to take action if their child is showing signs of ear disease (both visual and non-visual), encourage carers to regularly take their child to a clinic for checks as there are often no signs of ear disease, and encourage carers to

request their child has their ears screened as part of routine health checks, especially children under five years

The follow-up survey found statistically significant differences in help-seeking behaviour among those who had been exposed to the campaign:

- Those exposed to the campaign were more likely to say they had taken their child to have their ears checked in the last 12 months when they did not have any signs or symptoms (70.4% compared to 43.7% of those not exposed).
- In terms of asking a health professional to check their children's ears when they were seeing them about something else, those exposed to the campaign were more likely to say they had done so compared to those not exposed (66.7% compared to 50.4%).

The media partnerships case studies also suggest that in several cases access to ear health checks was improved as a result of these initiatives.

Objective 10: Encourage health practitioners to extend their knowledge of primary prevention, identification, diagnosis and clinical care of ear disease in Indigenous children

Health professionals reported an interest in increasing and/or extending their knowledge and understanding of ear disease in Aboriginal and/or Torres Strait Islander children. The resources were also noted as being useful in professional development and particularly in increasing the knowledge of general practitioners.

Objective 11: Encourage the delivery of health messages that are consistent and evidence based

Qualitative feedback from health professionals, teachers and early childhood educators was extremely positive in relation to the capacity of the resources to provide consistent, evidence-based messages which would enhance the delivery of information and support provided to clients and students. This was also a key finding in the media partnerships case studies, where resources helped to ensure that locally delivered messaging aligned with national campaign messages.

Recommendations

The evaluation highlighted the positive impact of the campaign to date as an integrated strategy for delivering consistent ear health messages that reach and engage the primary target audience, and for helping support the role of key intermediaries in their delivery of health promotion information to Aboriginal and/or Torres Strait Islander families. Of relevance to potential opportunities for ongoing social marketing activity, the evaluation also identified opportunities to reinforce and further enhance the effectiveness of the campaign. With these in mind, the following recommendations are made:

- The response to the Care for Kids' Ears campaign resources was very positive, and the evaluation indicates that the resources are likely to have a relatively long shelf-life, as it was felt there are no other materials like these. Given this, there should be continued promotion and distribution of the resources, especially as the audiences change regularly (e.g. new parents, new intermediaries).
- Overall, the strategy to use intermediaries (health professionals, teachers and early childhood educators) to help convey ear health promotion messages should continue to be a focus, as the need for information to be delivered in a supported context continues to be important for some Aboriginal and/or Torres Strait islander parents and carers. This is even more important in remote communities.
- The evaluation results highlight opportunities to enhance the intermediary strategy targeting staff at schools, preschools and early childhood centres. While this is a more difficult audience to engage, efforts should be made to raise awareness of the Care for Kids' Ears resources among schools and early childhood settings and to enhance and promote their use.
- The media partnerships model was found to be a highly effective approach to delivering locally based content in a culturally appropriate manner, so this model could be considered for a range of health promotion initiatives. Some of the key considerations in replicating this model would be to ensure there is a strong external coordination role, and that the approach is supported by high-quality, easy-to-understand key messages that enable consistent and evidence-based message delivery.
- Given the success of the media partnerships approach, access to the communications materials that were locally developed through this strategy should be enhanced in order to build capacity among other media organisations and to extend the reach of these resources. For example, there could be promotion of the resources through the Indigenous Health*InfoNet*, development of a DVD of media partnership audio-visual content, and provision of an online library or other digital modes for accessing the resources.
- Efforts should be made to increase people's understanding of prevention messages, as the research showed that awareness of prevention strategies was lower in comparison to awareness of signs and symptoms of ear disease. In particular, the lowest awareness was in relation to the benefits of breastfeeding, followed by not smoking around children, which are both important messages. Interestingly, the original developmental research indicated qualitatively that the links between breastfeeding, smoking and ear infections were not well known, and the later evaluation research suggests greater effort is needed to deliver this information effectively.
- Although messages on treatment pathways were delivered through some of the local communications provided by health professionals who participated in the media partnerships projects, if there were opportunities to expand the scope of the campaign, this could receive greater focus in the future.

1. Background

1.1 Introduction

As part of its commitment to improving the lives of Aboriginal and Torres Strait Islander Australians under Closing the Gap, the Australian Government developed the National Indigenous Ear Health Campaign, branded as Care for Kids' Ears, the first national campaign to address ear health in Aboriginal and Torres Strait Islander communities. The campaign was launched on 1 July 2011. The Cultural and Indigenous Research Centre Australia (CIRCA) was commissioned to conduct the first evaluation of the campaign from June 2011 to June 2013. This report presents the findings of that evaluation.

This evaluation report is structured as follows:

- Chapter 1 describes the ear health campaign and CIRCA's initial developmental research for the campaign (in 2010).
- Chapter 2 describes the objectives, framework and methodology of the evaluation of the campaign (in 2011-13).
- Chapters 3 to 5 present the findings of the evaluation in regard to:
  - Care for Kids' Ears ear health promotion resources (Chapter 3)
  - Media Partnership Project (Chapter 4), and
  - Impact of campaign exposure on the primary target audience – parents and carers of children 0 to 5 years (Chapter 5).
- Chapter 6 contains the evaluation's conclusions and recommendations.
- The appendices describe the methodology and findings in more detail and present the survey questionnaires used for the research.

1.2 Campaign context

The incidence of ear disease and hearing loss among Aboriginal and/or Torres Strait Islander people(s) is significantly higher than among the general Australian population, particularly among infants, children and young adults. Overall, the occurrence of middle ear disease, generally referred to as otitis media, is almost three times more common among Aboriginal and/or Torres Strait Islander people(s) than among the non-Indigenous population. Further, otitis media is the most common cause of hearing loss among Aboriginal and/or Torres Strait Islander people(s).

The impact of otitis media on Aboriginal and Torres Strait Islander communities has negative effects across all ages. Otitis media is associated with impaired hearing, which can have serious implications for early childhood development, education and language and speech development. These in turn

can have far-reaching implications for social relationships and life opportunities, specifically in terms of education and employment.

As part of the Australian Government's commitment to closing the gap in Indigenous disadvantage, $58.3 million was allocated to improving eye and ear health services for Aboriginal and Torres Strait Islander Australians for better education and employment outcomes. Part of this funding was allocated to developing and implementing social marketing initiatives under the National Indigenous Ear Health Campaign.

1.3 Campaign strategy

The overarching goals of the campaign were to increase awareness of ear disease and to highlight the importance of seeking and following treatment to prevent hearing loss in Aboriginal and/or Torres Strait Islander communities.

Campaign objectives

The campaign was focused on achieving the following communication objectives:

Knowledge-based objectives

- Increase understanding of the role that modifiable behaviours such as having regular ear examinations/surveillance, treating early infections to completion, not smoking, improving hygiene, breastfeeding and improving nutrition have in preventing the development of ear disease.
- Increase understanding of the signs and symptoms of ear disease, especially of those that are non-visual.
- Increase understanding of the link between ear disease and hearing loss.
- Increase awareness that ear disease and hearing loss can have significant long-term consequences on language and cognition.
- Increase awareness of effective surveillance, prevention and treatment pathways.

Attitudinal objectives

- Reduce the normalisation of ear disease.
- Address the perception among target groups that ear disease is an inevitable part of Indigenous childhood.
- Address the perception that children grow out of ear disease and that it has no lasting effects.
- Increase the importance of ear health as a health priority.

Action-based objectives

- Prompt carers to modify behaviours that contribute to ear disease.

- Encourage carers to take action if their child is showing signs of ear disease (both visual and non-visual).
- Encourage carers to regularly take their child to a clinic for checks, as there are often no signs of ear disease.
- Encourage carers to correctly follow treatment pathways as prescribed by health professionals.
- Encourage carers to request their child has their ears screened as part of routine health checks, especially children under five years.
- Encourage health practitioners to extend their knowledge of primary prevention, identification, diagnosis and clinical care of ear disease in Indigenous children.
- Encourage the delivery of health messages that are consistent and evidence based.

Primary target audience

The primary target audience for the campaign was Aboriginal and/or Torres Strait Islander parents and carers of children aged under five years of age, with a particular emphasis on mothers and female carers. This approach was based on research conducted by CIRCA (outlined in 3.1 in Chapter 3)[2] that indicated that mothers and females carers are primarily responsible for the provision of healthcare to children of this age group. Parents and carers of children in the specific age group of 0 to 5 years old were selected due to research findings (including a literature review) that identified that five years and under is an appropriate age to target children with regard to ear health.

Secondary target audiences

Intermediaries from the health and education sector such as health workers, doctors, nurses and teachers have a key role to play in the dissemination of campaign messages, particularly in remote areas and among mothers with limited capacity and limited ear health knowledge. In these situations, these intermediaries may be the sole providers of the health messages. These intermediaries are also a key target audience in themselves, given that the developmental research identified a wide variation in their own levels of knowledge about ear health.

Aboriginal and Torres Strait Islander children aged six years and over were also identified as a secondary target audience as the developmental research indicated that children over the age of five have the capacity to respond to health messages. However, given the challenges in recruiting this audience and gaining parental/guardian consent, and the timing limitations of the research, this group was not included in the evaluation.

[2] The full report, entitled *Developmental Market Research to Inform Indigenous Ear Health Social Marketing Initiatives*, is available online

1.4 Components of the National Indigenous Ear Health Campaign

The National Indigenous Ear Health Campaign comprised two main elements:

- The Care for Kids' Ears resources, including:
    - Resources for parents and carers (launched July 2011)
    - The resource kit for early childhood and community groups (launched July 2011)
    - The resource kit for teachers and teachers' aides (launched October 2011)
    - The Otitis Media Resource Kit for Health Professionals ('the resource kit for health professionals') (launched February 2012)
    - The Care for Kids' Ears campaign website (www.careforkidsears.health.gov.au), which provides information on otitis media, news, and links for downloading or ordering the resources (launched July 2011).

- Media partnerships with 35 community media organisations across Australia, predominantly Aboriginal and/or Torres Strait Islander organisations. These projects were designed to develop and implement local ear health social marketing activities that communicated the key messages of the campaign. (A full list of media partnership organisations can be found in Appendix 1.)

The approach to distributing the Care for Kids' Ears resources primarily involved an intermediary strategy where the resources for parents and carers and the resource kits were promoted and distributed through teachers, teachers' aides, early childhood and community groups, health service providers, peak bodies and professional networks. This included a direct-mail approach for primary schools and early childhood organisations with a significant number of Aboriginal and/or Torres Strait Islander children and for all Aboriginal Medical Services and other community-controlled health organisations.

In addition, resource kits for health professionals were distributed via professional networks at training workshops, seminars and conferences, including a large number of professional development events organised by the Australian Medicare Local Alliance for its members. A copy of the Otitis Media Guidelines (updated 2010) was distributed with the resource kit for health professionals to promote best practice in the prevention and treatment of ear disease, including resources for supporting effective diagnosis and treatment pathways.

Significant quantities of the parents and carers resources were also distributed through the media partnership initiatives at community engagement events and outdoor broadcasts, together with a series of campaign branded merchandise including reusable children's bags, face washers, soaps, tissues, crayons and photo-frame fridge magnets.

1.5 Developmental research by CIRCA

As part of the development of the campaign, the Department of Health and Ageing commissioned CIRCA, in partnership with the Echidna Group, Dr Judith Boswell and GfK Blue Moon, to undertake developmental research with Aboriginal and Torres Strait Islander communities on the issue of ear health in order to provide strategic advice for the development of the campaign. The objectives of this research were to:

- Understand levels of awareness, knowledge, attitudes, behaviour and intentions regarding ear and hearing health
- Explore risk factors, barriers and motivators that influence ear health
- Segment the audience (demographically and/or attitudinally) to identify the differing communication needs, messages and strategies
- Identify messages and styles of communication that are likely to achieve behaviour change
- Highlight workforce factors in the implementation of ear and hearing health promotion in Aboriginal and Torres Strait Islander communities.

The research included a literature review, case studies identifying previously successful ear health promotion in Aboriginal and Torres Strait Islander communities, and consultations with Aboriginal and Torres Strait Islander communities and the health sector in 14 urban, regional and remote locations across Australia.

The developmental research identified a number of serious issues in regard to ear health in Aboriginal and Torres Strait Islander communities, including widespread lack of information (and even misinformation), low capacity of carers to act, and low service capacity to address these issues. However, the research indicated that there was a strong desire among research participants to receive more information about ear health issues, particularly if the information was correctly targeted and culturally appropriate.

Broad recommendations

The following broad recommendations for the ear health promotion strategy emerged from the developmental research:

1. Parents and carers should be targeted as the primary audience.
2. Within this, mothers and female carers of younger children (aged 0-5) should be seen as an important target group, as early treatment can greatly minimise long-term impacts.
3. Children aged 6+ should be seen as an important secondary audience for health promotion strategies, e.g. through school-based preventive initiatives.
4. Intermediaries should be a key target audience for ear health promotion as they play a crucial role in providing accurate information to children and carers.

5. Any national ear health campaign should include strategies that enable materials, messages and/or promotion to be localised to enhance effectiveness.

Segmenting the target audience

The developmental research also identified the importance of applying a segmentation approach when developing the ear health promotion campaign and identified the likelihood of increased effectiveness if the campaign was tailored to the various segments among Aboriginal and Torres Strait Islander parents and carers.

Two main factors were identified that influenced the capacity of Aboriginal and Torres Strait Islander parents and carers to act with regard to promoting the ear health of their children. These are:

- The capacity of the parent or carer to make health decisions based on:
    - the level of family support they receive
    - their awareness and knowledge of health issues
    - their family circumstances
- The capacity of services in the geographical area to adequately support parents and carers.

The research identified five segments:

A. Carers with low personal capacity in areas of low service capacity
B. More capacity than Segment A but need strong support
C. Consider ear health a priority but lack knowledge about it
D. Highly motivated but living in an area with low service capacity
E. High capacity to act and high service capacity – an 'aspirational' group.

The research suggested that segments C, D and E are more likely to respond positively to directly targeted ear health promotion messages, given their greater personal capacity. For segments A and B, the research proposed that a more effective way of targeting this group would be through supported ear health promotion, such as activities undertaken with intermediaries in conjunction with health checks or other service delivery.

Targeting health workers and teachers

The developmental research highlighted that health workers and teachers play a crucial role in providing information to parents and children. However, the research found that many of these intermediaries did not have enough knowledge about the prevention of otitis media to act effectively as a conduit for conveying important ear health messages, and should be targeted.

Health workers could be targeted through formal training, as well as comprehensive resources, to increase their awareness of ear health and the impact of hearing loss. For teachers the main messages should be about identifying ear problems and teaching prevention techniques. Induction

training for recently employed teachers could be effective. The research indicated that, in both cases, workforce issues (such as low retention of staff) should also be addressed as part of a more holistic approach to ear health.

The developmental research findings in relation to the segmentation of the primary audience, the importance of intermediaries in providing information to parents and carers in a supported environment and the information needs of these intermediaries influenced the development of the two-pronged communications strategy, which focused on the national distribution of targeted resources primarily through intermediaries and community-based media partnerships projects that could deliver locally tailored communications to complement the national materials.

1.6 Development of the Care for Kids' Ears resources

Following the developmental research, The Hub Marketing Communications was retained by the Department to develop the campaign resources. As part of the development of the resources, four rounds of concept testing and concept refinement research were conducted.

The concept testing and refinement process resulted in the finalisation of four sets of resources as part of the Care for Kids' Ears campaign: resources for parents and carers, resource kit for early childhood and community groups, resource kit for teachers and teachers' aides, and resource kit for health professionals.

Resources for parents and carers

- Parents and Carers Brochure
- Strong Hearing Strong Start photobook (aimed at lower literacy audiences)
- Colouring-in sheets and dot-to-dot sheets
- Kathy & Ernie's Activity Book, including the My Ears story
- Memory cards (children's game)
- A5 brochure rack (for information display purposes)
- Care for Kids' Ears poster.

Resource kit for early childhood and community groups

- Information Booklet for Early Childhood Groups
- My Ears storybook
- Colouring-in sheets and dot-to-dot sheets
- Memory cards
- I Love My Ears stickers
- Care for Kids' Ears poster.

Resource kit for teachers and teachers' aides

- Information Booklet for Teachers and Teachers' Aides
- Teachers' fact sheet
- My Ears storybook
- Flipchart for Teachers and Teachers' Aides
- Colouring-in sheets and dot-to-dot sheets
- Kathy & Ernie's Activity Book
- Memory cards
- I Love My Ears stickers
- Care for Kids' Ears poster.

Resource kit for health professionals

- Otitis Media Information Booklet for Health Professionals
- Otitis Media Consultation Tool
- Parents and Carers Brochure
- Strong Hearing Strong Start photobook
- I Love My Ears stickers
- Care for Kids' Ears poster
- Anatomical ear model (special order).

Campaign-branded merchandise was also produced to support the campaign. In addition, an A4 campaign resource flyer showcasing each of the kits was produced in early 2012 to help promote the ordering of resources at workshops, conferences and community events.

These products and the resources are discussed further in Chapter 3.

2. Evaluation objectives, framework and methodology

2.1 Objectives

In 2011-13, CIRCA was engaged to evaluate the National Indigenous Ear Health Campaign. The objectives of the evaluation were to:

- Establish the level of awareness of, access to and engagement with each of the communication resources and activities among the intended target audiences
- Establish the extent to which the range of communication resources and activities was helping to achieve the knowledge-based, attitudinal and action-based objectives of the campaign for the intended target audiences, with specific reference to the key segments identified for the primary target audience
- Provide detailed recommendations on how the communication resources and activities associated with each of the campaign elements and activity types could be enhanced for future communications and promotional activity.

2.2 Framework and methodology

The evaluation comprised five key components:

- Thirty-two in-depth interviews via telephone with teachers, early childhood educators and other staff working with Aboriginal and Torres Strait Islander children to gather feedback on the resources for parents and carers and the resource kits for teachers and teachers' aides and for early childhood and community groups.
- A mix of telephone (6) and face-to-face (16) in-depth interviews with 22 health professionals to gather feedback on the resources for parents and carers and the resource kit for health professionals.
- A review of feedback provided in an online survey completed voluntarily by health professionals, teachers and early childhood educators who ordered resources via the Care for Kids' Ears website. The sample included n=101 teachers and early childhood workers and n=20 health professionals.
- Case studies of 10 media partnerships that included focus groups with 29 parents and interviews with 70 project staff.
- A quantitative survey involving mothers and female carers of children aged 0-5 years, administered across two rounds (baseline and follow-up) with a sample size of n=200 in each round.

2.3 Consultations with educators

Consultations were conducted with educators and other staff who worked with young children and who had used the Care for Kids' Ears resources for teachers and early childhood groups. The purpose was to assess the effectiveness of these resources in relation to knowledge and attitudinal objectives, and to identify opportunities for improvement.

Thirty-two in-depth interviews (via telephone) were conducted from April to June 2012 with staff in primary schools, preschools and early childhood settings. Seven interviews were conducted in urban locations, 10 in regional locations and 15 in remote locations. A range of locations was included in South Australia (8 interviews), New South Wales (8 interviews), the Northern Territory (4 interviews), Queensland (4 interviews) and Western Australia (8 interviews).

Recruitment

A number of approaches were used to recruit primary school teachers and early childhood staff to address the challenges with identifying staff that had used the resources. In addition to providing a list of around 1,500 schools and services that were sent the resources when they were launched in October 2011, the Department provided a list of organisations that had reordered materials from the Department between 1 September 2011 and 28 February 2012 (a total of 904 entries). This had the advantage of including the contact details of those more likely to be using the kit. The list included schools, early childhood organisations and other organisations that were also contacted (e.g. NGOs in the human services sector, locally based Aboriginal organisations, state department regional coordinators, and community health staff working in partnership with schools). It should be noted that this approach meant that those interviewed were more likely to be positive towards the resources as they had already placed an order for additional materials.

Interviews

The interviews were conducted primarily with teachers, principals and early childhood educators but also included several nurses and health project staff. Of the 32 interviews, six were conducted with early childhood directors, 10 with school teachers, five with early childhood educators and workers, three with school principals, two with nurses and six with other staff. The school staff and health staff included in the sample worked with children aged four to eight years of age.

2.4 Consultations with health professionals

Consultations were also conducted with health professionals who had used the resource kit for health professionals. The purpose was to assess the effectiveness of these resources in relation to knowledge and attitudinal objectives, and to identify opportunities for improvement.

A mix of telephone (6) and face-to-face (16) in-depth interviews were conducted with 22 health professionals in a mix of urban, regional and remote locations across Victoria, New South Wales, the Northern Territory, Queensland and Western Australia. Three interviews were conducted in urban locations, eight in regional locations and nine in remote locations.

Interviews were conducted with people who had used the kit or were currently using the kit. Several interviews were undertaken in locations where National Indigenous Ear Health Campaign media partnership projects had been conducted, including Alice Springs, Cairns, Kalgoorlie, Sydney, Napranum and Lismore. Interviews were conducted between 21 November and 17 December 2012.

Recruitment

A number of approaches were used to recruit health professionals: health services were contacted in the locations where a quantitative survey in relation to the campaign was being conducted; lists of people and services that had reordered the kits were provided by the Department of Health and Ageing and a selection of these organisations were contacted; and an email requesting expressions of interest in participating in the research was sent by the Department to health professionals who had participated in training through the Australian Medicare Local Alliance.

Overall, the health professionals interviewed were working in services where the majority of clients were Aboriginal and/or Torres Strait Islander. Almost half of the staff interviewed were based in Aboriginal Medical Services and several others were employed in Aboriginal and Torres Strait Islander community organisations. The majority of participants interviewed were Aboriginal or Torres Strait Islander. The range of health professionals spoken to during the interviews included nurses, audiologists, Aboriginal and Torres Strait Islander health workers, health service managers, staff who worked specifically in the area of otitis media prevention and treatment, and child health and clinical coordinators. The majority had been working in Aboriginal and Torres Strait Islander health for five to 10 years and had between two to five years' experience in ear health. Most had experience working in a range of settings, including hospitals, community health, general practice, Aboriginal medical services and NGOs.

2.5 Review of online survey results

A review was undertaken of feedback provided by educators (n=101) and health professionals (n=20) who responded to a survey on the resource kits. This survey was accessed via the Care for Kids' Ears website, and a paper version was also sent out with the original distribution of the resource kits for teachers and teachers' aides and for early childhood and community groups.

2.6 Media partnerships case studies

A case study approach was adopted to evaluate the media partnership component of the campaign. Ten individual case studies examined the approaches taken by the media partnership projects aimed at delivering ear heath information and ear health promotion messages at a local community level. Given the evaluation of the media partnership case studies was qualitative in nature, it is important to note that the case study methodology provided a descriptive analysis of these projects but did not draw conclusions with regard to the reach and impact of the media partnership strategy more broadly.

The evaluation was conducted in two distinct stages in order to capture a wide range of media partnership projects across the campaign timeline. Five projects were evaluated in Stage 1 of the evaluation (July to August 2012) and five projects were evaluated in Stage 2 (October 2012 to May 2013).

Table 4 (in Chapter 4) outlines the media partnership case studies that were included in the evaluation.

A staged case study approach enabled the evaluation to examine a range of project approaches. The use of case studies effectively highlighted the achievements of and challenges for a range of approaches, locations and communities. While the approach varied in response to local conditions and the activities developed as part of each media partnership, the evaluation methodology included the common elements listed below:

- Observational research at community events/outdoor broadcasts
- Consultations with project staff, key stakeholders, project partners, community engagement and health services staff, and participants at events and outside broadcasts
- Visits to radio stations, schools and clinics where appropriate
- Focus groups conducted with community members to review the media promotions and community events/activities
- A review of the outputs against the broad project objectives and the stated deliverables for each strategy
- A general assessment of the quality, appropriateness and relevance of the products developed for each project
- A review of any reports and/or data provided to Independent and General (I&G) – the Executive Producer of this campaign component – and received by CIRCA.

