Nurse-Family Partnership
Helping First-Time Parents Succeed

Australian Nurse-Family Partnership Program

ANFPP National Program Centre

National Annual Data Report

1 July 2017–30 June 2018

De-identified

Version: 4.0 (Feb 2019)

Growing Stronger Families
Funded by the Australian Government

Cultural Acknowledgement

The Australian Nurse-Family Partnership Program (ANFPP) National Program Centre (NPC) acknowledges the traditional custodians of the lands and waters on which we live and work. We pay respect to elders past and present.

We further acknowledge that Aboriginal and Torres Strait Islander people and communities are diverse and dynamic and continue to evolve and develop in response to historical and present social, economic, cultural and political circumstances. Diversity includes gender, age, languages, backgrounds, sexual orientations, religious beliefs, family responsibilities, marriage status, life and work experiences, personality and educational levels (Commonwealth of Australia, 2013).

*All photos were provided with consent.

Comments and feedback on this report can be submitted by email to info@anfpp.com.au, via the ANFPP website at www.anfpp.com.au or addressed to the ANFPP National Program Centre, PO Box 1874 Milton QLD 4064.

Abbreviations

ABS	Australian Bureau of Statistics
ANKA	ANFPP National Knowledge Access Project
ANFPP	Australian Nurse-Family Partnership Program
ASGS	Australian Statistical Geography Standard
ASQ	Ages and Stages Questionnaires
ASQ:SE	Ages and Stages Questionnaires: Social-Emotional
BIOC	Birthing in Our Community
CAAC	Central Australian Aboriginal Congress, Alice Springs, Northern Territory
CQI	Continuous Quality Improvement
CME	Core Model Elements
DANCE	Dyadic Assessment of Naturalistic Caregiver-child Experience
DCS	Data Collection System
DOH	Department of Health
DFV	Domestic Family Violence
EPDS	Edinburgh Postnatal Depression Scale
FPW	Family Partnership Worker[1]
FTE	Full-Time Equivalent
IUIH	Institute for Urban Indigenous Health, Brisbane, Queensland
IUGR	Intra Uterine Growth Restriction
LBW	Low Birthweight
NFP	Nurse-Family Partnership ® (USA)
NHV	Nurse Home Visitor
NPC	National Program Centre
NS	Nurse Supervisor

[1] In partner organisations, the Family Partnership Worker position may be referred to by a title that is relevant to the local organisation, including Aboriginal Family Partnership Worker, Aboriginal Community Worker, and Family Community Worker. Where Family Partnership Worker is referred to in ANFPP documents, the term is inclusive of this role irrespective of the local title for the position.

PHIDU	Public Health Information Development Unit
SGA	Small for Gestational Age
STAR	Strengths and Risks framework
WHS	Wuchopperen Health Service
Winnunga AHCS	Winnunga Aboriginal Health and Community Service

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Executive summary

This National Annual Data Report on the Australian Nurse-Family Partnership Program (ANFPP) presents client and operational data collected from the 1 July 2017 to the 30 June 2018 reporting period. Data for this collection are provided by the partner organisations that receive funding from the Department of Health (DoH) to provide the program to Aboriginal and Torres Strait Islander families since 2009 (Wave 1).

Program Successes 2017–18

Fidelity Measures:

- Wave 1 Partner Organisation client referrals have grown on average at a steady rate of about 11%. In general, client referral rates across all Partner Organisations have risen on average to about 18% from about 15% the previous year. (See 3.2 ANFFP Client Referrals Trends p.31)
- Close to achieving the NFP target for client acceptance to the program (73%, NFP target 75%). Client acceptance in 2017/18 is 2% lower than this time last year. (See 3.3 ANFFP Client Acceptance Trends p.34)
- Close to achieving the NFP target for overall client retention (59%, NFP target ≥ 60%), exceeded in infancy (91%; NFP target ≥ 80%) and toddlerhood (97%; NFP target ≥ 90%), and below target in pregnancy (71%; NFP target ≥ 90%). Overall client retention in 2017/18 is 2% lower than the 61% reported at this time last year. (See 5.0 Client Demographics p.55)
- In 2017–18, 324 clients entered the program. During this period 41% (n-134) of clients left the program, in 2016–17, 38% of clients left the program (both percentages include clients recruited in the reporting year and prior to the reporting year) new and continuing clients) Overall attrition since program inception is 61%. The 2017–18 period attrition of 41% is a twenty percent improvement in the average attrition of 61% since program inception. (See 3.5 ANFFP Client Attrition Analysis p.42)

A summary of the fidelity measures, maternal and child health outcomes are illustrated in the infographic below (Figure 1).

