

Stage 2 – Evaluation of the NSW Aboriginal Immunisation Health Care Worker Program

PROCESS EVALUATION

FINAL

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May 2017

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Acknowledgements

This evaluation was conducted under the funding agreement between the Health Protection New South Wales and the National Centre for Immunisation Research and Surveillance.

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

We thank previous NCIRS staff Stephanie Knox, Brendon Kelaher and Craig Thompson for their contribution particularly in interviewing stakeholders and ethics approval processes.

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

Representatives from Aboriginal Medical Services

Representatives from Primary Health Networks

Representatives from Public Health Units

Representatives from Aboriginal Maternal and Infant Health Services

Aboriginal Liaison Officers

General practitioners

General practice nurses

Abbreviations

AEO Aboriginal Education Officer

AHMRC Aboriginal Health and Medical Research Council

AHW Aboriginal Health Worker

AIHCW Aboriginal Immunisation Healthcare Worker

AIR Australian Immunisation Register

ALO Aboriginal Liaison Officer

AMIHS Aboriginal Maternal and Infant Health Service

AMS Aboriginal Medical Service

CEO Chief Executive Officer

CFC Child and Family Centre

CFHN Child and Family Health Nurse

FTE Full-time equivalent

GP General Practitioner

LHD Local Health District

NAIDOC National Aborigines and Islanders Day Observance Committee

NCIRS National Centre for Immunisation Research and Surveillance

PHN Primary Health Network

PHU Public Health Unit

PN Practice Nurse

VPD Vaccine preventable disease

Executive summary

Vaccine uptake and timeliness among Aboriginal children have generally been poorer than their non-Aboriginal counterparts in Australia. In July 2012, the NSW Ministry of Health established the Aboriginal Immunisation Health Care Worker (AIHCW) program with the aim of closing the gap in immunisation coverage between Aboriginal and non-Aboriginal children. A process evaluation (Stage 1) of the program, based on interviews with Public Health Unit (PHU) Directors, Immunisation Coordinators and AIHCWs, was undertaken by the National Centre for Immunisation Research & Surveillance (NCIRS) in 2015.

In the second stage of this evaluation, we surveyed a wider range of stakeholders not included in Stage 1, to describe collaborations/interactions of AIHCWs; identify programmatic strengths, barriers and challenges, including satisfaction and recommendations of stakeholders.

A process evaluation was undertaken using semi-structured telephone interviews with Aboriginal Liaison Officers (ALOs); Aboriginal Health Workers (AHWs); Aboriginal Maternal and Infant Health Service (AMIHS) staff; immunisation providers in Aboriginal Medical Services (AMSs); immunisation providers in community health and private practice; staff of primary health networks (PHNs) and Aboriginal community representatives.

Ethics approval was received from the Aboriginal Health & Medical Research Council (AH&MRC) of NSW in August 2016, prior to conducting interviews. The interviews were conducted from September 2016 to March 2017.

Seventy-six stakeholders were approached and 39 agreed to participate in the evaluation (51% response rate). They were from AMSs (31%), GPs (15%), community representatives (15%), AMIHS (13%), PHN (13%), ALOs (5%), AHW (5%) and PHU (3%).

The AIHCW program was well received by the majority of stakeholders. Stakeholders reported that AIHCWs supplied promotional and information resources on immunisation (69%); attended community events and outreach clinics/services (64% of respondents); followed up overdue children (51.3%); assisted with recording Aboriginal and Torres Strait Islander status on the Australian immunisation register (41%); and created reports and lists of children overdue for vaccines (38.5%). Some stakeholders stated that setting up community events was one of the most successful activities of the program. Over

half of the respondents (54%) agreed and an additional 13% strongly agreed that overly technical language created barriers to timely immunisation of Aboriginal children in their respective LHDs. The other most commonly reported challenge (67%) was the lack of proper transportation. Stakeholders in their interviews also mentioned the difficulty in following up Aboriginal children for immunisation due to change in address and contact details.

The level of collaboration of AIHCWs with external organisations varied substantially across the state. Stakeholders stressed that promoting the role of AIHCWs to external stakeholders is critical to the success of the position. Some stakeholders suggested that AIHCWs should promote their services more via brochures/pamphlets outlining the services that they could offer. Some stakeholders asked for timely reports of due and overdue children, since they did not receive this service regularly. Also, some stakeholders recommended that AIHCWs should receive standardised training to enable them to provide a range of services, potentially including immunisation outreach services to more effectively address immunisation gaps.

In conclusion, the program was well received by a wide range of stakeholders, though opportunities were identified to further enhance collaborations and promote AIHCW services.

Introduction

Aboriginal children have historically had higher rates of many vaccine preventable diseases (VPDs) at younger ages, than non-Aboriginal children. Many VPDs have more severe outcomes in younger infants, highlighting the importance of timely vaccination of Aboriginal children. However, vaccination coverage has been historically lower for the 12-month and 24-month milestone ages in Aboriginal compared to non-Aboriginal children in NSW. Timeliness has been consistently poorer in Aboriginal children, with fewer Aboriginal children receiving their third dose of diphtheria-tetanus-pertussis vaccine on time. This has been demonstrated to coincide with an increase in hospitalisations in Aboriginal children less than 1 year of age. Several vaccines are funded under the National Immunisation Program specifically for Aboriginal people in certain age and risk groups, due to their higher disease rates. However, vaccination coverage has typically been low in these targeted programs. A range of strategies have been shown to be effective in increasing vaccination coverage in various populations in Australia.

In July 2012, the NSW Ministry of Health provided funding for a three-year pilot project to employ Aboriginal Immunisation Health Care Workers (AIHCWs) in Public Health Units (PHUs) in Local Health Districts (LHDs), with the aim of closing the gap in immunisation coverage between Aboriginal and non-Aboriginal children. The National Centre for Immunisation Research and Surveillance (NCIRS) conducted Stage 1 of the process evaluation of the AIHCW program, which was undertaken between January to June 2015. Stage 1 of the process evaluation included interviews with stakeholders directly involved with the program (Public Health Unit [PHU] directors and immunisation coordinators, AIHCWs, and Health Protection NSW immunisation unit staff).

Aims

In Stage 2, we aimed to evaluate the program using a wider range of stakeholders not included in Stage 1. We explored stakeholders' perception of implementation of the program; collaborations/interactions with AIHCWs; and programmatic strengths, challenges and recommendations.