Six site visits were made to locations where media partnership projects were conducted. Face-to-face and telephone consultations were conducted with over 70 key project staff, health professionals, other media partnership partners (including health services and schools), community members involved in the development of campaign material, and community members involved in local community events. Focus groups were conducted with community members (29 participants in total) in four locations to

review the media promotions and community events/activities. Three community events/outdoor broadcasts were attended and observed. A meeting was also held with I&G to validate the research findings in order to ensure that the results based on the 10 case studies selected were not atypical.

2.7 Quantitative survey

Study design and sampling

Quantitative baseline and follow-up surveys were conducted with mothers and female carers of children aged 0 to 5 years to measure attitudes, awareness and behaviour with regard to ear health, as well as awareness of the campaign resources (relevant to the follow-up research only). The survey was administered at two points in time (just before the campaign materials were distributed in July 2011 and 18 months after the campaign launch) in order to investigate changes, including the potential impact of exposure to the campaign among Aboriginal and/or Torres Strait Islander parents and carers.

The surveys were administered face to face in order to provide a culturally appropriate method for communication and data collection, and to alleviate, as much as possible, issues with literacy and English language proficiency. The quantitative research was based on purposeful sampling (a non-random method of sampling) to: include a mix of urban, regional and remote locations while ensuring a minimum sample size for each category; enable national coverage across a range of states and territories; and ensure that the follow-up sample included several locations where media partnership activities had occurred.

Respondents were recruited on the basis that they identified as Aboriginal and/or Torres Strait Islander people(s) and were the primary carer of a child (or children) aged 0 to 5 years. Within each location, a range of opportunistic or emergent sampling techniques was used to engage participants and achieve the target of 20 respondents per location.

Study group

In total, 400 face-to-face interviews were conducted with Aboriginal and/or Torres Strait Islander mothers and female carers of children aged 0 to 5 years, with 200 conducted at baseline in July 2011 and 200 at follow-up from November 2012 to February 2013. Table 1 shows the locations where the quantitative surveys were conducted, by regional classification.

Table 1: Quantitative survey locations by regional classification

Baseline – 2011 (n=200)	Baseline location	Follow-up – 2012-13 (n=200)	Follow-up location
Major city: (n=40)	Sydney, NSW Melbourne, Vic	Major city: (n=44)	Sydney, NSW (n=22) Melbourne, Vic (n=22)
Inner/outer regional: (n=100)	Cairns, Qld Moree, NSW Shepparton, Vic Bundaberg, Qld Dubbo, NSW	Inner/outer regional: (n=76)	Cairns, Qld (n=16) Wagga Wagga, NSW Shepparton, Vic Port Augusta, SA (n=10) Darwin (Bagot), NT (n=10)
Remote/very remote: (n=60)	Kalgoorlie, WA Beswick, NT Normanton, Qld	Remote/very remote: (n=80)	Kalgoorlie, WA Wurrumiyanga, NT Bamaga, Qld Alice Springs, NT

Analysis methods

In order to examine the potential impact of the campaign on participant behaviour, knowledge and attitudes, participants in the follow-up survey were categorised as either being 'exposed' or 'not exposed' to the campaign based on their responses to the survey in relation to awareness of the campaign. Participants who recalled being exposed to at least one element of the campaign were categorised into the 'exposed' group (n=81), and those who could not recall the campaign were categorised as 'not exposed' (n=119). Comparisons have been made with these two groups in order to assess the potential impact of campaign exposure. Odds ratio was used to compare the odds (or likelihood) of an event occurring in the exposed group compared to the odds of an event occurring in the not exposed group. Odds ratio analysis was adjusted to account for any differences due to age, education and remoteness, with adjusted odds ratio results presented in the tables of this report.

All differences reported in the text are statistically significant results from the odds ratio analysis (where $p<0.05$). Where differences were not statistically significant these have been described as similar or the same between the exposed and not exposed groups. Details on this analysis approach can be found in Appendix 2. Appendix 5 includes tables detailing the adjusted and unadjusted odds ratio results, with a description on interpreting odds ratios.

Bias

It should be noted that the non-representative nature of the sampling introduced potential sources of bias into the study, with implications for the external validity of results. Specifically, as the choice of locations was not randomised, the results are not generalisable to the wider target population of Aboriginal and/or Torres Strait Islander mothers and carers of children aged 0 to 5 years in Australia. Bias was also potentially introduced into the sample through the opportunistic approach to participant recruitment employed. Due to these biases, comparisons between the exposed and not exposed groups within the follow-up survey have been employed to account for limitations, as both groups

were drawn from the same sample. Direct comparisons between the baseline survey and the follow-up survey should only be used to suggest overall trends, rather than for calculating specific percentage changes or inferential statistics.

In relation to the design of the survey, open-ended questions preceding each list-style question were used to minimise the risk of potential recall bias. Indirect questioning was used for the prevention and attitude questions to help minimise potential social desirability bias.

A detailed outline of the methodology adopted for the quantitative survey can be found in Appendix 2. The baseline and follow-up surveys can be found in Appendices 3 and 4.

Participant profile

The sample for both surveys was relatively young, with over half aged 30 years and under. Over half of both samples had one child under five years of age, with around three in 10 having two children under five. Just over 60% of both samples were not working, with around three in 10 working. In terms of the highest level of education achieved, results were similar for the baseline and follow-up surveys, with around two-thirds in both samples having finished school prior to year 12, with the remaining third having completed year 12 or tertiary qualifications (TAFE, university, etc). The only statistically significant difference between the samples in relation to demographics was age, with the follow-up survey having a younger profile (for the baseline survey 66.3% were aged 30 years and under, compared with 53.5% in the follow-up survey).

A table detailing the demographic profile for both the baseline and follow-up survey can be found in Appendix 6.

3. Evaluation findings – Care for Kids' Ears resources

3.1 Introduction

A range of resources which provide evidence-based messages about the prevention of otitis media were produced to support the National Indigenous Ear Health Campaign. Care for Kids' Ears resources were produced for teachers and teachers' aides, early childhood and community groups, health professionals and parents and carers. The evaluation of these resources aimed to assess their effectiveness in relation to knowledge and attitudinal objectives. This chapter is based on both qualitative and quantitative findings from all of the evaluation components.

3.2 Overall feedback on resources

The Care for Kids' Ears resources received consistently positive feedback in interviews conducted with teachers, early childhood educators and health professionals, who expressed enthusiasm and appreciation for the resources and reported that they were very well received by parents, carers and children. The resources were consistently identified as credible, comprehensive, clear, up to date, professional, useful, attractive and culturally relevant.

The positive feedback on the resources was confirmed by open-ended responses to the online survey, where, when asked for final comments, 27 participants took the opportunity to highlight the usefulness and high standard of the resources. These comments related to both generally positive feedback on the resources (14 respondents) (e.g. "A fantastic resource", "Very handy kit") and feedback that the resources had enhanced participants' work or been used in their work (13). A selection of these comments is included below.

> *"Great work to all who are involved in rolling out these wonderful culturally appropriate resources to our ATSI [sic] families and boarder communities."*
>
> *"This has been a great asset to the screening programme for newborns in [location]. The mums have reacted positively to information."*
>
> *"It's a great resource to encourage teachers to initiate addressing this topic! It gives framework and they can do as little or as much as is needed after this."*
>
> *"What a fantastic resource! I have been utilising these resources in my communities ... I have been getting great feedback from playgroups, clinics and schools."*

The evaluation also identified specific features common to all the resources which contributed to their success with Aboriginal and/or Torres Strait Islander audiences, health professionals and teachers. These features are outlined below, with comments from some of the participants included.

Comprehensive, current and reliable information

The resources were seen as providing simple information and clear messages which were up to date, reliable and comprehensive. That the resources were produced and provided by the Australian Government was a key factor in their perceived reliability among health professionals, teachers and early childhood educators. The clear alignment of the key messages with other ear health campaign and program information was seen as important in providing consistent messaging which would ultimately impact on improving ear health. This included information on causes, symptoms, prevention and treatment of ear disease, supporting other programs such as *Breath, Blow, Cough* and *Deadly Ears*.

> *"This helps us to be all singing from the same songbook, and that's a good thing."*

Such comments were supported by the majority of participants in the online surveys, who also felt that the information provided in the kit had increased their level of awareness and knowledge of ear health in young children. Half of the 70 participants answering this question said the resources had increased their awareness and knowledge by a lot (51%, 36 respondents), and 31% (22) said it had increased their awareness and knowledge by a little.

Relevant to Aboriginal and Torres Strait Islander communities

The majority of health professionals, teachers and early childhood educators saw the resources as unique and as filling a significant gap in the ear health space. It was noted as important that people could connect with the photographs and other imagery which reflect the "real lives" of Aboriginal and/or Torres Strait Islander communities. This was further confirmed in the online survey, where 80% of respondents agreed the resources were culturally appropriate for Aboriginal and/or Torres Strait Islander people(s), although the response rate for this question was lower, with n=50 responses.

Numerous positive comments were made on the photographs of Aboriginal and/or Torres Strait Islander children and the fact they were happy and healthy. The bright colours, the cultural appropriateness of the images and the 'non-threatening' style were seen as contributing to audience acceptance of the resources. In particular, the photobook was seen as "very friendly", simple, and accessible to parents and children, particularly those in regional and remote locations.

> *"It's so good, bold print, Murri kids and families, bright colours, not boring, parents hang on to the brochures, everything worked well."*

The exception to this overall view was the interview conducted in Bamaga, in which the resources were seen to be less effective due to the visual focus on Aboriginal rather than Torres Strait Islander families.

Simple, easy-to-understand messages

The delivery of simple, easy-to-understand and consistent messages was highly valued. Participants noted that this approach was "unusual", with comments such as "most health materials we get are far too complex". The use of culturally appropriate imagery to illustrate the messages was appreciated and seen as adding clarity, while the range of resources enabled teachers, early childhood educators and health professionals to target varying levels of literacy.

> *"The stuff we usually get can be hard to read, especially for our mob, but this is good."*

Professional, high-quality, attractive resources

The professionalism of the resources was commented on in terms of the quality of the information but also the high production values. Many teachers, early childhood educators and health professionals noted that it was unusual to receive such high-quality materials. Consistently favourable comments were made on the photographs of children and families, the use of bright colours, the clear spacious layout, the simple text and the attractive red packaging.

> *"It's hard to find resources with Indigenous families and kids that look contemporary, not just traditional or tokenistic, it's real life, it's a very good resource, user friendly."*

Free and easily accessible

The fact that the resources are free was highly valued and commented on by many participants; health professionals, teachers and early childhood educators felt that they were able to order adequate supplies to meet their needs. In many locations, multiple kits had been ordered so they could be available in several school rooms and clinic rooms. Participants reported that the Care for Kids' Ears website online ordering system was easy to use and many commented on the efficient and timely service provided through online ordering, which was particularly appreciated in regional and remote locations.

> *"Yeah, we ordered more kits, and they came real fast, just a few days, really good."*

Resource kits easy to use and flexible

The resource kits developed for health professionals, teachers and teachers' aides and early childhood and community groups were consistently praised as being easy to use, and these comments were made in relation to the kits in their entirety as well as the individual resources. Professionals appreciated that the kits provided a range of resources which gave them the flexibility to use it in ways that were the most effective, depending on the specific interaction. The packaging of

the kits was appreciated because they were bright red and therefore easy to find, as well as sturdy and portable, which was particularly appreciated by mobile and outreach services in rural and remote areas.

"It's a complex area, so having a few things, a choice, that's a big help."

Ninety percent (69) of respondents to the online survey agreed the kit was easy to use, 90% (69) said they planned to use the kits again, and 88% (67) agreed they would recommend the kit to others. Similarly, the responses to a number of statements on usefulness were also highly positive, where 87% (70) agreed the kit was an effective way to deliver health information to young children or parents and carers, 86% (66) agreed that the pictures were attractive and appropriate for their target group, and 83% (65) agreed that the tone and language was appropriate for their target group.

3.3 Resource kits for teachers and teachers' aides and for early childhood and community groups

Teachers and teachers' aides kit

Early childhood and community groups kit

The evaluation explored how the resource kits for teachers and teachers' aides and for early childhood and community groups were being used in schools and early childhood settings, and found high levels of engagement and satisfaction among those using the kits. Teachers and early childhood educators noted that the resources filled a gap in both the provision of ear health information and in Aboriginal and/or Torres Strait Islander specific resources.

"I don't think I've ever seen Aboriginal materials like this – it's about time."

The overall approach was very successful in providing a suite of resources which effectively met the needs of the range of age groups targeted (early childhood to lower primary school). Teachers and early childhood educators found the key components of the kit such as the storybook, memory cards, activity sheets, stickers and flipchart were easy to integrate into pre-existing lesson plans, primarily on

health and life skills, or into a regular session on nose-blowing or general hygiene. Teachers also reported that the resources engaged children, who were attracted to the illustrations and photographs as well as the simple language.

> *"The kids look at the pictures and like them, sometimes books are boring or hard but this is good."*

In some cases the flipchart, memory cards and activity sheets were identified as too complex for younger children. However, the variety of resources provided in the kit was viewed positively, as it enabled teachers and early childhood educators to pick and choose from a suite of resources according to the specific competencies of their students, their own lesson plans and existing classroom activities.

> *"It's a great resource and the variety in the bag means you can find something to suit your lesson plan."*

The kits were also found to be useful in mainstream settings, providing ear health information to all children and increasing cultural awareness among both students and staff. Teachers and early childhood educators also noted that the kits had been used as literacy resources, general health education resources and cultural awareness tools.

> *"I hope it's ok; we use different parts of the kit for all types of activities. It's really good for reading lessons."*

The storybook, memory cards and stickers emerged as the most popular resources among teachers, early childhood educators and children. In particular, the storybook was read by both parents and teachers to children with very positive responses. The poster was generally used to draw attention to the issue of ear health and was likely to be put in a common area where parents would see it, although it was also displayed in classrooms and used when talking to children. Posters had also been used at community and school events and during ear health checks.

The kits had also been used outside the classroom context, in playgroups, parent sessions and health-focused school and community events. In these contexts, the Parents and Carers Brochure and the photobook had been particularly useful when speaking individually with parents or in groups. Both the flipchart and the Parents and Carers Brochure were often used to explain symptoms and prevention strategies to parents, who were then given a brochure to take home.

The brochures were also included in preschool enrolment packs, school newsletters and parent/teacher correspondence such as letters and reports.

> *"We use it with parents and kids introducing Breath Blow Cough in our playgroups but also on a community stall, we had lots of teen mums interested, they have had ear problems themselves."*

In schools and early childhood settings, lack of awareness about the importance of ear health was identified as the main barrier to using the kits. As a result, the kits were often introduced to an education setting by people who were *already* aware of the importance of ear health – in this evaluation these people were identified as 'ear health champions'. The fact that the kits provided information about the significance of ear health on children's learning capacity was seen as very important in raising awareness among teachers and early childhood educators.

The kits were also seen as useful as staff training resources to raise awareness of the importance of ear health, and there were several examples where this type of interaction had occurred. Again, this type of activity was primarily driven by the ear health champions.

> *"I think the teachers have really got something out of it too. A few even got their own ears checked."*

Results of the online survey

In total 101 participants responded to an online survey on the Care for Kids' Ears resources for teachers and early childhood staff, with 80 respondents indicating that they had used the resources. Most respondents who had used the early childhood and teacher resources worked in education (64%, 48 respondents), with 29% (22) working in health roles and 7% (5) in other roles. Participants most commonly used the resources with kindergarten groups, with 34% (21) of respondents having used the resources with children in their first year of primary school. One-third of respondents said they used the resources in classes or groups where more than 75% of children identified as being Aboriginal and/or Torres Strait Islander. These results suggest that the early childhood and teacher resources are being used by and with the intended target groups.

Participants were asked to identify which specific elements of the kits they had used, and rate their effectiveness. Results from these two questions were used to determine which elements participants had used, with 70 participants answering either of these two questions. All elements had a high level of use, with no element having a usage rate among respondents of less than 50%. The most commonly used elements of the kits were the storybook and the information booklets, with 97% (64) of respondents having used each resource. Results for the other elements included the memory cards used by 82% (54), poster used by 67% (47), colouring-in and dot-to-dot sheets used by 71% (47), and stickers, used by 53% (35).

Respondents were also asked to rate how effective each element was. The information booklets were highly rated, with 92% (58) of respondents indicating that they were effective. Similarly, the storybook was rated as effective by 90% (57). Other elements were also rated highly by those who had used

them, with 86% (25) indicating the poster was effective, 85% (39) indicating the memory cards were effective, and 73% (22) indicating the colouring-in and dot-to-dot sheets were effective.

Those who used the resource kit for teachers and teachers' aides were also asked about their use of the additional elements of the flipchart and teachers' fact sheet that are part of this kit. Of these respondents, 86% (30) had used the fact sheet and 83% (29) had used the flipchart. These elements were also rated highly, with the fact sheet rated as effective by 92% (22) and the flipchart by 89% (24) of those rating their effectiveness. Table 2 shows these results in further detail.

Table 2: Effectiveness rating for each of the elements in the kits

Resource	Highly ineffective	Not very effective	Neither effective or ineffective	Somewhat effective	Very effective	Total
Information booklets	5% (3)	0% (0)	3% (2)	22% (14)	70% (44)	100% (63)
My Ears storybook	6% (4)	2% (1)	2% (1)	13% (8)	78% (49)	100% (63)
Memory cards	9% (4)	0% (0)	7% (3)	22% (10)	63% (29)	100% (46)
Colouring-in & dot-to-dot sheets	10% (3)	3% (1)	13% (4)	20% (6)	53% (16)	100% (30)
Poster	7% (2)	0% (0)	7% (2)	24% (7)	62% (18)	100% (29)
Flipchart[1]	4% (1)	0% (0)	7% (2)	11% (3)	78% (21)	100% (27)
Teachers' fact sheet[1]	0% (0)	0% (0)	8% (2)	17% (4)	75% (18)	100% (24)

[1] *Includes only those respondents who indicated they had used the resource kit for teachers and teachers' aides*

Impacts in schools and early childhood settings

Many teachers and early childhood educators noted that the availability of a comprehensive range of resources providing consistent ear health messages enabled them to make a more effective contribution to improving children's ear health. It was felt that a better understanding of the serious impacts of otitis media had led to changes in the attitudes and behaviour of teachers, early childhood educators, parents and children, leading to a greater likelihood of talking about ear health, encouraging participation in ear health checks and taking action when symptoms were observed.

Teachers and early childhood educators felt that the kits provided them with a framework for understanding how ear disease can affect learning, along with resources to improve children's awareness of symptoms, prevention and treatment. Some teachers noted an increased reporting of sore ears by children following use of the resources. Furthermore, some teachers reported that children were happier and/or less frightened to go to the clinic to have their ears checked, and in some cases a general fear of doctors had declined.

> *"The little ones love Kathy and Ernie and they aren't scared anymore. I even reckon that some of them like going to the doctor from reading the book."*

In some schools and early childhood centres, links to child health teams, hearing units and ear health screening sessions had been developed and/or enhanced in the process of using the kits. For example, a health visit might be preceded by parents reading the storybook with children or a lesson that included the activity sheets. The kits were also being used to strengthen the impact of other ear health programs such as *Breathe, Blow, Cough* and to reinforce key messages.

"We've even got someone who comes in regularly now to check the kids' ears."

Some teachers and early childhood educators identified difficulties with accessing ear health screening in their community such as long waiting lists and limited access to clinical support. This was felt to limit the impact teachers and early childhood educators could have on children accessing diagnosis and treatment. Providing services at school was felt to be more successful and practical than only promoting follow-up with parents.

Some teachers also noted that the kits had additional benefits, such as increased literacy and memory (using the kit for reading and memory exercises) and increased cultural awareness (through positive depiction of Indigenous characters).

Distribution and ordering of resource kits for teachers and teachers' aides and for early childhood and community groups

An important part of the research was gaining an understanding of how the targeted resource kits were being accessed. The resource kits were initially distributed to schools and early childhood organisations with a significant number of Aboriginal and/or Torres Strait Islander children nationally by the Department of Health and Ageing. As part of the initial mail out, order forms to order additional kits or individual items were also distributed. Resources could also be ordered online.

While many health professionals were aware of otitis media as part of their work role, teachers and early childhood educators were less likely to be informed about ear disease and its impact on Aboriginal and/or Torres Strait Islander communities and therefore less likely to order the kits. The distribution of the kits to teachers and early childhood workers faced challenges that appeared to be linked to the fact that ear health was rarely identified as a priority in education and learning environments.

Many of the teachers and early childhood workers who had proactively ordered the kits already had a strong interest in either ear health or Aboriginal and/or Torres Strait Islander health – those identified as ear health champions. Ear health champions were likely to be people who had worked in Aboriginal and/or Torres Strait Islander communities or were professionally connected with ear health. The champions were driven by their knowledge about the impacts of ear health on children's development and educational outcomes and by an awareness of the extent of ear problems in communities. Champions were advocates for ear health and the resources, promoting their use among other staff, using them themselves and/or ordering additional copies. In remote areas the

champions often had an outreach role, and in some cases contacted people in other schools or ordered kits on behalf of other teachers.

> *"The resources came to the school and I put my hand up, usually one person takes on a particular area, like health, so it was my decision to re-order for the other classrooms."*

Opportunities were identified to enhance and extend the use of the resource kits for teachers and teachers' aides and for early childhood and community groups in schools and early childhood settings, including building strong links with regional and local level education departments through curriculum coordinators, student support units and school nurses; making follow-up telephone calls to principals and centre directors subsequent to a 'mail out' mode of distribution by the Department to ensure that they were aware that the resources had been received; and providing professional development and training for teachers and early childhood educators in relation to ear health.

> *"They should come out here and do a show and tell so we know how to use the resources."*

3.4 Resource kit for health professionals

The resource kit for health professionals was found to provide health professionals with useful tools to assist them in delivering ear health services and information to parents, carers and children. Health professionals saw the resource kit as a professional and comprehensive product which was easy to use and to integrate into interactions with Aboriginal and/or Torres Strait Islander clients. The kit was noted as providing a unique presentation of information in clear, culturally suitable and 'bite-sized' language that could be easily used with parents, carers and children. The most commonly noted new information was in relation to the long-term effects of poor ear health and the impacts of hearing loss.

> *"It's one of the best kits I've seen, I wouldn't change a thing, I love it."*

The majority of health professionals started using the resource kit as soon as it was received and were using it on a regular basis, either daily or once or twice a week. Nurses, Aboriginal health

workers, audiologists, child health workers and ear health workers most commonly used the kit in clinical environments or through health outreach services in communities.

> "*The kit makes it much easier to explain things, makes my job a whole lot easier when talking to parents and kids about keeping ears healthy.*"

The most frequently used resources were the Parents and Carers Brochure and the photobook (a more basic 'brochure' with less text and more visual information), both of which were valued for their simplicity and clarity and were used in discussions with parents and children to explain causes, symptoms and key prevention messages. The photobook was noted as being very useful with children, parents with low English literacy and those in remote communities, which were the intended target audiences. Several health professionals noted that it was useful to be able to leave brochures with clients and to be able to circle key information and write on the brochures, and many appreciated the detail provided in the Parents and Carers Brochure. However, it was the range of resources, and specifically the provision of two different brochures, that was highly valued as it enabled health professionals to choose an option that was suitable to a client's information needs.

> *"No big words in there – a lot of the stuff we get is too hard to read, with big fancy words and it goes straight over the patient's head."*

The anatomical ear model was well used and received consistently positive feedback from the majority of participants, who found it extremely useful in communicating key information about ear health to parents and children by illustrating the structure of the ear and how ear infections and other problems develop, how these problems can be prevented and how specific treatments work.

> *"The ear model is really good, helps us to explain how small the ear is and how you get infections, it's really good for working with parents and kids."*

The Otitis Media Consultation Tool was used in clinical and health promotion settings and as a reference tool for health professionals. Many health professionals reported using the consultation tool as a resource when talking with families, particularly in discussions of treatment or where more detailed information was required. Positive comments were made in relation to the logical division of information, the easy-to-use tabs and the fact that the pictures clearly illustrate the messages.

The Otitis Media Information Booklet for Health Professionals tended to be reviewed when the resources were first received and then put aside. However, the information on the long-term impacts of untreated otitis media had a significant and motivating impact on many participants.