Maternal and Child Health Outcomes:

- ***Breastfeeding:*** ANFPP clients' breastfeeding rates exceeded the national average for the 6-month milestone for Aboriginal and Torres Strait Islanders and 'Ever Breastfed' rates are also higher, with both indicators performing particularly well in remote and very remote areas. Very little variation occurred to 'Ever Breastfed' rates between 2016/17 and 2017/18 at 93% and 92% respectively. The 1% reduction is contributed, in the main, by Major City partner sites. While still exceeding national averages, breastfeeding beyond 6 months reduced slightly 2016/17 to 2017/8 with cessation rates before 6 months at 41% and 43% respectively. The number of data records for these two periods varies significantly between sites, making the datasets less comparable. (See 6.3 Breastfeeding p. 71).

- ***Child development:*** The Ages and Stages Questionnaire aims to identify children who have or are at risk of developmental delay. Fewer toddlers in the ANFPP program scored above the cut-off area indicating developmental concerns requiring follow-up and/or referral. (See 6.6 Child Development p. 97).

- ***Immunisation:*** The ANFPP exceeded target rates for immunisation of >90% by the infants second birthday. 96.3% of 12-month vaccinations and 94.4% of 24-month vaccinations were completed. In both cases this surpasses the national rate for Aboriginal and Torres Strait Islander children. However, when compared to the 2016/17 performance the coverage for 24-month vaccinations is reduced from 100% to 94.4% in 2017/18; 12-months coverage is increased from 94.7% to 96.3%. (See 6.2 Immunisation p. 64)

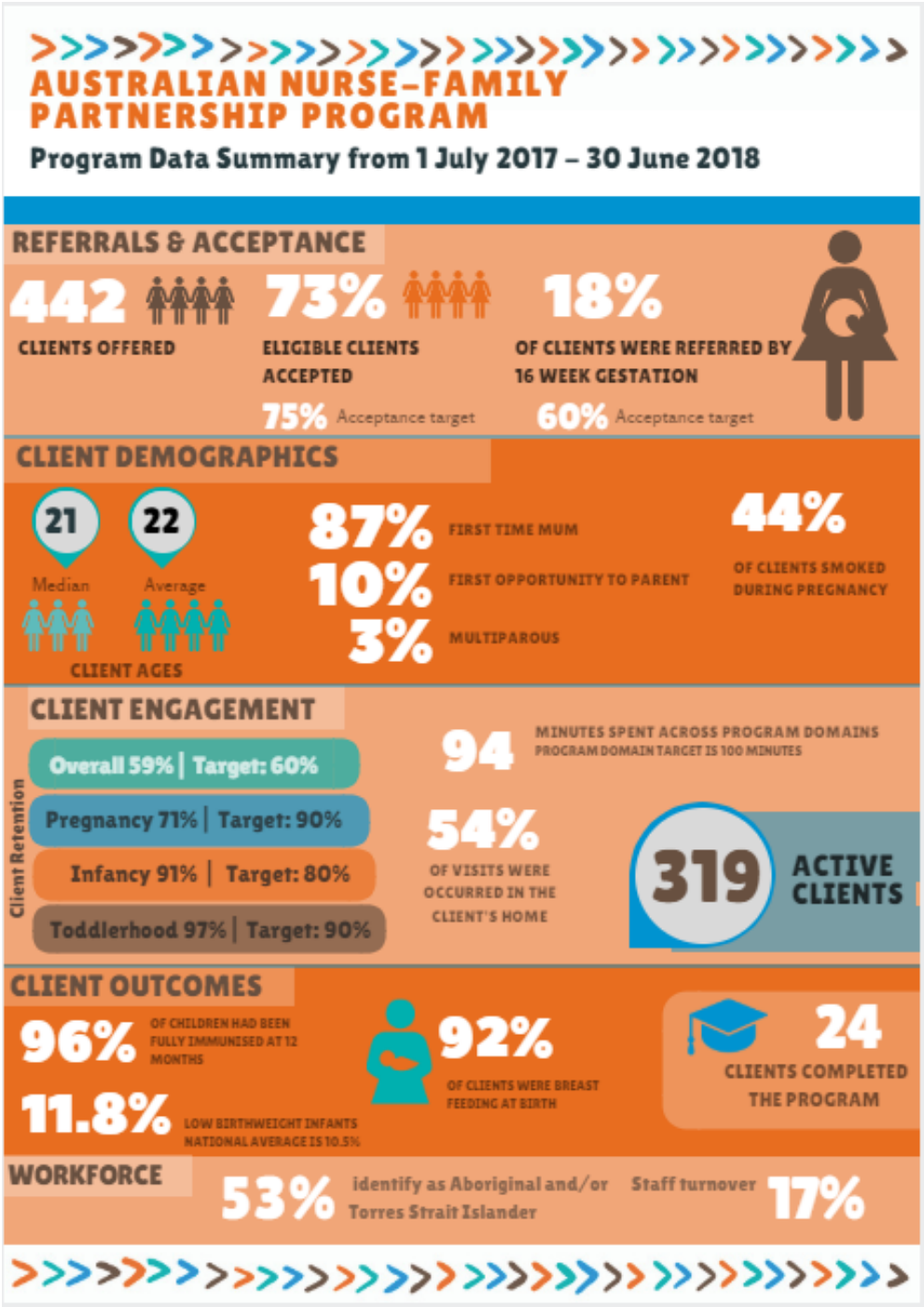
- ***Premature and low birthweight:*** The overall low birthweight rate was 11.8%. The data was skewed by low birthweight infants in major cities and very remote locations due to increased numbers of underweight births. If data for both regions is excluded the percentage is 7% which is less than the national average for Indigenous births (10.5%) and lower than the target of <10%. Overall, the percentage of low birthweight infants at >37 weeks gestation was 6.5% and for infants <37 weeks 11.8%, indicating prematurity is a significant factor. In comparison to 2016/17, the incidence of low birthweight has increased by 2.1% (1.7% improvement if major cities and very remote locations are excluded from the analysis). The size of the dataset increased by nearly 80% in this time; however, which impacts on the comparison. (See 6.4 Birthweights p. 80). Further investigation into the smoking status of mothers of premature infants would be of value.