Methods

This evaluation was conducted using semi-structured telephone interviews. Interviews with Aboriginal stakeholders were conducted by the National Indigenous Immunisation Coordinator based at NCIRS.

Stakeholders interviewed included immunisation providers at Aboriginal Medical Services (AMSs), community health, general practices, hospital Aboriginal Liaison Officers (ALOs), Aboriginal Maternal Infant Health Service (AMIHS) staff, primary health network (PHN) staff and Aboriginal community group representatives.

A sampling matrix was used to ensure representativeness (quota sampling). A combination of purposive and snowball sampling was used for recruitment of stakeholders (see **Appendix 1**).

The chief executive officers (CEOs) of AMSs were approached to seek their support and nominations of relevant staff for interviews. Contact details of ALOs were obtained from the NSW Aboriginal health workers, PHUs and AIHCWs. Contact details of immunisation providers in AMSs were obtained from the Aboriginal Health & Medical Research Council of New South Wales (AH&MRC) and AIHCWs. Immunisation providers in private practice and community health were approached through contacts provided by PHUs and AIHCWs.

Questionnaires

The guestionnaire contained two sections:

- The first included questions on the number of employees in the organisation and their roles and responsibilities. This part of the questionnaire was sent prior to the telephone interview for completion as a written response.
- The second included questions on Aboriginal identification; staff resources; follow-up
 of parents/guardians of Aboriginal children overdue for vaccination; activities to
 promote vaccination; collaboration/interaction with the AIHCWs; programmatic
 strengths, barriers, challenges and recommendations. This part of the questionnaire
 was usually completed via a telephone interview, although a few stakeholders
 provided their responses via email.

Stakeholders were approached initially by a brief telephone call followed by a formal invitation letter sent via email. A response to the email invitation with a set appointment date for the telephone interview was considered as consent to participate.

A sample questionnaire is included in **Appendix 2**.

Telephone interviews were conducted from September 2016 to March 2017.

Ethics

Ethics approval was obtained from the Aboriginal Health and Medical Research Council (AH&MRC) Ethics Committee in NSW on 18th August 2016. Please see **Appendix 3**.

Governance

Oversight and governance of the evaluation were achieved in the following ways:

1) AH&MRC

AH&MRC representatives, at face-to-face meetings with NCIRS research and evaluation staff, provided advice on the design and scope of the project, recruitment and governance. 3-monthly teleconferences with AH&MRC representatives were also held to monitor ongoing conduct of the evaluation. An AH&MRC representative was interviewed as part of the evaluation and the AH&MRC was sent a copy of the draft report for review and comment.

2) The National Aboriginal and Torres Strait Islander Immunisation Network (NATSIIN)

NATSIIN is a national body that provides advice to NCIRS on immunisation program and policy related issues. Current membership includes several Aboriginal people working in state government, and a non-Indigenous person working as a medical practitioner in an AMS in the NT.

Comments on the design of the evaluation were sought from NATSIIN out of session, and the evaluation was listed as a standing agenda item at each quarterly NATSIIN meeting to update on progress and discuss any issues arising from conduct of the evaluation.

3) NSW public health network

PHU staff including directors, immunisation coordinators and AIHCWs had extensive input into the evaluation design and methodology. PHU staff were encouraged to discuss the evaluation with local AMS staff and other Aboriginal community organisations and provide feedback to NCIRS on any issues arising in their areas, from design through to implementation stage. This feedback was provided at regular

network teleconferences at which PHU staff were updated on progress of the evaluation.

AIHCW roles and interactions

The AIHCW positions were established to reduce the disparity in immunisation coverage by 'closing the gap' between Aboriginal and non-Aboriginal children. The role of the positions was to improve immunisation coverage and timeliness in Aboriginal children through community liaison, promotion of immunisation, and follow-up of Aboriginal children due or overdue for vaccination. **Figure 1** shows a flowchart outlining the interactions/collaborations of AIHCWs with relevant stakeholders. Funding for the AIHCW positions is received from the Ministry of Health through the LHDs.

The AIHCWs do not require formal qualifications and are embedded within PHUs, with support and on-the-job training provided by the PHU immunisation coordinator/s and other relevant staff. Training is also provided by Health Protection NSW (HPNSW) through a two-day annual face-to-face immunisation workshop for AIHCWs and immunisation coordinators.

Key performance indicators

Key Performance Indicators (KPIs) for the program were developed at the initiation of the AIHCW program and focused on timely vaccination coverage of Aboriginal children.⁷ These KPIs were expanded subsequently. **Box 1** lists the *Key Performance Indicators 2015/2016* which were in place when the Stage 2 of the evaluation was undertaken.

Box 1. Key performance indicators 2015/2016

Preamble: The principles for the follow-up of Aboriginal children reported as overdue by ACIR (endorsed by AHMRC and NACCHO*) must be complied with at all times in the follow-up of Aboriginal children.

Process KPIs

Submit a 12-month Project Workplan to Health Protection NSW by end January annually using the approved template

Submit a 6-month Project Progress Report to Health Protection NSW by end January and July using the approved template

Ensure a mechanism for senior Aboriginal advisors to provide governance and accountability for the program at least once per year

Implement strategies to:

maintain or increase coverage rates for Aboriginal children less than 7 years of age

promote influenza and pneumococcal vaccination for eligible Aboriginal people under the National Immunisation Program

promote maternal pertussis and influenza vaccination of Aboriginal women

improve Aboriginal identification in immunisation service delivery, including for adolescents as part of the NSW School Vaccination Program

promote influenza vaccination for Aboriginal children less than 5 years of age and notification to the Australian Childhood Immunisation Register (ACIR) Demonstrate collaboration with:

other initiatives/personnel to improve health outcomes; this may include <u>iCanQuit</u>, <u>Get Healthy</u>, <u>Housing for Health</u>, <u>Public Dental Health Care Services</u>, <u>NSW Aboriginal Ear Health Program</u> and <u>Department of Education Aboriginal Education Officers</u>

local maternity services (including Aboriginal Maternal and Infant Health Services to support the early identification and follow-up of new Aboriginal mothers, particularly in relation to hepatitis B, pertussis and influenza

Attendance of Aboriginal Immunisation Health Care Workers at a face-to-face state-wide workshop annually

