

Evaluation of the  
influenza immunisation program for Aboriginal  
and Torres Strait Islander children aged  
6 months to <5 years

PROCESS EVALUATION  
&  
COVERAGE REPORT

**FINAL**

**6 February 2018**

## Table of Contents

Acknowledgements .....	3
Executive summary .....	4
Introduction .....	7
1. Process Evaluation .....	8
Background .....	8
Aims .....	8
Methods .....	8
Stakeholder interviews .....	9
Document review .....	9
Ethics .....	9
Results .....	9
Findings from stakeholder interviews .....	9
Implementation issues arising from the stakeholder interviews .....	11
Strengths and challenges .....	25
Process evaluation challenges .....	26
Stakeholder recommendations .....	27
Conclusion .....	27
2. Immunisation Coverage .....	28
Aims .....	28
Methods .....	28
Results .....	28
Conclusion .....	36
References .....	37
Appendix 1: Questionnaire .....	39
Appendix 2: Ethics .....	47

## Acknowledgements

This evaluation was conducted under the funding agreement between the Australian Government Department of Health and the National Centre for Immunisation Research and Surveillance (NCIRS).

This report was prepared by NCIRS staff Aditi Dey, Mohamed Tashani, Katrina Clark, Alexandra Hendry, Frank Beard and Peter McIntyre.

We thank previous NCIRS staff Stephanie Knox, Brendon Kelaher and Craig Thompson for their contribution particularly in interviewing stakeholders and ethics approval processes. We also thank the Australian Government Department of Health for providing their feedback and comments on the draft report.

The authors wish to acknowledge the following key stakeholder groups who participated in the interviews for the process evaluation:

Current and previous state and territory government immunisation program managers and staff

Carolyn Banks (Australian Capital Territory)

Sue Campbell-Lloyd and Su Reid (New South Wales)

Ros Webby (Northern Territory)

Vicki Bryant (Queensland)

Adrienne Storken (South Australia)

Helen Pitcher (Victoria)

Palee Kaur (Western Australia)

Representatives from state or territory Aboriginal Community Controlled Health Service (ACCHS) peak bodies

Representatives from Aboriginal Medical Services

Representatives from Primary Health Networks

Representatives from Public Health Units

General practitioners

General practice nurses

Local council nurses

Community health nurses

## Executive summary

### Introduction

Since 1999, seasonal influenza vaccination has been funded under the National Immunisation Program (NIP) for Aboriginal and Torres Strait Islander people aged 15–49 years with underlying medical conditions and Aboriginal and Torres Strait Islander people aged ≥50 years. In 2009, NIP funding for seasonal influenza vaccination was extended to all Aboriginal and Torres Strait Islander people aged ≥15 years. In March 2015, the Australian Government Minister for Health announced extension of NIP funding for seasonal influenza vaccination for all Aboriginal and Torres Strait Islander children aged 6 months to <5 years. This program commenced in April 2015.

### Aims

We evaluated the implementation of the national influenza immunisation program for Aboriginal and Torres Strait Islander children aged 6 months to <5 years through interviews and coverage as recorded by the Australian Immunisation Register (AIR). The interviews sought the views of key stakeholder groups on the strengths of, and their satisfaction with, the program as well as barriers, challenges and recommendations for improvement.

### Methods

#### Process evaluation

A mixed methods approach was used, which included a review of published peer-reviewed literature and online documents, a short survey and semi-structured interviews with a representative sample of people involved in implementation. The surveys and interviews covered communication and resources; program planning and rollout; service delivery; data collection and reporting; strengths and challenges of the program; and recommendations for similar future programs.

#### Coverage

Using AIR data as at 31 December 2016, we calculated influenza vaccine coverage among children aged 6 months to <5 years identified as Aboriginal and Torres Strait Islander by calendar year and age group (6 months to <1 year; 1 year to <2 years; 2 years to <3 years; 3 years to <4 years; and 4 years to <5 years). The proportion immunised was calculated as the count of those Medicare-registered children in the cohort who had a record of influenza vaccine on the AIR divided by the total number of Medicare-registered children in the cohort.

## Results

### Process evaluation

A total of 42 key stakeholders were interviewed between February 2016 and February 2017. Of these, 33% were from Aboriginal Medical Services (AMS) or peak bodies; 31% were general practitioners or practice nurses; 19% were from Public Health Units or Primary Health Networks; and 17% were jurisdictional program managers or coordinators. The depth of experience among the key stakeholders created a rich source of information for the evaluation.

The process evaluation sample had representatives from all states and territories, and 20% of interviewees were based in a remote or very remote area of Australia. Most (81%) stakeholders had read the fact sheet produced by the Australian Government Department of Health and of these, 51% had distributed it to relevant staff. Most jurisdictions had updated existing resources to include information on influenza vaccination for Aboriginal and Torres Strait Islander children. More than half of the respondents (58%) rated the Australian Government 2015 fact sheet as good or very good, and 38% rated it as average. Almost two-thirds (67%) rated the state/territory information resources as good or very good, and 29% rated them as average. The majority of stakeholders, across all groups, expressed the need to consult the community regarding the design and content of immunisation information resources for Aboriginal and Torres Strait Islander people to ensure that messages and images are relevant and sensitive to the local culture. The majority of stakeholders also suggested that the information resources should be less 'wordy' and have more 'visuals' such as photos and graphs.

Multiple barriers to this program were identified, with all relatively evenly distributed across the stakeholder groups. No particular trends were observed across types of barriers or by provider type. From a range of issues nominated in the survey, 48% of stakeholders identified transport to immunisation services for influenza vaccination as a moderate or major program-specific barrier. Other issues identified as major or moderate barriers, many of which have been reported more broadly in other health service evaluations, included identification of eligible Aboriginal and Torres Strait Islander children (39%); lack of culturally appropriate resources and services (22%); experience of systematic discrimination (14%); and language barriers (9%). When prompted to identify additional barriers, the following program-specific issues were mentioned: the requirement for a second dose in the first year of vaccination (15 respondents); data-related factors (e.g. no recall and reminder systems for

influenza vaccine –13 respondents); provider and community awareness (10 respondents); the gap in eligibility for influenza vaccination of Aboriginal and Torres Strait Islander children aged 5–14 years (difficult to communicate for families with siblings ‘recommended’ the vaccine but not ‘funded’ – 10 respondents); the myth that the ‘flu vaccine gives the flu’ (4 respondents); and other vaccine supply–related factors (e.g. delays in supply, small quantities only able to be ordered at a time – 4 respondents). More general issues around access-related factors (e.g. opening hours, costs, location, lack of bulk billing practices) were identified by 10 respondents. Seven stakeholders also commented that immunisation programs targeted at Aboriginal and Torres Strait Islander people only were not ideal for achieving high coverage, with targeting of the funded program to a limited age group also not ideal given that influenza vaccination is recommended for all Aboriginal and Torres Strait Islander children.

### **Coverage**

National immunisation coverage for influenza vaccine in 2016 for Aboriginal and Torres Strait Islander children aged 6 months to <5 years was low (11.4%) despite the vaccine being funded since 2015. There was substantial variation in 2016 in recorded coverage between the jurisdictions (2.3% in VIC, 3.2% in NSW, 3.3% in TAS, 4.1% in ACT, 6.3% in SA, 12.0% in WA, 12.6% in QLD and 53.7% in the NT). Unlike other vaccines on the NIP, influenza vaccine notifications do not attract notification payments for immunisation providers. As such, influenza vaccine coverage data should be regarded as a minimum estimate due to the potential for under-reporting.

### **Conclusion**

Strategies are required to improve coverage in the national influenza immunisation program to prevent severe morbidity and mortality in this vulnerable population. This could include efforts to address programmatic barriers (particularly transportation, identification of Aboriginal children and cultural appropriateness of services), improve community and provider awareness of the program and make influenza vaccine available to Aboriginal and Torres Strait Islander people of all ages.

## Introduction

Influenza contributes substantially to the global burden of paediatric severe respiratory illness.<sup>1</sup> In Australia, burden of disease from influenza is highest at the extremes of life and is significantly higher among Aboriginal and Torres Strait Islander people of all ages.<sup>2-4</sup> A recent Australian study reported that the majority of influenza-associated hospitalisations were in children aged <5 years (64%), and around 57% involved healthy children.<sup>3</sup> Intensive care unit admission occurred in 8.5%, and 1.5% of all children developed encephalitis.<sup>3</sup> This study highlighted the need to examine alternative strategies, such as universally funded paediatric influenza vaccination, to address disease burden in Australian children.<sup>3</sup> Annual influenza vaccination has been shown to provide protection against infection and associated complications.<sup>5</sup>

Since 1999, seasonal influenza vaccination has been funded under the National Immunisation Program (NIP) for Aboriginal and Torres Strait Islander people aged 15–49 years with underlying medical conditions and all Aboriginal and Torres Strait Islander adults aged ≥50 years.<sup>6</sup> In 2009, NIP funding for seasonal influenza vaccination was extended to all Aboriginal and Torres Strait Islander people aged ≥15 years.

Since 2013, the Australian Technical Advisory Group on Immunisation (ATAGI) has recommended vaccination for all children aged 6 months to <5 years.<sup>7</sup> In February 2013, ATAGI made a particular recommendation in relation to universal influenza vaccination for Aboriginal and Torres Strait Islander children aged 6 months to <5 years on the basis of the high risk and severity of influenza in this group.<sup>6</sup> This recommendation was later endorsed by the Pharmaceutical Benefits Advisory Committee (PBAC) in July 2014.<sup>8</sup> On 17 March 2015, the Australian Government Minister for Health Sussan Ley announced the extension of NIP funding for seasonal influenza vaccination for all Aboriginal and Torres Strait Islander children aged 6 months to <5 years.<sup>9</sup> This program commenced in April 2015.

The National Centre for Immunisation Research and Surveillance (NCIRS), as part of its 2015–2018 funding agreement with the Australian Government Department of Health, undertook the evaluation of the seasonal influenza vaccination program for Aboriginal and Torres Strait Islander children aged 6 months to <5 years. We evaluated the implementation of the program; its progress; identified any factors that could support or hinder the program; and used this information to provide recommendations for improving future national immunisation programs.

# 1. Process Evaluation

## Background

In 2008, Western Australia (WA) funded a universal influenza immunisation program for all children aged 6 months to <5 years.<sup>10</sup> Western Australia continued its universal program in 2015, but changed its vaccine procurement to include an allocation of NIP-funded vaccines from the Australian Government to cover Aboriginal and Torres Strait Islander children in the state.

From 20 April 2015, all other jurisdictions commenced immunising Aboriginal and Torres Strait Islander children aged 6 months to <5 years through general practices and Aboriginal Medical Services (AMSs). This delayed start of the program in 2015 was due to the double strain change in the Southern Hemisphere seasonal influenza vaccine leading to manufacturing delays.<sup>11</sup>

## Aims

The process evaluation aimed to describe the implementation of the program and identify strengths, challenges and satisfaction of key stakeholder groups specific to the introduction of the seasonal influenza vaccination for Aboriginal and Torres Strait Islander children aged 6 months to <5 years. This evaluation also aimed to identify sociocultural barriers to the uptake of the vaccine by Aboriginal and Torres Strait Islander children in addition to providing recommendations to overcome these barriers.

## Methods

A mixed methods approach was used in this evaluation. This included a review of published peer-reviewed literature and online documents, a short survey and semi-structured interviews with key stakeholders involved in the implementation of the influenza immunisation program for Aboriginal and Torres Strait Islander children aged 6 months to <5 years.

Purposive sampling using a sampling matrix was used to ensure representativeness across both policy and program implementation areas in all jurisdictions. The key stakeholders referred additional program implementation personnel for interview where relevant (snow balling sample). Thematic analyses of the data were undertaken.



## Stakeholder interviews

The surveys and interviews covered stakeholders' experience of aspects of the program implementation, including communication and resources; program planning and rollout; service delivery; issues with vaccine supply and vaccine safety; data collection and reporting; strengths and challenges of the program; and recommendations for future national immunisation programs. A sample questionnaire is included in **Appendix 1**.

Stakeholders included jurisdictional immunisation program managers; public health physicians with expertise in Aboriginal and Torres Strait Islander health; representatives of state/territory peak bodies for Aboriginal Community Controlled Health Service (ACCHSs); AMS representatives; Primary Health Network (PHN) representatives; Public Health Unit (PHU) representatives; immunisation coordinators and immunisation providers in state/territory health services; and immunisation providers in local council and general practice settings.