- ***Smoking:*** The overall performance on smoking is poor with 44% of clients identifying as smokers. Given smoking status is a marker for overall vulnerability this area requires a significantly higher focus. The 2017/18 rate represents a 3% increase on the 2016/17 rate. However, 2017/18 represents a more diverse dataset, with the inclusion of Inner Regional clients and Major City clients more than doubling. (See 6.5 Smoking p. 90).

Qualitative data

The narrative stories throughout the report exemplify the program achievements and many demonstrate the profound changes in women's lives that further enhance the quantitative data. The narratives validate the vital role Family Partnership Workers play in engaging clients through their strong ties to the community. Their role in providing crisis management, facilitating referrals to other services, interpreting and developing local language resources is evident in the qualitative narratives included throughout the report.

FIGURE 1 ANFPP DATA SUMMARY FROM 1 JULY 2017– 30 JUNE 2018



1.0 Introduction

1.1 Program overview

The Australian Nurse-Family Partnership Program (ANFPP) is a nurse led, sustained home visiting program that supports women pregnant with an Aboriginal or Torres Strait Islander child to improve their own health and the health of their baby. The program is designed to support the mother from pregnancy up until the child is two years of age, with regular home visits from a Nurse Home Visitor and an Aboriginal or Torres Strait Islander Family Partnership Worker. The ANFPP is a part of the Australian government's commitment to improve the health of Aboriginal and Torres Strait Islander people with the ANFPP providing valuable support and sharing information with mothers to promote their baby's early development (Australian Nurse-Family Partnership Programme, 2018).

The program is currently being implemented by 13 partner organisations across Australia, in four states and two territories (see Table 1 below). The partner organisations are at differing maturity levels due to their varied length of time implementing the program.

Table 1 depicts the period of program implementation for all thirteen sites to provide context to the data being analysed for this reporting period.

TABLE 1: PARTNER ORGANISATION EXPANSION

Wave #	Commencement of the Program	Partner organisation
Wave 1	2009	• **Central Australian Aboriginal Congress**, Alice Springs, Northern Territory. • **Wuchopperen Health Service (WHS)**, Cairns, Queensland. • **Wellington Aboriginal Corporation Health Service (WACHS)**, **Wellington, New South Wales.**
Wave 2	May 2016	• **Institute of Urban and Indigenous Health (IUIH-North),** North Brisbane, Queensland.
	May 2017	• **Top End Health Services** - Northern Territory Department of Health (TEHS), based in Palmerston, Northern Territory, and providing outreach services to Wadeye, Wurrumiyanga, Gunbalanya, and Maningrida.
Wave 3	April 2017	• **Danila Dilba** Biluru Butji Binnilutlum Health Service Aboriginal Corporation, (Danila Dilba) based in Darwin and Palmerston, Northern Territory. • **Nunkuwarrin Yunti** of South Australia Inc, Adelaide, South Australia. • **Institute of Urban and Indigenous Health (IUIH-South)**, South Brisbane, Queensland.