Outcome KPIs

Annualised increase in the proportion of LHD-resident Aboriginal children defined nationally as fully immunised at 8 months of age (60 days after scheduled third dose of DTPa), 14 months of age (60 days after the first dose of MMR vaccine) and 4 years and 2 months of age (60 days after scheduled second dose of MMR)

An increase in the proportion of LHD-resident Aboriginal children defined nationally as fully immunised at 12-<27 months, 24-<27 months and 60-<63 months of age

The overall activities undertaken by AIHCWs to fulfil the KPIs include the following:

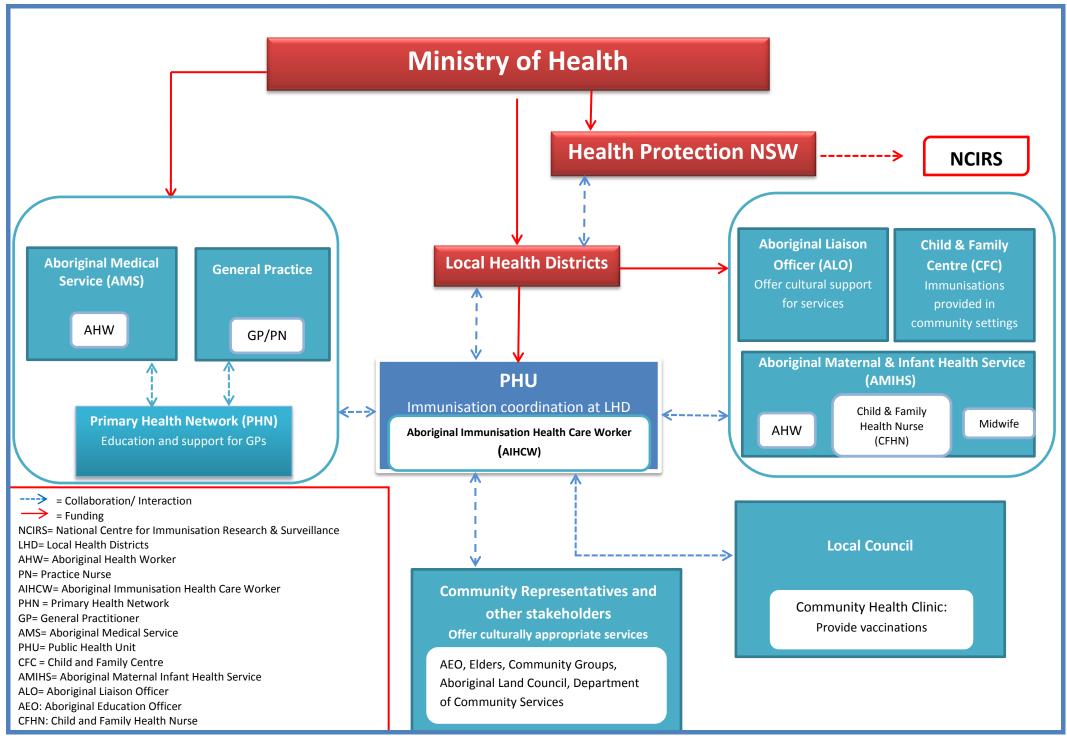
- Identify children overdue for vaccination from the Australian Immunisation Register (AIR)
- Follow up providers and parents of children overdue for vaccination to arrange catchup vaccination
- Update the vaccination status of children listed on the AIR to ensure data accuracy
- Collaborate with AMIHSs to develop systems to proactively engage new mothers with on-time infant immunisation

^{*} National Aboriginal Community Controlled Health Organisation

- Collaborate with AMSs, community health centres and other services to integrate immunisation into routine health delivery
- Work in partnership with Aboriginal child care centres to promote timely vaccination
- Work with immunisation providers and PHNs to encourage the notification of vaccinations to the AIR in a timely manner
- Attend local community events to promote immunisation, including Close the Gap,
 NAIDOC Week and the Aboriginal Rugby League Knockout
- Identify barriers to immunisation and develop appropriate local responses
- Distribute resources in areas of low immunisation coverage

A wide variety of stakeholders such as AMSs, GPs, PHNs, local councils and hospitals (including Child and Family Centres [CFCs], ALOs and AMIHSs) collaborate with AIHCWs, as shown in **Figure 1**.

Figure 1. Flowchart: Interaction of Aboriginal Immunisation Health Care Workers (AIHCWs) with stakeholders



Results

Seventy-six stakeholders were approached, of whom 39 agreed to participate in the evaluation (51% response rate). They were from AMSs (31%), GPs (15%), community representatives (15%), AMIHSs (13%), PHNs (13%) and other groups as shown in **Tables 1a and 1b**.

Table 1a. Participants in the process evaluation, by stakeholder group

Stakeholder group	Number n=39	Percentage (%)
Aboriginal Medical Service (AMS) staff	12	(31)
Community representative	6	(15)
General practitioner (GP) & practice nurses (PN)	6	(15)
Aboriginal Maternal Infant Health Service (AMIHS) staff	5	(13)
Primary Health Network (PHN) staff	5	(13)
Aboriginal Liaison Officer (ALO)	2	(5)
Aboriginal Health Worker (AHW)	2	(5)
Public Health Unit (PHU) staff	1	(3)

The number of healthcare workers/providers who worked in/with each health service differed substantially. For instance, PHNs worked with hundreds of GPs and PNs, whereas private general practices had 2 to 22 GPs and 1- 4 PNs working with them.

Table 1b. Stakeholders by local health district

Local Health District	Approached	Participated
	n=76	n=39
Hunter New England	15	5
Murrumbidgee & Southern New South Wales	10	5
Northern New South Wales & Mid North Coast	9	5
Western Sydney	9	4
Western New South Wales & Far West	7	7
Central Coast	5	4
South Western Sydney	5	2
Illawarra Shoalhaven	5	2
Northern Sydney	3	3
Sydney & South Eastern Sydney	5	1
Nepean Blue Mountains	3	1

Stakeholders' roles/responsibilities

Stakeholders in this evaluation may be categorised as follows:

- Immunisers: GPs, Child and Family Health Nurses (CFHNs), and AMS staff
- Facilitators/Supporters: ALOs, AHWs and PHN staff, and community representatives

GPs/PNs at AMSs and general practices reported that they perform a range of primary healthcare duties such as health assessments, chronic disease management and immunisation. AMSs also have a role in supporting socio-cultural and emotional wellbeing of Aboriginal people and promoting immunisation at the AMS and also at community events and via social media. AMSs provide transport for Aboriginal clients to attend for immunisation and run outreach clinics for immunisation. AMSs also have AHWs who work with midwives and child family nurses to provide socio-cultural and emotional support. PHN staff reported that they provided support and maintained collaborations with the primary health care teams and GPs across their networks. Within some PHNs, Aboriginal outreach workers provided support to Aboriginal people to access mainstream health services. The support provided by Aboriginal outreach workers complements the support provided by AHWs to mainstream practices to ensure culturally appropriate and quality care services are provided to Aboriginal people. They also provide a range of health promotion activities to the Aboriginal community.