## Document review

Jurisdictions were asked to supply copies of any documentation and information resources around the influenza immunisation program for children, for example, fact sheets, posters and information for immunisation providers.

Each jurisdiction's health department website was searched for any web pages with information and resources relating to the influenza immunisation program for Aboriginal and Torres Strait Islander children.

## Ethics

Ethics approval was obtained from relevant jurisdictional ethics committees (**Appendix 2**).

## Results

### Findings from stakeholder interviews

A total of 85 stakeholders were approached from states and territories involved in the implementation of the program. Of these, 42 stakeholders (49% response rate) agreed to participate; 40 of these completed a short written survey and a semi-structured telephone interview while 2 provided written responses to both survey and questionnaire. Interviews were conducted from February 2016 to February 2017 – this one-year period included the time needed for obtaining ethics approval for interviewing Aboriginal and Torres Strait Islander stakeholders.

Participation was voluntary, so the mix of roles held by key stakeholders in the final sample differed slightly from the original sampling matrix (**Table 1.1**). The depth of experience among the key stakeholders created a rich source of information for the evaluation. The process evaluation sample had representatives from all states and territories (**Table 1.2**). Around 20% of interviewees were based in a remote/very remote area in Australia.

**Table 1.1** Key stakeholders interviewed for process evaluation, by role

	Approached n=85	Participated n=42	Percentage of total participants (%)
Immunisation nurse - AMS	17	9	21
Immunisation nurse - community/public health	12	6	14
Public Health Unit (PHU)	5	5	12
Jurisdictional program manager/staff	8	4	10
GP - private practice	7	4	10
Jurisdictional immunisation coordinator	7	3	7
Primary Health Network (PHN)	12	3	7
Practice nurse - private practice	3	3	7
ACCHS peak body	4	2	5
GP - AMS	9	2	5
Aboriginal health worker - community/public health	1	1	2

**Table 1.2** Key stakeholders interviewed for process evaluation, by jurisdiction

Jurisdiction	Approached n=85	Participated n=42	Percentage of total participants (%)
NSW	16	14	33
QLD	22	12	29
VIC	8	5	12
SA	14	4	10
ACT	3	2	5
NT	6	2	5
TAS	4	2	5
WA	12	1	2

## Implementation issues arising from the stakeholder interviews

### *Program planning and funding*

The majority of jurisdictional program managers/immunisation coordinators reported that the lead time from the announcement had been adequate for the implementation of the program. One manager observed that jurisdictions needed as much lead time as possible to implement changes to the NIP while another manager reported that the jurisdiction had been expecting the program and was well prepared for its introduction.

### *Education*

All PHN stakeholders interviewed mentioned that they had communicated program-related information, including eligibility for the vaccine for Aboriginal and Torres Strait Islander people, to immunisation providers (including AMSs and GPs) in their regular immunisation updates and also as a component of influenza education sessions. One PHN representative advised that they had used a range of platforms such as social media, print media, general practice/AMS information packs and held educational updates, while another PHN representative said that they used their existing network and email distribution lists for informing and educating providers. PHN representatives also reported that community events were used as opportunities to promote immunisation.

Some PHU staff reported that they ran education sessions specific to this program for providers, in addition to their general immunisation updates. Meetings and teleconferences were also held by PHUs to increase awareness among PHU staff. These activities were reported to have been useful. A few GPs and council nurses mentioned that they had not attended any education sessions specifically for this program.

### *Collaboration*

#### **Collaboration with the Aboriginal Community Controlled Health Service sector**

Representatives from all jurisdictions except Tasmania expressed the need for the Aboriginal community to be consulted on the design and content of immunisation information resources for Aboriginal and Torres Strait Islander people to ensure that messages and images are relevant and sensitive to the local culture. Representatives from four jurisdictions (VIC, SA, QLD and the NT) reported having discussions with ACCHS peak bodies early in the planning and roll-out stages of the program. Representatives from three of these jurisdictions (SA, QLD and the NT) said they consulted relevant ACCHS peak bodies in planning and launching the program, while one (VIC) only reported informing the relevant ACCHS peak body of the program.

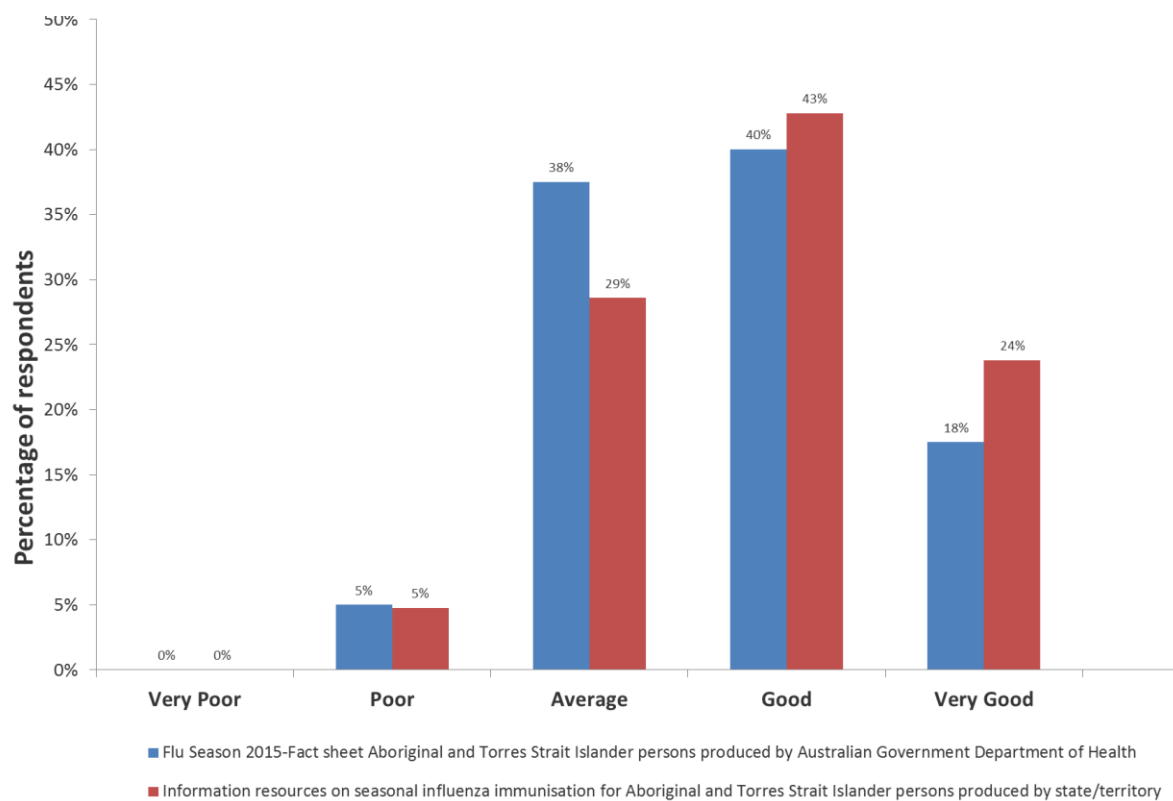
Some PHU representatives and GPs reported having collaborative links with AMSs to promote influenza vaccination and other health assessments for Aboriginal and Torres Strait Islander people.

### *Communication and resources*


In March 2015, the Australian Government Department of Health produced a [fact sheet on the use of the seasonal influenza vaccine for Aboriginal and Torres Strait Islander children aged 6 months to <5 years](#) (**Box 1**). The majority of stakeholders (81%) had read this fact sheet. Of these, around 51% had distributed copies of the fact sheet to relevant staff. Information resources were also produced separately by state/territory government health departments – 55% of stakeholders reported reading these, all of whom had distributed these resources to other relevant staff. Of note, more than 83% of GPs distributed fact sheets and hand-outs and displayed posters in their practice. However, one GP mentioned that he had not received any advertising material or communication in relation to the program.

More than half of the respondents (58%) rated the Australian Government 2015 Fact Sheet as good or very good, 38% rated it as average and 5% as poor. Almost two-thirds (67%) rated the state/territory information resources as good or very good and about 5% rated it as poor excluding those that were unsure (**Figure 1.1**).


**Figure 1.1** Rating of information resources by respondents (n=42)



**Box 1.** Flu Season 2015 Fact Sheet for Aboriginal and Torres Strait Islander people produced by the Australian Government Department of Health



**Australian Government**  
Department of Health



An Australian, State and Territory Governments Initiative

**Fact Sheet**  
Aboriginal and Torres Strait Islander Persons

# Flu Season 2015

**Free flu shot  
available from  
20 April 2015**

### What is the flu?

The flu (influenza) is a virus that spreads from person to person through the air and on your hands. If you get the flu, you might get a high fever, bad cough, joint pains, body aches, have difficulty breathing and feel really tired.

Most people only get sick for a week but some people get sicker and need to go to hospital. The flu can cause pneumonia or bronchitis, and can make some existing illnesses worse. Some people can die from the flu.

### Can the flu be prevented?

Yes, the flu can be prevented.

The flu shot protects you from three different types of flu.

The flu changes all the time, that's why you need to get the flu shot every year.

### Get protected

Get your flu shot early so your body has time to protect itself before the flu season starts in winter.

You will not get flu from the flu shot.

You need the flu shot if you are an Aboriginal and/or Torres Strait Islander person who is:

- Six months to less than five years of age.
- 15 years of age and over.
- Five years of age and over with one of the following medical conditions:
  - Heart disease.
  - Lung conditions, such as asthma.
  - Chronic illnesses that mean you have to see a doctor more often, such as diabetes.
  - Chronic diseases of the nervous system.
  - Low immunity.
  - Renal disease and failure.
- Pregnant.
- Children aged six months to 10 years who are on aspirin as part of their treatment.

### Why?

The flu shot protects your health and decreases hospitalisations and possible death from flu related infections.

If you are pregnant, you are at higher risk of getting sicker with the flu. The flu shot is safe for pregnant women and provides protection for newborn babies during their first months of life.

If you are an Aboriginal and/or Torres Strait Islander person, you can now have a FREE flu shot if you are aged six months to five years of age, 15 years and over, or a child six months or older with an existing medical condition.

### Facts

- Flu shots are the best way to help fight the spread of flu in the community.
- You can get your free flu shot from Aboriginal Medical Services, doctors and immunisation providers.

If you have any questions, talk to your doctor, Aboriginal Health Worker or nurse.

### Current contact list

State and territory contact information	National Aboriginal Community Controlled Health Organisation (NACCHO) Affiliates
ACT (02) 6205 2300	ACT 02 6284 6222
NSW 1300 066 055	NSW 02 9212 4777
NT (08) 8922 8044	NT 08 8944 6666
QLD 13 HEALTH (13 43 25 84)	QLD 07 3328 8500
SA 1300 232 272	SA 08 8273 7200
TAS 1800 671 738	TAS 03 6234 0700
VIC 1300 882 008	VIC 03 9411 9411
WA (08) 9321 1312	WA 08 9227 1631

**For more information about the 2015 seasonal influenza vaccine, visit [immunise.health.gov.au](http://immunise.health.gov.au) or call the Immunise Australia Information line: 1800 671 811**

10839 March 2015

All information in this fact sheet is correct as at March 2015 and valid for the 2015 influenza season.

Several jurisdictional program managers noted that it was difficult for the Commonwealth to produce resources for Aboriginal and Torres Strait Islander people that were appropriate in all settings. A single resource could not reflect the cultural diversity found across the country.

*We had posters made with an Aboriginal AFL footballer .... Well received*

As a result, the Commonwealth material was seen to be rather “*bland*” by jurisdictional program managers.

*It didn't have that flavour of being overly culturally specific and I don't mean that it [didn't] have the artwork, that's not all it's hanging on, it's just that it didn't feel so different from the material for the non-Aboriginal community.*

Five stakeholders commented that the Commonwealth fact sheet was too long and wordy.

*They don't usually read it unless I read the whole thing to them, also no pictures. It needs to be short and simple with pictures.*

Most stakeholders considered that the Commonwealth's role was to provide a uniform message for the campaign, but that the jurisdictions and the Aboriginal and Torres Strait Islander community should have input into the design of resources to ensure that the message fits the local culture. Two models were proposed, either more consultation with jurisdictions and ACCHS peak bodies in the design of resources produced by the Australian Government or more funding for the jurisdictions and ACCHS peak bodies to adapt the message and produce their own local resources.