Wave #	Commencement of the Program	Partner organisation
Wave 4	June 2017	• **Wurli Wurlinjang Aboriginal Corporation (Wurli)**, Katherine, Northern Territory. • **Wellington Aboriginal Corporation Health Service (WACHS)**, Blacktown, Western Sydney, New South Wales. • **Winnunga Nimmityjah** Aboriginal Health Clinic/Health Service (Winnunga), Canberra, Australian Capital Territory (ACT). • **Durri Aboriginal Corporation Medical Service (Durri)**, Kempsey, New South Wales. • **Rumbalara Aboriginal Cooperative Ltd (Rumbalara)**, Shepparton, Victoria.

Source: ANKA (2018)
** Short names are provided in brackets*

ANFPP partner organisations work in all five different geographic categories as outlined by the Australian Statistical Geography standard (ASGS). It is important to note where the sites are located as sites cannot always offer the same services due to logistical challenges. Remoteness also plays a role in the services available to mothers and families and some face fewer nutritional options and less services (Kildea et. al., 2017; Zarnowiecki et.al. 2018). The ANFPP partner organisations within each geographic category are listed below (see accompanying map in Figure 2).

Major Cities of Australia

1. Institute of Urban Indigenous Health (North)
2. Institute of Urban Indigenous Health (South)
3. Wellington Aboriginal Corporation Health Service (Blacktown)
4. Nunkuwarrin Yunti of South Australia Inc
5. Winnunga Aboriginal Health and Community Service

Inner Regional Australia

6. Durri Aboriginal Corporation Medical Service
7. Rumbalara Aboriginal Co-Operative
8. Wellington Aboriginal Corporation Health Service (Dubbo)