The poster was seen as drawing attention to the importance of ear health checks and was usually placed in an area where it would be seen by parents and carers, such as a child health nurse room, consultation room or clinic waiting room. Posters were seen as a good way of communicating with communities, and several participants suggested that smaller posters on symptoms and prevention

messages would be useful. The stickers in the kit, intended for children, were used very quickly but most participants didn't appear to have ordered additional supplies.

Most participants were aware of the Recommendations for Clinical Care Guidelines on the Management of Otitis Media in Aboriginal and Torres Strait Islander Populations and many were also using this resource, particularly the ring-bound diagnostic tool that accompanies the guidelines.

While the majority of staff interviewed were working in healthcare settings, health professionals working in schools also found the resource kit very useful. These participants were also likely to be using the resource kits for teachers and teachers' aides and for early childhood and community groups in conjunction with the resource kit for health professionals. These participants commented on the particular usefulness of the memory cards, storybook, activity sheets and photobook when working with children, and on the value of the kits in engaging teachers. However, they also reflected on the limited knowledge that teachers appear to have about ear health and the importance of ongoing promotion and education work with teachers.

Results of the online survey

Unfortunately the number of respondents to the online survey with health professionals was low, with only 20 participants responding, 16 of whom had used this resource. Despite this low response, the feedback provided confirmed the positive results found in the qualitative evaluation. The main settings respondents were using the resources in were early childhood centres (5), Aboriginal Medical Services (3) or other Aboriginal-controlled health organisations (1), general practices (3), community health centres (2) and hospitals (2). Respondents most commonly worked in hearing-specific roles such as screening, early intervention or audiology (6 respondents). Nine respondents identified that they had been using the kit as a professional development tool.

Survey participants were asked to indicate the level of effectiveness of each element in the kit, with the Otitis Media Consultation Tool, Parents and Carers Brochure, photobook, stickers, poster, and the special order item of the anatomical ear model rated as being effective by all who had used it, with eight to 12 participants using each one.

Impacts on ear health services and professional development

The resource kit was seen as providing health professionals with very useful tools to assist them in providing health services and information about ear health to children, families and communities. Many health professionals in the qualitative research noted that they had not previously had access to a comprehensive range of resources which provided consistent ear health messages in accessible formats. It was generally thought that the availability of these resources would enhance the capacity of health staff working in ear health to communicate effectively with families.

The resource kit was also seen as a tool for ear health promotion and professional development throughout health services and among staff who may be less aware or informed about ear health

issues, symptoms and prevention strategies. It was noted that a lack of understanding about the serious impacts of otitis media often leads to symptoms being ignored, so increasing awareness among staff of these issues could positively impact on early diagnosis and treatment. The provision of these tools to health staff was also seen as building the confidence of all health staff in relation to ear disease.

> *"The Aboriginal Health Workers are using the kits, they make people more confident and so the client gets a better deal."*

Several health professionals reported that the resources played a role in demystifying the medical processes for clients and reducing their anxiety about ear health checks and treatments. The resources were also noted as having significant impact in general practice, particularly in relation to increasing general practitioner understanding of the importance of ear health for Aboriginal and Torres Strait Islander communities.

The availability of Care for Kids' Ears resources for both teachers and health professionals appeared to support health professionals who are working with teachers and carers in ear health promotion. For example, a health team visit to a school might be preceded by a session on ear health with parents reading the storybook to children or a lesson that included the activity sheets. As noted earlier, the resources were also seen as reinforcing other ear health programs used in education settings such as *Breathe, Blow, Cough*.

Distribution and ordering of resource kits for health professionals

The resource kit for health professionals appeared to have been effectively distributed, with the majority of the health professionals contacted for research purposes having received the kit through the initial mail out to Aboriginal Medical Services and other community-controlled health organisations by the Department of Health and Ageing.

In most health organisations someone would have a key role in ear health, so a kit arriving in the mail would be passed on to them. Proactive reordering of resources was most often conducted by individual health professionals who had received the kit. In some cases, a coordinator or a person with a specific interest in ear health would order multiple copies for consultation rooms. In a sense, health services have many ear health champions, and ear health is already part of the core business of many services.

Some health professionals had become aware of the kit by attending a training or information session where the kit was used and/or promoted, and engagement with the kit appeared to have been enhanced by this experience.

> *"If I didn't go to that training session, I don't think I would know about it."*

While distribution of kits to health professionals appeared to be effective (more so than distribution in primary schools and early childhood settings), there were several factors identified that would enhance the use of the kits by health services, including additional professional training and information sessions in using the kit; demonstrations on how the resources can be used; and continued collaboration with Aboriginal and/or Torres Strait Islander peak health organisations and networks, Australian Medicare Local Alliance ear health project officers and members, and key staff in regional and remote locations.

While the online ordering system was found to be highly effective, some health professionals noted that they would like to be able to order larger numbers of the Anatomical Ear Health models. It was also noted that reordering of additional resources, such as the accompanying parents and carers resources and stickers for children, could be further encouraged by the use of a reminder system.

3.5 Campaign merchandise

A range of branded merchandise was also developed to support the distribution of Care for Kids' Ears resources and other campaign activities, predominantly those undertaken at the grassroots level by the media partnership projects. This included tissues, soaps, crayons, face towels, magnetic photo frames, red calico bags and, in some cases, soccer balls. The collateral products effectively reinforced the Care for Kids' Ears brand and were extremely popular with parents, carers and children. They were also highly valued by health professionals, teachers and early childhood staff, who were able to package resources together in the red calico bags and use them in local community events. In particular, the tissues, soap and face towels were seen as very useful and the crayons enabled children to use the Kathy & Ernie's Activity Book.

3.6 Resources for parents and carers

Feedback from parents and carers on the resources

Most parents interviewed as part of the media partnership organisation case studies commented positively on the Care for Kids' Ears resources, particularly the photobook, Parents and Carers Brochure and Kathy & Ernie's Activity Book, and noted that they were relevant to their culture, were easy to read, and had "lovely photos of our mob". Other features noted positively were the simple language, use of dot points and large font.

> *"The photos are good, people pay more attention if there's pictures."*

Parents noted that the resources provided new information, particularly in relation to symptom identification, prevention and an understanding of the long-term impacts of ear disease. The resources that enabled parents to share information with children, such as the story and the activities

for children, were also appreciated. Many children started colouring in their activity books as soon as they were given them.

> *"She loves that [colouring-in], it's good for her to know about staying healthy."*

During the quantitative follow-up field visits, parents' and carers' responses to the resources were also observed and found to be extremely positive. Parents were engaged by the photobook and the Parents and Carers Brochure and asked questions about some of the key messages, such as the impacts of breastfeeding and not smoking around children. Children were occupied by reading, colouring-in and completing activities in the Kathy & Ernie's Activity Book. Many parents also read the story in the activity book to children. Children were seen carefully packing up collateral products such as tissues and crayons, along with their activity books, into the red calico bag before heading home.

Feedback from intermediaries on the parents and carers resources

The provision of specific Care for Kids' Ears resources for parents and carers was also seen as valuable by health professionals, teachers, teachers' aides, and early childhood workers, and most of those interviewed noted that the resources were also well received by parents and carers. Parents were reported as being engaged by the resources, particularly the Parents and Carers Brochure and the photobook, and had made positive comments on the bright colours and simple, easy-to-read content. The inclusion of attractive photos of Aboriginal and/or Torres Strait Islander parents, children and health workers was commented on positively by parents.

Teachers and early childhood educators specifically noted that the inclusion of resources for parents and carers was an essential part of a successful suite of materials targeted at educators. They valued having these resources to refer to when discussing ear health with parents and noted that it helped to give the topic legitimacy and also meant they had something appropriate to leave with parents. The brochure was seen as more appropriate for Aboriginal and/or Torres Strait Islander families than material used in the past. For example, some teachers and early childhood educators reported that they had previously photocopied mainstream material for Aboriginal parents.

> *"Having something for the parents is so important. They're the ones taking the kids in to the clinic, and as a teacher you need to think: how can I promote learning at home.*"

The fact that culturally appropriate materials were available to help teachers and early childhood educators talk to parents was valued as it provided an opportunity to 'start the conversation'.

> *"I wanted to talk to a parent about grommets and it was great to have the brochure to help with that conversation".*

Teachers and early childhood educators noted that the resources had created greater parent interest in both their child's ear health and their general health, and that parents were now asking about ear

health checks. Some schools and care facilities had conducted programs using the kit where parents were encouraged to be involved.

> *"We have parents with pretty poor literacy and they love coming in and working with the big book and memory cards."*

Health professionals likewise reported that the Parents and Carers Brochure and the photobook met the needs of communities for simple information and culturally appropriate images in an accessible format and that feedback from parents and children was very positive.

> *"It's great to see the photos of our mob in here."*

The photobook was seen as particularly popular with children and parents in remote communities. In particular, the size and photos were noted as being appealing to children, and health professionals reported that the booklet was helpful in consultations and ear health checks.

> *"It's easy to use in a clinical setting and the kids love flicking through the little booklet and pointing out stuff."*

Most health professionals had used the brochures in consultations to explain symptoms, prevention and treatment to parents; they noted that the printed resources helped parents to understand key messages. The anatomical ear model was commonly used in conjunction with the Parents and Carers Brochure with parents, carers and children, and this approach was noted as making communication about ear health much more effective.

Several participants noted that engagement with the resources relied on the skills of the health worker. Staff in remote areas noted that the brochures were more effectively used in conjunction with face-to-face contact with a health professional.

Distribution of parents and carers resources

The main approach to distributing the Care for Kids' Ears resources aimed at the primary target audience of parents and carers primarily involved an intermediary strategy which saw resources distributed through health professional networks and local health services in clinical and community settings, and by teachers, teachers' aides and early childhood and community groups. Parents and carers resources were also effectively distributed at the grassroots level through the media partnership strategy.

The results of the quantitative research highlight the strength of this intermediary strategy. When asked about where they had seen the Care for Kids' Ears logo, the Parents and Carers Brochure and the photobook, almost all of those respondents who recalled these resources said that they had seen them at a health clinic, with most referring to a specific Aboriginal Medical Service. The remainder

referred to health services more generally and to hospitals. A few other channels were mentioned occasionally, including childcare, school, mothers' groups, mothers' centres, radio and TV.

In the qualitative research, the distribution of the resources was generally noted as being very efficient, and the majority of participants were very appreciative of the reliability and speed of the online ordering and delivery system.

> "*They arrive really quickly, so that process is speedy."*

3.7 Parent and carer exposure to the Care for Kids' Ears resources

In order to investigate the reach and impact of the campaign among mothers and female carers, two quantitative surveys were conducted with community members, one before and one following the campaign's implementation. The surveys explored levels of exposure to information about ear health or ear health infections more broadly, and the follow-up survey also explored specific recall of the National Indigenous Ear Health Campaign, including the national Care for Kids' Ears resources and the communication activities undertaken through the media partnership projects. The results on exposure to the national resources are outlined below. Recall of the media partnership organisation activities will be discussed further in 4.4 in Chapter 4.

Awareness of general ear health communications

Exposure to information on ear health more broadly was reasonably high, with just over half of mothers and carers reporting that they had seen, read or heard information about ear health in their community (53.5% in the baseline and 56.5% in the follow-up). These findings highlight that many Aboriginal and Torres Strait islander parents and carers are exposed to information on ear health at some point.

Exposure was mostly through the provision of written information or brochures from health services, with doctors most often providing this information (35% of respondents), followed by nurses (18%) and health workers (14%). Information provided covered such topics as treating ear infections or problems, cleaning ears, having regular checks, and nose-blowing. Parents and carers were also asked whether they had received any information from school/preschool/early childhood centres, with 26% of respondents in the follow-up survey and 22% of those at baseline saying they had received information through this channel.

Prompted awareness of the National Indigenous Ear Health Campaign

In order to investigate the impact of exposure to the National Indigenous Ear Health Campaign specifically, analysis was conducted comparing those in the follow-up survey who had been exposed to the campaign to those who had not been exposed to the campaign. Of the 200 participants

interviewed in the follow-up survey, 81 (40.5%) recalled being exposed to at least one element of the campaign as a whole.

Exposure to Care for Kids' Ears campaign resources

As part of the quantitative research, participants were shown each of the Care for Kids' Ears print materials that were part of the campaign. Participants were asked if they had seen each element and were also asked some follow-up questions about the resources.

As discussed above, 40.5% (81) of respondents to the follow-up survey recalled being exposed to at least one element of the campaign. As can be seen in Table 3, prompted recall of the logo and Parents and Carers Brochure was the highest, with 24.5% (49) and 21.5% (43) respectively exposed to these elements. A further 13% (26) recalled the photobook and 4.5% (9) recalled the Kathy & Ernie's Activity Book.

Table 3: Recall of exposure by campaign element

Element	Not exposed[1] (n=119) %	Exposed (n=81) %
Care for Kids' Ears logo	75.5	24.5
Parents and Carers Brochure	78.5	21.5
Photobook	87.0	13.0
Kathy & Ernie's Activity Book	95.5	4.5
Media partnerships (unprompted)	89.0	11.0
Total exposed to at least one element	**59.5**	**40.5**

[1] *Includes those who answered 'no' and 'don't know'.*

When shown the Parents and Carers Brochure, of the 43 participants who had seen it a high proportion reported that they had read or looked at it (31 of 43, 72%). Among those who read or looked at the brochure (n=31), feedback was positive:

- 30 said it was easy to understand
- 29 said they liked the way it looked
- 28 said it was helpful
- 25 said it answered all their questions
- 23 said it provided new information.

Thirteen percent (26) of follow-up participants indicated they had seen the photobook before, and many of these respondents had read or looked at it (20 of 26, 77%). Of those who looked at the photobook (n=20), feedback was positive, with 19 saying that it was helpful (95%), 19 agreeing that

they liked the way it looked (95%), 19 agreeing that it was easy to understand (95%), 19 feeling that it answered all their questions (95%) and 16 saying that it provided new information (80%).

Five percent (9) had seen the Kathy & Ernie's Activity Book, and all of these had looked at it or used it with their children. Respondents were asked an open-ended question about what they thought of this resource, with responses being positive, including that it was easy to understand, had useful information, and was popular with children because of the "happy" images.

Sources of information

In comparing those in the follow-up survey who had been exposed to the campaign to those who had not, it follows that a higher proportion of those exposed to the campaign would recall a health professional having spoken to them, or given them information, about ear health. Specifically, those exposed were more likely to answer in the affirmative to this question (85.2% compared to 56.3% of those not exposed).

No significant differences were found between the exposed and not exposed groups in relation to recalling having received information from school, preschool or early education centres.

4. Evaluation findings – media partnerships

4.1 Introduction

The use of a media partnership approach was an innovative strategy in which 35 existing community media and broadcast organisations were funded to deliver a diverse range of locally developed ear health social marketing initiatives and grassroots communications, such as radio broadcasts, media production and community engagement events, in English and a range of local Indigenous languages. These initiatives ranged from small-scale projects to larger local campaigns, with project budgets ranging from approximately $12,000 to $145,000 (GST inclusive).

The 35 media partnership projects were conducted across Australia, covering a significant broadcast area with a large Aboriginal and/or Torres Strait Islander audience. The majority of the funded media partnership projects were undertaken by Aboriginal and/or Torres Strait Islander community controlled broadcast and media organisations. The partnership projects were developed locally, with a range of support from local health service providers, ear health experts, schools, community groups and community members, and often involved community development strategies.

The overall Media Partnership Project was managed on behalf of the Department by Independent and General (I&G), in the role of Executive Producer, which provided contract and project management services, radio and media production expertise, and mentoring and support for the media partnership projects.

The evaluation of this component of the strategy was based on 10 case studies.

4.2 Summary of project activities

The 10 case studies provide a diverse mix in relation to the type of media partnership projects conducted, as can be seen in the following table.

Table 4: Summary of media partnership case study project activities

Case studies	Project activities
1. Umeewarra Media, Port Augusta, SA	Under the Listen 'Ear project, Umeewarra produced a large amount of broadcast material, with two weekly one-hour programs developed for young parents and five 30-minute children's programs every week – a total of 65 programs delivered over a 30-week period. Puppets, representing Aboriginal characters on the radio programs, were a feature of the Listen 'Ear project, which involved local school children, community members and Elders in development and production. Umeewarra conducted 10 outside broadcasts and attended many festivals and community events where the puppets were featured.

Case studies	Project activities
2. Muda Aboriginal Corporation, 2 CUZ FM Bourke, NSW	The 2 CUZ FM campaign developed a range of messages, including short promos, weekly interviews, personal stories played fortnightly, and monthly radio documentaries. Visits were made to seven remote communities to promote ear health, distribute Care for Kids' Ears resource packs and conduct ear health checks working with either an ear health team or with local health services.
3. Bumma Bippera Media, Cairns, Qld	The Bumma Bippera Ear Health Media Project produced a large amount of high-quality broadcast material and developed good working partnerships with key health stakeholders, who provided ear health checks and education activities at eight outside broadcasts/community events. Content produced every month included one *Talk Black* show (syndicated), two shorter interview segments, three or four scripted health messages (some in Torres Strait Islander Kriol) and two personal stories. The project also operated an active Facebook page.
4. Pilbara and Kimberley Aboriginal Media (PAKAM), Broome, WA	PAKAM broadcasts in the Kimberley region of WA. The PAKAM project produced 21 short radio messages, most of two minutes' duration, some 30-second messages recorded in Kriol, and six long-form interviews of 5 to 10 minutes. PAKAM worked closely with schools in the region, with school children developing and then performing 12 songs. Six short video clips accompanying the songs and one of six minutes' duration documenting the process of developing and recording content with school children were produced. Radio promotions are broadcast daily on the PAKAM network and the videos were screened on ICTV and are available on IndigiTUBE.
5. CAAMA Productions, Alice Springs, NT	Listen Up! is an engaging, high-quality 10-minute film which provides key messages about ear health using an innovative approach and local talent. Over 300 public screenings of the DVD were held in Central Australian communities. 1,600 DVDs have been distributed to heath services, schools and communities and the DVD is screening in all Central Australian Aboriginal Congress clinics. Listen Up! was well promoted through a Facebook page, and NITV has confirmed that it will screen the film (date to be advised).
6. Radio Larrakia National Indigenous Ear Health Campaign, NT	Radio Larrakia produced a wide range of quality messages, including eight 45-second messages, ten 30-second vox pops, live crosses, and interviews with ear health messages broadcast every day to 26 communities. 52 outside broadcasts were conducted, attended by 1,500 people. Visits were made to 26 communities, Care for Kids' Ears resources were distributed, children and families were engaged in activities, and ear health checks were conducted by local health services. The campaign was also featured on the Radio Larrakia webpage.
7. Brisbane Indigenous Media Association (BIMA) Brisbane, Qld	Under the Listen 'Ear project, BIMA delivered monthly 15-60 minute interviews with ear health professionals on its flagship program *Let's Talk*, and four ear health messages produced and broadcast every month. Two outside broadcasts were held at community events, with over 250 people attending and 60 ear health checks conducted. A feature of the project was an active online presence, with a Facebook page, regular monthly e-newsletters and web updates and Listen 'Ear content easily available on the BIMA website. BIMA also developed and promoted an online survey to gather feedback on the Listen 'Ear project.
8. Tjuma Pulka Aboriginal Corporation, Kalgoorlie, WA	Tjuma Pulka Media Aboriginal Corporation broadcasts in the Kalgoorlie-Boulder region. Under the Pina Palya, Pina Kuliku (Good Ears, Good Learning) project, nine ear health messages were produced and were broadcast regularly and produced as the *Pina Palya, Pina Kulilku* CD.

Case studies	Project activities
	The project had a focus on young mothers and new mothers and the CD was packaged with Care for Kids' Ears resources and distributed by local health services, including through Bega Garnbirringu Health Service's Bub Basket for new mothers. Local events included a CD launch and live broadcast and a Baby's Picnic aimed at new mothers.
9. 2TLP, Taree, NSW	The 2 TLP Ngarralinyi Radio Ear Health Project included a series of 12 ear health messages rolled out in four phases. Each phase was launched as a public event, with three radio messages broadcast up to 14 times daily. Partnerships were developed with local health, early childhood and preschool staff to develop content, support the events and distribute the Care for Kids' Ears resources.
10. Top End Aboriginal Bush Broadcasting Association (TEABBA), NT	TEABBA developed radio promotions in 12 local languages and broadcast to 29 remote Top End communities in the Northern Territory under the local campaign, branded as Care for Kids' Ears: Strong Hearing Strong Start. A large amount of material was developed, including 550 broadcasts of 1-5 minutes and three broadcasts of more than one hour. Radio broadcasts were supported by community visits and events attended by large audiences in three Tiwi Island communities. Ear checks were provided during visits; 66 children received ear checks at Wurrumiyanga, 51 in Pirlangimpi and more than 30 in Milikapiti.

4.3 Key factors in the success of the approach

The development and implementation of media partnerships as part of the National Indigenous Ear Health Campaign is a unique approach which enabled community media organisations, including Aboriginal and/or Torres Strait Islander broadcasters and media producers, to build effective partnerships with local communities and health services in order to develop and deliver highly effective ear health social marketing strategies to Aboriginal and/or Torres Strait Islander communities. A range of over-arching key factors in relation to the success of this approach were identified in the 10 case studies evaluated, as follows:

- Community media organisations have the trust and confidence of the community
- The approach led to the development of local, culturally appropriate solutions
- Success was based on developing effective local partnerships
- A comprehensive approach to health promotion was provided
- The Care for Kids' Ears resources were valuable for message development and promotion
- A large amount of high-quality and accurate media was produced
- Capacity-building of media organisations was evident
- The executive production and support role of I&G was highly valued
- The partnerships provided access to a national distribution network of Indigenous radio stations and local community media organisations
- Appropriate timeframes were allocated.

These key factors are outlined below, with examples from specific case studies.

Community media organisations have the trust and confidence of the community

The fact that the ear health media campaign originated from local Aboriginal and/or Torres Strait Islander community controlled and other local media organisations that are trusted by local communities was critical to the success of the media partnership projects reviewed. These organisations are already part of the Aboriginal and/or Torres Strait Islander communities they serve and have the respect and confidence of those communities, which enabled them to effectively engage local communities in the campaign. High levels of community acceptance of ear health messages, community participation in the development of radio programs and increases in children's ear health checks were noted. Most community members consulted reported that they were more likely to trust and believe messages that originate from their local organisations.

The media organisations represented in the case studies valued and incorporated existing cultural knowledge and local languages, and paid respect to Elders, community leaders and local communities. Most case study projects had a steering committee or advisory group of Aboriginal and/or Torres Strait Islander stakeholders and community members that was involved in developing and implementing the project. This approach assisted in the engagement and participation of Aboriginal and Torres Strait Islander community members and in generating a sense of ownership of the local campaigns, and many projects included community development strategies. For example, the involvement of local Elders and school children in the recording of radio scripts and messages at Umeewarra Media, and the engagement of children and local Elders in developing content and recording messages for the *Pina Palya, Pina Kulilku* CD in Kalgoorlie connected local health workers and services to local Aboriginal communities, building the capacity of the whole community to respond to the challenges of ear disease. Community members regularly identified the ear health radio campaigns as 'Aboriginal' and 'local', and the role of the radio stations and media organisations was vital in signalling and supporting this identification.

Case study example: Community ownership and participation in Port Augusta

Umeewarra Media involved the local community in the project development – puppets representing Aboriginal characters were operated and voiced by school children and community members, who also worked on the scripts. Umeewarra's role in producing and delivering the radio material was vital to community acceptance of the campaign, with comments such as "they know how us mob think and they'll get it right". The role Umeewarra played in strengthening the links between community members and health services and ensuring local culture was respected contributed to the success of the project.

Developing local, culturally appropriate solutions

Developing local, culturally relevant ear health campaigns was a key feature of the media partnerships approach and one which was highly valued by media partners, community members and health professionals. In most cases, media content included local Aboriginal and/or Torres Strait

Islander community members, health workers, children and Elders, as well as the use of local expressions, language, cultural references, stories and locations. Many of the broadcasts included the use of local languages. The local content received an extremely positive response across the 10 case studies and was noted as a key factor in effective community engagement. In several focus groups, participants noted that the local voices caught their attention; they recognised some of the voices and others were familiar. One participant commented that the messages are "from our mob and don't feel like a boring government message".