The two community representatives who worked in high schools reported working as 'coordinators' of learning centre/s for Aboriginal students and being a conduit between Aboriginal parents, students and teachers. Their role was reporting and engaging Aboriginal families with the schooling system (public and Catholic schools) and vice versa. ALOs at hospitals reported liaising and advocating on behalf of Aboriginal patients and their families.

Health promotional activities and resources

GP

Four GPs advised that they had posters, pamphlets and fact sheets in their waiting rooms. They also had digital media advertisements in the waiting areas and verbally promoted immunisations at encounters with patients. One GP stated that he provided dedicated immunisation clinics for seasonal influenza vaccine and promoted immunisation at community events.

One private GP reported that they had a designated 'Tuesday Aboriginal clinic' with a dedicated nurse to look after the primary health care needs of the Aboriginal patients including immunisations.

AMS

AMS representatives also reported that they had resources such as posters, pamphlets and hand-outs in their services. They promoted immunisation at community events and provided transportation for Aboriginal clients. They also reported doing 'child health checks' and undertaking immunisation clinics and outreach clinics at community events.

If there's new stuff that comes in, the AIHCW pops around and comes in and see us and hands out stuff to us. If there's like a special day, like NAIDOC day and stuff, there'll often be pamphlets or posters or whatever that we require extra copies of and she'll give them to us.

AMSs also promote immunisation through AMS websites, social media and television advertisements.

Aboriginal staff co-operated with the local PHN to perform as actors and provide Aboriginal voiceover for a professional advertisement promoting influenza vaccine which has been shown for a few years on regional TV (WIN/PRIME) in autumn/winter.

ALO

The ALOs reported that they distributed maternal health brochures, posters and pamphlets for new mothers. They also had information stands at hospitals on special occasions such as NAIDOC Day and Closing the Gap Day, and organised immunisation teams to attend these occasions. AIHCWs attended these special occasions and distributed immunisation information resources.

One ALO attended a community event (Civic Clinic Day) but claimed that it was not 'successful'. The ALO also complained of lack of immunisation providers at the hospital.

I've had lots of mums who I've had present to the hospital with their child for another appointment like an ear appointment..... and I've asked them if there was any available nurses to immunise two other kids while they were there, and they just blatantly tell me 'no'; so it's a problem, it's a massive problem....

PHN

PHN representatives reported that they worked closely with practices to ensure culturally appropriate care was provided to Aboriginal clients to close the immunisation gap. PHNs do not provide immunisation directly but promote and provide information resources on immunisation. They direct practices to relevant resources and immunisation promotional material available from official organisations. They provide wide-ranging services such as distributing pamphlets and posters; organising outreach clinics for immunisation and promoting school immunisation programs. They also hold education events for practice staff across the network and work with PHUs to improve uptake of vaccines. In addition, PHNs work with GPs to clean data to improve recall of patients for immunisation. They also provide

cold chain management support for GPs and promote immunisation at community events and child health days. PHNs collaborate with AMSs in providing outreach services to support people in accessing health services e.g. arranging transport or giving petrol vouchers.

AMIHS

AMIHS representatives reported that they promote immunisation for children, high school students and adults, including influenza and pertussis immunisation for pregnant women. They also do home visits and promote vaccination during these visits. One AMIHS created a 'Deadly Tots' smartphone application with health related topics.

Community representatives

The community representatives reported that they received packs and pamphlets on immunisation from NSW Health and from the AIHCWs.

Identification of Aboriginal children

AMS representatives and GPs reported the same initial approach in identifying the Aboriginal status of their patients i.e. self-identification and asking the patients to fill in a form when they presented for the first time. Sometimes community health worker referrals identified the status of the patient. Some GPs took steps to document the status electronically in their practice management software (e.g. Medical Director). The majority of AMS representatives stated that most clients who used the service identified themselves as Aboriginal. One AMS representative reported that they asked for provision of certification of Aboriginality provided by a Land Council or other community committee, whereas another stated that their clients are identified usually through the initial information sheet that is given to them on their first visit. AMIHS representatives reported that the identification question is asked when pregnant women come for their first pregnancy care visit.

Following up children overdue for immunisation

GPs reported that they use different approaches in following up overdue children. Some only remind the parents during a consultation, while others use telephone calls or send letters and SMSs to remind the parents of their child's overdue immunisation. PHNs also help the GPs in this matter. However, one PHN representative expressed concerns about the ability of some practices to interpret due/overdue lists from the AIR:

Practices find the current due/overdue lists very difficult to interpret therefore making it difficult to have up-to-date ACIR data to aid a robust recall system in the clinical setting

Most of the GPs and AMS, PHN and PHU representatives reported that they relied on AIR 11a reports to identify overdue Aboriginal children. Some of them, however, relied on their own practice management software reminder systems. One AMS representative reported that overdue children are identified via their recall system (Communicare); they check the generated recall list every day and send out reminder letters to the parents:

A call reminder is made to the families, if there are any issues, nurses and AHWs work together to coordinate appointment and transport.....if unable to contact by phone overdue letter is sent to home address.

The AMS staff stated they collaborate with the AIHCWs who help with identifying overdue children and use reminder letters and telephone calls to help follow-up overdue children. AMIHS representatives reported that AIHCWs identify overdue children using the AIR overdue report and send the service list of overdue children for their service to follow up. One AMIHS representative stated that the AIHCW also helps with the catch-up schedule for older siblings of clients. If the AIHCWs were unable to contact a particular family, they would request the AHW to provide the missing contact details and also to let the families know of overdue immunisations.