*And so I think we really need to have some way of channelling resources into the different regions that can then do their targeted health promotion and resources as well as education for providers and that sort of thing.*

**Table 1.3** Information resources on seasonal influenza immunisation for Aboriginal and Torres Strait Islander children

Jurisdiction/organisation	Communication resources/strategies
Northern Territory	<p>Influenza and its prevention - factsheet May 2015, letter to providers - April 2015</p> <p><a href="#">Influenza seasonal vaccine 2015</a>, The Northern Territory Disease Control Bulletin Vol 22, No. 2 June 2015</p> <p>“Make sure your children are protected against the flu” poster and postcard</p> <p>Radio ads in language promoting all Indigenous flu immunisation</p>
Queensland	<p><a href="#">“Influenza (the flu)”</a> web page and <a href="#">fact sheet</a> May 2015</p> <p>Influenza for children under 9 years flow chart for providers</p> <p>Update “<a href="#">Bubba Jabs</a>” schedule poster to include influenza</p> <p>Radio advertisements to remote communities</p>



South Australia	<a href="#">"Annual influenza program"</a> - web page," Flu Vaccine for Kids"- brochure "Give Kids a Free Shot" Aboriginal influenza poster. <a href="#">"Sharp and to the Point"</a> Newsletter March 2015 Flu stickers with scheduled reminder letters
	WA <a href="#">Paediatric Influenza Vaccination Program</a> - web page, WA Health State Funded Vaccination Programs (includes funding for flu vaccine for ALL children aged 6 months to <5 years since 2008) Planned Aboriginal flu brochure for 2016
NSW	"Seasonal Influenza Vaccination 2015" - web page <a href="#">Save the Date</a> App
Victoria	Better Health Channel " <a href="#">Flu (influenza) – immunisation</a> " Newsletter to providers, directed providers to Australian Government resources
Tasmania	Aboriginal and Torres Strait Islander child and adult immunisation schedule March 2015
ACT	Poster, pre-call postcard with flu tick box, web page update Recommendations for the use of annual seasonal influenza vaccine - April 2015, <a href="#">Influenza factsheet Aug2015</a>
QAIHC	Update " <a href="#">Bubba Jabs</a> " schedule poster to include influenza <a href="#">VacciDate</a> App Radio advertisements to remote communities

Most jurisdictions reported updating their existing resources to include influenza vaccination for Aboriginal and Torres Strait Islander children. Four jurisdictions produced specific resources for the program, including radio advertisements for remote communities, posters, fact sheets, reminder postcards, flow chart for providers and articles in newsletters (**Table 1.3**).

One GP thought that the posters were not effective and another GP reported that the use of fact sheets was poor.

Two PHN representatives said that they had to actively look for the resources and download them, as hard copies were not provided to them. They also referred GPs and AMSs to the Immunise Australia website to order resources.

All PHU representatives reported distributing posters, pamphlets and downloaded online brochures. One PHU representative also reported accessing information from relevant journals to prepare for educational presentations. Two PHUs developed their own brochures/pamphlets to promote the influenza program. One PHU also advised that they were planning to order a T-shirt resource for Aboriginal people.



*A T-shirt on a child goes a long way in getting the message across. I would love to create a visual fact sheet.....I have looked at the resources available but they are not culturally friendly.*

In NSW, Aboriginal Immunisation Healthcare Workers (AIHCWs) contacted GPs, AMSs, healthcare facilities and council immunisation clinics to promote the program.

The majority of ACCHS peak body and council representatives advised that posters, factsheets and regular updates were provided by the relevant jurisdictional health department.

In summary, stakeholders recommended the need for culturally appropriate information, including locally relevant images in resources, for this program. They also recommended consultation with Aboriginal and Torres Strait Islander people in the production of these resources and having more radio advertisements in remote communities rather than written materials.

### **Coverage**

Seven stakeholders, mainly jurisdictional program managers and coordinators, commented that targeted programs were not ideal for achieving high coverage. Jurisdictional program managers and coordinators discussed the difficulties of achieving high coverage for influenza vaccine for Aboriginal and Torres Strait Islander children in their jurisdictions. Program managers from two jurisdictions mentioned that children in urban areas usually miss out with targeted programs.

*Universal programs achieve better coverage than targeted programs.*

In addition, immunisation providers mentioned that they were busy with many target groups during the influenza season. They perceived that it may be difficult to achieve high coverage for seasonal influenza vaccine.

*There are a lot of different targeted groups for influenza vaccine; Aboriginal children were lost among all the other groups.*

Two jurisdictional program managers, five immunisation nurses, two GPs and one PHU staff questioned the reasoning for not offering the vaccine to all Aboriginal and Torres Strait Islander people, including those aged 5 to 14 years. It was reported that families want all their members vaccinated and that it is easier for providers to offer the vaccine to everyone in the community.

*How practical it is to leave whatever age groups there are out, and how more expensive that is really to vaccinate just the whole community, is that easier? I suppose from a practical perspective. And so I think that probably caused a little bit of problems in some of the communities about “well why can’t we just give it to everybody?”*

Four jurisdictional program managers commented that achieving and maintaining high coverage is challenging, as influenza vaccine needs to be given each season and is not a high priority for providers and Aboriginal Health Workers. One program manager also noted that many Aboriginal and Torres Strait Islander children are on catch-up schedules and receiving a lot of vaccines, so influenza is usually the one that is dropped or postponed.

Stakeholders generally reported that some immunisation providers did not see influenza vaccination as a health priority for children. It was mentioned that providers and parents were particularly wary about safety of the vaccine in WA.

On a positive note, one PHN stakeholder mentioned that in very disadvantaged areas with low vaccine uptake, there were ‘non-GP’ services for home visits offering catch-up vaccination, which also collaborated with the ‘closing the gap’ team encouraging people to get immunised.

The jurisdictional program manager from the NT identified potential reasons for coverage being highest in their jurisdiction:

*One reason could be that all the remote NT government clinic data would be transmitted to AIR as the NT immunisation register enters this data. We do also have it as a high priority for all Indigenous children and it is added to the care plans for NT government clinics and recall lists are sent out with influenza vaccine to all remote clinics.*

The jurisdictional program manager from QLD also identified potential reasons for coverage being higher in their jurisdiction than most others:

*It is difficult to gauge what role VIVAS could have played however providers in north Queensland, especially since most of them are Queensland Health facilities would have been reporting to VIVAS and therefore the data collection and accuracy may have been more complete. We also included in our messaging to all Queensland providers that all childhood flu vaccinations should and could be reported to ACIR/AIR.*

In summary, stakeholders recommended that influenza vaccine be available for all Aboriginal and Torres Strait Islander people, including those aged 5 to 14 years, and that home visits also be available to improve vaccine uptake in this population. Also, prioritising influenza vaccination, adding it to care plans, recall lists and messaging directly to providers could improve uptake of the vaccine.

### *Indigenous identification*

The extent of Indigenous identification has an effect on coverage. In WA, which has had a funded universal childhood influenza immunisation program since 2008, identification of eligible Aboriginal and Torres Strait Islander children was reported to be good by the relevant jurisdictional program manager. Two other program managers thought that their jurisdictions were doing well with identifying eligible Aboriginal and Torres Strait Islander children. However, four program managers reported problems with providers identifying Aboriginal and Torres Strait Islander people, especially in general practice.

*I honestly think, and it's probably myself as well, that the providers don't ask basically.*

One jurisdictional representative noted that prior to the roll-out of the program, posters were displayed in practice waiting rooms encouraging Aboriginal and Torres Strait Islander people to self-identify to their providers.

### *The vaccine*

In 2015, the first year of roll-out of the program, the paediatric influenza vaccine supply was later than usual (vaccine was available from 20 April). Some GP respondents reported that providers gave half dose of the adult trivalent influenza vaccine. Late vaccine supply was also perceived as affecting providers' credibility, with one AMS representative stating that this delay was frustrating.

*Restrictions on initial stock mean that when clinics run out of supply in the first week the campaign runs out of steam*

Four PHU stakeholders stated that there were delays in supply and complained that only small amounts could be ordered monthly from the state vaccine centre. This hampered providers that had a high percentage of Aboriginal and Torres Strait Islander patients in undertaking opportunistic vaccination and in scheduling future appointments due to the uncertainties regarding supply.

In 2016, the second year of the program, several jurisdictional program managers reported that packs of five paediatric quadrivalent influenza vaccines (QIV) were hard to allocate efficiently and there were concerns and confusion among providers.

*Paediatric QIV vaccine could cause confusion for providers..... Providers could not use half adult dose of QIV for children.....Some providers want to give 2 doses of QIV paediatric vaccine to adults.*

Most of the PHN, PHU and GP stakeholders stated that there was no leakage of vaccine to non-targeted population. However, two AMS and one PHU respondent reported some leakage to older siblings.

*It was occasional but not a big leakage, the community health nurses usually stick to the rules, but the leakage occurs at GP land.*

ACCHS peak body representatives also reported that leakage can occur when a family has both Aboriginal and Torres Strait Islander and non-Indigenous children residing together.

### **Vaccine safety**

Five jurisdictional program managers and coordinators reported no safety concerns about the influenza vaccine for Aboriginal and Torres Strait Islander children. However, one program coordinator (from WA) reported that perceptions of the safety of influenza vaccine for children still caused concern for parents and providers in that jurisdiction.

One AMS representative and other stakeholders, including two program managers and one PHU staff, mentioned that occasionally some parents are reluctant to vaccinate their children because they say that vaccines “give the flu”.

*Difficult to dispel this myth*

### **Data**

Three jurisdictional program managers indicated that databases/registries (births and immunisation) and medical software were potentially better sources of identification of Aboriginal and Torres Strait Islander children than the (AIR).

*Jurisdictions have a role in keeping AIR records up to date and accurate. Providers are often too busy to be reliably recording doses and updating patient details on AIR.*

The transfer of immunisation information between practices, PHUs and the AIR was also perceived by 13 stakeholders as a challenge, including the absence of recall systems for influenza vaccines. One GP complained of frequent software ‘glitches’ where entered immunisation data did not get transmitted to ACIR/AIR.

*ACIR has not been reliable since it is up to providers to a) ask the question and b) tick the box on ACIR. Both of these are not happening in every case.*

*Since there is no payment for recording an influenza vaccine encounter, some providers do not do it.*

Another PHU respondent reported that an issue with some AMSs and GPs is that they do not have the latest version of the relevant practice software.

*You need the latest updated practice software to ensure that all the vaccines get communicated to the AIR correctly*

Ten stakeholders, including five jurisdictional program managers, two PHU staff, two PHN staff and one GP, mentioned about not receiving timely influenza coverage data from AIR. All of these stakeholders also recommended that they should have the ability to generate lists of children overdue for influenza vaccine from the AIR.

### **Barriers to immunisation**

Multiple barriers to this program were identified, with all relatively evenly distributed across the stakeholder groups. From a range of issues nominated in the survey, 48% of stakeholders identified transport to immunisation services for influenza vaccination as a moderate or major program-specific barrier, as shown in **Table 1.4**. Other issues identified as major or moderate barriers, many of which have been reported more broadly in other health service evaluations, included identification of eligible Aboriginal and Torres Strait Islander children (39%); lack of culturally appropriate resources and services (22%); experience of systematic discrimination (14%); and language barriers (9%).