Case study example: Kimberley kids sing about ear health

PAKAM formed partnerships with four remote and regional schools in four locations across the Kimberley (Bidyadanga, Yungngora, Warmun and Fitzroy Crossing), involving school children in developing the content and lyrics and in performing original ear health songs. This process ensured that messages were appropriate, relevant and fun for local children and families. PAKAM also worked with the school children to produce videos to accompany the songs, and a video was made which documented the process of developing and recording the songs.

The media partnership projects also saw the development of a range of innovative ways to deliver ear health messages to local communities. While the majority of projects featured radio broadcasts, there were also DVDs and CDs developed, along with a range of events, performances, outside broadcasts, community screenings and activities aimed at involving local communities. Local media organisations were well placed to understand the most effective ways to engage local Aboriginal and/or Torres Strait Islander communities, and many projects attracted large family audiences.

Case study example: Listen Up! in the desert

CAAMA Productions worked closely with its community networks in the development of the Listen Up! DVD. Local Aboriginal people played the roles of family members, school teachers, school children and a doctor. The use of local people in the film and the foregrounding of the local language and landscape ensured a distinctive Central Desert style. This high-quality DVD has been successful in

delivering powerful ear health messages in an entertaining format that has engaged families and children in local communities.

Developing effective local partnerships

The media partnerships approach encouraged local radio stations and media organisations to partner with a range of local health services and health professionals as well as key stakeholders in their own communities. This enabled creative production skills, community knowledge and ear health expertise to come together to contribute to overall project outcomes. Radio stations generally partnered with local health and community services, and in some cases brought together services that had not previously worked together, creating opportunities for new partnerships and projects.

The fact that the media partnership projects were driven by an organisation outside the 'health sector' was often seen as strengthening the overall community focus on ear health by bringing diverse services and people together. The partnerships built during the projects appear to have strengthened the existing health and community service network and built links between Aboriginal and/or Torres Strait Islander services, mainstream services and communities.

Case study example: Collaboration in western NSW

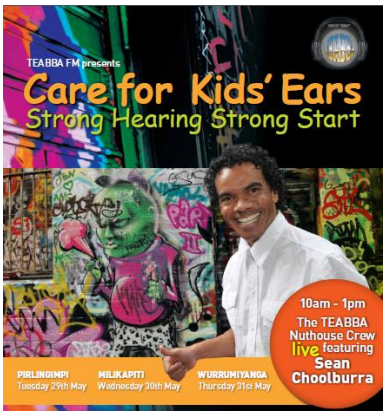
Muda Aboriginal Corporation (2CUZFM) developed partnerships with a wide range of health and community services, including organisations that may not normally work together. Some partners noted that being linked to the Muda Aboriginal Corporation provided credibility and increased the opportunities for engagement with local communities and other services. Health services played a key role in contributing to radio content, with interviews being conducted with local audiologists, health workers and nurses, and health staff providing ear health checks, information and support during visits to communities.

Comprehensive approach

While the media partnerships approach was localised it was also comprehensive, combining health promotion and media responses with the delivery of direct ear health services; building partnerships between health services, media partners, schools and communities; enhancing community capacity; and strengthening the overall response to ear health locally. The comprehensive nature of many of the case study projects has led to unexpected benefits for local communities. For example, in Port Augusta, teachers noted a dramatic improvement in the behaviour and performance of the school children who were involved in recording and performing the voices of the puppets at Umeewarra Media. Teachers reported that student involvement in writing and performing scripts had led to significant increases in literacy, and engagement with the ear health project outside school had led to both improvements in school attendance and a reduction in disruptive behaviours.

Case study: Hard-to-reach families in the Tiwi Islands

TEABBA conducted public events in three communities in the Tiwi Islands which attracted large family audiences. A partnership between TEABBA, the NT Department of Health Child Ear Health Team, the local community health centre, the school and the crèche saw large numbers of ear health checks conducted at these events, particularly with hard-to-engage families. TEABBA was also successful in linking the radio campaign to existing ear health promotion strategies and the ongoing work of local community health services, cementing these connections as part of a broader community-based health promotion strategy. (Image: Poster advertising the TEABBA Wurrumiyanga, Milikapiti and Pirlingimpi events)



Availability of Care for Kids' Ears resources

The Care for Kids' Ears resources were an essential element of the media partnerships, with the following factors identified as significant:

- The simple easy-to-read resources helped to ensure that the messaging quality was consistent, that the messaging aligned with the National Indigenous Ear Health Campaign

messages, and that messages were consistent with clinical guidelines for the prevention and treatment of otitis media.

- The availability of the resources was noted as being a valuable asset in developing radio content.
- The resources and branded merchandise provided a positive contribution to local services and community events as a series of tangible products that could be provided to community members to take away.
- The resources were well received in communities and were highly valued by most participants.

Thousands of individual Care for Kids' Ears resources were distributed as part of the media partnership projects to health services and schools and directly to families at outside broadcasts, community events and large public forums. The most commonly distributed resources were the Parents and Carers Brochure, photobook, Kathy & Ernie's Activity Book, stickers and memory cards.

Campaign merchandise such as facewashers, tissues, soaps, magnetic photo frames, crayons and calico bags were also provided as part of the campaign. These were very well received and allowed the media partnership projects to engage community members and promote the local media campaigns to children, families and communities. The Care for Kids' Ears resources were often packaged with locally produced collateral products for specific events and/or audiences. For example, the Pina Palya, Pina Kulilku project in Kalgoorlie packaged a CD for young parents with Care for Kids' Ears merchandise, and these were then distributed through Bega Garnbirringu Health Service's Bub Basket for new mothers.

Case study example: Caring for kids' ear health in Cairns

The Ears Binna Thalinga project, managed by Bumma Bippera Media in Cairns, involved eight outside broadcasts/community events featuring live interviews, community ear health checks and displays of Care for Kids' Ears resources. Several focus group participants in the case study noted the value and impact of connecting high-quality, easily understood resources with local activities led by Aboriginal and/or Torres Strait Islander people. Large numbers of the resources were distributed, and at one outside broadcast school children with hearing problems collected Care for Kids' Ears resources and took them back to school to conduct an ear health peer education session with younger children.

Large amount of high-quality and accurate media produced

The radio broadcast material and DVDs represented in the case studies were accurate, diverse, culturally relevant to local Aboriginal and/or Torres Strait Islander audiences, and generally of very high quality. The existing program development and production skills of radio broadcasters and their experience in promotion and marketing was of significant value to the campaign. In localising the media partnership campaigns, the extensive skills of local media producers and broadcasters were

harnessed for the benefit of the community. The expertise of the media partners, the existence of the Care for Kids' Ears resources and effective partnerships with health professionals also supported the delivery of quality media products. Also critical to the delivery of high-quality, evidence-based messages was the role provided by I&G, as the Executive Producer, in supporting content development in consultation with the Department and with reference to guidelines, and in providing quality assurance and an effective review and approval process.

Radio material was often broadcast well beyond the original stated aims of the media partnership projects. This was a direct result of the enthusiasm of radio staff and management for projects which have a strong sense of community ownership because they have been developed locally by working with communities. Most of the broadcast organisations noted that they would continue broadcasting some ear health material and intend to have an ongoing focus on ear health issues. The value of the airplay was quantified, and in all 10 case studies it was significantly beyond initial project expectations.

Case study example: Sharing the ear health message

The Radio Larrakia project was characterised by a large volume of high-quality broadcast content with a broad geographical reach across the Top End of the Northern Territory. Various message formats were used, including eight 45-second scripts, ten 30-second vox pops, three interviews and a standard on-air identity and call to action. Ear health messages were broadcast every day, with a total of 313 broadcasts of 1-5 minutes and 202 broadcasts of less than 60 seconds. Live crosses, vox pops and interviews were also conducted during visits to 26 communities, where 52 outside broadcasts were attended by 1,500 people.

Capacity-building of media organisations

The media partnerships involved significant capacity-building of radio and media organisations in several areas. This included building staff knowledge and understanding of ear health, increasing organisational ability and staff skills in producing high-quality social marketing material, and enhancing capacity to build partnerships with health and community organisations. The role of I&G was significant in building organisational capacity in some of the case studies. The experience also

resulted in a significant number of ear health champions taking roles within broadcasting networks who are likely to continue to support ongoing ear health messaging.

Additionally, the media partnerships approach established a model for the development and broadcasting of health information which was embraced by the case study participants. They are now interested in using their skills and networks in other areas of health promotion such as obesity, smoking, eye health, oral health, youth suicide, diabetes, drug and alcohol and mental health.

Case study example: Good ears, good learning in Kalgoorlie

Tjuma Pulka Aboriginal Corporation went beyond its traditional radio broadcast approach in developing the Pina Palya, Pina Kulilku CD, aimed at getting important ear health information to new parents. The project was developed in close collaboration with community members, Elders and health workers. Information was presented in a range of styles, including interviews, songs and story-telling. The CD was packaged with Care for Kids' Ears resources and distributed in partnership health services. For Tjuma Pulka this project was a significant expansion of their work into the health area and built the capacity of both the radio station and the community to respond to other health issues.

Executive production and support role of I&G

I&G, as Executive Producer, provided culturally appropriate and flexible support to the media partners and a direct management role for Government. These complex roles were critical to the success of the case studies evaluated. I&G provided a wide range of assistance in response to the needs of specific media partnerships, including advice in relation to understanding the brief and the key ear health messages; expertise in radio/media production, post-production and distribution; technical studio support; quality assurance of media products; assistance with managing deadlines and project risks; and effective approval processes. I&G also helped organisations build capacity and ensured the delivery of high-quality, accurate ear health messages.

The support provided by I&G was valued by all the media partnerships represented in the case studies, who noted that I&G was responsive to their support needs and, importantly, was able to provide support in a culturally sensitive manner. Some organisations noted that the fact that I&G managed the relationship with the Government enabled them to concentrate on creative production and the project deliverables. For the smaller radio stations which may not have previously produced pre-recorded material, I&G provided a significant capacity-building and mentoring role.

National distribution network

The media partnership approach made use of a large and effective existing national distribution network of Indigenous radio stations that provided access to significant Aboriginal and/or Torres Strait Islander audiences. Many stations are members of larger networks, such as the National Indigenous Radio Service Limited (NIRS), which can rebroadcast and syndicate the programs so that material can reach wider audiences. For example, the Cairns Bimma Bippera service extends nationally, Monday to Friday, through a talkback program called *Talk Black,* and this featured the Ears Bina Thalinga Project.

An existing distribution network is a significant advantage in health promotion, in which many projects often struggle to achieve effective distribution to specific audiences. NIRS receives programs from a majority of the over 180 First Nations' broadcasting services across Australia and over 120 Remote Indigenous Broadcasting Services (RIBS) units; in all, 23 Indigenous radio stations and 120 community broadcasters receive NIRS. In the case studies examined here, many of the radio stations were operating 24 hours a day and ear health content was consistently broadcast well beyond agreed project minimums and often replayed and shared through existing regional and national networks.

Case study example: Listen 'Ear across Australia

BIMA's Listen 'Ear project made good use of the established national network. BIMA delivered monthly 15-60 minute interviews with ear health professionals on its flagship program Let's Talk, which can be heard nationally on over 120 community radio stations across the NIRS network. Listen 'Ear also has an active web presence, which enabled easy access to the radio content through the BIMA website.

Appropriate timeframes

The media partnership project timelines allowed for time-consuming activities such as building effective community engagement, building community ownership, and developing partnerships with the health sector, community members, Elders and Aboriginal and/or Torres Strait Islander organisations. The development phases of the projects also allowed time for the involvement of local community members and children in the production, the use of local languages and the revision of content and approaches. All these factors contributed to the overall success of the media partnership projects.

Case study example: Taking the time to talk in Taree

Making connections with the health sector and involving Aboriginal Health Workers took some extra time for Ngarralinyi Radio but proved to be the best way to get the messages right for the local community. A process of trial and error led to the development of story-based messages with a 'real-life' approach which engaged both health workers and community members. Everyone agreed that "we need more health messages like that on the radio".

4.4 Exposure to the media partnerships

Eleven percent (11%) of mothers and female carers included in the quantitative survey recalled specific media partnership activities. However, it is worth noting that assessing exposure to the media partnership activities in the quantitative survey was difficult because of the localised nature of the media partnership activities, the diversity of approaches, and the varying timing of when the media partnership activities were implemented. In an attempt to overcome these challenges, a number of questions were asked. Firstly, all respondents were asked a broad question about whether they had "seen or heard anything else about the National Indigenous Ear Health Campaign (or the Care for Kids' Ears campaign)". This could be via radio, TV, internet, newspapers/magazines, community information sessions or community events. If the response was 'yes', they were then asked to describe this. A further question was asked probing specifically for the media partnership activities, with reference made to the radio stations in the relevant locations (e.g. 4CIM Bumma Bippera in Cairns, Gadigal Koori Radio in Sydney, or CAAMA Radio/Listen Up! in Alice Springs). Respondents were then asked to describe this.

Overall, 18% (n=36) said that they had seen or heard something else about the National Indigenous Ear Health Campaign. When analysing the responses to the additional open-ended questions, it was identified that 11% (n=22) of the total research sample recalled specific media partnership activities. Those who responded 'yes' but did not recall the media partnership activities (n=7) tended to recall information on TV, information accessed at health services, or information on radio generally, but with no recall of the relevant radio station. This suggests there may be a slightly higher level of exposure to the media partnership activities than recorded in the results.

When describing the media activity (open-ended question), a number of messages were recalled, with the main themes being:

- Keeping ears healthy/healthy ears/caring for kids' ears
- Checking kids' ears, taking children to the clinic, accessing medicine so children do not have problems when they grow up and so they can listen properly
- That good/healthy ears are important so they can listen properly, so children can listen at school and listen to parents at home, so children do not have problems when they grow up
- Keeping kids healthy
- Benefits of coughing, blowing your nose, washing hands
- Elders telling stories on ear health.

Overall, feedback was positive in relation to the media partnerships, with comments that the approach was informative, easy to understand and culturally appropriate. Several respondents spoke positively about information being provided in their first language (which was a language other than English), or in a style of language use that Aboriginal and/or Torres Strait Islander people can relate to.

> *"I liked it. It was a good story, good information. It got me thinking about kids' ears and staying healthy."*
>
> *"It was interesting. It was good to hear about other families having ear problems and how they dealt with it."*
>
> *"It was deadly, in words that Murris can relate to."*
>
> *"Good because it was in Kriol and I could easily understand it."*

It is worth noting that 25 participants responded that they do not listen to radio, do not have access to Indigenous radio, or do not have a radio.

4.5 Challenges

Despite many successful elements in the case study projects, the review of the case studies identified a number of challenges that the media partnership organisations had faced:

- Building partnerships with local health services was time consuming and was a significant amount of work for the radio and media organisations.
- Since health professionals tended to be very busy, a significant amount of project time was spent organising experts and health workers to be available for interviews.

- The time involved for media partner staff to learn about ear health in order to develop creative responses for broadcast was significant. However, this experience led to most of the staff and their families becoming ear health champions.

- Community members were initially reluctant to be interviewed for broadcast. However, strategies were developed to encourage participation and this experience served to build the capacity of Aboriginal and/or Torres Strait Islander staff and organisations.

4.6 Outcomes

There were a number of consistent outcomes identified across the 10 media partnership case study projects:

- The media partnerships approach provided support for the broader campaign by successfully delivering and reinforcing consistent ear health messages.

- A large number of Care for Kids' Ears resources were successfully and widely distributed through the projects, reaching families, communities, and health and education services, and were received enthusiastically.

- A large amount of culturally appropriate, relevant and local radio broadcast material and video content, consistent with the overall campaign communication objectives, was developed and delivered, and appears to have been well accepted by Aboriginal and/or Torres Strait Islander community members.

- Parents and families interviewed were engaged by the radio and video content produced and responded extremely well to the format, style and messaging. The local and cultural nature of the content was highly valued.

- Key partnerships were formed between Aboriginal and/or Torres Strait Islander media organisations and health and community organisations. The local partnership networks built during the development of the media partnerships significantly strengthened overall community response to ear health and enhanced the focus on prevention of ear disease in communities.

- In some cases there was a reported increase in delivery of ear health screening, particularly to hard-to-reach groups, and direct improvements were noted in children's health and wellbeing.

- The project built the capacity of the local staff represented in the case studies, who have gained valuable experience and skills in developing health promotion campaigns which could be transferred to other Aboriginal and/or Torres Strait Islander health issues.

- Staff at the radio and media organisations have become ear health champions, and in many instances participation in the media partnerships has made a difference to the lives of Aboriginal and/or Torres Strait Islander staff. For example, staff reported several instances where their own children's ear health improved as a result of their newly acquired knowledge.

- Many Aboriginal and Torres Strait Islander people interviewed noted that they now have more knowledge about the impacts of poor ear health in their communities and feel that something can be done to improve outcomes for local children. For health workers this included using the Care for Kids' Ears resources to do more outreach education, while for parents it included looking out for symptoms of ear disease in children and taking action, such as a clinic visit.

- The overall media partnerships approach appears to offer a model for the provision of health promotion, resources and information to Aboriginal and/or Torres Strait Islander communities in other health areas such as mental health, diabetes, obesity, smoking, youth suicide, eye health and oral health.

5. Evaluation findings – impact of campaign exposure on parents and carers

This chapter provides the results from the baseline and follow-up mothers and female carers survey in relation to experience of ear health problems, help-seeking behaviour, knowledge of ear health including awareness of prevention actions and signs and symptoms, and attitudes to ear health. Comparisons were made with the group in the follow-up survey who were exposed to at least one element of the campaign (n=81) and those not exposed to the campaign (n=119) in order to assess the potential impact of campaign exposure on this target group. All differences reported in the text are statistically significant differences ($p<0.05$). Where differences were not statistically significant these have been described as similar or the same between the exposed and not exposed groups. Details on this analysis approach can be found in the methodology (Chapter 2 and Appendix 2).

5.1 Context – experience of ear health problems

The baseline and follow-up survey with mothers and carers of children aged 0-5 years explored participants' experience of ear health problems. Both the baseline and follow-up research indicated that ear health problems are relatively common in Aboriginal and/or Torres Strait Islander communities, with around six in 10 of the sample reporting having either personally, or through family, experienced ear problems (60% in the follow-up survey and 62.5% in the baseline survey).

Table 5: Experience of ear health problems – any family problems with ear infections or problems with kids' ears or hearing

Any family problems with ear infections or problems with kids' ears or hearing	Baseline (n=199) %	Follow-up (n=199) %
Yes	62.5	60
No	36.0	39.5
Don't know	1.5	0.5

Results were similar when looking at participants from major cities, regional locations and remote locations, with the proportion of those in the follow-up survey experiencing ear problems being 59.1%, 59.2% and 61.3% respectively. As can be seen in Table 6, frequent ear infection was the most common problem identified (38.5% among follow-up participants), and around one in five of follow-up participants experienced grommets, runny ears or hearing problems/hearing loss.

Table 6: Experience of ear health problems – types of problems

Types of problems	Baseline (n=199) %	Follow-up (n=199) %
Frequent ear infections	44.1	38.5
Grommets	27.6	19.7
Runny ears	22.0	20.5
Hearing problems/hearing loss	22.0	18.0
Sore/painful ears	9.0	3.5
Otitis media	3.9	4.1
Burst eardrum/earhole	3.5	2.5

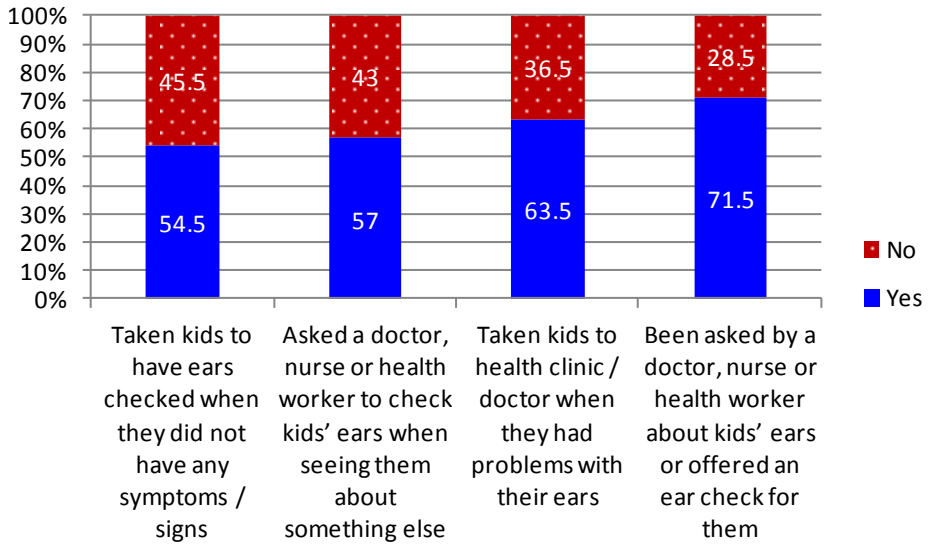
The level of experience of ear health problems was similar for those exposed and not exposed to the campaign. Specifically, 65.4% of those exposed to the campaign said they had either personally or through family experienced ear problems in the past, and 56.3% of those not exposed had experienced problems.

5.2 Help-seeking behaviour

The quantitative research with mothers and female carers sought to understand specific behaviour related to seeking and receiving medical advice and intervention in relation to ear health for children in the participants' care. Specifically, participants were asked if, in the past 12 months, they had taken their children to a health clinic or doctor when they had ear problems, had asked to have children's ears checked when they did not have any signs of ear problems, asked a doctor, nurse or health worker to check children's ears when they were seeing them about something else, or had been asked by these health professionals about their children's ears or been offered an ear check.

At follow-up, the most common response was being asked by a health professional about their children's ears (71.5%), followed by 63.5% who said they had taken their children to a health clinic or doctor when they had ear problems.

Figure 1: Help seeking behaviour in the last 12 months among follow-up survey participants (n=200)



When comparing responses at baseline and follow-up, those at follow-up were more likely to report being asked by a doctor, nurse or health worker about their children's ears or to be offered an ear check (71.5% compared to 58.5%). While the results also show an increase in the other three behaviour indicators, these were not found to be statistically significant.

Table 7: Behaviour indicators at baseline and follow-up

Behaviour	Baseline (n=200) %	Follow-up (n=200) %	Adjusted OR p-value
1. Taken kids to health clinic/doctor when they had problems with their ears	54.0	63.5	0.054
2. Taken kids to have ears checked when they did not have any symptoms/signs	47.5	54.5	0.161
3. Asked a doctor, nurse or health worker to check kids' ears when seeing them about something else	48.5	57.0	0.089
4. Been asked by a doctor, nurse or health worker about kids' ears or offered an ear check for them	58.5	71.5	0.006

The potential impact of the campaign on these reported behaviours becomes apparent when comparing the 'exposed' and 'not exposed' groups in the follow-up survey, where exposed participants were significantly more likely to respond positively to three of the four behaviour indicators.

Those exposed were more likely to take their child to have their ears checked when they did not have symptoms compared to those not exposed to the campaign. Specifically, 70.4% of those exposed to the campaign said they had taken their child to have their ears checked in the last 12 months when they did not have any signs or symptoms, compared to only 43.7% of those not exposed.

Those exposed to the campaign were also more likely to have reported asking a health professional to check their children's ears when they were seeing them about something else, compared to those not exposed (66.7% compared to 50.4%).

Finally, those exposed to the campaign were also more likely to report being asked by a health professional about their children's ears, or being offered an ear check for them (82.7% compared to 63.9%). Rather than the latter being an outcome of those exposed being asked more about their children's ears, it is likely that, given heightened awareness of ear health, they more readily recalled being prompted by health professionals.