Hospital ALOs are usually not required to identify or follow up overdue children or follow up adverse events after immunisation. Some AMIHS representatives stated that overdue children are identified via AIR reports sent by the AIHCWs to the CFHN. Also, AHWs go out in the community and inform parents that their child is due for vaccinations.

Collaborative activities with AIHCWs

Table 2 shows the collaborative activities of the AIHCWs as perceived by stakeholders in our survey. Stakeholders perceived that the most common collaborative activities of AIHCWs were the supply of promotional and information resources on immunisation (69%); attending community events and outreach clinics (64%); follow-up of overdue children (51%); assistance with recording Aboriginal and Torres Strait Islander status on the AIR (41%) and creating reports and lists of children who are overdue for vaccines (39%).

Interestingly, the majority (80%) of stakeholders stated that they did not receive assistance from the AIHCW with adolescent or adult immunisation. Approximately 64% and 62%, respectively, reported that there was no collaboration with the AIHCW in updating patient immunisation records in practice records or in reporting vaccine doses to the AIR.

Table 2. Collaboration/interaction with Aboriginal Immunisation Health Care Worker

	No n (%)	Yes n (%)	N/A n (%)
Supply of promotional and information resources on immunisation	9 (23%)	27(69%)	3 (8%)
Help or advice on identifying Aboriginal children	21 (54)	13 (33)	5 (13)
Assistance with recording Aboriginal and Torres Strait Islander status on the Australian Immunisation Register (AIR)	17 (44)	16 (41)	6 (15)
Assistance in reporting vaccine doses to AIR	24 (62)	9 (23)	6 (15)
Assistance in updating patient immunisation records on health software and databases	25 (64)	7 (18)	7 (18)
Creating reports and lists of children who are overdue for vaccines	17 (44)	15 (39)	7 (18)
Follow up and recall of parents of children who are due or overdue for a scheduled vaccination	15 (39)	20 (51)	4 (10)
Other assistance with immunisation or child health	20 (51)	15 (39)	4 (10)
Other assistance with adolescent or adult immunisation/health	31 (80)	3 (8)	5 (13)
Attending community events and outreach clinics	13 (33)	25 (64)	1 (3)

Two GPs advised that they had no contact with the AIHCW. However, two other GPs stated that they had frequent communication with the AIHCW via phone, email, fax and at immunisation update events and community events. Another GP had designated "Tuesday Aboriginal clinics" with a nurse who had frequent contacts with the AIHCW.

Similarly, three AMS representatives reported that they had communication with and received referrals from the AIHCW in addition to direct contact with them at regular immunisation update events. They also communicated via phone and at community events like NAIDOC Day and the National Aboriginal Day.

AIHCW runs three monthly or quarterly immunisation meeting get together for all the Aboriginal health workers and some of the nurses that work in the immunisation field, for our services. NAIDOC days were very successful...The AIHCW attends almost of our organised events. And then we usually bump into her at other things as well

However, two AMS representatives stated that they were not aware of the AIHCW program.

Two ALOs reported that they had frequent contact with their respective AIHCWs, mostly via phone and email but occasionally in person.

Majority of the AMS and PHN staff interviewed were aware of the AIHCW program and had frequent contact with AIHCWs by phone, email and fax, and at workshops and community events.

All AMIHS representatives stated they had collaboration/interaction with AIHCWs. AMIHSs receive promotional and information resources on immunisation from AIHCWs and have assistance from them with updating patient immunisation records on the AIR and health software or databases. AIHCWs also help with creating reports and lists of children overdue for vaccines, follow up parents of children who are due or overdue for scheduled vaccines and attend community events and outreach clinics.

The AIHCW will often give us a bell if she's aware of any overdue children in our area. So we follow that up... if there are families that are not - clients, AIHCW will refer them to us

Strengths, challenges and barriers

Strengths of the program

One GP said that the AIHCW was very accessible and helped provide transportation for vaccination. Another highlighted the advantage of the AIHCW working closely with the PHNs. Two other GPs appreciated the 'overdue lists' sent by the AIHCW, although they said that it was "not such an issue now that immunisation is linked to Centrelink payments".

Two AMS representatives advised that the AIHCW was very helpful in setting up immunisation events, e.g. 'NAIDOC Day' and the 'Young, Black and Ready for School' program. Three PHN representatives said that the AIHCW program has actively increased immunisation rates for the Aboriginal population and the AIHCW role was very valuable and well received by the Aboriginal communities. Another PHN representative emphasised that the most successful activity was organising immunisation forums because they bring together relevant clinical people such as child health nurses and other people involved in child health, including AMS and PHN staff, in the same room to provide information on

Aboriginal immunisation. This was seen as a good strategy to improve collaboration and integration between services but also get everyone up to date on the latest evidence and information around immunisation.

Two ALOs stated that the most successful activities were providing the follow up lists and attending community events such as 'NAIDOC' and 'Closing the Gap Day'.

One AMS reported that the AIHCW program was highly valued among AMSs, GPs and community members across NSW. Promoting immunisation especially at community events was one of the successes of the program.

I suppose that she is able to contact people who are overdue for needles and even to have that conversation with them, because it's an actual person that you're having a conversation with - a lot of the time they're just getting letters from Medicare or Centrelink or whoever. And I think if AIHCW talks to them about immunisation, it's sort of like a non-threatening way of trying to encourage them to get their immunisations done....

I think mainly with the introduction of the new 18 month Infanrix vaccine, certainly there's been a bit more confusion, particularly amongst our GPs and our RNs who aren't accredited vaccine administrators. The AIHCW certainly been helping a lot I think.

Generally, the stakeholders mentioned that the AIHCW program is providing a unique opportunity for Aboriginal people to gain valuable skills that support them to work as health professionals and be role models for their communities.

Challenges

Table 3 shows stakeholders' perception of programmatic issues and challenges.

Table 3. Programmatic issues and challenges

Stakeholder	Perceived issue/challenge
GP	Being able to access a service at the appropriate time and it being a culturally friendly place to go.
GP	Service very successful in immunising Aboriginal children even without the help of an AIHCW.
GP	The complexity of the AIHCW program and Aboriginal health programs can lead to misunderstanding of what services the AIHCW can provide to the GP and community, making it challenging for GPs and the AIHCW.