**Table 1.4** Perception of barriers to seasonal influenza vaccination in Aboriginal and Torres Strait Islander people

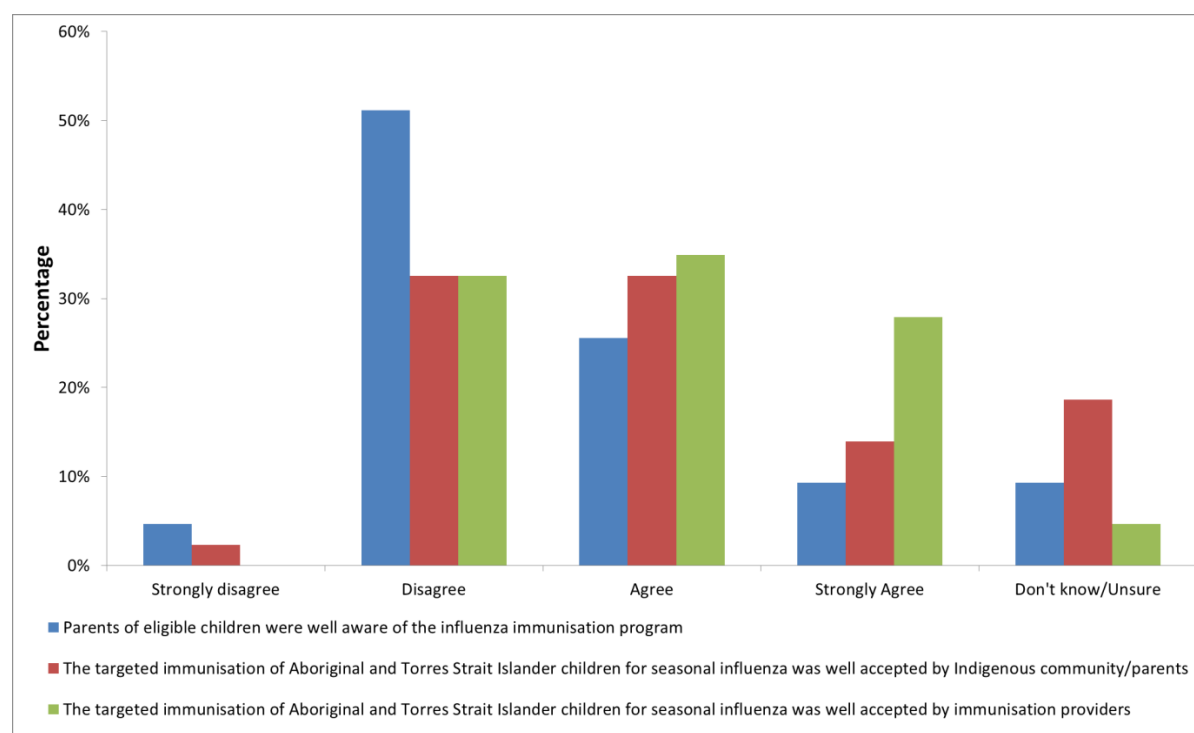
	<b>Not a barrier</b> n(%)	<b>Minor barrier</b> n(%)	<b>Moderate-Major barrier</b> n(%)	<b>Unsure/ N/A</b> n(%)
<b>Identification of eligible Aboriginal and Torres Strait Islander children</b>	14 (34)	8 (20)	16 (39)	3 (7)
<b>Language barriers</b>	27 (66)	4 (10)	4 (10)	6 (15)
<b>Experience of systematic discrimination</b>	11 (26)	8 (19)	6 (14)	17 (40)
<b>Experience of direct (one to one)</b>	13 (31)	5 (12)	2 (5)	22 (52)

<b>discrimination</b>				
<b>Lack of culturally appropriate services</b>	13 (32)	15 (37)	9 (22)	4 (10)
<b>Transport to appropriate services</b>	8 (19)	9 (21)	20 (48)	5 (12)

### Awareness and acceptance of program

A total of 56% of stakeholders perceived that parents of eligible children were not aware of the free influenza vaccine and 33% perceived that the program was not well accepted by immunisation providers (**Figure 1.2**). Around 35% perceived that the program was not well accepted by Aboriginal and Torres Strait Islander parents and community (**Figure 1.2**).

**Figure 1.2** Stakeholders' perception of awareness and acceptance of program by parents and providers (n=42)



A total of 19 stakeholders provided additional comments on age eligibility of the vaccine, provider awareness, community awareness and access-related factors, as summarised below.

### **Age eligibility categories too complex**

Seven stakeholders identified eligibility for the influenza vaccine to be a barrier, noting that it was a confusing message that children aged between 6 and 14 years were not eligible for the funded vaccine. They suggested that it would be much easier to explain to providers and the community if the vaccine was for everyone aged 6 months and older.

*The gap is a big problem yeah, because most of the Aboriginal people who bring their children here for influenza vaccine, that's a big feat that they've come here anyway. Then when they get told by the nurse, well children B and C actually don't get it for free because they fit in that age group that's not for free, they kick up a big stink about it. Literally, you run more of a risk of the whole family walking out than vaccinating.*

Stakeholders also mentioned that the influenza vaccine is often given with a scheduled vaccine visit but not thought about when a vaccine is not scheduled, and that families were not reminded in any formal communication.

### **Provider awareness, practice and related factors**

One stakeholder commented that some providers may not know that Aboriginal and Torres Strait children are eligible for a free influenza vaccine.

*GPs may be uncertain about influenza vaccine for children following 2010 Fluvax problems for children and the benefits of influenza vaccine for children not well understood or accepted by GPs.*

Several stakeholders reported that some providers view the influenza vaccination program as 'optional' in contrast to the other vaccines on the NIP and that some would only vaccinate Aboriginal and Torres Strait Islanders children if they think they have a chronic illness. There was a perceived lack of awareness among providers that influenza immunisation is important for Aboriginal and Torres Strait Islander children due to their higher risk of influenza-related illness and hospitalisation and, therefore, they do not promote influenza vaccination to this cohort.

*I think there is potential for the program to be well-accepted and become routine yearly but we need to change mindsets of health professionals so that they are promoting the vaccine. If the provider does not promote it then the clients won't ask for it!!*

Some providers also perceived influenza vaccination as two additional vaccines for Aboriginal and Torres Strait Islander children in an already-crowded immunisation schedule.

*While consenting a child for the first immunisation was often OK, it was difficult to get the follow-up vaccine.*

One immunisation provider reported that influenza vaccinations were usually given after all other issues relating to the clinic visit have been addressed, and could require a further period of 'waiting'. Stakeholders also mentioned that some primary health care providers lack a consistent proactive approach to Aboriginal and Torres Strait Islander identification.

### **Community awareness**

Stakeholders commented on the lack of awareness and participation of Aboriginal and Torres Strait Islander people in this targeted program.

*I don't believe our Aboriginal and Torres Strait Islander community is aware of the influenza program. I don't think a targeted program would encourage influenza vaccinations within this group.*

Stakeholders mentioned that influenza was thought of as an old person's disease and influenza vaccination considered as not needed for children by Aboriginal and Torres Strait Islander people. Also, Aboriginal and Torres Strait Islander children attend primary care mainly when 'sick' and influenza vaccination is not established as an 'annual' health event.

*Flu vaccine does not affect Centrelink payment, therefore there is no need for it in some parents' views.*

Stakeholders also reported that many parents did not want to accept the influenza vaccine as their child was already receiving 3 to 4 injections. They stated they would rather come back on another day but many did not return.

*Parents are concerned over the number of needles the child gets at one visit.*

One stakeholder commented that Aboriginal and Torres Strait Islander children are over-represented in out-of-home-care services (OoHC).

*OoHC children are under-immunised.*

A total of 15 stakeholders also mentioned the challenges of the 2nd dose of the vaccine in the first year of receiving the vaccine.

*I think it's probably the hardest thing is getting them to come back for the second one.*

To improve awareness of influenza vaccines, stakeholders recommended the need to promote the vaccination program to both providers and the public.



### **Access-related factors**

A total of 10 stakeholders commented that access issues, such as opening hours, costs, location in an unfamiliar part of town and lack of bulk billing practices, are perceived barriers to attendance by Aboriginal and Torres Strait Islander people. In addition, Aboriginal and Torres Strait Islander people are a transient population spread and often access health services through multiple settings/providers (e.g. AMSs, GPs and maternal and child health clinics). These factors were considered to increase the difficulty of targeting immunisation to Aboriginal and Torres Strait Islander people.

### **Myth that the “flu vaccine gives the flu”**

There are widespread misconceptions/myths about influenza vaccination. Four stakeholders mentioned that the myth that “flu vaccine gives the flu” is a barrier to immunisation for Aboriginal and Torres Strait Islander people, with many parents holding a belief that the influenza vaccine had made them or someone they knew sick after receiving it. Educating parents on the safety of the vaccine and effectiveness was reported to soften most of these views but this was very difficult.

*It was anecdotal, strong and passed through the grapevine about people who got "really sick" in hospital after getting flu vaccine. I was told that a nurse in ED told one family that you would have got sick from the needle.*

Five stakeholders recommended educating the community and providers on the safety profile of the influenza vaccine and on the importance of the influenza immunisation program.

### **Resources**

Stakeholders reported a lack of culturally appropriate resources for providing specific community/provider education and a lack of funding for developing promotional materials at the local level.

*So whatever resources were produced we distributed but had no additional funding to reproduce any more resources.*

### **Stakeholder perspectives on strengths and challenges of the program**

The above-mentioned challenges and identified strengths are summarised in **Table 1.5**.

**Table 1.5** Strengths and challenges of the program as perceived by stakeholders

Strengths	Challenges
Preventing influenza in Aboriginal and Torres Strait Islander people was considered an important way to protect a vulnerable population.	Targeted programs cannot achieve high coverage.
Free influenza vaccines for Aboriginal and Torres Strait Islander children aged 6 months to <5 years was considered a good initiative.	Influenza vaccination occurs at a very busy time of year with a lot of target groups.
Parents were bringing children in at the clinics and asking for the vaccine.	Raising awareness of influenza as a serious disease is a challenge.
	Convincing providers of the importance of the vaccine for children.
	Convincing providers and parents of the safety of the vaccine.
	Providers are not always asking the identification question, which means eligible children may miss out on vaccine.
	Many providers are not actively promoting the vaccine to children.
	The influenza vaccine is one more needle given to children at a consultation, which is especially difficult in catch-up schedules.
	No recall and reminder systems for influenza vaccine.
	No timely coverage data from AIR.
	Different cultural requirements across the country.
	Myth that the “flu vaccine gives the flu”

### Process evaluation challenges

A few challenges were experienced in our process evaluation. First, there were extended delays in receiving ethics approvals. Second, after obtaining ethics approval, several stakeholders were followed up four or more times to get a response from them. Third, there were delays in getting stakeholders (who had agreed to participate in the study) to provide a convenient date for the interview and complete the online component of the questionnaire.

## Limitation of the study

This process evaluation reflects the views of the limited number (42) of key stakeholders who participated in this evaluation.

## Stakeholder recommendations

- Free influenza vaccine for all Aboriginal and Torres Strait Islander children and adults.
- Emphasise importance of promoting the program at all levels.
- Need local images and culturally appropriate information resources.
- Consultation with Aboriginal and Torres Strait Islander people in the production of resources.
- Radio advertisements in remote communities rather than written materials.
- Educate providers and the community on the safety profile of the influenza vaccine.
- Educate providers, AMS staff and Aboriginal health workers on the importance of the influenza immunisation program.
- Educate midwives to promote the vaccine to pregnant women and their children.
- Ability to generate lists of children overdue for influenza vaccine from the AIR.

## Conclusion

Free influenza vaccines for Aboriginal and Torres Strait Islander children aged 6 months to <5 years was considered a good initiative of the Australian Government Department of Health. However, a range of issues were identified as impediments to the program: transport to immunisation services for influenza vaccination; identification of eligible Aboriginal and Torres Strait Islander children; lack of culturally appropriate resources and services; experience of systematic discrimination; and language barriers. When prompted to identify additional barriers, the following program-specific issues were mentioned: the requirement for a 2nd dose in the first year of vaccination; data-related factors (e.g. no recall and reminder systems for influenza vaccine); provider and community awareness; the gap in eligibility for influenza vaccination of Aboriginal and Torres Strait Islander children aged 5–14 years (inconvenient for families with siblings ‘recommended’ the vaccine but not ‘funded’); the myth that the “flu vaccine gives the flu”; and other vaccine availability–related factors (e.g. delays in supply, small quantities only able to be ordered at a time). More general issues around the targeted program and access-related factors (e.g. opening hours, costs, location, lack of bulk billing practices) were also mentioned by stakeholders. These programmatic issues should be taken into account for improving influenza vaccine uptake in Aboriginal and Torres Strait Islander children aged 6 months to <5 years.

## 2. Immunisation Coverage

### Aim

We assessed immunisation coverage of influenza vaccine in Aboriginal and Torres Strait Islander children aged 6 months to <5 years.