Table 8: Behaviour indicators by campaign exposure at follow-up

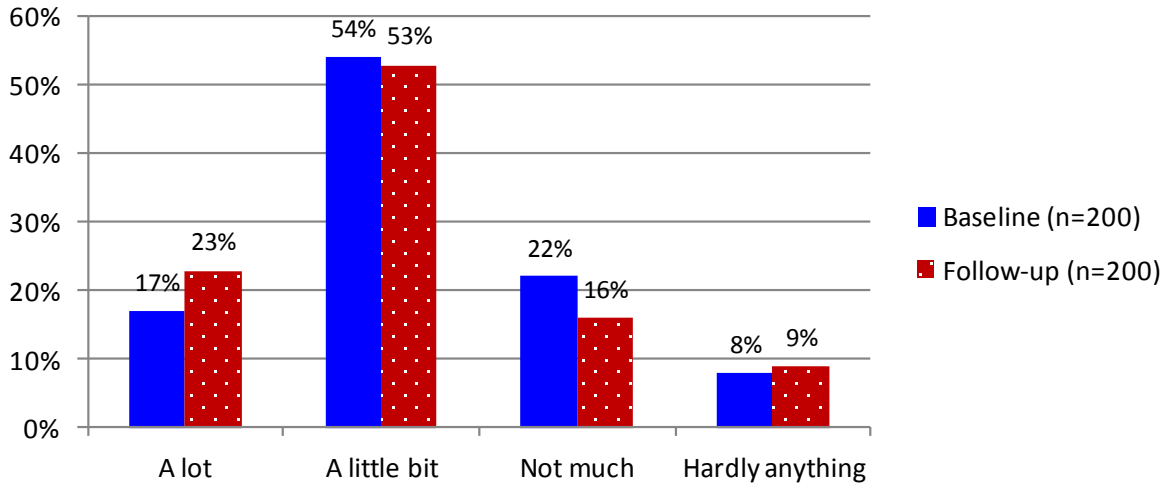
Behaviour	Not exposed (n=119) %	Exposed (n=81) %	p-value	Adjusted OR
1. Taken kids to health clinic/doctor when they had problems with their ears	60.5	67.9	0.386	OR=1.310 95% CI 0.711 to 2.414
2. Taken kids to have ears checked when they did not have any symptoms/signs	43.7	70.4	<0.000	OR=3.485 95% CI 1.857 to 6.538
3. Asked a doctor, nurse or health worker to check kids' ears when seeing them about something else	50.4	66.7	0.012	OR=2.182 95% CI 1.187 to 4.011
4. Been asked by a doctor, nurse or health worker about kids' ears or offered an ear check for them	63.9	82.7	0.008	OR=2.584 95% CI 1.282 to 5.209

5.3 Knowledge of ear health and symptoms

In investigating levels of knowledge, participants were asked to rate how much they felt they knew about keeping kids' ears healthy. Overall, self-reported knowledge of keeping kids' ears healthy was high, with the majority of participants indicating they had some level of knowledge. Specifically, in both the baseline and follow-up surveys about half of participants said they knew 'a little' (53% and 53.5% respectively) and about one in five said they knew a lot (16.5% and 22.5% respectively).

Similarly, when asked whether they knew any of the signs or symptoms of ear infection or ear problems, a high proportion of participants in both the baseline and follow-up surveys reported that they did (83.5% at baseline and 87.5% at follow-up).

Figure 2: Self-reported knowledge level of keeping kids' ears healthy at baseline and follow-up



When comparing results in the follow-up survey between those who were exposed to the campaign and those who were not, there are significant differences in relation to self-reported knowledge. In the follow-up survey, the exposed group were more likely to say they knew a lot about keeping ears healthy than the not exposed group (32.1% compared to 16.0%). These trends continued when looking at knowledge of the symptoms of ear problems, where those in the exposed group were more likely to say they knew of signs and symptoms of ear infections or problems (95.1% compared to 82.4%).

The trend of increased knowledge of symptoms among those exposed to the campaign was further validated through responses to the open-ended question asking participants to list the signs or symptoms of ear infections unprompted. Those in the exposed group were more likely to identify at least one of the key symptoms unprompted (95.1% compared to 77.3%). Further, in looking at each sign and symptom separately, those in the exposed group were more likely to identify five of the seven symptoms unprompted than those unexposed. Specifically, those exposed to the campaign were more likely to identify signs of a cold, fluid or pus from the ear, pulling ears and not hearing properly. Table 9 shows these results.

Table 9: Unprompted symptom recall by campaign exposure at follow-up

Unprompted symptoms	Not exposed (n=119) %	Exposed (n=81) %	p-value	Adjusted OR
1. Signs of cold/runny nose	20.2	40.7	0.004	OR=2.538 95% CI 1.340 to 4.810
2. Pain in the ear	35.3	46.9	0.195	OR=1.491 95% CI 0.815 tot 2.730
3. Runny fluid or pus from the ear	31.1	46.9	0.011	OR=2.214 95% CI 1.203 to 4.077
4. Kids pulling their ears	49.6	64.2	0.016	OR=2.102 95% CI 1.147 to 3.851
5. Fever	37.0	42.0	0.263	OR=1.414 95% CI 0.771 to 2.593
6. Can't hear properly	8.4	28.4	<0.000	OR=4.625 95% CI 2.025 to 10.563
7. Not eating	1.7[1]	7.4	–	–
8. Diarrhoea or vomiting	1.7	6.2	0.103	OR=4.065 95% CI 0.751 to 21.987
9. Problems with learning to speak or in the classroom	2.5	8.6	0.058	OR=3.936 95% CI 0.956 to 16.198

[1] *Cell count is less than 5; therefore assumptions for significance testing are not satisfied.*

When participants were asked about signs and symptoms (unprompted), a range of other responses was given. Additional symptoms that were mentioned included children crying and generally being unwell/unsettled, and redness of the ears.

Participants were then told each of the nine key signs of ear problems and asked whether they knew if each was a sign or symptom of ear infection or problems before the day of the survey. Results from the follow-up survey among those who were exposed and not exposed to the campaign were similar, except for one symptom, where those exposed were more likely to agree that not eating was a sign of ear problems (42.0% compared to 26.9% of those not exposed).

Table 10: Prompted symptom recall by campaign exposure at follow-up

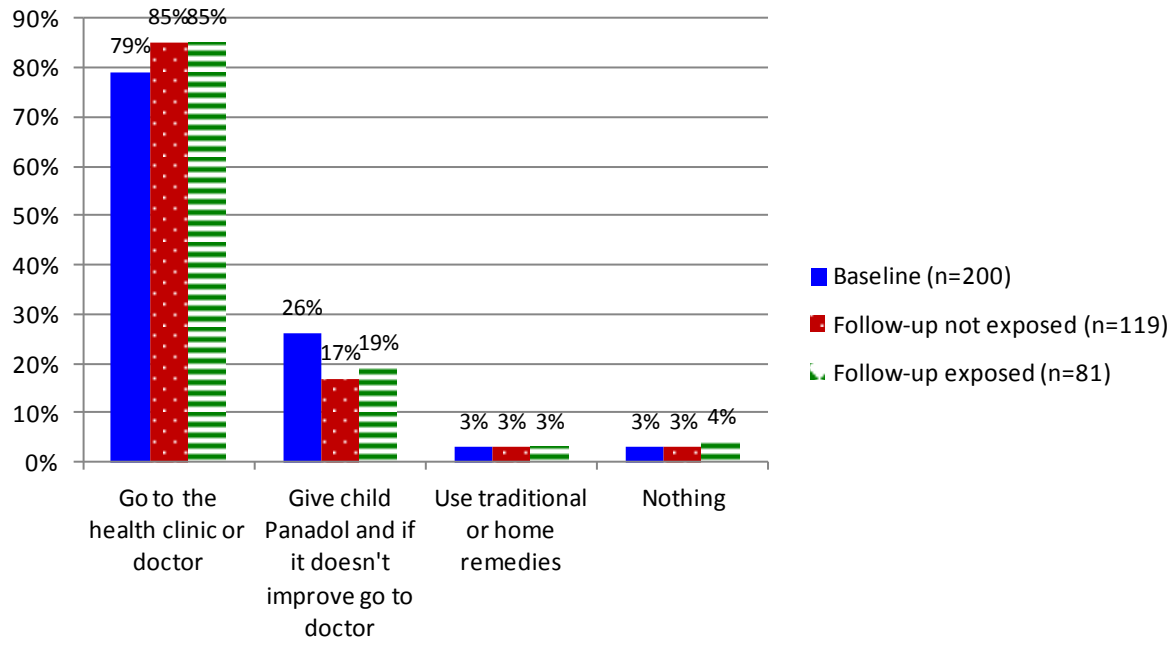
Prompted symptoms	Not exposed (n=119) %	Exposed (n=81) %	p-value	Adjusted OR
1. Signs of cold/runny nose	76.5%	87.7%	0.053	OR=2.239 95% CI 0.991 to 5.057
2. Pain in the ear	89.9%	85.2%	0.332	OR=0.642 95% CI 0.262 to 1.571
3. Runny fluid or pus from the ear	80.7%	82.7%	0.622	OR=1.207 95% CI 0.572 to 2.544
4. Kids pulling their ears	83.2%	86.4%	0.370	OR=1.453 95% CI 0.641 to 3.294
5. Fever	82.4%	80.2%	0.979	OR=1.010 95% CI 0.478 to 2.133
6. Can't hear properly	72.3%	76.5%	0.311	OR=1.422 95% CI 0.720 to 2.806
7. Not eating	26.9%	42.0%	0.023	OR=2.030 95% CI 1.103 to 3.736
8. Diarrhoea or vomiting	21.8%	28.4%	0.271	OR=1.452 95% CI 0.747 to 2.821
9. Problems with learning to speak or in the classroom	53.4%	66.3%	0.051	OR=1.827 95% CI 0.997 to 3.347

Participants were also asked whether they had heard that ear problems could have no symptoms. Respondents to the follow-up survey were more likely to have heard this than those at baseline (50.5% compared to 34.5%). Further, among follow-up participants, those who had been exposed to the campaign were more likely than those not exposed to have heard that children could have ear problems even if they do not have any symptoms (60.5% compared to 43.7%).

When asked if they thought it was true that children could have ear problems without having any symptoms, a similar proportion at baseline and at follow-up agreed it was true (61.0% to 65.5%). There were also no significant differences when comparing responses between the exposed and not exposed groups within the follow-up survey (71.6% compared to 61.3%).

Following discussion of the signs and symptoms, participants were asked what they usually did if their child had shown some of these. Responses were similar at baseline and follow-up. The most common response was to take their child to the health clinic or doctor, with 84.9% of participants at follow-up indicating this is what they would do. The next most common response was to give their child Panadol and then take them to the doctor if things did not improve (78.5%). In comparing those who were exposed to the campaign at follow-up with those who were not exposed, responses were similar for each action.

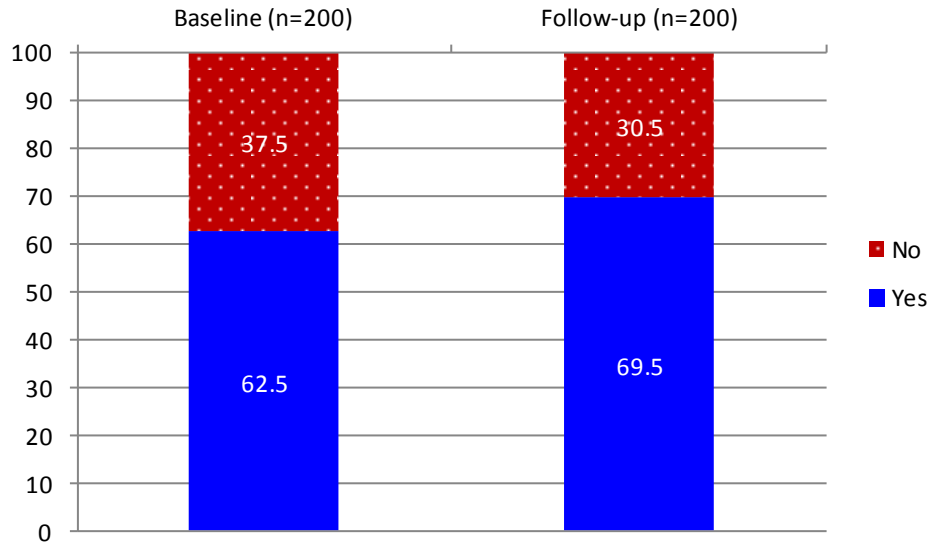
Figure 3: Usual action following these symptoms at baseline and follow-up (%)



5.4 Knowledge of prevention

Participants were asked about their general knowledge of prevention, and whether they knew of any of the key things parents and carers could do to prevent ear problems in their children. Overall, self-reported knowledge of prevention activities was lower than for symptoms. Specifically, when asked whether they knew any ways that parents could try to prevent ear infections or problems, 69.5% of participants at follow-up said yes, with this being similar the proportion at baseline (62.5%).

Figure 4: Proportion who reported knowing ways to prevent ear problems at baseline and follow-up



When comparing results in the follow-up survey between those exposed to the campaign and those not exposed, those exposed were more likely than those not exposed to say they knew ways parents could prevent ear problems among their children (82.7% compared to 60.5%).

As with symptoms, greater knowledge of prevention among the exposed group was further validated when looking at the results for unprompted ways parents and carers can try to prevent ear problems in children. Overall, those exposed to the campaign were more likely than those not exposed to identify at least one prevention action unprompted (74.1% compared to 51.3%). In looking at each action separately, those exposed to the campaign were more likely to identify having kids' ears checked regularly as a preventative action (49.4% compared to 26.1% of those not exposed).

Table 11: Unprompted prevention action recall by campaign exposure at follow-up

Unprompted prevention actions	Not exposed (n=119) %	Exposed (n=81) %	p-value	Adjusted OR
1. Get kids' ears checked regularly	26.1	49.4	0.002	OR=2.697 95% CI 1.454 to 5.003
2. Keep kids clean/washing hands/hygiene	26.1	34.6	0.168	OR=1.550 95% CI 0.831 to 2.893
3. Give kids healthy food	8.4	14.8	0.148	OR=1.955 95% CI 0.788 to 4.848
4. Make sure kids get all vaccinations	8.4	11.1	0.442	OR=1.460 95% CI 0.556 to 3.832
5. Get kids to blow their nose	27.7	39.5	0.116	OR=1.643 95% CI 0.884 to 3.054
6. Breastfeeding	8.4	7.4	0.969	OR=0.979 95% CI 0.334 to 2.869
7. Don't smoke around kids	9.2	8.6	0.887	OR=1.079 95% CI 0.380 to 3.064
8. Don't stick things in their ears	17.6	17.3	0.738	OR=1.145 95% CI 0.519 to2.523

When prompted about whether they knew of the eight key areas of prevention, there were no significant differences between those who were exposed to the campaign and those not exposed.

Table 12: Prompted prevention action recall by campaign exposure at follow-up

Prompted prevention actions	Not exposed (n=119) %	Exposed (n=81) %	p-value	Adjusted OR
1. Get kids' ears checked regularly	88.2	96.3	0.067	OR=3.365 95% CI 0.918 to 12.335
2. Keep kids clean/washing hands/ hygiene	88.2	92.6	0.401	OR=1.544 95% CI 0.560 to 4.255
3. Give kids healthy food	68.1	80.2	0.105	OR=1.759 95% CI 0.889 to 3.482
4. Make sure kids get all vaccinations	73.9	80.2	0.184	OR=1.609 95% CI 0.798 to 3.245
5. Get kids to blow their nose	79.8	91.4	0.082	OR=2.269 95% CI 0.902 to 5.709
6. Breastfeeding	52.1	56.8	0.395	OR=1.286 95% CI 0.721 to 2.295
7. Don't smoke around kids	64.7	65.4	0.675	OR=1.142 95% CI 0.615 to 2.121
8. Don't stick things in their ears	84.0	86.4	0.371	OR=1.461 95% CI 0.636 to 3.356

When asked about awareness of prevention strategies, a range of other activities was identified by parents and carers, with the two most common responses being keeping ears dry (mentioned by 34 respondents) and cleaning ears (20 respondents). When discussing keeping ears dry, responses included not letting children go in the water too long, drying their ears after being in the water, and wearing ear plugs when swimming. It is worth noting that several referred to tissue spears when discussing cleaning their children's ears, and a few specifically mentioned cotton buds.

5.5 Attitudes

Participants in the baseline and follow-up surveys were presented with seven statements about ear problems and asked whether they had heard the statements before, and whether they agreed with the statements. The statements related to commonly held beliefs, attitudes or key areas of knowledge. For each of the statements the proportion who had both heard it before and agreed with it was similarly high in both the baseline and follow-up surveys.

When examining differences between the exposed and not exposed groups in the follow-up survey, those who recalled being exposed to the campaign were more likely to have heard of three of the seven statements. Namely, those who were exposed to the campaign were more likely to have heard the statements: "having lots of ear infections can cause hearing loss" (87.7% compared to 71.4%,); "kids with hearing loss can have trouble at school" (95.1% compared to 86.6%); and "ear infections/problems can be prevented and treated" (97.5% compared to 86.6%). Despite these differences, the proportions who agreed with these statements was still high for both groups.

Participants were also asked whether they believed each of these attitudinal statements. Overall, a high proportion believed each of the statements in both groups, except the statement that "ear infections are a normal part of growing up for Aboriginal/Torres Strait Islander kids". Those in the exposed group were more likely to agree with the statements: "having lots of ear infections can cause hearing loss" (87.7% compared to 71.4% for not exposed); "kids with hearing loss can have trouble with their language development" (85.2% compared to 79.8%); and "kids with hearing loss can have trouble at school" (95.1% compared to 86.6%).

Table 13: Heard of attitudinal statements about ear problems by campaign exposure at follow-up

Statement	Not exposed (n=119) %	Exposed (n=81) %	p-value	Adjusted OR
1. Having lots of ear infections can cause hearing loss	71.4	87.7	0.002	OR=3.749 95% CI 1.649 to 8.522
2. Kids with hearing loss can have trouble with their speech/ language development	79.8	85.2	0.055	OR=2.343 95% CI 0.982 to 5.591
3. Ear infections are a normal part of growing up for Aboriginal/ Torres Strait Islander kids	48.7	51.9	0.520	OR=1.209 95% CI 0.677 to 2.159
4. Kids with hearing loss can have trouble at school	86.6	95.1	0.007	OR=5.329 95% CI 1.587 to 17.892
5. Ear health is very important	87.4	95.1	0.049	OR=3.206 95% CI 1.003 to 10.252
6. Ear infections/problems can be prevented and treated	86.6	97.5	0.015	OR=6.497 95% CI 1.435 to 29.407
7. It is important when kids are young to look after their ears	92.4	96.3	0.203	OR=2.418 95% CI 0.621 to 9.413

Table 14: Believe attitudinal statements about ear problems by campaign exposure at follow-up

Statement	Not exposed (n=119) %	Exposed (n=81) %	p-value	Adjusted OR
1. Having lots of ear infections can cause hearing loss	75.6	86.4	0.020	OR=2.661 95% CI 1.167 to 6.069
2. Kids with hearing loss can have trouble with their speech/ language development	80.7	88.9	0.021	OR=2.944 95% CI 1.175 to 7.378
3. Ear infections are a normal part of growing up for Aboriginal/Torres Strait Islander kids	40.3	50.6	0.178	OR=1.485 95% CI 0.835 to 2.643
4. Kids with hearing loss can have trouble at school	85.7	93.8	0.010	OR=4.364 95% CI 1.417 to 13.443
5. Ear health is very important	93.3	96.3	0.353	OR=1.923 95% CI 0.484 to 7.640
6. Ear infections/problems can be prevented and treated	84.9	93.8	0.091	OR=2.491 95% CI 0.863 to 7.189
7. It is important when kids are young to look after their ears	94.1	96.3	0.405	OR=1.827 95% CI 0.442 to 7.551

Along with the abovementioned statements, participants were also asked whether they thought that preschool staff, school staff or early childhood workers could help with kids' ear health. The proportion of people who agreed in the baseline and follow-up survey was similar at 79% and 80% respectively. However, when looking at differences between those who were exposed to the campaign and those who were not exposed at the time of the follow-up survey, those exposed were more likely to think that these education professionals could help with children's ear health (90.1% compared to 73.1%).

6. Conclusions and recommendations

Overall, the evaluation findings indicate that the campaign has had a positive impact on awareness of ear disease among Aboriginal and/or Torres Strait Islander communities. The quantitative research found that campaign exposure was linked to increased knowledge of symptoms and prevention and to increased help-seeking behaviours. Furthermore, both the survey results with mothers and female carers and the qualitative feedback from intermediaries indicated that the resources were useful and highly valued. The case studies of the media partnership projects demonstrated that this is a unique approach that complemented the national campaign components and enabled community media organisations to build partnerships with local communities and health services in order to develop and deliver highly effective ear health social marketing strategies to Aboriginal and/or Torres Strait Islander communities. The findings also clearly highlight the benefits of having a number of campaign elements for reaching parents and carers, including working through local community health professionals as key intermediaries and having a broad range of media partnerships.

Importantly, the evaluation results also confirm the significance of ear health for Aboriginal and/or Torres Strait Islander parents and carers, and the importance of strategies aimed at improving ear health. Sixty percent of respondents in the follow-up survey reported having either personally, or through family, experienced ear problems, 94.5% agreed that ear health is very important and 95.0% agreed that it is important when children are young to look after their ears.

This chapter discusses the impact of the campaign in achieving its communication objectives.

It should be noted that the evidence cited in this chapter from the follow-up quantitative research only includes data where differences were found to be statistically significant. Analysis methods have been used to account for potential biases and limitations with the internal and external validity of the baseline and follow-up surveys. However, it should be noted that the results from the surveys are not generalisable to the wider target population of Aboriginal and/or Torres Strait Islander mothers and carers of children aged 0-5 years in Australia due to the purposeful sampling approach. As such, the results only explain associations among the participants surveyed. The strength of relationships does however indicate that the campaign has had an impact on those exposed to the campaign's activities. Further information on the methodology can be found in Chapter 2, while Appendix 5 provides the adjusted and unadjusted odds ratio results.

6.1 Level of awareness of, access to and engagement with the campaign

Level of awareness of and access to the campaign communications

Overall, the results in relation to the level of awareness of and access to the campaign communications among the primary target audience were positive. Around four in 10 mothers and carers in the follow-up survey had been exposed to at least one element of the campaign. Given that the campaign did not include mass media and was based on the distribution of national resources and a community development approach through media partnerships, this is a positive result. In particular, prompted recall of the Care for Kids' Ears logo and the Parents and Carers Brochure was relatively high, with 24.5% and 21.5% exposed to these campaign elements. There were 13% who recalled the photobook, 4.5% who recalled the Kathy & Ernie's Activity Book and 11% who recalled media partnerships.

The follow-up survey results suggest that the intermediary strategy targeting health professionals was effective. When mothers and carers were asked if they had received information on ear health from a health professional, 68% in the follow-up survey responded that a professional had talked to them or given them information about ear health. Furthermore, almost all of those who recalled the Care for Kids' Ears resources noted that they had seen the resources at a health clinic or Aboriginal Medical Service.

Challenges experienced in recruiting teachers and early childhood educators who had used the resources for the qualitative research component suggests there are opportunities to enhance access to the resources among this target group, although it needs to be acknowledged that health promotion through this channel is considerably more challenging. There were 26.3% of respondents who had received ear health information through schools, preschools or early childhood centres, and those who had been exposed to the campaign were not any more likely to have received information through this channel than those who had not been exposed. However, 80% of respondents agreed that preschool staff, school staff or early childhood workers could help with kids' ear health, and those who had been exposed to the campaign were more likely to agree with this statement. Furthermore, 68.3% of the follow-up sample had children attending childcare, preschool or playgroups, and 58.0% had children at school. These results suggest there are opportunities to further develop the intermediary strategy through educators.