ALO	"Working on improving access is a challenge to a new person coming into the area. It just depends on the families that the AIHCW knows in the area, the AIHCW needs to promote herself/himself to the community, for the community to be able to come on board with the programs."
PHN	Relatively small Aboriginal population and do not have own AMS, therefore the retention of an AIHCW at 0.2 FTE makes employing a person in this role very challenging
PHN	Transportation to immunisation provider could be a challenge particularly in large communities
PHN	"A lot of areas have a lot of locums plus if they changed their practice managers the batching doesn't go across from their practice software and ACIR won't get updated"
PHN	Linking AIR records for children with more than one Medicare card, or different spelling or dates of births, is a problem. There'll always be a cohort of false-overdue children where it's just technical issues (unlinked Medicare card)
PHN	There are some difficulties with some AMSs when the child health nurses using the AIR are not updating the clinical records in their service in terms of who received the vaccine.
AMS	School based program vaccinations are not in the AIR, so have to ring PHU to try and work out if adolescents received certain vaccines.

Barriers to immunisation

Table 4 shows stakeholders' perception of barriers to immunisation for Aboriginal people. Over half of the respondents (67%) agreed or strongly agreed that overly technical language creates barriers to timely immunisation of Aboriginal children in their respective LHD, while41% agreed or strongly agreed that body language barriers was an issue.

The experience of systematic discrimination was considered a barrier by over half of the respondents (39% agreed and 15% strongly agreed), and experience of direct (one to one) discrimination by 18%.

Respondents were divided on the issue of whether lack of culturally appropriate services is a barrier, with almost half agreeing (41% agreed and 8% strongly agreed) while slightly over half disagreed (36% disagreed and 16% strongly disagreed).

A considerable proportion (67%) thought that transport to appropriate services is a barrier to timely immunisation of Aboriginal children in their respective LHD. However, the majority (77%) of stakeholders thought that the AIHCW program at their LHD had helped overcome barriers to immunisation for Aboriginal people.

Table 4. Barriers to immunisation for Aboriginal people

	ii ioi Aborigiii				
	Don't know/Unsure	Strongly disagree	Disagree	Agree	Strongly Agree
Overly technical language creates barriers to timely immunisation of Aboriginal children in my Local Health District.	1 (2.6%)	2 (5%)	10 (26%)	21 (54%)	5 (13%)
Body language barriers are an issue for timely immunisation of Aboriginal children in my Local Health District.	9 (23%)	2 (5%)	12 (31%)	11 (28%)	5 (13%)
Experience of systematic discrimination is an issue for timely immunisation of Aboriginal children in my Local Health District.	4 (10%)	2 (5%)	12 (31%)	15 (39%)	6 (15%)
Experience of direct (one to one) discrimination is an issue for timely immunisation of Aboriginal children in my Local Health District.	12 (31%)	3 (8%)	13 (33%)	7 (18%)	4 (10%)
Lack of culturally appropriate services is a barrier to timely immunisation of Aboriginal children in my Local Health District.	-	6 (15%)	14 (36%)	16 (41%)	3 (8%)
Transport to appropriate services is a barrier to timely immunisation of Aboriginal children in my Local Health District.	3 (8%)	1 (3%)	10 (26%)	11 (28%)	15 (39%)
Helping to improve access to immunisation services for Aboriginal people in my Local Health District is difficult.	5 (13%)	-	15 (39%)	13 (33%)	6 (15)
The Aboriginal Immunisation Health Care Worker Program in my Local Health District has helped overcome barriers to immunisation for Aboriginal people in my Local Health District	8 (21%)	1 (3%)	-	12 (31%)	18 (46%)

Upon further probing with stakeholders about the barriers, some stakeholders mentioned that Aboriginal people tended to change their addresses and contact numbers, therefore were hard to follow up. One GP mentioned that paying for transportation or private GP

consultation was also a barrier for Aboriginal people. Some GPs stated that lack of bulk billing GPs and council immunisation clinics created financial barriers for Aboriginal people.

One AMS representative expressed concern about transportation as a particular barrier while another expressed concern about systematic discrimination.

There still exists racial discrimination within the general population. It tends to impact some people - when there's a bad experience for some of these people, word can travel quickly which may impact on them accessing services such as immunisations.

Another AMS representative said they had no concerns in regard to the immunisation of Aboriginal people.

Basically I know that immunisation rates in Aboriginal kids is extremely high, a lot higher than in a lot of white kids, so on the whole immunisation is culturally very accepted in the Aboriginal community, and I've never had to counsel an Aboriginal family who comes in here as a conscientious objector or who has refused immunisation.

The PHN representatives highlighted that the lack of telephone access or credit sometimes act as barriers for the Aboriginal patients to call for booking which initiates PHNs to do home visits or arrange transport for the family to visit the immunisation provider. One PHN representative also mentioned that health service providers should not assume that Aboriginal people want to attend an AMS for a vaccination – some Aboriginal families may want to go to their GP or community health.

Just always offer and try and offer not just one type of service

Another PHN representative added that the lack of culturally appropriate service was not a barrier to them as they work with the 'Closing the Gap' team.

A lot of times within the Aboriginal community it's having trust in who they're dealing with is a barrier. But our Aboriginal health immunisation healthcare worker has really overcome that barrier and I think it's the fact that it is the same face at the same time talking the same approach and I think that's good, the continuity and best practice, so it's been great

One PHN representative stated that, unlike the AMSs, some mainstream health clinics in their LHD may lack culturally appropriate services, which is an issue for Aboriginal people. One AMS representative mentioned the barrier of not having access to information on vaccinations given through the school-based program:

Most of the school group had a "needle phobia" cohort and would miss school rather than get jabbed. And certainly our clients don't like going to the hospital, because of the discrimination, so if their only choice was to go to the hospital, I think the rates would be shocking

One AMIHS representative mentioned that having the immunisation clinics at the hospitals constitute a barrier:

Immunisation clinics - at the moment, is held in the hospital and a lot of people don't come because of that. They've either been here and had a bad experience here or been discriminated against here and they won't bring their kids into that environment

Another AMS representative advised that transport is not a barrier because they offer transportation or do home visits.

One AMIHS representative complained that because of a lack of culturally appropriate services in their area, they were overwhelmed with Aboriginal patients and did not have enough time to accommodate all of them.