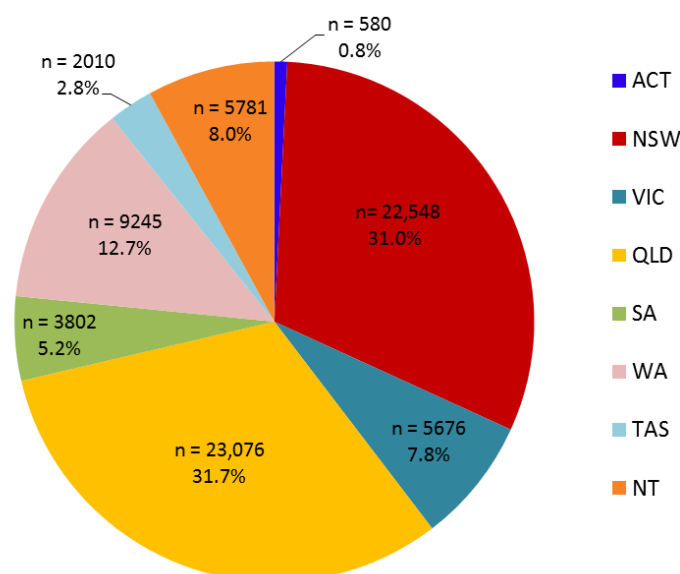
### Methods

Using Australian Immunisation Register (AIR) data as at 31 December 2016, we calculated influenza immunisation coverage for Aboriginal and Torres Strait Islander children aged 6 months to <5 years by calendar year, age group (6 months to <1 year; 1 year to < 2 years; 2 years to <3 years; 3 years to <4 years; and 4 years to <5 years), jurisdiction and by remoteness of the area of residence using the Accessibility/Remoteness Index of Australia (ARIA+).<sup>14</sup> The proportion of children assessed as immunised was calculated as the count of those Medicare-registered children in the cohort who had a record of an influenza vaccine on the AIR divided by the total number of Medicare-registered children in the cohort.

### Results

The population of Aboriginal and Torres Strait Islander children aged 6 months to <5 years in each jurisdiction varies substantially. **Figure 2.1** shows the number of children in each jurisdiction and the percentage this number represents of the total Aboriginal and Torres Strait Islander population nationally within this age group.

**Figure 2.1** Cohort sizes for Aboriginal and Torres Strait Islander children aged 6 months to <5 years in 2016 by jurisdiction.

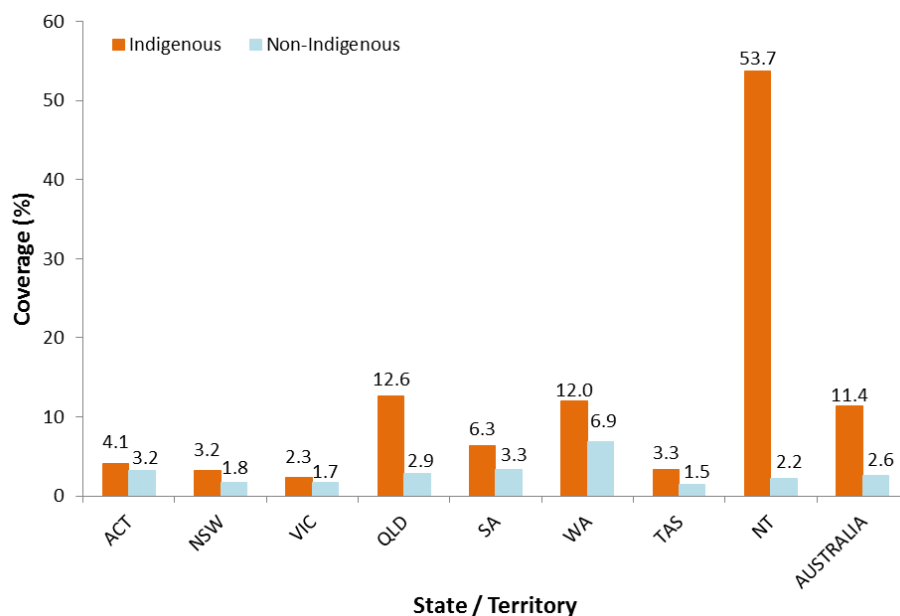


In 2016, a total of 10,308 influenza vaccine doses were recorded as having been administered to Aboriginal and Torres Strait Islander children aged 6 months to <5 years. Of these, 9189 doses (89%) were administered between 1 April 2016 and 30 September 2016. A small number of doses (n=266, 3%) were administered between 1 January 2016 and 31 March 2016, and 853 doses (8%) were administered between 1 October 2016 and 31 December 2016.

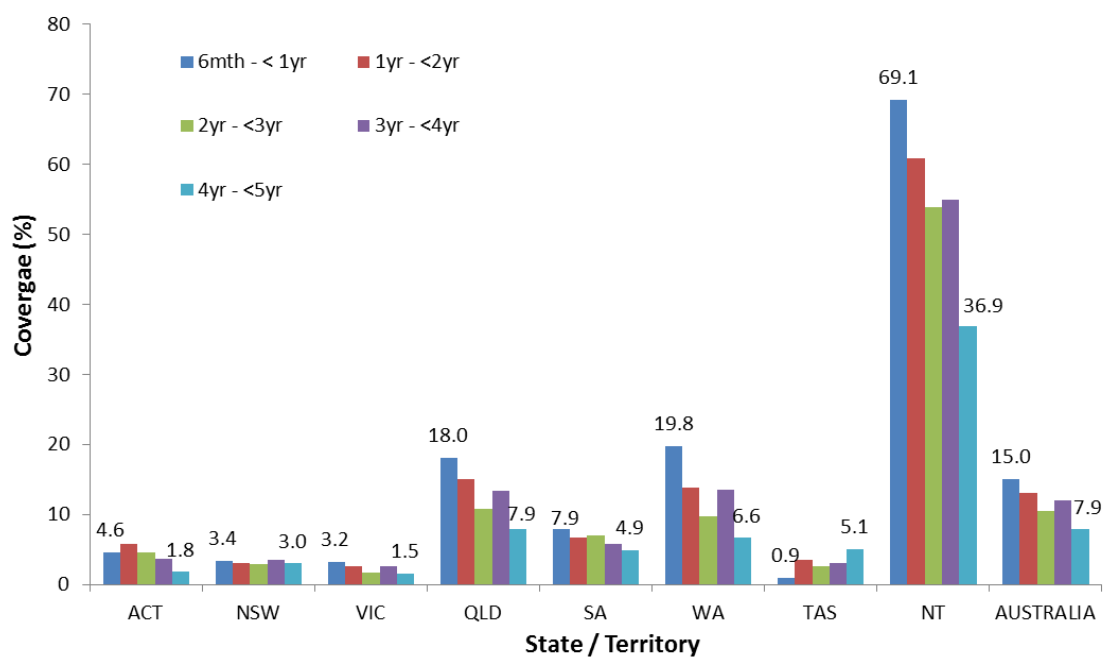
Despite the seasonal influenza vaccine being funded on the NIP for Aboriginal and Torres Strait Islander children aged 6 months to <5 years since 2015, only 11.4% were recorded on the AIR to have received at least one dose in 2016. This is substantially lower than the proportion of Aboriginal and Torres Strait Islander children classified as fully immunised at 12, 24 and 60 months of age in 2016 (91.2%, 89.1% and 95.2%, respectively).<sup>15</sup> Influenza vaccine coverage was 10 percentage points higher in 2016 in Aboriginal and Torres Strait Islander children aged 6 months to <5 years living in regional and remote areas of Australia (14.7%) than the coverage in those living in major cities (4.5%). There was substantial variation in recorded coverage between the jurisdictions – ranging from 2.3% in Victoria to 53.7% in the Northern Territory (**Figure 2.2**). Apart from the Northern Territory, coverage was only above 10% in Queensland and Western Australia (12.6% and 12.0%, respectively). For non-Indigenous children aged 6 months to <5 years, coverage of at least one dose of the seasonal influenza vaccine in 2016 was recorded as 2.6% in Australia (2.2% for those living in regional and remote areas and 2.9% for those living in major cities). Coverage varied by jurisdiction, ranging from 1.5% in Tasmania to 6.9% in Western Australia, where a state-funded seasonal influenza immunisation program has been in place since 2008 for all children aged 6 months to <5 years (**Figure 2.2**).

There was also substantial variation in influenza vaccine coverage by age group in Aboriginal and Torres Strait Islander children in 2016 (**Figure 2.3**). Coverage at a national level was highest in the youngest age group (6 months to <1 year; 15.0%) and lowest in the oldest age group (4 to <5 years; 7.9%). Lower coverage in the 2 to <3 years age group, compared to that in the 3 to <4 years age group, may reflect the lack of any scheduled vaccination milestones in the former.

**Figure 2.2** Coverage of at least one dose of influenza vaccine administered in 2016 to children aged 6 months to <5 years, by jurisdiction and Indigenous status

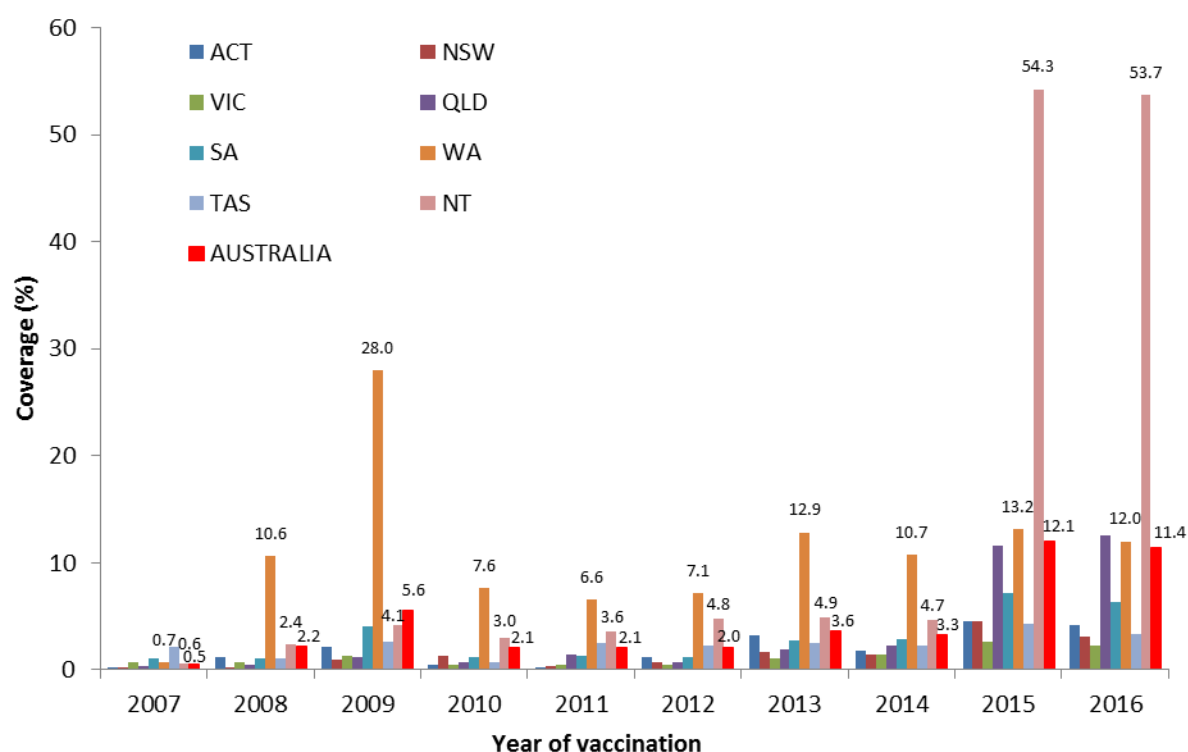


**Figure 2.3** Coverage of at least one dose of influenza vaccine administered in 2016 to Aboriginal and Torres Strait Islander children aged 6 months to <5 years, by jurisdiction and age group



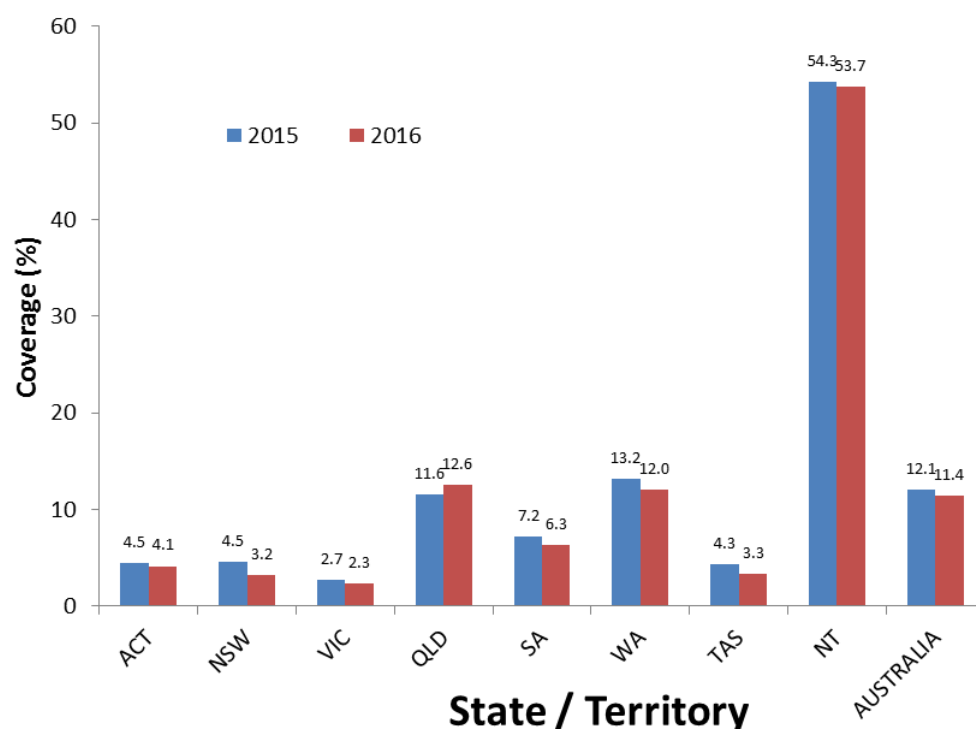
**Figure 2.4** shows the time trend of seasonal influenza vaccine coverage recorded on the AIR between 2007 and 2016 for Aboriginal and Torres Strait Islander children aged 6 months to <5 years. Coverage in Western Australia rose to 28% in 2009 following the introduction of their universal state-funded program in 2008, but then decreased substantially following concerns about the high rate of fever and febrile convulsions post vaccination with one vaccine formulation in 2010. Following the commencement of the nationally funded program for Aboriginal and Torres Strait Islander children aged 6 months to <5 years in 2015, seasonal influenza vaccine coverage rose to 12.1% nationally, with a slight decrease to 11.4% in 2016 (**Figure 2.4**).