Engagement with the national resources

In terms of assessing engagement with the Care for Kids' Ears resources, feedback from both the quantitative survey and in the qualitative research was very positive. Parents and carers felt the resources were easy to understand, well presented, helpful, informative and culturally appropriate. As well, the Care for Kids' Ears resources received consistently positive feedback in interviews conducted with health professionals, teachers and early childhood educators, who expressed

enthusiasm and appreciation for the resources and reported that they were very well received by parents, carers and children. The evaluation identified specific features common to all the resources developed which contributed to their success with Aboriginal and/or Torres Strait Islander audiences, health professionals, teachers, early childhood educators and other stakeholders, as follows:

- Provide comprehensive, current and reliable information
- Relevant to Aboriginal and/or Torres Strait Islander communities
- Simple, easy-to-understand messages
- Professional, high-quality and attractive production values
- Free and easily accessible
- Resource kits for intermediaries easy to use and flexible.

6.2 Outcomes in relation to knowledge-based, attitudinal and action-based objectives

The campaign aimed to achieve a number of knowledge-based, attitudinal and action-based communication objectives. Each of these is detailed below, with a discussion on the extent to which the campaign has contributed to their being met.

Knowledge-based communication objectives

Objective 1: Increase understanding of the role that modifiable behaviours such as regular ear examination/surveillance, treating early infections to completion, not smoking, improving hygiene, breastfeeding and improving nutrition have in preventing the development of ear disease

Overall, the quantitative research suggests the campaign has been successful in achieving improved understanding among those who had been exposed to the resources compared to those not exposed:

- Results from the follow-up survey indicated that those exposed to the campaign were more likely to say they knew a lot about keeping ears healthy (32.1% compared to 16.0%) and more likely to identify at least one prevention action unprompted (74.1% compared to 51.3%).
- Those who had been exposed to the campaign were more likely to identify regular ear checks as a preventative action unprompted (49% compared to 26%).
- Results suggest that awareness of messages about modifiable behaviours such as breastfeeding and not smoking around children were not as strong as messages about regular ear checks; this points to opportunities to improve such awareness in future campaigns.
- The evaluation did not gather quantitative feedback from mothers and carers about message recall in relation to treating early infections to completion, though it should be noted that this message is included in the parent resources. Furthermore, the media partnerships case studies found that messages in relation to finishing antibiotics were included.

Objective 2: Increase understanding of the signs and symptoms of ear disease, especially of those that are non-visual

The evaluation suggests that awareness of signs and symptoms, including the key message that children can have ear problems without any symptoms, improved for those exposed to the campaign compared to those not exposed:

- In the follow-up survey, those in the exposed group were more likely to say they knew of signs and symptoms of ear infections or problems (95.1% compared to 82.4%).
- A higher proportion of those in the exposed group identified at least one of the key symptoms unprompted (95.1% compared to 77.3%).
- Specifically, those exposed to the campaign were more likely to identify without prompting signs of a cold, fluid or pus from the ear, pulling ears, and not hearing properly as signs of ear problems.
- Among follow-up participants, those who had been exposed to the campaign more likely to have heard that children could have ear problems even if they do not have any symptoms (60.5% compared to 43.7%).

Objective 3: Increase understanding of the link between ear disease and associated hearing loss, and increase awareness that ear disease and hearing loss can have significant long-term consequences for language and cognition

The evaluation suggests that for those exposed to the campaign there is greater awareness of the impact of ear disease compared to those not exposed:

- Those exposed to the campaign were more likely to have heard the statement “having lots of ear infections can cause hearing loss” (87.7% compared to 71.4%) and more likely to have heard that “kids with hearing loss can have trouble at school” (95.1% compared to 86.6%).
- Qualitative research findings also suggest this is an important outcome of the campaign. In particular, the media partnerships case studies included in the evaluation highlight that this component of the campaign has been effective in enhancing the level of understanding about the impact of ear disease among those involved in the media partnerships.

Objective 4: Increase awareness of effective surveillance, prevention and treatment pathways

The campaign appears to have improved awareness of prevention strategies, whereas limited focus was given to messages on effective surveillance and treatment pathways:

- When comparing results in the follow-up survey between those exposed to the campaign and those who were not, significant differences emerged, with those exposed more likely to say they knew ways parents could prevent ear problems among their children (82.7% compared to 60.5%).
- Those exposed to the campaign were more likely to identify at least one prevention action unprompted (74.1% compared to 51.3%). In particular, when looking at specific prevention

activities, those exposed were more likely to identify unprompted having kids' ears checked regularly as a preventative action (49.4% compared to 26.1%).

It should be noted that the media partnerships case studies identified that messages on treatment pathways and health service pathways were delivered, with reinforcement of a number of key messages (such as "visit your doctor/health centre", "finish antibiotics" and "ear health problems can be fixed if treated early"). The link with ear health promotion and service pathways was a particularly strong component of the media partnerships, as the local nature of the strategies allowed for specific services to be identified, and in several cases these services were involved in delivering the health promotion messages.

Attitudinal communication objectives

Objective 5: Reduce the normalisation of ear disease and address the perception among target groups that ear disease is an inevitable part of Indigenous childhood

The evaluation indicates that this has been an important focus for the campaign in the development of the resources, the distribution of resources through intermediaries, and the implementation of the media partnership activities. However, given the long-term nature of these objectives, the evaluation did not measure the contribution of the campaign in achieving these objectives at this point in time. Qualitatively, the findings suggest secondary target audiences were exposed to these messages.

Objective 6: Address the perception that children grow out of ear disease and that it has no lasting effects

As mentioned above, the campaign was successful in delivering messages that ear disease can have significant long-term consequences. The follow-up survey also indicated that there were differences in levels of agreement concerning a number of key attitudinal statements between those who had and had not been exposed to the campaign.

A higher proportion of participants in the exposed group believed a number of attitudinal statements. The statements where these differences were noted were "having lots of ear infections can cause hearing loss", "kids with hearing loss can have trouble with their language development" and "kids with hearing loss can have trouble at school".

Objective 7: Increase the importance of ear health as a health priority

The research with parents and carers suggests that generally community members believe ear health is important, and that this did not change as a result of exposure to the campaign. However, qualitative feedback from health professionals, teachers, early childhood educators, key stakeholders and parents and carers as part of the media partnerships case studies suggests that the campaign was effective in some cases in increasing the importance given to ear health among these important primary and secondary audiences. It should be noted that, while several of the intermediaries consulted were already strong advocates for the importance of ear health, there were also a

significant number who indicated that the campaign had increased their knowledge, capacity and willingness to be ear health champions. The media partnership case studies in particular highlighted this positive outcome.

The evaluation indicates that there is an opportunity to further enhance the priority given to ear health among teachers and early childhood educators, though it should be noted that the challenges in effectively reaching this target audience are greater, given the many competing priorities and time limitations for educators.

Action-based communication objectives

Objective 8: Prompt carers to modify behaviours that contribute to ear disease

The evaluation did not assess changes in preventative behaviours as a result of exposure to the campaign, but did assess awareness of these modifiable behaviours (as discussed earlier), which in several cases had increased. Given this, it is not possible to draw conclusions on changes to modifiable behaviours as a result of the campaign.

Objective 9: Encourage carers to take action if their child is showing signs of ear disease (both visual and non-visual); encourage carers to regularly take their child to a clinic for checks as there are often no signs of ear disease; and encourage carers to request their child has their ears screened as part of routine health checks, especially children under five years

The follow-up survey found differences in help-seeking behaviour among those who had been exposed to the campaign:

- Seventy percent (70.4%) of those exposed to the campaign said they had taken their child to have their ears checked in the last 12 months when they did not have any signs or symptoms, compared to only 43.7% of those not exposed.
- In terms of asking a health professional to check their child's ears when they were seeing them about something else, 66.7% of those exposed to the campaign said they had done so, compared to 50.4% of the not exposed group.

The media partnerships case studies also suggest that, in several cases, access to ear health checks improved as a result of these initiatives.

Objective 10: Encourage health practitioners to extend their knowledge of primary prevention, identification, diagnosis and clinical care of ear disease in Indigenous children

Health professionals reported an interest in increasing and/or extending their knowledge and understanding of ear disease in Aboriginal and/or Torres Strait Islander children. The resources were also noted as being useful in professional development and particularly in increasing the knowledge of general practitioners.

Objective 11: Encourage the delivery of health messages that are consistent and evidence based

Qualitative feedback from health professionals, teachers and early childhood educators was extremely positive in relation to the capacity of the resources to provide consistent, evidence-based messages. This was seen to enhance the delivery of the information and support these professionals could provide to their clients and students. This was also a key finding in the media partnership case studies. The feedback indicated that the simple, easy-to-read resources helped ensure quality and consistency of messaging and ensure that messaging aligned with the campaign's messages. The availability of the resources was noted as being a valuable asset in developing radio content and helping ensure consistency of messaging across the case studies.

Segmentation

The development of the campaign was driven by the need to target a range of segments within the parent and carer primary target audience (see 1.5 in Chapter 1 for details on the segments). The qualitative feedback from health professionals, teachers and early childhood educators suggests the resources enabled these intermediaries to tailor their interactions with the target audience appropriately, depending on their needs. Health professionals felt the resources provided a toolkit that could be used differently depending on client needs, especially in terms of existing knowledge levels and literacy levels. Teachers and early childhood educators also felt the resource kits enabled the activities to be tailored to meet the needs of their students, again with specific reference to variations in literacy levels. In particular, the visual nature of the resources was valued among intermediaries because it enabled this tailoring. Some intermediaries also felt the resources provided a strong evidence base that improved their personal knowledge, and that this was important in enhancing the supportive role they can play with community members. This is particularly relevant for the segments that require supported information delivery.

The results from the media partnerships case studies suggest this approach enables a broad range of segments to be targeted, especially given the diversity of message styles used within this approach. There was evidence from this evaluation of harder-to-reach families engaging in the media partnership activities and accessing ear health checks. There was also evidence of stakeholders involved in the media partnership activities increasing their knowledge of and commitment to ear health promotion by becoming ear health champions, which is an important consideration when aiming to target a broad range of segments identified in the developmental research.

6.3 Recommendations

The evaluation highlighted the positive impact of the campaign to date as an integrated strategy for delivering consistent ear health messages that reach and engage the primary target audience, and for helping support the role of key intermediaries in their delivery of health promotion information to Aboriginal and/or Torres Strait Islander families. Of relevance to potential opportunities for ongoing

social marketing activity, the evaluation also identified opportunities to reinforce and further enhance the effectiveness of the campaign. With these in mind, the following recommendations are made:

- The response to the Care for Kids' Ears campaign resources was very positive, and the evaluation indicates that the resources are likely to have a relatively long shelf-life, as it was felt there are no other materials like these. Given this, there should be continued promotion and distribution of the resources, especially as the audiences change regularly (e.g. new parents, new intermediaries).
- Overall, the strategy to use intermediaries (health professionals, teachers and early childhood educators) to help convey ear health promotion messages should continue to be a focus, as the need for information to be delivered in a supported context continues to be important for some Aboriginal and/or Torres Strait islander parents and carers. This is even more important in remote communities.
- The evaluation results highlight opportunities to enhance the intermediary strategy targeting staff at schools, preschools and early childhood centres. While this is a more difficult audience to engage, efforts should be made to raise awareness of the Care for Kids' Ears resources among schools and early childhood settings and to enhance and promote their use.
- The media partnerships model was found to be a highly effective approach to delivering locally based content in a culturally appropriate manner, so this model could be considered for a range of health promotion initiatives. Some of the key considerations in replicating this model would be to ensure there is a strong external coordination role, and that the approach is supported by high-quality, easy-to-understand key messages that enable consistent and evidence-based message delivery.
- Given the success of the media partnerships approach, access to the communications materials that were locally developed through this strategy should be enhanced in order to build capacity among other media organisations and to extend the reach of these resources. For example, there could be promotion of the resources through the Indigenous Health*InfoNet*, development of a DVD of media partnership audio-visual content, and provision of an online library or other digital modes for accessing the resources. Efforts should be made to increase people's understanding of prevention messages, as the research showed that awareness of prevention strategies was lower in comparison to awareness of signs and symptoms of ear disease. In particular, the lowest awareness was in relation to the benefits of breastfeeding, followed by not smoking around children, which are both important messages. Interestingly, the original developmental research indicated qualitatively that the links between breastfeeding, smoking and ear infections were not well known, and the later evaluation research suggests greater effort is needed to deliver this information effectively.
- Although messages on treatment pathways were delivered through some of the local communications provided by health professionals who participated in the media partnerships projects, if there were opportunities to expand the scope of the campaign, this could receive greater focus in the future.

Appendix 1 – List of media partnerships organisations

- Aboriginal Resource and Development Services Inc.
- Bidjara Media & Broadcasting Company Ltd
- Brisbane Indigenous Media Association Inc.
- Bumma Bippera Media Aboriginal and Torres Strait Islanders Corporation
- CAAMA Productions Pty Ltd
- Central Australian Aboriginal Media Association (CAAMA Radio)
- Cherbourg Aboriginal Multi-Media and Resource Association Inc.
- Community Radio Federation Limited
- Gadigal Information Service
- Goolarri Media Enterprises Pty Ltd
- Gumala Aboriginal Corporation
- Mackay & District Aboriginal & Islander Media Association Ltd
- Metro Screen Limited
- Mid North Coast Indigenous Broadcasters Association
- Midwest Aboriginal Media Association Inc.
- Mount Isa Aboriginal Media Association
- Muda Aboriginal Corporation
- Ngaanyatjarra Media
- Noongar Media Enterprises
- North Coast Radio Inc.
- Pilbara & Kimberley Aboriginal Media

- Pitjantjatjara Yankunytjatjara Media
- Puranyangu-Rangka Kerrem
- Queensland Police-Citizens Youth Welfare Association Inc.
- Queensland Remote Aboriginal Media
- Radio Adelaide
- Radio Larrakia 94.5FM Darwin
- South Eastern Indigenous Media Association
- Tjuma Pulka Media
- Top End Aboriginal Bush Broadcasting Association
- Torres Strait Islanders' Media Association Inc.
- Townsville Aboriginal & Islander Media Association Ltd.
- Umeewarra Aboriginal Media Association Inc.
- Waringarri Media
- Warlpiri Media Association Inc.

Appendix 2 – Methodology for health professionals and quantitative survey

Recruitment of health professionals for the qualitative research

Consultations were conducted with health professionals who had used the resource kit for health professionals. A mix of telephone (6) and face-to-face (16) in-depth interviews were conducted with 22 health professionals in a mix of urban, regional and remote locations across Victoria, New South Wales, the Northern Territory, Queensland and Western Australia. Several interviews were undertaken in locations where National Indigenous Ear Health Campaign media partnership projects had been conducted, including Alice Springs, Cairns, Kalgoorlie, Sydney, Napranum and Lismore.

A number of approaches were used to recruit health professionals:

- Health services were contacted in nine of the 10 locations where a quantitative survey in relation to the campaign was being conducted with mothers and carers of children aged 0-5. If a health professional that had been using the kit was identified through an initial phone call, then the service was visited and a face-to-face interview was conducted (14 participants were recruited using this method).

- The Department of Health and Ageing provided a list of people and services that had reordered the kits and a selection of these organisations were contacted (five participants were recruited using this method).

- The Department circulated an email requesting expressions of interest in participating in the research to health professionals who had participated in training through the Australian Medicare Local Alliance (one interview was recruited using this method).

Overall, the health professionals interviewed were working in services where the majority of clients were Aboriginal and/or Torres Strait Islander, between 85% and 100% in most instances. Ten of the 20 staff interviewed were based in Aboriginal Medical Services and several others were employed in Aboriginal and Torres Strait Islander community organisations. The majority of participants interviewed were Aboriginal and Torres Strait Islander (approx. 70%).

The range of health professionals spoken to during the interviews included nurses, audiologists, Aboriginal and Torres Strait Islander health workers, health service managers, staff who worked specifically in the area of otitis media prevention and treatment, and child health and clinical coordinators. The health professionals interviewed had a range of experience in relation to both ear health and Aboriginal and Torres Strait Islander health, with some having many years and even decades of experience. The majority had been working in Aboriginal and Torres Strait Islander health for five to 10 years and had between two to five years' experience in ear health. Most had experience

working in a range of settings, including hospitals, community health, general practice, Aboriginal Medical Services and NGOs.

These participants were involved in providing a range of health services to children, including clinical services such as ear health checks, identifying ear problems, doing ear washouts, conducting outreach and mobile services for families, providing direct advice to parents and children, and promoting ear health prevention strategies in communities.

Quantitative survey with mothers and female carers – study design

The study design used a quantitative survey administered at two points in time in order to investigate changes, including the potential impact of exposure to the campaign among Aboriginal and Torres Strait Islander parents and carers. A quantitative approach was seen to be the most appropriate as it enabled the collection of standardised data across multiple locations and points in time, allowing for changes to be measured and associations between variables to be determined.

The surveys were administered face to face in order to provide a culturally appropriate method for communication and data collection, and to alleviate, as much as possible, issues with literacy and English language proficiency.

Sampling technique

The quantitative research was based on purposeful sampling (a non-random method of sampling) for a number of reasons. Firstly, as the Aboriginal and Torres Strait Islander population account for a small percentage of the total population, random sampling is prohibitive due to cost implications. Secondly, purposeful sampling was used as it was important to include a mix of urban, regional and remote locations while ensuring a minimum sample size for each category. As well, the approach enabled national coverage across a range of states and territories, although this was not a criterion for analysis. Finally, purposeful sampling enabled the selection of locations for the follow-up sample to include several locations where media partnership activities had occurred. In each of the two survey rounds (baseline and follow-up) the sample size was 200, with the target being 20 in each location, across a total of 10 locations. In a few locations it was not possible to complete 20 interviews due to circumstances outside the control of the local Aboriginal researchers, and in these cases additional interviews were completed in other locations from the same regional classification.

The source population for this research was mothers and carers of children aged 0-5 years in the locations visited. Respondents were recruited on the basis that they were Aboriginal or Torres Strait Islander and were the primary carer of a child (or children) aged 0-5 years. Within each location, opportunistic or emergent sampling techniques were used to engage participants and achieve the target of 20 cases per location. Local Indigenous research partners used the following methods to recruit participants:

- Directly inviting eligible community members to participate (i.e. someone known by the local Indigenous researcher)
- Recruiting through an existing group (e.g. 'mums and bubs' group, sports group)
- Contacting those referred to researchers by someone else (snowball sampling)
- Approaching eligible community members as opportunities arise (intercept interviews).

Obtaining participant consent

When recruiting respondents for the survey, informed consent was obtained verbally. Respondents were provided with information verbally about who the research was for, how long the survey would take, that participation is voluntary, and that responses would be treated as confidential.

Data collection

The surveys were approximately 10 to 15 minutes in length and were administered primarily face to face by CIRCA consultants and local Indigenous researchers based in the communities where the surveys were conducted (local Indigenous researchers administered the survey in more than half of the locations included in the research). A small number of interviews (i.e. less than 10) were conducted over the telephone in Dubbo and Shepparton for the baseline research, as it was not possible to reschedule face-to-face interviews in time for the completion of fieldwork. Respondents received a $20 incentive to cover time and travel expenses. The baseline survey questionnaire can be found in Appendix 3, and the follow-up survey questionnaire in Appendix 4.

Study group

In total, 400 face-to-face interviews were conducted with Aboriginal and Torres Strait Islander mothers and carers of children aged 0-5 years, with 200 conducted at baseline in 2011 and 200 at follow-up in 2012 and 2013. The list of locations by regional classification is as follows:

Baseline – 2011 (n=200)	Follow-up – 2012–13 (n=200)
MAJOR CITY (n=40) Sydney (NSW) Melbourne (Vic)	MAJOR CITY (n=44) Sydney (NSW) (n=22) Melbourne (Vic) (n=22)
INNER/OUTER REGIONAL (n=100) Cairns (Qld) Moree (NSW) Shepparton (Vic) Bundaberg (Qld) Dubbo (NSW)	INNER/OUTER REGIONAL (n=76) Cairns (n=16) Wagga (NSW) Shepparton (VIC) Port Augusta (SA) (n=10) Darwin (Bagot) (NT) (n=10)
REMOTE/VERY REMOTE (n=60) Kalgoorlie (WA) Beswick (NT) Normanton (Qld)	REMOTE/VERY REMOTE (n=80) Kalgoorlie (WA) Wurrumiyanga (NT) Bamaga (Qld) Alice Springs (NT)

Participant profile

The follow-up sample was relatively young, with over half of both samples aged 30 years and under. Over half of both samples had one child under five years of age, with around three in 10 having two children under five. Just over 60% of both samples were not working, with around three in 10 working. Over half of those employed were working full time, with just over one-third working part time and around 10% employed on a casual basis. In terms of the highest level of education achieved, in the follow-up survey 20.5% had completed their education at some point prior to year 10, 24.5% had their year 10 school certificate (or equivalent), just under a fifth (18%) had year 12 (or equivalent), and a similar number (19.5%) had completed year 11 or equivalent. Ten percent had completed TAFE (or equivalent) and 7.5% had a university degree. Results were similar for the baseline survey, with around two-thirds in both samples having finished school prior to year 12, with the remaining third having completed year 12 or tertiary qualifications (TAFE, university, etc). A table detailing the demographic profile for both the baseline and follow-up survey can be found in Appendix 6.

When comparing the demographic profile of the baseline and follow-up samples, the only statistically significant difference was age. When analysing age based on a dichotomous variable of 30 years and under and over 30 years, there was a statistically significant difference. For the baseline survey 66.3% were aged 30 years and under, compared with 53.5% in the follow-up survey (p=0.009).

Bias

The non-representative nature of the sampling introduced potential sources of bias into the study, with implications for the external validity of results. Specifically, as the choice of locations was not randomised, and the sample not representative of Aboriginal and Torres Strait Islander communities in Australia, the results are not generalisable to the wider target population of Aboriginal and Torres Strait Islander mothers and carers of children aged 0-5 years in Australia. Bias was also introduced

into this sample through the participant recruitment methods outlined above. An opportunistic approach to recruitment means that the sample may be biased towards those who are likely to know more about ear health than others in their community, as those with limited community contact may not have been referred to participate in the evaluation. Due to these biases, direct comparisons between the baseline survey and the follow-up survey have been used only to suggest overall trends, rather than for calculating specific percentage changes or inferential statistics. Comparisons between the exposed and not exposed groups within the follow-up survey have therefore been employed to account for these limitations, as both groups were drawn from the same sample.

There are also impacts on the internal validity of the data. Local Indigenous researchers were used in each location in order to maximise the cultural appropriateness of the research approach and the success of participant recruitment. However, as different researchers were involved in the recruitment and administration of the survey in different locations, the employment of different recruitment and interviewing techniques introduces potential biases that are not consistent across locations. In relation to survey items, the inclusion of data items asking participants to recall ear problems and help-seeking behaviour in the last 12 months introduces recall bias. True or false style questions for signs and symptoms and prevention introduces social desirability bias as participants may respond in the affirmative although this may not be part of their knowledge. Social desirability bias is minimised through open-ended questions preceding each list-style question and indirect questioning for the prevention and attitude questions.

In relation to survey items, the inclusion of data items asking participants to recall ear problems and help-seeking behaviour in the last 12 months introduced recall bias. True or false style questions for signs and symptoms and prevention introduced social desirability bias. However, this was minimised through open-ended questions preceding each list-style question and indirect questioning for the prevention and attitude questions.

These biases limit both the internal and external validity of these results. As such, the results from the baseline and follow-up surveys are not generalisable to the wider target population of Aboriginal and Torres Strait Islander mothers and carers of children aged 0-5 years in Australia. These biases should be taken into account when reviewing the results, with conclusions made requiring further verification with other data sources for consistency.

Analysis methods

Descriptive statistics were performed on variables in the baseline and follow-up surveys in order to describe and compare the sample (demographic characteristics), knowledge and awareness of symptoms and prevention in relation to ear health, and behaviour related to getting children's ears checked by health professionals. Descriptive statistics were also used to describe campaign awareness among participants in the follow-up survey. Open-ended questions were quantified to describe additional responses for the 'other' categories and campaign exposure.

Binary variables were created for response (dependent) variables of behaviour, knowledge and attitudes in order to construct 2x2 contingency tables to compare differences in responses between the baseline and follow-up samples, and indicate any differences which may be statistically significant using the chi-square (χ^2) statistic. Further inferential statistics were not used to compare results between the baseline and follow-up surveys given reliability concerns of directly comparing two non-representative samples, other external validity limitations, and the inclusion in the follow-up survey of those who were not exposed to the campaign.