A lot of people come to me because I have an outreach clinic....., and that's the only Aboriginal place for them to come tothey could only go to their doctor or to the clinics if they wanted something culturally appropriate, so there's not many places.

Stakeholder recommendations

Promotion of immunisation and AIHCW services

- AIHCWs should promote their services more, including by visiting GPs and PHNs.
 AIHCWs could also distribute brochures outlining the services they can offer.
- More immunisation advertisements on TV and radio targeted at Aboriginal children and Aboriginal families.
- AIHCWs to use social media like Facebook (pages and groups) to establish stronger communication platforms to send out reminders and notifications to Aboriginal communities.

Community support

- AIHCWs or more outreach health workers to provide vaccinations in the community, including at community events.
- AIHCWs could provide PHNs with more immunisation resources to be distributed at community events.
- AIHCWs should attend all community events, where possible, to promote immunisation and maintain regular contact with the community.
- The provision of more culturally appropriate settings for immunisation in communities, instead of local hospitals where Aboriginal families feel unsafe, would encourage more people to get their children immunised.
- Home visits by immunisation providers to overcome the barriers of time and transportation, particularly for large families.

Immunisation data support

- AIHCWs should generate regular timely reports of the due and overdue children to list how many in the community have been immunised for a month, a quarter and how many are overdue.
- Make school-based program vaccination data available in the AIR so accessible to AMSs and GPs.
- AIHCWs could help general practices with data cleaning on a regular basis.
- AIHCWs to provide technical assistance to AMS staff to ensure that AIR records and clinical data match up more accurately.

Immunisation services

• Opportunistic immunisation by immunisation providers for hospital 'walk-ins' who come for other problems or with an unimmunised sibling.

Training

• A standardised approach to train AIHCWs should be developed.

Conclusion

The AIHCW Program was well received by the majority of stakeholders interviewed in this evaluation. However, the services provided by AIHCWs varied across PHUs and LHDs. There appears to be some confusion among immunisation providers on the roles, responsibilities and services provided by AIHCWs, and services they provided were perceived to be not standardised or widely promoted. The program could be improved by greater standardisation of training of AIHCWs and greater promotion of the AIHCW program via brochures or flyers. The collaborative and networking activities of AIHCWs were highly valued by most stakeholders but could be further enhanced with wider promotion of their services. Finally, the AIHCW program was seen as a success in improving immunisation rates in Aboriginal people in NSW.

The AIHCW has a substantial contribution and involvement in our community engagements.

It gets together appropriate clinical people such as child health nurses, all the AMSs, the local health district and the primary health network and gets everyone in the same room to provide information on Aboriginal immunisations and I think that that's a good way to improve collaboration and integration between services but also get everyone up-to-date on the latest evidence and information around immunisations.

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- 7. Menzies R, Knox S, Kelaher B, et al. Process evaluation of the New South Wales Aboriginal Immunisation Healthcare Worker Program-FINAL REPORT. Available from: http://www.health.nsw.gov.au/immunisation/Documents/process-evaluation-aihcw-program.pdf (Accessed 19 April 2017).
- 8. NSW Ministry of Health. Key Performance Indicators 2015/2016: NSW Aboriginal Immunisation Healthcare Worker Program. Sydney.

Appendix 1. Sampling matrix

	Stakeholders*							
Public Health Unit	AMS immunisation nurse/ midwife/child and family health worker	AMS Aboriginal Health Worker	AMS Medical practitioner	ALO Hospitals	AMIHS rep	GP/ PN	PHN	Community rep
Albury	Х		Х		Х			Х
Camperdown							Х	
Dubbo	XX	Х				хх	Х	х
Gosford	XX					х		х
Goulburn				x				
Hornsby				х		Х	Х	
Lismore	Х	Х	Х				Х	х
Liverpool	Х				X			
Newcastle					Х		Х	
Parramatta	Х		Х	Х		Х		
Penrith								x
Tamworth			х		Х	Х		
Wollongong	х							х

^{*}X denotes 1 stakeholder and XX denotes 2 stakeholders interviewed for the process evaluation

Appendix 2. Questionnaire



Evaluation of the New South Wales Aboriginal Immunisation Health Care Worker Program

General practitioner/practice nurse questionnaire

- The National Centre for Immunisation Research and Surveillance (NCIRS) is currently undertaking an evaluation of the New South Wales Aboriginal Immunisation Health Worker Program.
- The results will be provided to the New South Wales Government to inform future Indigenous vaccination programs.
- This questionnaire will be administered in a face-to-face or telephone interview, depending on your preference. The questions are being provided now to allow you time to reflect on them and collect any supporting information to prepare your responses.
- All information you provide will be confidential and the final report to Health Protection NSW will contain de-identified, summarised information.

If you have any questions or concerns about the questionnaire please contact Mohamed Tashani, Evaluation Program Project Officer

mohamed.tashani@health.nsw.gov.au

Internal Use Only

Participant	Participant Affiliation	Interviewer	Interview Date	Recorded	Transcription complete

1. Participant and practice details

1.1. What is your position title?
1.2. Name of health service/organisation?
1.3. What is your role and responsibilities in this organisation?
1.4. How many GPs (including yourself) are at your practice/clinic?
1.5. How many RNs (including yourself) are at your practice/clinic?
1.6. How many Aboriginal Health workers are in your practice/clinic?
1.7. Please describe the number and type of other health workers/health promotion
co-ordinators at your practice/clinic.
1.8. Is your practice or clinic involved in the immunisation of the following groups?
 Young infants less than 12 months Children aged 12 months to 4 years School-aged children and adolescents Adults Yes □ No □ No □

2. Organisation activities related to immunisation of Aboriginal and Torres Strait Islander people

The follow questions will provide us with some general background on the activities of your health service in relation to immunisation of Aboriginal people.