**Figure 2.4** Coverage trends for at least one dose of influenza vaccine administered to Aboriginal and Torres Strait Islander children aged 6 months to <5 years, by jurisdiction, 2007–2016



**Figure 2.5** shows the comparison of influenza vaccine coverage in Aboriginal and Torres Strait Islander children aged 6 months to <5 years in 2015 and 2016, by jurisdiction. Coverage decreased slightly between 2015 and 2016 in all jurisdictions except Queensland.

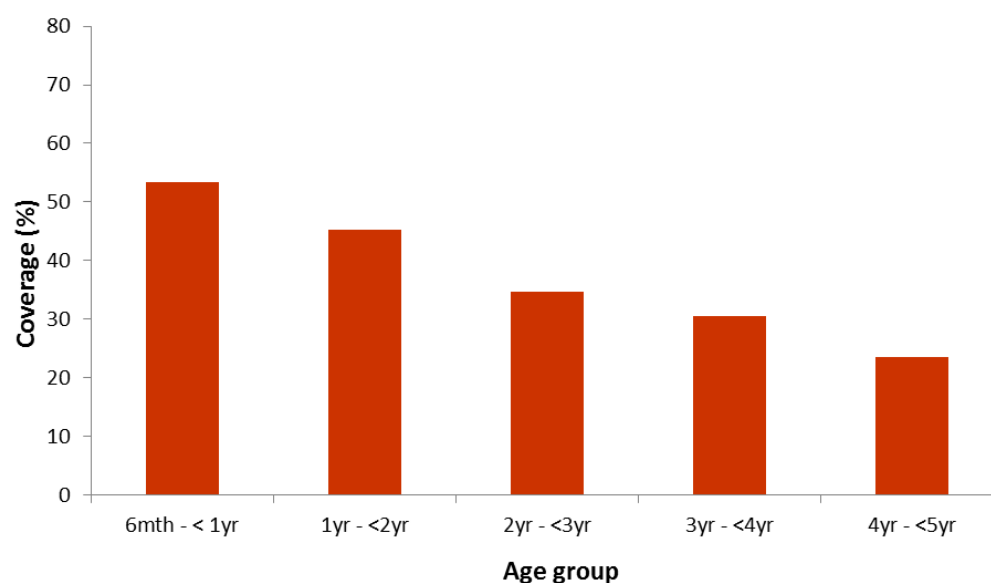
**Figure 2.5** Coverage for at least one dose of influenza vaccine administered to Aboriginal and Torres Strait Islander children aged 6 months to <5 years, 2015–2016 comparison



It is recommended that children under 9 years of age receive two doses of seasonal influenza vaccine in their first year of influenza vaccination. The proportion of Aboriginal and Torres Strait Islander children vaccinated with influenza vaccine in 2016 (with no dose recorded in previous years) who received two doses was highest (53.4%) in the youngest age group (6 months to <1 year) and lowest (23.6%) in those aged 4–5 years (**Figure 2.6**). The decreasing proportion recorded as receiving two doses in older age groups may reflect a greater proportion of children only needing a single dose due to (unreported) vaccination in previous years. However, children in the 6 months to <1 year age group would be expected to need two doses, as they are unlikely to have received doses in the previous year. The lower than expected proportion in this age group recorded as receiving two doses in 2016 may reflect a lack of adherence to dosing recommendations, but could also be partly due to under-reporting.



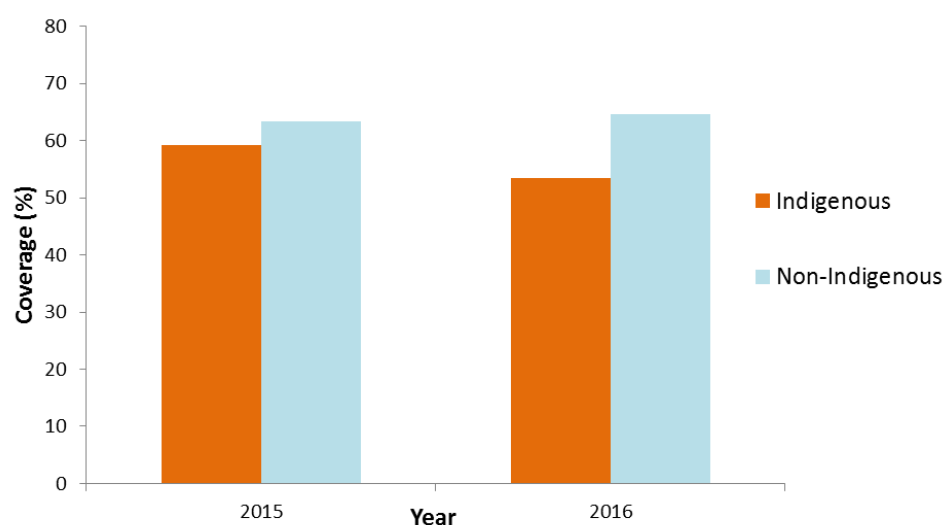
**Figure 2.6** Coverage of 2 doses of influenza vaccine administered to Aboriginal and Torres Strait Islander children aged 6 months to <5 years (with no previous recorded dose)\* by age group, Australia, 2016



\* Calculated as the percentage of children recorded as receiving their first dose of seasonal influenza vaccine in 2016 followed by a second dose in the same year.

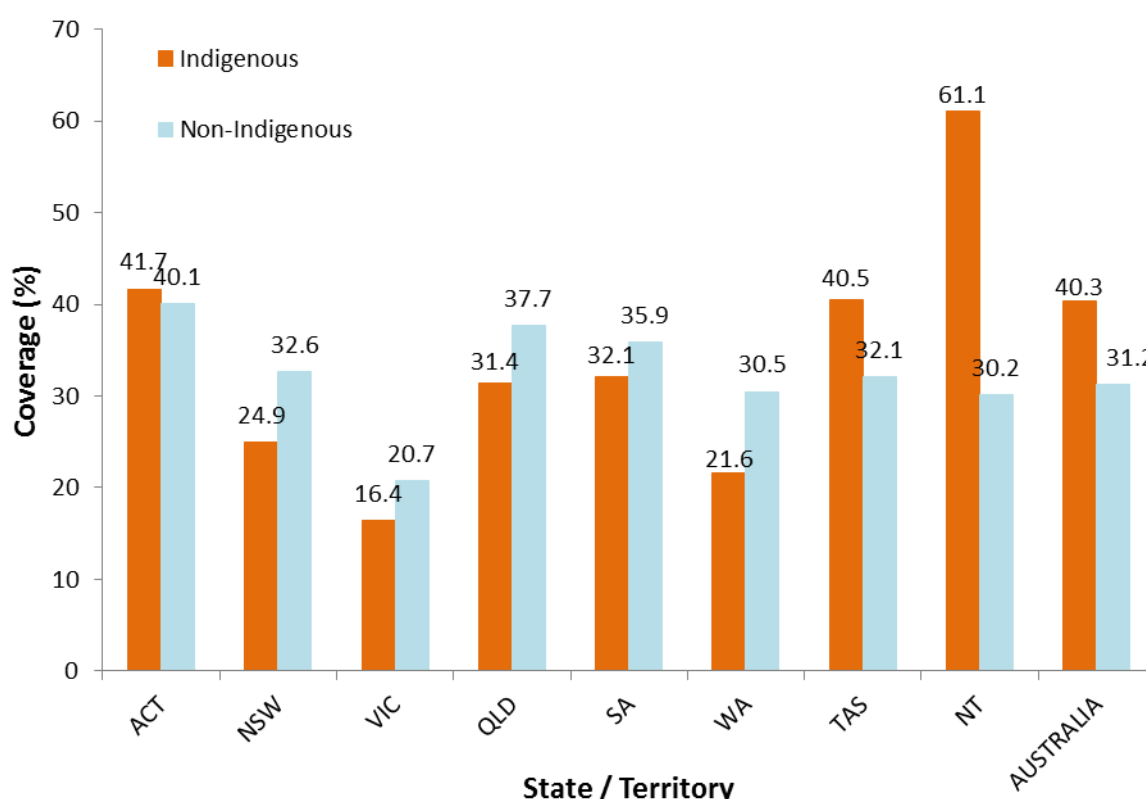
The proportion of vaccinated Aboriginal and Torres Strait Islander children aged 6 months to <5 year in Australia who received two doses in 2015 and 2016 was 59.2% and 53.4%, respectively, while in non-Indigenous children the proportion was slightly higher at 63.4% and 64.6%, respectively (**Figure 2.7**).

**Figure 2.7** Proportion of vaccinated children aged 6 months to <1 year receiving 2 doses of influenza vaccine in the same year, by Indigenous status, Australia, 2015–2016 comparison



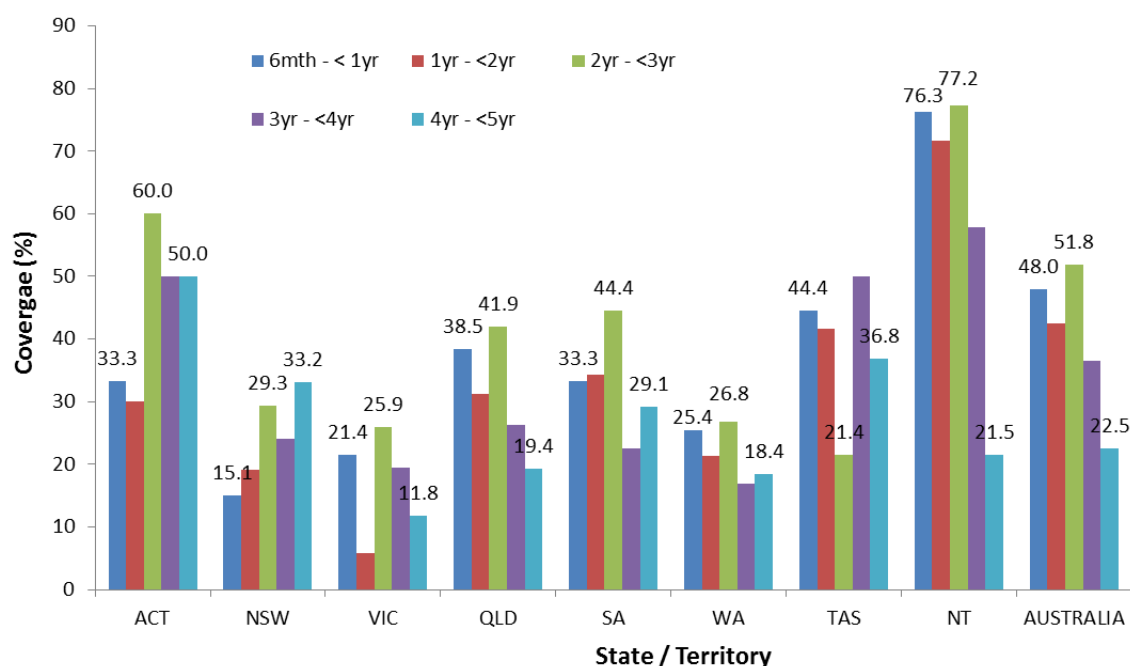
Levels of reported sequential dosing in both 2015 and 2016 varied substantially by jurisdiction and Indigenous status: in Aboriginal and Torres Strait Islander children aged 6 months to <5 years it ranged from 61.1% in the Northern Territory to 16.4% in Victoria and in non-Indigenous children from 40.1% in the Australian Capital Territory to 20.7% in Victoria (**Figure 2.8**).