In order to examine the potential impact of the campaign on participant behaviour, knowledge and attitudes, participants in the follow-up survey were categorised as either being 'exposed' or 'not exposed' to the campaign based on their responses to the survey in relation to awareness of the campaign. Participants who recalled being exposed to at least one element of the campaign were categorised into the 'exposed' group, and those who could not recall the campaign were categorised as 'not exposed'. The categories of exposure were therefore based on participant recall following prompts of being shown materials and being asked open-ended questions to verify and cross-validate responses. Participant responses that were potentially ambiguous were not included as 'exposed'. Feedback from interviewers suggests that the exposed group may under-represent those in the follow-up survey who were exposed to the campaign (i.e. if respondents could not remember, or did not provide specific information to identify media partnership exposure, they were categorised at 'not exposed'). As the questions on campaign exposure occurred at the end of the survey, this did not introduce additional social desirability bias for the exposed group when answering response variables on behaviour, knowledge and attitudes.

Multiple logistic regression analysis was then conducted on variables in the follow-up survey to investigate the association between campaign exposure and the response variables of behaviour, knowledge and attitudes. Multiple logistic regressions adjusted for age, education and remoteness as these are potential confounders in this sample, with these variables being included as binary variables. This regression model was validated through data exploration, including unadjusted results and the effect of potential confounders on each response variable, followed by an analysis of model coefficients and predicted values. Adjusted regression results are used in this report when comparing those identified as being exposed to the campaign and those not exposed. See tables in Appendix 5 for a comparison between unadjusted and adjusted odds ratio results. Given the non-representative nature of the sample, conclusions from this analysis of the follow-up survey data is not generalisable to all those within the target group who were exposed to the campaign.

Given the abovementioned biases, results from the two surveys (baseline and follow-up) were also compared in order to cross-validate findings. Conclusions made from the data were seen to withstand these limitations. For example, in relation to internal validity, the same associations and results were found across similar data items within the survey. Further, on key data items relating to knowledge and behaviour, the results at baseline were similar to the not exposed group at follow-up, which one would expect if differences between the exposed and not exposed groups at follow-up are attributed

to campaign exposure. These similarities are also indicative that the samples at baseline and follow-up are comparable in relation to the response variables.

Appendix 3 – Baseline survey questionnaire

Introduction

Hello, my name is <> from the Cultural and Indigenous Research Centre Australia. Has [local contact] told you why we are here?

We are doing a survey on ear health, for a health promotion campaign that the Australian Government will be doing. We would like to ask you some questions about this.

We are only speaking to mothers or carers of young kids (0-5 years).

Would you be interested in chatting to me? It will take about 10 minutes.

S1 – CAIRNS ONLY – Have you or any of your family been involved in a DVD that was filmed at Wuchopperen?

Yes [If yes, thanks and close]

No [If no, ask next question, S2]

S2 – SYDNEY, CAIRNS, SHEPPARTON, MOREE, AND BESWICK ONLY – Have you been involved in any focus groups/meetings where you have looked at brochures on ear health?

Yes [If yes, thanks and close]

No [If no, ask next question, S3]

S3 – Do you have any kids 0-5 years old?

Yes [If yes, skip to text below S4]

No [If no, ask next question, S4]

S4 – Are you the main carer for any kids 0-5 years old?

Yes [If yes, continue]

No [If no, thanks and close]

Doing this survey is voluntary, so you can choose if you want to do it or not. Whatever you say will be treated as private and confidential – we are doing these surveys with 200 mothers from all around Australia, so we'll do a report based on all of these surveys, and there'll be no personal information about you.

Have you got any questions before we get going?

Experience of ear disease and behaviour

1. **How many kids 0-5 do you have/care for?**

1	1
2	2
3	3
4	4
5	5+

2. **Have you or any of your family had any problems with ear infections / problems with kids' ears or hearing problems?**

1	Yes	[GO TO Q3]
2	No	[GO TO Q4]
3	Don't know	[GO TO Q4]

3. **If yes, what kind of problems? (Write down verbatim)**

Multiple response **DO NOT READ OUT UNLESS REQUIRED**	
Grommets	1
Runny ears	2
Hearing problems/hearing loss	3
Frequent ear infections	4
OM	5
Other (specify)	6

'Other' responses:

4. Thinking about your kids, in the last year or so have you or someone in your family:

a) [IF NOT ALREADY MENTIONED ABOVE] Taken your kids to a health clinic when they had problems with their ears (e.g. pain, fever, pulling ears)?

b) Taken your kids to have their ears checked when they did not have any symptoms/signs?

c) Asked a doctor, nurse or health worker to check your kids' ears when you were seeing them about something else?

d) Been asked by a doctor, nurse or health worker about your kids' ears or offered an ear check for them?

	Yes	No	Don't Know	Not relevant
a) Taken kids to health clinic/doctor when they had problems with their ears	1	2	3	4
b) Taken kids to have ears checked when they did not have any symptoms/signs	1	2	3	4
c) Asked a doctor, nurse or health worker to check kids' ears when seeing them about something else	1	2	3	4
d) Been asked by a doctor, nurse or health worker about your kids' ears or offered an ear check for them	1	2	3	4

Knowledge and awareness

5. Do you know much about ear keeping kids' ears healthy? Would you say you know....

1 A lot

2 A little bit

3 Not much

4 Hardly anything

6. Do you know any of the signs or symptoms of ear infections / problems /do you know how you can tell if kids have a problem with their ears?

1 Yes [GO TO Q7A]

2 No [GO TO Q7B]

7. a) <u>If yes</u>, what signs or symptoms of ear infections / problems do you know about? (unprompted, multiple response)

b) ALL – I'm going to read out some of the signs and symptoms of ear infections / problems. Before today, did you know that these are signs or symptoms of ear infections / problems? Please be honest, it's not a test or anything. [READ OUT]

	7a)	7b)		
		Yes	No	Don't know
1.Signs of cold/runny nose	1	1	2	3
2.Pain in the ear	2	1	2	3
3.Runny fluid or pus from the ear	3	1	2	3
4.Kids pulling their ears	4	1	2	3
5.Fever	5	1	2	3
6.Can't hear properly	6	1	2	3
7.Not eating	7	1	2	3
8.Diarrhoea or vomiting	8	1	2	3
9. Problems with learning to speak or in the classroom	9	1	2	3

10.Other	10	1	2	3
11.Don't know	11	1	2	3
12.Refuse	12	1	2	3

'Other' responses:

8. What do you usually do if your child has shown some of these signs/symptoms? (unprompted)

Multiple response **DO NOT READ OUT UNLESS REQUIRED**	
Nothing	1
Go to health clinic/doctor	2
Give them Panadol and if it doesn't improve go to doctor	3
Use traditional/home remedies	4
Other (specify)	5

'Other' responses:

9. Some people have said that kids can have ear infections / problems with their ears even if they don't have any symptoms, and even if they seem fine. Have you heard this before?

1 Yes
2 No
3 Don't know

10. Do you think it is true that kids can have ear infections / problems with their ears even if they don't have any symptoms, and even if they seem fine?

1 Yes
2 No
3 Don't know

11. Do you know any ways that parents can try to prevent ear infections / problems with their ears in kids/try and help stop their kids getting ear infections?

1 Yes [GO TO Q12A]
2 No [GO TO Q12B]
3 Don't know [GO TO Q12B]

12. a) If yes, what are some of the ways that we can try to prevent ear infections / problems with their ears in kids? (unprompted)

b) ALL – There are a few things that can help prevent ear infections / problems with their ears. Before today, did you know that any of these things can help prevent ear infections / problems? Please be honest, it's not a test or anything.

	12a)	12b)		
		Yes	No	Don't Know
Get kids' ears checked regularly	1	1	2	3
Keep kids clean/washing hands/hygiene	2	1	2	3
Give kids healthy food	3	1	2	3
Make sure kids get all vaccinations	4	1	2	3
Get kids to blow their nose	5	1	2	3
Breastfeeding	6	1	2	3
Don't smoke around kids	7	1	2	3
Don't stick things in their ears	8	1	2	3
Other	9	1	2	3
Don't know	10	1	2	3
Refused	11	1	2	3

'Other' responses:

Attitudes

13. I'm going to read out a few statements about ear infections / problems
- **a) Can you tell me if you have heard this before?**
- **b) Do you agree with this statement/do you believe this statement?**

	13a)			13b)		
	Yes	No	Don't Know	Yes	No	Don't Know
Having lots of ear infections can cause hearing loss	1	2	3	1	2	3
Kids with hearing loss can have trouble with their speech/speaking/language development	1	2	3	1	2	3

Ear infections are a normal part of growing up for kids	1	2	3	1	2	3
Kids with hearing loss can have trouble at school	1	2	3	1	2	3
Ear health is very important	1	2	3	1	2	3
Ear infections / problems can be prevented and treated	1	2	3	1	2	3
It is important when kids are young to look after their ears	1	2	3	1	2	3

Do you feel there are things that you can do to help prevent ear infections / ear problems in your kids?

1 Yes
2 No
3 Don't know

14. If yes, what things can you do to help to keep kids' ears healthy? [UNPROMPTED]

	15
Get kids' ears checked regularly	1
Keep kids clean/washing hands/hygiene	2
Give kids healthy food	3
Make sure kids get all vaccinations	4
Get kids to blow their nose	5
Breastfeeding	6
Don't smoke around kids	7
Don't stick things in their ears	8
Don't know / not sure	9
Other	10

'Other' responses:

15. Do you think that preschool / school staff / early childhood workers can help with kids' ear health?

1 Yes
2 No

3 Don’t know

16. In your local community, when kids have an ear problem, how easy is it to get help from a health worker / doctor? Very easy, easy, or not easy?

	Q17
Very easy	1
Easy	2
Not easy	3
Don't know	4

Awareness of campaign

17. Have you seen, read or heard any information about ear health or ear infections / problems – it could be a pamphlet, DVD, advertisement on radio, TV, internet or in newspapers/magazines, community information session, etc?

1 Yes [GO TO Q19]

2 No [GO TO Q20]

18. Can you tell me about what you saw (where was it, what did it look like, etc?)

_____

_____

_____

19. If not mentioned: Has your doctor/nurse/health worker given you information about ear health or ear infections / problems – it could be from talking to you about it, a pamphlet, or DVD?

1 Yes [GO TO Q21]

2 No [GO TO Q22]

3 Don't know [GO TO Q22]

20. Can you tell me about this (where was it, what did it look like, etc?)

_____

_____

21. Have you or your kids got information about ear health or ear infections / problems from your kids' school / preschool / early childhood centre?

1 Yes [GO TO Q23]
2 No [GO TO Q24]
3 Not relevant – no kids at school [GO TO Q24]
4 Don't know [GO TO Q24]

22. Can you tell me about this (where was it, what did it look like, etc?)

_____

_____

_____

Demographics

Just to finish off, I have a few questions about you:

23. How old are you?

1 15-19
2 20-25
3 26-30
4 31-35
5 36-40
6 41-45
7 46-50
8 Above 50

24. Are you working or studying at the moment?

1 Yes – working GO TO 26
2 Both GO TO 26
3 Yes – studying GO TO 27
4 No GO TO 27

25. If yes, are you working full-time, part-time or on a casual basis?

1 Full time

2 Part time
3 Casual

26. What is the highest level of education you have finished?

1 Up to 10
2 Year 10 or equivalent
3 Year 11 or equivalent
4 Year 12 or equivalent
5 TAFE, diploma, certificate
6 University degree
7 Other (Please specify)

LOCATION: _____

Thanks very much for your time and help with this research.

Just in case my supervisor needs to check anything about this survey, could I please have your first name and a contact number, if possible? [RECORD BELOW].

NAME:

PHONE:

ADDRESS:

These details will only be used if my supervisor needs to check anything, and they will be destroyed after 6 weeks.

Appendix 4 – Follow-up survey questionnaire

Introduction

Hello, my name is <> from the Cultural and Indigenous Research Centre Australia. Has [local contact] told you why we are here?

We are doing a survey on ear health, for a health promotion campaign that the Australian Government has been doing. We would like to ask you some questions about this.

We are only speaking to mothers or carers of young kids (0-5 years).

Would you be interested in chatting to me? It will take about 10 minutes.

S1 –ALICE SPRINGS ONLY – Have you or any of your family been involved in a DVD called *Listen Up*? (it is about ear health and was produced by CAAMA).

Yes [If yes, thanks and close]

No [If no, ask next question, S2]

S2 – SYDNEY, CAIRNS, SHEPPARTON, KALGOORLIE AND MELBOURNE ONLY – Have you completed a survey about ear health previously?

Yes [If yes, thanks and close]

No [If no, ask next question, S3]

S3 – Do you have any kids 0-5 years old?

Yes [If yes, skip to text below S4]

No [If no, ask next question, S4]

S4 – Are you the main carer for any kids 0-5 years old?

Yes [If yes, continue]

No [If no, thanks and close]

Doing this survey is voluntary, so you can choose if you want to do it or not. Whatever you say will be treated as private and confidential – we are doing these surveys with 200 mothers from all around Australia, so we'll do a report based on all of these surveys, and there'll be no personal information about you.

Have you got any questions before we get going?

Experience of ear disease and behaviour

1. **How many kids 0-5 years do you have/care for?**

1	1
2	2
3	3
4	4
5	5+

2. **Have you or any of your family had any problems with ear infections / problems with kids' ears or hearing problems?**

1	Yes	[GO TO Q3]
2	No	[GO TO Q4]
3	Don't know	[GO TO Q4]

3. **If yes, what kind of problems? (Write down verbatim)**

Multiple response **DO NOT READ OUT UNLESS REQUIRED**	
Grommets	1
Runny ears	2
Hearing problems/hearing loss	3
Frequent ear infections	4

OM	5
Other (specify)	6

'Other' responses:

4. Thinking about your kids, in the last year or so have you or someone in your family:

e) [IF NOT ALREADY MENTIONED ABOVE] Taken your kids to a health clinic when they had problems with their ears (e.g. pain, fever, pulling ears)?

f) Taken your kids to have their ears checked when they did not have any symptoms/signs?

g) Asked a doctor, nurse or health worker to check your kids' ears when you were seeing them about something else?

h) Been asked by a doctor, nurse or health worker about your kids' ears or offered an ear check for them?

	Yes	No	Don't Know	Not relevant
a)Taken kids to health clinic/doctor when they had problems with their ears	1	2	3	4
b)Taken kids to have ears checked when they did not have any symptoms/signs	1	2	3	4
c) Asked a doctor, nurse or health worker to check kids' ears when seeing them about something else	1	2	3	4
d) Been asked by a doctor, nurse or health worker about your kids' ears or offered an ear check for them	1	2	3	4

5. Do you know much about keeping kids' ears healthy? Would you say you know...

1 A lot

2 A little bit

3 Not much

4 Hardly anything

6. Do you know any of the signs or symptoms of ear infections / problems /do you know how you can tell if kids have a problem with their ears?

1 Yes [GO TO Q7A]

2 No [GO TO Q7B]

7. a) <u>If yes</u>, What signs or symptoms of ear infections / problems do you know about? (unprompted, multiple response, DO NOT READ OUT)

b) ALL – I'm going to read out some of the signs and symptoms of ear infections / problems. Before today, did you know that these are signs or symptoms of ear infections / problems? Please be honest, it's not a test or anything. [READ OUT]

	7a)	7b)		
		Yes	No	Don't know
1.Signs of cold/runny nose	1	1	2	3
2.Pain in the ear	2	1	2	3
3.Runny fluid or pus from the ear	3	1	2	3
4.Kids pulling their ears	4	1	2	3
5.Fever	5	1	2	3
6.Can't hear properly	6	1	2	3
7.Not eating	7	1	2	3
8.Diarrhoea or vomiting	8	1	2	3
9. Problems with learning to speak or in the classroom	9	1	2	3
10.Other	10	1	2	3
11.Don't know	11	1	2	3
12.Refuse	12	1	2	3

'Other' responses:

8. What do you usually do if your child has shown some of these signs/symptoms? (unprompted)

Multiple response **DO NOT READ OUT UNLESS REQUIRED**	
Nothing	1

Go to health clinic/doctor	2
Give them Panadol and if it doesn't improve go to doctor	3
Use traditional/home remedies	4
Other (specify)	5

'Other' responses:

9. Some people have said that kids can have ear infections / problems with their ears even if they don't have any symptoms, and even if they seem fine. Have you heard this before?

1 Yes
2 No
3 Don't know

10. Do you think it is true that kids can have ear infections / problems with their ears even if they don't have any symptoms, and even if they seem fine?

1 Yes
2 No
3 Don't know

11. Do you know any ways that parents can try to prevent ear infections / problems with their ears in kids/try and help stop their kids getting ear infections?

1 Yes [GO TO Q12A]
2 No [GO TO Q12B]
3 Don't know [GO TO Q12B]

12. a) If yes, what are some of the ways that we can try to prevent ear infections / problems with their ears in kids? (unprompted, DO NOT READ OUT)

b) ALL – There are a few things that can help prevent ear infections / problems with their ears. Before today, did you know that any of these things can help prevent ear infections / problems? Please be honest, it's not a test or anything. READ OUT

	12a)	12b)		
		Yes	No	Don't Know
1. Get kids' ears checked regularly	1	1	2	3
2. Keep kids clean/washing hands/hygiene	2	1	2	3
3. Give kids healthy food	3	1	2	3

4. Make sure kids get all vaccinations	4	1	2	3
5. Get kids to blow their nose	5	1	2	3
6. Breastfeeding	6	1	2	3
7. Don't smoke around kids	7	1	2	3
8. Don't stick things in their ears	8	1	2	3
9. Other	9	1	2	3
10.Don't know	10	1	2	3
11.Refused	11	1	2	3

'Other' responses:

Attitudes

13. I'm going to read out a few statements about ear infections / problems
c) Can you tell me if you have heard this before?
d) Do you agree with this statement/do you believe this statement?

	13a)			13b)		
	Yes	No	Don't Know	Yes	No	Don't Know
1. Having lots of ear infections can cause hearing loss	1	2	3	1	2	3
2. Kids with hearing loss can have trouble with their speech/speaking/language development	1	2	3	1	2	3
3. Ear infections are a normal part of growing up for Aboriginal/Torres Straits kids	1	2	3	1	2	3
4. Kids with hearing loss can have trouble at school	1	2	3	1	2	3
5. Ear health is very important	1	2	3	1	2	3
6. Ear infections / problems can be prevented and treated	1	2	3	1	2	3

7. It is important when kids are young to look after their ears	1	2	3	1	2	3

14. Do you think that preschool / school staff / early childhood workers can help with kids' ear health?

1 Yes
2 No
3 Don't know

15. In your local community, when kids have an ear problem, how easy is it to get help from a health worker / doctor? Very easy, easy, or not easy?

	Q15
Very easy	1
Easy	2
Not easy	3
Don't know	4

Awareness of campaign

16. Have you seen, read or heard any information about ear health or ear infections / problems – it could be a pamphlet, DVD, advertisement or discussion on radio, TV, internet or in newspapers/magazines, community information session, etc?

1 Yes [GO TO Q17]

2 No [GO TO Q18]

17. Can you tell me about what you saw (where was it, what did it look like, etc?)

_____

_____

_____

18. Has your doctor/nurse/health worker talked about ear health or ear infections / problems with you?

Yes [GO TO Q19]

No [GO TO Q20]

19. Can you tell me about this (who, what did you talk about etc?)

_____

_____

_____

20. If not mentioned: Has your doctor/nurse/health worker given you information about ear health or ear infections / problems – it could be a pamphlet, or DVD or some other information?

1 Yes [GO TO Q21]
2 No [GO TO Q22]
3 Don't know [GO TO Q22]

21. Can you tell me about this (who provided the information; what was it, what did it look like, etc?)

_____

_____

_____

22. Have you or your kids got information about ear health or ear infections / problems from your kids' school / preschool / early childhood centre?

1 Yes [GO TO Q23]
2 No [GO TO Q24]
3 Not relevant – no kids at school [GO TO Q24]
4 Don't know [GO TO Q24]

23. Can you tell me about this (where did it come from; what was it, what did it look like, etc?)

_____

_____

_____

24. I am now going to show you some materials that have been developed as part of the Care for Kids Ears' campaign.

[Show the Care for kids' ears brand logo on the back of the A5 brochure].

Have you seen this image before?

1 Yes [GO TO Q25]
2 No [GO TO Q26]
3 Don't know [GO TO Q26]

25. If yes, where have you seen it?

_____

_____

26. [Show the Care for kids' ears A5 brochure].

Have you seen this brochure before?

1 Yes [GO TO Q27]
2 No [GO TO Q31]
3 Don't know [GO TO Q31]

27. If yes, can you remember where you saw it? (make a note of what is mentioned, e.g. health worker/centre or teacher/school/childcare)

_____

_____

_____

28. Have you read it/looked at it?

1 Yes [GO TO Q30]
2 No [GO TO Q29]
3 Don't know [GO TO Q31]

29. If no, was there any reason why you didn't look at it/read it?

_____

_____

_____

30. If yes, thinking back to when you looked at it...

Question	Yes	No	Don't know
a) Did you think it was helpful?	1	2	3
b) Did it tell you anything new/anything you didn't know?	1	2	3
c) Did you like the way it looked?	1	2	3
d) Was it easy to understand?	1	2	3
e) Did it answer all your questions?	1	2	3

31. [Show Care for kids' ears small photo book].

Have you seen this before?

1 Yes [GO TO Q32]
2 No [GO TO Q36]
3 Don't know [GO TO Q36]

32. If yes, can you remember where you saw it? (make a note of what is mentioned – e.g. health worker/centre or teacher/school/childcare)

_____

_____

33. Have you read it/looked at it?

1 Yes [GO TO Q35]
2 No [GO TO Q34]
3 Don't know [GO TO Q36]

34. If no, was there any reason why you didn't look at it/read it?

_____

_____

_____

35. If yes, thinking back to when you looked at it...

Question	Yes	No	Don't know

a) Did you think it was helpful?	1	2	3
b) Did it tell you anything new/anything you didn't know?	1	2	3
c) Did you like the way it looked?	1	2	3
d) Was it easy to understand?	1	2	3
e) Was it easy to use?	1	2	3

36. [Show Kathy & Ernie's Activity Book].

Have you seen this book before?

1 Yes [GO TO Q37]
2 No [GO TO Q41]
3 Don't know [GO TO Q41]

37. If yes, can you remember where you saw it? (Make a note of what is mentioned e.g. health worker/centre or teacher/school/childcare)

_____

_____

38. Have you read it/looked at it/used it with your children?

1 Yes [GO TO Q40]
2 No [GO TO Q39]
3 Don't know [GO TO Q41]

39. If no, was there any reason why you didn't look at it/read it?

_____

_____

40. If yes, what did you think of it?

_____

_____

41. Have you seen or heard anything else about the National Indigenous Ear Health Campaign (or the Care for kids' ears campaign)? It could be on radio, TV, internet or in newspapers/magazines, community information session, community event, part of another event etc?

1 Yes [GO TO Q42]

2 No [GO TO Q43]

42. Can you tell me about this (what was it? where did you see or hear it?).

_____

_____

_____

43. ALL (except if already mentioned), Prompt for recall of specific National Indigenous Ear Health Campaign media partnership activities (for example: Cairns – 4CIM Bumma Bippera , Sydney – Gadigal Koori Radio, Alice Springs – CAAMA Radio/Listen Up, Kalgoorlie – Radio Tjuma Pulka (6PAC),Victoria – South Eastern Indigenous Media Association, Tiwi Islands – Top End Aboriginal Bush Broadcasting Association (TEABBA). **Can you tell me about this (what was it? where did you see or hear it?).**

_____

_____

44. What did you think of it? (Probe: Was it engaging? Informative? Did it encourage you to take action? Did anything change as a result?).