2.1. Please describe any ways that your practice/clinic provides health promotion or
information on immunisation for Aboriginal or Torres Strait Islander people?
(eg: Factsheets or posters in waiting rooms, newsletters etc)
2.2. How does your practice/clinic identify Aboriginal and Torres Strait Islander
children who use your service? (For example: from hospital birth record, health
worker/practitioner asks parents, rely on voluntary self-identification)
2.3. In what ways does your practice/clinic follow up Aboriginal and Torres Strait

Islander children who are due or overdue for their scheduled vaccinations? (eg: reminder letters/emails sent to parents, reminding parents/carers at child health consultations)

- 2.4. How do you identify overdue children? (e.g. From ACIR overdue reports, clinic software reminders, asking parents).
- 2.5. What other activities of your practice/clinic are related to immunisation of Aboriginal people? (Eg: Promoting immunisation at community events, Providing transport for Aboriginal people to attend immunisation services, running outreach clinics for immunisation, immunising adolescents in schools)

3. Collaboration with Aboriginal Immunisation Health Care Worker

- 3.1. Are you aware of the Aboriginal Immunisation Health Care Worker (or Aboriginal Immunisation Liaison Officer) employed by your local Public Health Unit?
- 3.2. Have you had contact with the Aboriginal Immunisation Health Care Worker (AIHCW) from your local Public Health Unit?
- 3.2.1. on the phone?
- 3.2.2. via email or fax?
- 3.2.3. At your practice or another clinic?
- 3.2.4. At immunisation updates and workshops?
- 3.2.5. At community events?
- 3.2.6. Other?
- 3.3. Have your referred patients to AIHCW to discuss immunisation?
- 3.4. Has the AIHCW referred Aboriginal patients to you for immunisation?
- 3.5. Has the AIHCW referred Aboriginal people to you for other health care?

- 3.6. Below is a list of some of the other activities that the Immunisation Health Care Worker undertakes in your local area. If you have collaborated with the AIHCW in any of these activities could you please provide details?
 - Supply of promotion and information resources on immunisation?
 - Help or advice on identifying Aboriginal children?
 - Assistance with recording Aboriginal and Torres
 Strait Islander status on the Australian Childhood
 Immunisation Register (ACIR)?
 - Assistance in reporting vaccine doses to ACIR?
 - Assistance in updating patient immunisation records on health software and databases?
 - Creating reports and lists of children who are overdue for vaccines?
 - Follow up and recall of parents of children who are due or overdue for a scheduled vaccination?
 - Other assistance with immunisation or child health? (please describe.)
 - Other assistance with adolescent or adult immunisation/health? (please describe.)
 - Attending community events and outreach clinics
- 3.7. Please provide any further details on your contact with the AIHCW and activities undertaken to improve immunisation coverage and timeliness of immunisation for Aboriginal people.

4. Strengths and recommendations

- 4.1. Thinking about the activities of the AIHCW program that you have been involved in or are familiar with: Which activities have been the most successful?
- 4.2. Do you have any recommendations as to how the role and activities of the AIHCW could be enhanced or modified to assist your service with timely immunisation of Aboriginal children, adolescents and adults?
- 4.3. Thinking broadly, are there other ways that your PHU or other services could provide support to help improve Aboriginal immunisation coverage and timeliness? If so, could you describe your recommendations?

5. Barriers to immunisation for Aboriginal and Torres Strait Islander people

5.1. Below are some statements about potential barriers to immunisation faced by Aboriginal and Torres Strait Islander people in your Local Health District. Please indicate how much you agree or disagree with each statement.

	Strongly disagree	Disagree	Agree	Strongly Agree	DK/ Unsure
Overly technical language creates barriers to					
timely immunisation of Aboriginal children					
in my Local Health District.					
Body language barriers are an issue for					
timely immunisation of Aboriginal children					
in my Local Health District.					
Experience of systematic discrimination is an					
issue for timely immunisation of Aboriginal					
children in my Local Health District.					
Experience of direct (one to one)					
discrimination is an issue for timely					
immunisation of Aboriginal children in my					
Local Health District.					
Lack of culturally appropriate services is a					
barrier to timely immunisation of Aboriginal					
children in my Local Health District.					
Transport to appropriate services is a barrier					
to timely immunisation of Aboriginal					
children in my Local Health District.					
Helping to improve access to immunisation					
services for Aboriginal people in my Local					
Health District is difficult.					
The Aboriginal Health Care Worker Program					
in my Local Health District has helped					
overcome barriers to immunisation for					
Aboriginal people in my Local Health					
District					

5.2. Do you have any further comments or recommendations on barriers to immunisation faced by Aboriginal people?

Appendix 3. Ethics approval



Ms. Stephanie Knox Evaluation Program Project Officer National Centre for Immunisation Research and Surveillance Kids Research Institute, the Sydney Children's' Hospital Network Locked Bag 4001 Westmead NSW 2145

E: stephanie.knox@health.nsw.gov.au

Dear Ms Stephanie Knox,

Re: Evaluation of the NSW Aboriginal Immunisation Health Care Worker (AIHCW) Program: Stage 2

I am writing regarding your correspondence about the second stage of this evaluation, which is aimed at assessing stakeholder perspectives on the program's usefulness. I note AH&MRC Public Health Medical Officer Dr Jenny Hunt and Kerri Lucas, Manager Public Health recently provided feedback and advice on the evaluation design and on measures you will use to include Aboriginal people and ACCHS sector representatives (including ACCHSs and the AHMRC) in governance arrangements for this evaluation. The AH&MRC is supportive of the NSW AIHCW Stage Two.

It is a condition of AH&MRC support that there is an appropriate level of Aboriginal community governance for each project it supports. I note that a number of processes are planned for this second stage, including seeking the input of National Aboriginal and Torres Strait Islander Immunisation Network (NATSIN) on the project design, holding quarterly meetings to ensure ongoing AHMRC input and advice, with ongoing ad hoc discussions about significant issues that arise between meetings. We support your research team in pursuing these measures. It would also be appreciated if the AHMRC had the opportunity for review and comment on the draft report of the evaluation before it is finalised.

It is a condition of AH&MRC involvement in a project that AH&MRC Ethics Committee approval is obtained at an appropriate stage of the project and I note that you are in the process seeking approval from the Committee. Please note that we would like a copy of the Committee's approval letter once it is obtained; it can be emailed to: researchsupport@ahmrc.org.au. Please be aware that it is our practice to notify the AH&MRC Ethics Committee if ever we have any concerns about a project. It would also be appreciated if you could please forward copies of final project reports to: researchsupport@ahmrc.org.au.

The AH&MRC contact for this project is Kerri Lucas. Kerri can be reached by email at: KLucas@ahmrc.org.au.

Thank you and I wish you well with the project.

Yours sincerely,

Sandra Bailey Chief Executive Officer

Supported by the HSW Ministry of Reals

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