**Figure 2.8** Coverage of children vaccinated with at least one dose of influenza vaccine in 2016 after receiving at least one dose of influenza vaccine in 2015, aged 6 months to <5 years (when vaccinated in 2015), by jurisdiction and Indigenous status



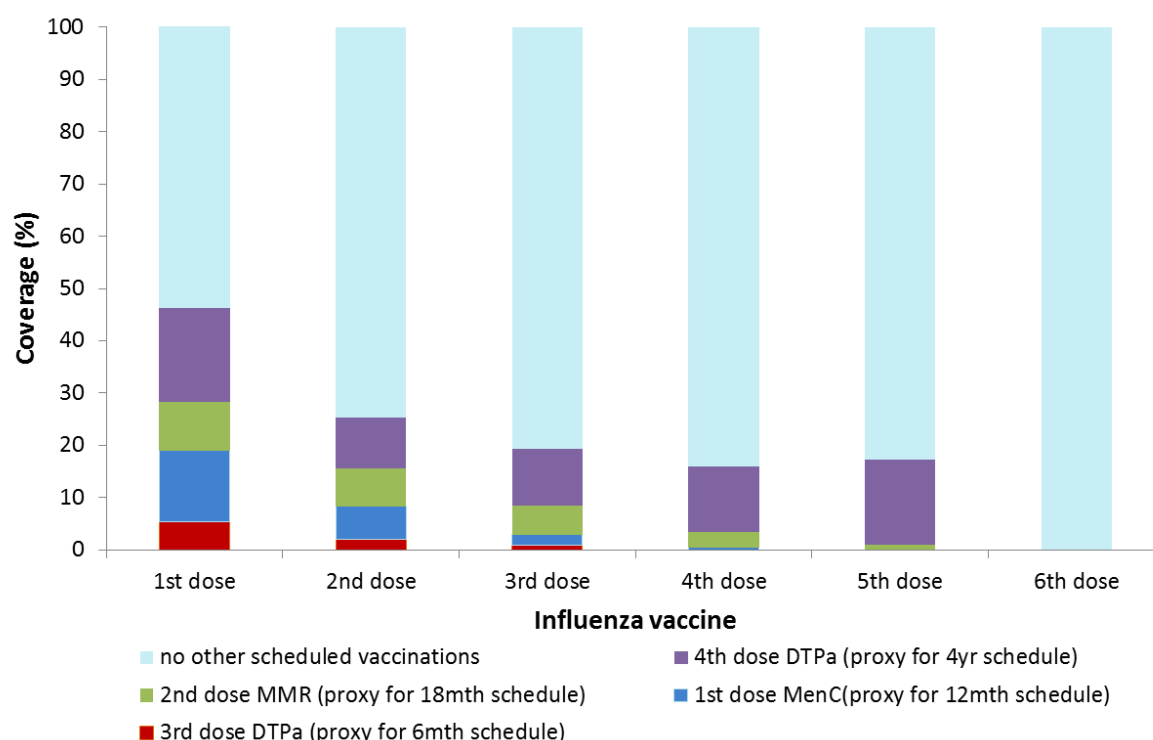
Levels of reported sequential dosing in both 2015 and 2016 in Aboriginal and Torres Strait Islander children varied substantially by age group and jurisdiction (**Figure 2.9**). It was highest (48% and 52%, respectively) in children aged 6 months to <1 year or 2 to <3 years in 2015 and lowest (22.5%) in children aged 4 to <5yrs in 2015, although some of these children would no longer have been eligible for a funded seasonal influenza vaccine in 2016.

**Figure 2.9** Influenza vaccine coverage of Aboriginal and Torres Strait Islander children vaccinated with at least one dose in 2016 after receiving at least one dose in 2015, aged 6 months to <5 years (when vaccinated in 2015) by jurisdiction and age group



**Figure 2.10** shows the percentage of influenza vaccines given to Aboriginal and Torres Strait Islander children aged 6 months to <5 years on the same day as their other routine scheduled childhood vaccines. More than half received their first reported dose of influenza vaccine on a separate day to other scheduled vaccines. This proportion increased with subsequent doses. This likely reflects subsequent doses being predominantly given at older ages where there are less scheduled vaccination points. Of those receiving an influenza vaccine on the same day as other scheduled vaccines, the largest proportion was given vaccines due at the 4-year-old milestone. This may reflect less frequent visits of older children to providers and hence less opportunities for vaccination at other times.

**Figure 2.10** Proportion of influenza vaccines given at the same time as other scheduled childhood vaccines, Australia, 2016



## Conclusion

Immunisation coverage for influenza vaccine in Aboriginal and Torres Strait Islander children aged 6 months to <5 years in 2016 was low (11.4%) despite having been funded since 2015. There was substantial variation in recorded coverage between the jurisdictions (2.3% in VIC, 3.2% in NSW, 3.3% in TAS, 4.1% in ACT, 6.3% in SA, 12.0% in WA, 12.6% in QLD and 53.7% in the NT). Unlike other vaccines on the NIP, influenza vaccine notifications do not attract notification payments for immunisation providers. As such, influenza vaccine coverage data should be regarded as a minimum estimate due to the potential for under-reporting. Strategies are required to improve coverage in this program to prevent severe morbidity and mortality in this vulnerable population.

## References

1. Lafond KE, Nair H, Rasooly MH, et al. Global Role and Burden of Influenza in Pediatric Respiratory Hospitalizations, 1982-2012: A Systematic Analysis. *PLoS Med* 2016;13:e1001977.
2. Naidu L, Chiu C, Habig A, et al. Vaccine preventable diseases and vaccination coverage in Aboriginal and Torres Strait Islander people, Australia 2006–2010. *Communicable Diseases Intelligence* 2013;37 Suppl:S1-S92.
3. Li-Kim-Moy J, Yin JK, Blyth CC, et al. Influenza hospitalizations in Australian children. *Epidemiol Infect* 2017;1-10.
4. Li-Kim-Moy J, Yin JK, Patel C, et al. Australian vaccine preventable disease epidemiological review series: Influenza 2006 to 2015. *Commun Dis Intell Q Rep* 2016;40:E482-e95.
5. World Health Organization. Influenza. Available from: <http://www.who.int/mediacentre/factsheets/fs211/en/> (Accessed 20 March 2016).
6. Australian Technical Advisory Group on Immunisation. Australian Technical Advisory Group on Immunisation (ATAGI) Bulletin 50th Meeting: 21–22 February 2013. 2013. Available from: <http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/atagi-meet50bulletin> (Accessed 12 August 2015).
7. Australian Technical Advisory Group on Immunisation (ATAGI). *The Australian immunisation handbook*. 10th ed. Canberra: Australian Government Department of Health and Ageing; 2013.
8. Pharmaceutical Benefits Advisory Committee. July 2014 PBAC meeting positive recommendations. 2014. Available from: <http://www.pbs.gov.au/industry/listing/elements/pbac-meetings/pbac-outcomes/2014-07/positive-recommendations.docx> (Accessed 12 August 2015).
9. Ley S. Media release: Free flu vaccines for Indigenous children. 2015. Available from: <http://www.health.gov.au/internet/ministers/publishing.nsf/Content/health-mediarel-yr2015-ley018.htm> (Accessed 12 August 2015).
10. National Centre for Immunisation Research and Surveillance (NCIRS). History of vaccination in Australia: Significant events in influenza vaccination practice in Australia. Available from: [http://www.ncirs.edu.au/assets/provider\\_resources/history/Influenza-history-November-2016.pdf](http://www.ncirs.edu.au/assets/provider_resources/history/Influenza-history-November-2016.pdf) (Accessed 20 March 2017).
11. Australian Technical Advisory Group on Immunisation. ATAGI Bulletin: 56th Meeting, 19 and 20 February 2015. Available from: [http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/DD2C96E525D530FBCA257E4200804E3B/\\$File/ATAGI-Bulletin-56-Feb2015.pdf](http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/DD2C96E525D530FBCA257E4200804E3B/$File/ATAGI-Bulletin-56-Feb2015.pdf) (Accessed 20 March 2017).
12. Administration TG. Seasonal flu vaccine: Investigation into febrile reactions in young children following 2010 seasonal trivalent influenza vaccination. Available from: <https://www.tga.gov.au/alert/seasonal-flu-vaccine-investigation-febrile-reactions-young-children-following-2010-seasonal-trivalent-influenza-vaccination> (Accessed 4 January 2018).

13. Hull BP, Hendry AJ, Dey A, Beard FH, McIntyre P. Immunisation coverage annual report, 2015. Available from: <http://www.ncirs.edu.au/assets/surveillance/coverage/Annual-Immunisation-Coverage-Report-2015.pdf> (Accessed 4 January 2018).
14. Hugo Centre for Migration and Population Research. Accessibility/Remoteness Index of Australia - ARIA++(2011). 2011. Available from: [https://www.adelaide.edu.au/hugo-centre/spatial\\_data/](https://www.adelaide.edu.au/hugo-centre/spatial_data/) (Accessed 17 November 2017).
15. Australian Government Department of Health. AIR - Annual Coverage Historical Data - Aboriginal and Torres Strait Islander Children. 2017. Available from: <http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/acir-ann-hist-data-ATSI-child.htm> (Accessed 4th January 2018).

## Appendix 1: Questionnaire

Sample Questionnaire

### Evaluation of the Influenza Immunisation Program for Aboriginal and Torres Strait Islander Children aged 6-months to <5-years.

#### Introduction

*The National Centre for Immunisation Research and Surveillance (NCIRS) is currently undertaking a process evaluation of the Influenza Vaccination Program for Aboriginal and Torres Strait Islander (Indigenous) children.*

*The results will be provided to the Australian Government and the National Immunisation Committee (NIC) to inform future national vaccination programs.*

- This questionnaire is divided into two parts:
  - **Part A** – these questions are for you to respond to now. Please complete the questions on this form and email to **Mohamed Tashani**  
[mohamed.tashani@health.nsw.gov.au](mailto:mohamed.tashani@health.nsw.gov.au)
  - **Part B** – these questions will be the basis for a telephone interview. They are being provided now to allow you time to reflect on them and collect any supporting information to inform your responses.

*All information you provide will be confidential and the final report to the Department of Health will contain de-identified, summarised information.*

The interview/questionnaire will cover the following

- ✓ Your role during the program
- ✓ Program implementation
- ✓ Communication strategies & resources
- ✓ Data
- ✓ Program strengths and challenges
- ✓ Indigenous sociocultural cultural issues

Interview conducted by:

Interview observed by:

Interview time & Date:

## Part A

*These questions are for you to respond to now. Please provide written responses to these and return to Mohamed Tashani [mohamed.tashani@health.nsw.gov.au](mailto:mohamed.tashani@health.nsw.gov.au)*

<b>1. PERSONAL DETAILS</b>
1.1. Participant job title/s:
1.2. Organisation
1.3. What is your current role in the national influenza immunisation program for Aboriginal and Torres Strait Islander (Indigenous) children?
1.4. Are you an immunisation provider?
1.5. Who else provides vaccinations at your service/clinic?  GPs? Number  RNs? Number  Other providers?  (Please describe)
1.6. How many Aboriginal Health workers are in your organisation?
1.7. Are you based in a Remote/Very Remote area? Yes <input type="checkbox"/> No <input type="checkbox"/>

## 2. INFORMATION RESOURCES

2.1. Please indicate if you used (e.g. Distributed, read) any of the following resources? (Mark all that apply).

	Distributed	Read
<a href="#">Flu Season 2015-Fact sheet Aboriginal and Torres Strait Islander persons</a> (produced by Australian Government Department of Health)	<input type="checkbox"/>	<input type="checkbox"/>
Information resources related to seasonal flu immunisation for Aboriginal and Torres Strait Islander persons produced by your state/territory government health department	<input type="checkbox"/>	<input type="checkbox"/>



2.2. For each of the information resources listed below, please mark the box which best reflects your opinion of the resource. If you are unfamiliar with a resource mark “Unsure”.