Demographics

Just to finish off, I have a few questions about you:

45. How old are you?

1 15-19

2 20-25

3 26-30

4 31-35

5 36-40

6 41-45

7 46-50

8 Above 50

46. Are you working or studying at the moment?

1 Yes – working GO TO 47

2 Both GO TO 47

3 Yes – studying GO TO 48

4 No GO TO 48

47. If yes, are you working full-time, part-time or on a casual basis?

1 Full time

2 Part time

3 Casual

48. What is the highest level of education you have finished?

1 Up to 10

2 Year 10 or equivalent

3 Year 11 or equivalent

4 Year 12 or equivalent

5 TAFE, diploma, certificate

6 University degree

7 Other (Please specify)

49. Do any of your children under 5 attend childcare/pre-school or playgroups?

1 Yes

2 No

50. Do you have any children at school?

1 Yes

2 No

51. Have you been to a doctor/health service/AMS this year?

1 Yes

2 No

LOCATION:

Thanks very much for your time and help with this research.

Just in case my supervisor needs to check anything about this survey, could I please have your first name and a contact number, if possible? [RECORD BELOW].

NAME:

PHONE:

ADDRESS:

These details will only be used if my supervisor needs to check anything, and they will be destroyed after 6 weeks.

Appendix 5 – Unadjusted and adjusted odds ratio results

Odds ratio is used to compare the odds (or likelihood) of a condition being present or event occurring in one group with the odds of the event occurring in another group. An odds ratio of 1.0 indicates that the odds are the same in both groups, while an odds ratio of 3 indicates that the odds of an event occurring are three times higher in one group compared to the other.

Odds ratios have been used to compare the group in the follow-up survey who were exposed to at least one element of the campaign (n=81) to those not exposed to the campaign (n=119), in order to assess the potential impact of campaign exposure on the exposed group. The adjusted and unadjusted odds ratios are included in the following tables. Adjusted results accounted for differences according to age, education and remoteness as these are potential confounders in this sample. Please refer to appendix 2 for details on the odds ratio analysis techniques used.

A 95% confidence interval was used to assess how likely it is that the odds ratio calculated in the study population will apply to the wider population by showing the likely range within which the odds ratio might really lie. For example, looking at the behaviour 'taken kids to have ears checked when they did not have any symptoms/signs' in the table below, the likelihood that those exposed to the campaign did this was 3.485, with a 95% confidence interval of 1.857 to 6.538. This indicates that if the survey was repeated 100 times, each in different groups with the same sample size, we would expect that 95 times out of 100 the odds ratio in the study samples would lie within the range of 1.857 to 6.538 (or between 1.9 to 6.5 times as likely to occur in the exposed group compared to those not exposed). The odds ratio is statistically significant when the p value is less than 0.05 ($p<0.05$).

Table 15: Behaviour indicators by campaign exposure at follow-up – unadjusted odds ratio

Behaviour	Not exposed %	Exposed %	chi-square χ^2	df	p-value	OR
1. Taken kids to health clinic/doctor when they had problems with their ears	60.5	67.9	1.138	1	0.286	OR=1.381 95% CI 0.763 to 2.501
2. Taken kids to have ears checked when they did not have any symptoms/signs	43.7	70.4	13.827	1	<0.000	OR=3.060 95% CI 1.681 to 5.570
3. Asked a doctor, nurse or health worker to check kids' ears when seeing them about something else	50.4	66.7	5.190	1	0.023	OR=1.967 95% CI 1.095 to 3.531
4. Been asked by a doctor, nurse or health worker about kids' ears or offered an ear check for them	63.9	82.7	8.404	1	0.004	OR=2.708 95% CI 1.363 to 5.381

Table 16: Behaviour indicators by campaign exposure at follow-up – adjusted odds ratio

Behaviour	Not exposed %	Exposed %	Wald χ^2	df	p-value	OR
1. Taken kids to health clinic/doctor when they had problems with their ears	60.5	67.9	0.752	1	0.386	OR=1.310 95% CI 0.711 to 2.414
2. Taken kids to have ears checked when they did not have any symptoms/signs	43.7	70.4	15.121	1	<0.000	OR=3.485 95% CI 1.857 to 6.538
3. Asked a doctor, nurse or health worker to check kids' ears when seeing them about something else	50.4	66.7	6.303	1	0.012	OR=2.182 95% CI 1.187 to 4.011
4. Been asked by a doctor, nurse or health worker about kids' ears or offered an ear check for them	63.9	82.7	7.045	1	0.008	OR=2.584 95% CI 1.282 to 5.209

Table 17: Unprompted symptom recall by campaign exposure at follow-up – unadjusted odds ratio

Unprompted symptoms	Not exposed %	Exposed %	chi-square χ^2	df	p-value	OR
1. Signs of cold/runny nose	20.2	40.7	10.010	1	0.002	OR=2.721 95% CI 1.449 to 5.110
2. Pain in the ear	35.3	46.9	2.711	1	0.100	OR=1.620 95% CI 0.911 to 2.882
3. Runny fluid or pus from the ear	31.1	46.9	5.147	1	0.023	OR=1.959 95% CI 1.092 to 3.512
4. Kids pulling their ears	49.6	64.2	4.170	1	0.041	OR=1.823 95% CI 1.022 to 3.254
5. Fever	37.0	42.0	0.507	1	0.477	OR=1.233 95% CI 0.692 to 2.196
6. Can't hear properly	8.4	28.4	13.981	1	<0.000	OR=4.322 95% CI 1.927 to 9.696
7. Not eating	1.7[1]	7.4	-	-	-	-
8. Diarrhoea or vomiting	1.7	6.2	2.880	1	0.090	OR=3.849 95% CI 0.728 to 20.344
9. Problems with learning to speak or in the classroom	2.5	8.6	3.801	1	0.051	OR=3.658 95% CI 0.917 to 14.591

[1] *Cell count is less than 5, therefore assumptions for chi-square test are not satisfied.*

Table 18: Unprompted symptom recall by campaign exposure at follow-up – adjusted odds ratio

Unprompted symptoms	Not exposed %	Exposed %	Wald χ^2	df	p-value	OR
1. Signs of cold/runny nose	20.2	40.7	8.158	1	0.004	OR=2.538 95% CI 1.340 to 4.810
2. Pain in the ear	35.3	46.9	1.679	1	0.195	OR=1.491 95% CI 0.815 tot 2.730
3. Runny fluid or pus from the ear	31.1	46.9	6.513	1	0.011	OR=2.214 95% CI 1.203 to 4.077
4. Kids pulling their ears	49.6	64.2	5.778	1	0.016	OR=2.102 95% CI 1.147 to 3.851
5. Fever	37.0	42.0	1.255	1	0.263	OR=1.414 95% CI 0.771 to 2.593
6. Can't hear properly	8.4	28.4	13.212	1	<0.000	OR=4.625 95% CI 2.025 to 10.563
7. Not eating	1.7[1]	7.4	-	-	-	-
8. Diarrhoea or vomiting	1.7	6.2	2.651	1	0.103	OR=4.065 95% CI 0.751 to 21.987
9. Problems with learning to speak or in the classroom	2.5	8.6	3.604	1	0.058	OR=3.936 95% CI 0.956 to 16.198

[1] *Cell count is less than 5, therefore assumptions for chi-square test are not satisfied.*

Table 19: Prompted symptom recall by campaign exposure at follow-up – unadjusted odds ratio

Prompted symptoms	Not exposed %	Exposed %	chi-square χ^2	df	p-value	OR
1. Signs of cold/runny nose	76.5%	87.7%	3.917	1	0.048	OR=2.185 95% CI 0.996 to 4.794
2. Pain in the ear	89.9%	85.2%	1.021	1	0.312	OR=0.645 95% CI 0.274 to 1.517
3. Runny fluid or pus from the ear	80.7%	82.7%	0.134	1	0.715	OR=1.147 95% CI 0.550 to 2.389
4. Kids pulling their ears	83.2%	86.4%	0.383	1	0.536	OR=1.286 95% CI 0.579 to 2.852
5. Fever	82.4%	80.2%	0.142	1	0.707	OR=0.871 95% CI 0.423 to 1.792
6. Can't hear properly	72.3%	76.5%	0.458	1	0.499	OR=1.252 95% CI 0.652 to 2.404
7. Not eating	26.9%	42.0%	4.960	1	0.026	OR=1.967 95% CI 1.080 to 3.580
8. Diarrhoea or vomiting	21.8%	28.4%	1.117	1	0.291	OR=1.418 95% CI 0.741 to 2.717
9. Problems with learning to speak or in the classroom	53.4%	66.3%	3.250	1	0.071	OR=1.714 95% CI 0.952 to 3.085

Table 20: Prompted symptom recall by campaign exposure at follow-up – adjusted odds ratio

Prompted symptoms	Not exposed %	Exposed %	Wald χ^2	df	p-value	OR
1. Signs of cold/runny nose	76.5%	87.7%	3.757	1	0.053	OR=2.239 95% CI 0.991 to 5.057
2. Pain in the ear	89.9%	85.2%	0.941	1	0.332	OR=0.642 95% CI 0.262 to 1.571
3. Runny fluid or pus from the ear	80.7%	82.7%	0.244	1	0.622	OR=1.207 95% CI 0.572 to 2.544
4. Kids pulling their ears	83.2%	86.4%	0.802	1	0.370	OR=1.453 95% CI 0.641 to 3.294
5. Fever	82.4%	80.2%	0.001	1	0.979	OR=1.010 95% CI 0.478 to 2.133
6. Can't hear properly	72.3%	76.5%	1.028	1	0.311	OR=1.422 95% CI 0.720 to 2.806
7. Not eating	26.9%	42.0%	5.171	1	0.023	OR=2.030 95% CI 1.103 to 3.736
8. Diarrhoea or vomiting	21.8%	28.4%	1.211	1	0.271	OR=1.452 95% CI 0.747 to 2.821
9. Problems with learning to speak or in the classroom	53.4%	66.3%	3.803	1	0.051	OR=1.827 95% CI 0.997 to 3.347

Table 21: Unprompted prevention action recall by campaign exposure at follow-up – unadjusted odds ratio

Unprompted prevention actions	Not exposed %	Exposed %	chi-square χ^2	df	p-value	OR
1. Get kids' ears checked regularly	26.1%	49.4%	11.459	1	0.001	OR=2.769 95% CI 1.523 to 5.035
2. Keep kids clean / washing hands / hygiene	26.1%	34.6%	1.681	1	0.195	OR=1.500 95% CI 0.811 to 2.772
3. Give kids healthy food	8.4%	14.8%	2.024	1	0.155	OR=1.896 95% CI 0.777 to 4.624
4. Make sure kids get all vaccinations	8.4%	11.1%	0.411	1	0.521	OR=1.363 95% CI 0.528 to 3.518
5. Get kids to blow their nose	27.7%	39.5%	3.046	1	0.081	OR=1.702 95% CI 0.934 to 3.100
6. Breastfeeding	8.4%	7.4%	0.065	1	0.799	OR=0.872 95% CI 0.304 to 2.502
7. Don't smoke around kids	9.2%	8.6%	0.021	1	0.884	OR=0.929 95% CI 0.344 to 2.506
8. Don't' stick things in their ears	17.6%	17.3%	0.004	1	0.947	OR=0.975 95% CI 0.463 to2.052

Table 22: Unprompted prevention action recall by campaign exposure at follow-up – adjusted odds ratio

Unprompted prevention actions	Not exposed %	Exposed %	Wald χ^2	df	p-value	OR
1. Get kids' ears checked regularly	26.1%	49.4%	9.912	1	0.002	OR=2.697 95% CI 1.454 to 5.003
2. Keep kids clean / washing hands / hygiene	26.1%	34.6%	1.899	1	0.168	OR=1.550 95% CI 0.831 to 2.893
3. Give kids healthy food	8.4%	14.8%	2.092	1	0.148	OR=1.955 95% CI 0.788 to 4.848
4. Make sure kids get all vaccinations	8.4%	11.1%	0.591	1	0.442	OR=1.460 95% CI 0.556 to 3.832
5. Get kids to blow their nose	27.7%	39.5%	2.470	1	0.116	OR=1.643 95% CI 0.884 to 3.054
6. Breastfeeding	8.4%	7.4%	0.002	1	0.969	OR=0.979 95% CI 0.334 to 2.869
7. Don't smoke around kids	9.2%	8.6%	0.020	1	0.887	OR=1.079 95% CI 0.380 to 3.064
8. Don't' stick things in their ears	17.6%	17.3%	0.112	1	0.738	OR=1.145 95% CI 0.519 to2.523

Table 23: Prompted prevention action recall by campaign exposure at follow-up – unadjusted odds ratio

Prompted prevention actions	Not exposed %	Exposed %	chi-square χ^2	df	p-value	OR
1. Get kids' ears checked regularly	88.2	96.3	4.027	1	0.045	OR=3.467 95% CI 0.963 to 12.480
2. Keep kids clean / washing hands / hygiene	88.2	92.6	1.017	1	0.313	OR=1.667 95% CI 0.612 to 4.536
3. Give kids healthy food	68.1	80.2	3.627	1	0.057	OR=1.906 95% CI 0.976 to 3.721
4. Make sure kids get all vaccinations	73.9	80.2	1.063	1	0.303	OR=1.431 95% CI 0.723 to 2.834
5. Get kids to blow their nose	79.8	91.4	4.889	1	0.027	OR=2.671 95% CI 1.091 to 6.537
6. Breastfeeding	52.1	56.8	0.427	1	0.514	OR=1.208 95% CI 0.685 to 2.132
7. Don't smoke around kids	64.7	65.4	0.011	1	0.916	OR=1.032 95% CI 0.571 to 1.867
8. Don't' stick things in their ears	84.0	86.4	0.215	1	0.643	OR=1.209 95% CI 0.542 to 2.699

Table 24: Prompted prevention action recall by campaign exposure at follow-up – adjusted odds ratio

Prompted prevention actions	Not exposed %	Exposed %	Wald χ^2	df	p-value	OR
1. Get kids' ears checked regularly	88.2	96.3	3.353	1	0.067	OR=3.365 95% CI 0.918 to 12.335
2. Keep kids clean / washing hands / hygiene	88.2	92.6	0.706	1	0.401	OR=1.544 95% CI 0.560 to 4.255
3. Give kids healthy food	68.1	80.2	2.627	1	0.105	OR=1.759 95% CI 0.889 to 3.482
4. Make sure kids get all vaccinations	73.9	80.2	1.767	1	0.184	OR=1.609 95% CI 0.798 to 3.245
5. Get kids to blow their nose	79.8	91.4	3.032	1	0.082	OR=2.269 95% CI 0.902 to 5.709
6. Breastfeeding	52.1	56.8	0.725	1	0.395	OR=1.286 95% CI 0.721 to 2.295
7. Don't smoke around kids	64.7	65.4	0.176	1	0.675	OR=1.142 95% CI 0.615 to 2.121
8. Don't' stick things in their ears	84.0	86.4	0.800	1	0.371	OR=1.461 95% CI 0.636 to 3.356

Table 25: Heard of attitudinal statements about ear problems by campaign exposure at follow-up – unadjusted odds ratio

Statement	Not exposed %	Exposed %	chi-square χ^2	df	p-value	OR
1. Having lots of ear infections can cause hearing loss	71.4	87.7	7.394	1	0.007	OR=2.840 95% CI 1.312 to 6.148
2. Kids with hearing loss can have trouble with their speech / language development	79.8	85.2	0.936	1	0.333	OR=1.453 95% CI 0..680 to 3.103
3. Ear infections are a normal part of growing up for Aboriginal/Torres Strait Islander kids	48.7	51.9	0.187	1	0.666	OR=1.133 95% CI 0.644 to 1.993
4. Kids with hearing loss can have trouble at school	86.6	95.1	3.875	1	0.049	OR=2.990 95% CI 0.961 to 9.301
5. Ear health is very important	87.4	95.1	3.295	1	0.069	OR=2.776 95% CI 0.887 to 8.695
6. Ear infections/problems can be prevented and treated	86.6	97.5	7.090	1	0.008	OR=6.136 95% CI 1.371 to 27.469
7. It is important when kids are young to look after their ears	92.4	96.3	1.273	1	0.259	OR=2.127 95% CI 0.558 to 8.112

Table 26: Heard of attitudinal statements about ear problems by campaign exposure at follow-up – adjusted odds ratio

Statement	Not exposed %	Exposed %	Wald χ^2	df	p-value	OR
1. Having lots of ear infections can cause hearing loss	71.4	87.7	9.949	1	0.002	OR=3.749 95% CI 1.649 to 8.522
2. Kids with hearing loss can have trouble with their speech / language development	79.8	85.2	3.684	1	0.055	OR=2.343 95% CI 0.982 to 5.591
3. Ear infections are a normal part of growing up for Aboriginal/Torres Strait Islander kids	48.7	51.9	0.413	1	0.520	OR=1.209 95% CI 0.677 to 2.159
4. Kids with hearing loss can have trouble at school	86.6	95.1	7.330	1	0.007	OR=5.329 95% CI 1.587 to 17.892
5. Ear health is very important	87.4	95.1	3.861	1	0.049	OR=3.206 95% CI 1.003 to 10.252
6. Ear infections/problems can be prevented and treated	86.6	97.5	5.900	1	0.015	OR=6.497 95% CI 1.435 to 29.407
7. It is important when kids are young to look after their ears	92.4	96.3	1.622	1	0.203	OR=2.418 95% CI 0.621 to 9.413

Table 27: Believe attitudinal statements about ear problems by campaign exposure at follow-up – unadjusted odds ratio

Statement	Not exposed %	Exposed %	chi-square χ^2	df	p-value	OR
1. Having lots of ear infections can cause hearing loss	75.6	86.4	3.507	1	0.061	OR=2.051 95% CI 0.958 to 4.389
2. Kids with hearing loss can have trouble with their speech / language development	80.7	88.9	2.421	1	0.120	OR=1.917 95% CI 0.837 to 4.391
3. Ear infections are a normal part of growing up for Aboriginal/Torres Strait Islander kids	40.3	50.6	2.063	1	0.151	OR=1.516 95% CI 0.858 to 2.679
4. Kids with hearing loss can have trouble at school	85.7	93.8	3.240	1	0.072	OR=2.533 95% CI 0.895 to 7.170
5. Ear health is very important	93.3	96.3	0.845	1	0.358	OR=1.874 95% CI 0.482 to 7.287
6. Ear infections/problems can be prevented and treated	84.9	93.8	3.796	1	0.051	OR=2.709 95% CI 0.963 to 7.622
7. It is important when kids are young to look after their ears	94.1	96.3	0.482	1	0.488	OR=1.625 95% CI 0.408 to 6.479

Table 28: Believe attitudinal statements about ear problems by campaign exposure at follow-up – adjusted odds ratio

Statement	Not exposed %	Exposed %	Wald χ^2	df	p-value	OR
1. Having lots of ear infections can cause hearing loss	75.6	86.4	5.413	1	0.020	OR=2.661 95% CI 1.167 to 6.069
2. Kids with hearing loss can have trouble with their speech / language development	80.7	88.9	5.308	1	0.021	OR=2.944 95% CI 1.175 to 7.378
3. Ear infections are a normal part of growing up for Aboriginal/Torres Strait Islander kids	40.3	50.6	1.811	1	0.178	OR=1.485 95% CI 0.835 to 2.643
4. Kids with hearing loss can have trouble at school	85.7	93.8	6.591	1	0.010	OR=4.364 95% CI 1.417 to 13.443
5. Ear health is very important	93.3	96.3	0.862	1	0.353	OR=1.923 95% CI 0.484 to 7.640
6. Ear infections/problems can be prevented and treated	84.9	93.8	2.850	1	0.091	OR=2.491 95% CI 0.863 to 7.189
7. It is important when kids are young to look after their ears	94.1	96.3	0.693	1	0.405	OR=1.827 95% CI 0.442 to 7.551

Appendix 6 – Survey participant profile tables

Table 29: Sample profile – age

Age	Baseline % n=199	Follow-up % n=199
15-19	9.5	7.5
20-25	29.6	25.1
26-30	27.1	21.1
31-35	13.6	14.6
36-40	9.5	11.1
41-45	5.0	9.0
46-50	2.0	4.0
Above 50	3.5	7.5

Table 30: Sample profile – number of children aged 0-5

Number of children under 5	Baseline % n=199	Follow-up % n=200
1	55.8	56.5
2	33.7	30.5
3	6.5	9.0
4 or more	4.0	4.0

Table 31: Sample profile – employment status

Employment status	Baseline % n=197	Follow-up % n=200
Working	30.5	27.0
Studying	4.6	5.0
Both studying and working	2.0	6.0
Not working	62.9	62.0

Table 32: Sample profile – employment type

Employment type	Baseline % n=71	Follow-up % n=64
Full time	52.1	53.1
Part time	38.0	35.9
Casual	9.9	10.9

Table 33: Sample profile – education level

Education level	Baseline % n=196	Follow-up % n=200
Up to year 10	30.6	20.5
Year 10 or equivalent	21.9	24.5
Year 11 or equivalent	12.2	19.5
Year 12 or equivalent	18.4	18.0
TAFE, diploma, certificate	11.2	10.0
University degree	5.6	7.5

Table 34: Sample profile – regional location

Regional Location	Baseline % n=200	Follow-up % n=200
Major city	20.0	22.0
Inner/outer regional	50.0	38.0
Remote/very remote	30.0	40.0

Table 35: Profile of exposed and not exposed segments – age

Age	Not exposed % n=119	Exposed % n=81
15-19	8.4	6.2
20-25	25.2	24.7
26-30	21.8	19.8
31-35	11.8	18.5
36-40	10.9	11.1
41-45	10.9	6.2
46-50	3.4	4.9
Above 50	7.6	7.4

Table 36: Profile of exposed and not exposed segments – number of children aged 0-5

Number of children under 5	Not exposed % n=119	Exposed % n=81
1	57.1	55.6
2	34.5	24.7
3	5.0	14.8
4 or more	3.3	5.0

Table 37: Profile of exposed and not exposed segments – employment status

Employment status	Not exposed % n=119	Exposed % n=81
Working	28.6	24.7
Studying	9.2	1.2
Both studying and working	5.0	4.9
Neither studying or working	57.1	69.1

Table 38: Profile of exposed and not exposed segments – employment type

Employment type	Not exposed % n=42	Exposed % n=22
Full time	54.8	50.0
Part time	31.0	45.5
Casual	14.3	4.5

Table 39: Profile of exposed and not exposed segments – education level

Education level	Not exposed % n=119	Exposed % n=81
Up to year 10	20.2	21.0
Year 10 or equivalent	27.7	19.8
Year 11 or equivalent	16.0	24.7
Year 12 or equivalent	16.8	19.8
TAFE, diploma, certificate	11.8	7.4
University degree	7.6	7.4

Table 40: Profile of exposed and not exposed segments – regional location

Regional location	Not exposed % n=119	Exposed % n=81
Major city	26.1	16.0
Inner/Outer regional	39.5	35.8
Remote/very remote	34.5	48.1

Appendix 7 – Data tables for figures

Table for Figure 1: Help seeking behaviour in the last 12 months among follow-up survey participants

Behaviour	Yes % n=200	No % n=200
Taken kids to have ears checked when they did not have any symptoms / signs	54.5	45.5
Asked a doctor, nurse or health worker to check kids' ears when seeing them about something else	57	43
Taken kids to health clinic / doctor when they had problems with their ears	63.5	36.5
Been asked by a doctor, nurse or health worker about kids' ears or offered an ear check for them	71.5	28.5

Table for Figure 2: Self-reported knowledge level of keeping kids' ears healthy at baseline and follow-up

Self-reported knowledge level	Baseline % n=200	Follow-up % n=200
A lot	17	23
A little bit	54	53
Not much	22	16
Hardly anything	8	9

Table for Figure 3: Usual action following symptoms at baseline and follow-up

Action	Baseline % (n=200)	Follow-up not exposed % (n=119)	Follow-up exposed % (n=81)
Go to the health clinic or doctor	79	85	85
Give child Panadol and if it doesn't improve go to doctor	26	17	19
Use traditional or home remedies	3	3	3
Nothing	3	3	4

Table for Figure 4: Proportion who reported knowing ways to prevent ear problems at baseline and follow-up

Reported knowledge	Baseline % (n=200)	Follow-up % (n=200)
Yes	17	23
No	54	53