	Very Poor	Poor	Average	Good	Very Good	Unsure
Flu Season 2015-Fact sheet Aboriginal and Torres Strait Islander persons (produced by Australian Government Department of Health)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information resources related to seasonal flu immunisation for Aboriginal and Torres Strait Islander persons produced by your state/territory government health department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.3. Please add any of your own comments on the quality of the information resources you have received for this flu immunisation program for children.

### 3. BARRIERS TO IMMUNISATION

3.1. Below are some potential barriers to immunisation faced by Aboriginal and Torres Strait Islander people. Please indicate which factors present barriers to uptake of the influenza vaccine by children in your local area.

	Not a barrier	Minor barrier	Moderate barrier	Major barrier	DK/ Unsure
a. Identification of eligible Aboriginal and Torres Strait Islander children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Language barriers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Experience of systematic discrimination*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Experience of direct (one to one or personal) discrimination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Lack of culturally appropriate services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Transport to appropriate services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Other barriers (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*Systematic discrimination – where some services and activities are set up so that some groups do not feel encouraged to use these services, due perhaps to opening hours, costs, location in an unfamiliar part of town, too much paper work etc.

3.2. Please indicate how much you think the following statements reflect the uptake of the influenza immunisation program for Aboriginal and Torres Strait Islander children in your area

	Strongly disagree	Disagree	Agree	Strongly Agree	DK/ Unsure
a. Parents of eligible children were well aware of the influenza immunisation program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. The targeted immunisation of Aboriginal and Torres Strait Islander children for seasonal influenza was well <b>accepted by Indigenous community/parents.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. The targeted immunisation of Aboriginal and Torres Strait Islander children for seasonal influenza was well <b>accepted by immunisation providers.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.3. Please add any comments on the barriers to immunisation for Aboriginal and Torres Strait Islander children in your area.

## **PART B**

***These questions will be the basis for your telephone interview, written responses are not required***

### **4. PROGRAM PLANNING AND ROLLOUT**

4.1. Could you tell me about how and when were you advised about the new national program for influenza immunization program for Indigenous children?

4.1.i. In your experience was this adequate notice to prepare for the program?

4.2. Were you involved in any planning or preparation activities for the rollout of the program?

4.2.i. Within your own clinic/service?

4.2.ii. In collaboration with other organisations or services? (e.g. with the state/territory health departments, with other Aboriginal Controlled Health Services or other clinics?)

4.2.iii. If yes what were these planning activities?

4.2.iv. Are these collaborations ongoing for the children's flu vaccine program?

4.3. Does your service/clinic receive any extra funding specifically for this program? If yes please describe: (who provided this funding? what is funding used for? Is it recurrent?)

4.4. Did you attend any education sessions specific to the influenza immunisation program for Aboriginal and Torres Strait Islander children?

If yes, please describe (who provided the education? When? How was it delivered? Where? etc.)

4.5. Were there any groups that you or your clinic/service were responsible to inform about the newly funded program?

If so, who and how did you advise them about the program? (e.g. media, letters, workshops, brochures, circulating information resources).

## **5. COMMUNICATION AND RESOURCES**

- 5.1. Has your clinic/service been provided with Indigenous program-specific resources for the Influenza vaccination program for Aboriginal and Torres Strait Islander children (from the Australian Department of Health or jurisdiction or from Aboriginal Medical Service Peak Bodies)?
- 5.2. Has your clinic/service developed any of its own resources for the Influenza vaccination program for Aboriginal and Torres Strait Islander children? If yes, please provide details (eg: Poster, factsheet, what was the main message, where were the resources distributed?)

## **6. SERVICE DELIVERY**

- 6.1. Could you please describe the strategies your clinic/service uses to deliver the flu vaccine program for Indigenous children, such as opportunistic vaccinations, home visiting, outreach clinics?
- 6.2. Are these approaches different to other vaccine programs?
- 6.3. Has your clinic/service developed any particular strategies to identify Indigenous children for this program?
- 6.4. Do you or your clinic/service have a strategy to recall children for their second dose of vaccine or to follow up children for annual influenza vaccinations in subsequent seasons?
- 6.5. Has the timing of doses (ie a seasonal vaccine and the requirement for two doses in in the first year the child is vaccinated) been a barrier to achieving high uptake of the vaccine?
- 6.6. Has there been any location, community or group that has been difficult to reach or where uptake has been lower than average?
- 6.7. What do you think are the reasons for any low uptake in your service area?
- 6.8. Have you encountered any specific cultural issues with providing the influenza vaccine to Indigenous children only? Please describe.
- 6.9. Are there any issues of leakage of the vaccine to non-targeted children?

## **7. THE VACCINE**

- 7.1. Have you experienced any issues with the supply and management of influenza vaccine (i.e. vaccine shortage) for this program?
- 7.2. Have you experienced any issues/problems with the administration of influenza vaccine to Indigenous children?

## 8. ADVERSE EVENTS

8.1. Does your clinic/service actively follow up caregivers/parents after a child's vaccination to check for any adverse events following immunisation? (e.g. by phone, text or email)?

8.2. Have you experienced any concerns about adverse events following immunisation for the influenza vaccine for indigenous children? If so please give details

## 9. DATA

9.1. Have you experienced any issues with your practice and medical software:

Recording or retrieving information identifying Aboriginal and Torres Strait Islander children who are eligible for the flu vaccine?

Recording doses of Trivalent Influenza vaccine?

Any other issues with practice software related to the influenza vaccine program for Aboriginal and Torres Strait Islander children?

9.2. Have you experienced any issues with ACIR :

Recording or retrieving information identifying Aboriginal and Torres Strait Islander children who are eligible for the vaccine?

Recording doses of Trivalent Influenza vaccine?

Any other issues with the ACIR related to the flu vaccine program for Aboriginal and Torres Strait Islander children?

9.3. Have you seen any coverage data on TIV for Aboriginal and Torres Strait Islander children? If yes, who is supplying these reports?

9.4. Do you have any other issues with data recording or reporting with this program?

## 10. STRENGTHS AND CHALLENGES

10.1. From your perspective and compared with other national vaccination programs; what, if any, were the strengths of the implementation of the influenza immunisation program for Indigenous children?

10.2. What, if any, were the challenges regarding the implementation of the influenza immunisation program for Indigenous children?

Have those challenges been resolved? If so, how?

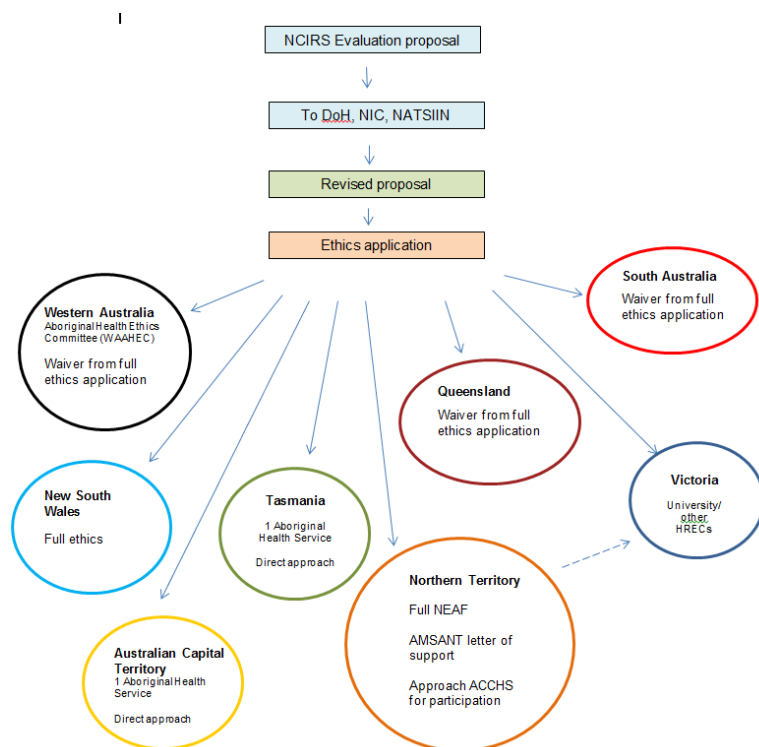
10.3. Based on your experiences with the influenza immunisation program for Indigenous children, do you have any recommendations for planning/implementing future national immunisation programs? Programs specifically for Aboriginal and Torres Strait Islander people?

10.4. Do you have any further comments?

*That is the end of the interview, thank you for your time.*


## Appendix 2: Ethics

### Flow chart



Jurisdiction	Ethics committee	Date of approval	Name of contact
NSW	Aboriginal Health and Medical Research Council (AH&MRC) Ethics Committee	1st September 2016	Val Keed, Chairperson AH&MRC Ethics Committee : ahmrc@ahmrc.org.au
QLD	Queensland Aboriginal and Islander Health Council (QAIHC)	Waiver	QAIHC contact – Vicki Slinko, Email: vicki.slinko@qaihc.com.au, Phone: 07 33288519; Inala Indigenous Health Service – Noel Hayman. Email: noel_hayman@health.qld.gov.au
VIC	Victorian Aboriginal Community Controlled Health Organisation (VACCHO)	Waiver	Helen Pitcher, Jenny Royle. Dr Ewa Piejko: epiejko@murrayphn.org.au Wendy Reid: wendy.reid@nwmpfn.org.au
SA	Aboriginal Health Research Ethics Committee (AHREC)	11/08/2016	Executive Officer, Dr Gokhan Ayturk: Gokhan.Ayturk@ahcsa.org.au
ACT	Direct approach	21/03/2016	Carolyn Banks, ACT Health: (02) 6205 8702
NT	Menzies School of Health Research Human Research Ethics Committee (HREC)	30/09/2016	HREC contact- / Lewis Campbell Michelle Matts Email: ethics@menzies.edu.au
TAS	Direct approach	10/08/2016	Diane Hopper, AMS Director: <a href="http://www.tcen.com.au/virtual-tours/aboriginal-health-services">http://www.tcen.com.au/virtual-tours/aboriginal-health-services</a>
WA	Aboriginal Health Council of Western Australia	Waiver	Tara Pierson, Ethics Officer Aboriginal Health Council of Western Australia 450 Beaufort Street, Highgate WA 6003 Phone: (08) 9227 1631 Fax: (08) 9228 1099

## Sample ethics approval



**menzies**  
school of health research

**POSTAL:** PO BOX 41090, CASUARINA NT 0801, AUSTRALIA  
**Location:** John Mathews Building (Bldg 58),  
Royal Darwin Hospital Campus, Rocklands Drv, Casuarina NT 0810  
**Ph:** (08) 8946 8600 **Fax:** (08) 8946 8664  
**Website:** menzies.edu.au  
**ABN:** 70 413 542 847

1 February 2017

Dr Aditi Dey  
National centre for Immunisation Research and Surveillance  
Locked Bag 4001  
Westmead NSW 2145

**Ethics Administration Office**  
**File Reference Number:** HREC-2016-2648  
**Phone:** (08) 8946 8687 or (08) 8946 8692  
**Email:** [ethics@menzies.edu.au](mailto:ethics@menzies.edu.au)

Dear Dr Dey,

**HREC Reference Number: 2016-2648**  
**Project Title:** *Evaluation of the Influenza Immunisation Program for Aboriginal and Torres Strait Islander children aged 6 months to < 5 years*

Thank you for your email dated 1<sup>st</sup> February 2017. The Human Research Ethics Committee of the Northern Territory Department of Health and Menzies School of Health Research has noted:

- Brendon Kelaher and Craig Thomson are no longer involved in the project.
- Katrina Clark has taken the role of the National Indigenous Immunisation Coordinator.

Please note that all requirements of the original ethical approval for this project still apply.

**Approved Timeline: 24/08/2016 – 01/06/2017**  
**Annual/Final progress report due: 01/06/2017**

Should you wish to discuss the above research project further, please contact the Ethics Administrators via email: [ethics@menzies.edu.au](mailto:ethics@menzies.edu.au) or telephone: (08) 8946 8687 or (08) 8946 8692.

The Human Research Ethics Committee of the Northern Territory Department of Health and Menzies School of Health Research wishes you every continued success in your research.

Yours sincerely,