Outer Regional Australia

9. Wuchopperren Health Service (WHS)

10. Wellington Aboriginal Corporation Health Service [2]
11. Danila Dilba Health Service

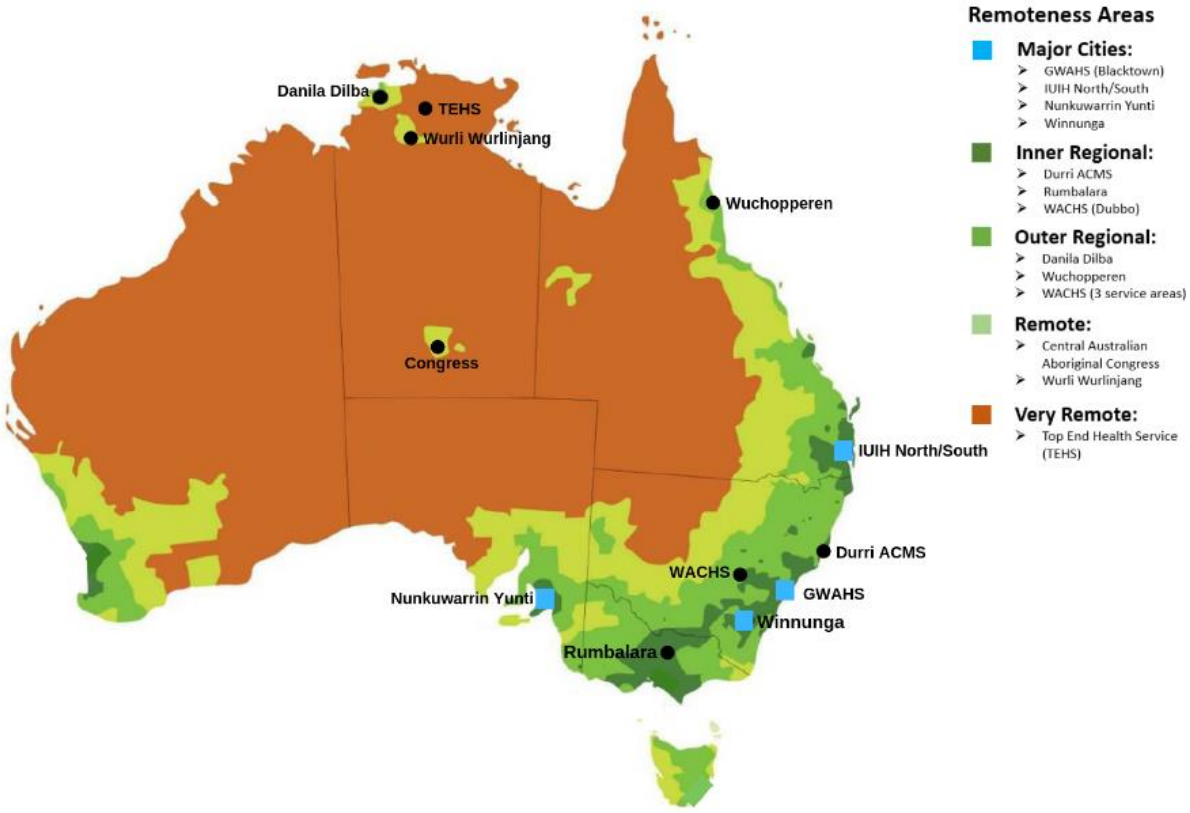
Remote Australia

12. Wurli-Wurlinjang Health Service
13. Central Australian Aboriginal Congress (Congress, *formerly CAAC*)

Very Remote Australia

14. Top End Health Service (TEHS)

FIGURE 2: ANFPP PARTNER ORGANISATIONS, BY REMOTENESS



[2] WACHS provides the majority of their services in Outer Region, thus Outer Regional data includes WACHS throughout the report. However, WACHS also has services in Inner Regional (Dubbo) and Major cities (Blacktown) areas and listed under those regions too..

1.2 ANFPP Objectives and Targets

The objective[3] of the ANFPP is to improve the maternal and child health and wellbeing for Aboriginal and Torres Strait islander families through:

- assisting women to engage in good preventative health practices
- supporting parents to improve child health and development
- assisting parents to develop a vision for their own futures.

The ANFPP is a licenced adaptation of the Nurse-Family Partnership® (NFP), which was developed by the University of Colorado in the United States. The NFP has 14 Model Elements to ensure implementation and service delivery achieve the desired program outcomes including:

- Improved outcomes in pregnancy
- Improved outcomes in child health and development
- Improved parental life course.

Two key variations have been permitted to adapt the NFP model to meet the Australian context.

- ANFPP is delivered to first-time mothers, or the first opportunity to parent, pregnant with an Aboriginal or Torres Strait Islander child in the target regions. Multiparous women may be included under special circumstances.
- The addition of the Family Partnership Worker (FPW) position. The inclusion of this position into the ANFPP team is considered integral to the success of the program.

In addition, the adaptation of NFP materials and provision of staff education has been paramount to meet the Australian Aboriginal or Torres Strait Islander context, the health system in Australian jurisdictions, and Australian standards and language usage.

[3] Cited from http://www.health.gov.au/internet/ministers/publishing.nsf/Content/ACF1C4BD6D671EE5CA25812200044932/$File/KW039.pdf

Purpose of the Annual data Report

This Annual Data Report represents national and site comparison data for all thirteen sites although there is a significant variance in the length of program implementation between sites.

The purpose of the Annual Data Report is threefold, to provide data and analysis of:

- progress against the international Nurse-Family Partnership ® (NFP) fidelity measures related to client and infant participation in the ANFPP
- health outcomes experienced by clients and their babies
- descriptive information about the women who have participated.

This information can be used to inform progress for the reporting period, as well as to identify existing or new areas for attention and improvement in program delivery through a process of continuous quality improvement (CQI) among ANFPP partner organisations.

The 2017–18 report presents ANFPP data using a regional approach and incorporates context analysis to help understand the reasons behind site variations. Case, program, site and client anecdotes provided by program staff — with site and client consent — are presented alongside the main report text to help further contextualise the key findings from this year's analysis.

The five principles of the ANFPP

At the heart of the program is acceptance of client autonomy. The guiding principles are; the client is the expert in her own life, she can identify the solutions that work for her, progress occurs through small incremental changes where each success builds confidence to make further changes. (Rowe, 2016). Home visit teams keep the five client-centred principles at the forefront of their conversations with clients.

Case Anecdote: Community days as an opportunity to embrace the five principles of the ANFPP (Metropolitan site, ANFPP)

With the help of our FPW workers and by embracing the Five Principles of the ANFPP, we conceived and implemented a number of flourishing Community/Cultural days at our site. (ANFPP nurse supervisor)

Parenting skills and focus on solutions:

While the numbers are developing, we are committed to spending as much quality time as possible with these young mums and bubs. This provides an opportunity to reinforce and integrate the knowledge they receive from their NHV's and FPW's. Our mums and bubs benefit from exposure to the team modeling exceptional parenting skills, as they interact with the infants and babies in this culturally safe and non-judgmental environment, surrounded by support.

Increased attendance suggests only a small change is necessary:

Setting practical, creative goals has helped channel the initial excitement/anxiety some clients experience. All the clients who have attended are now committed to returning and express their disappointment if other priorities mean they miss attending. As a result, they are trying to ensure appointments are not made on Tuesdays as attending has become a priority.

Making choices and being the expert in your own Life:

Each week an increasing number of mums, bubs, their partners, mothers, family and friends, are coming to participate in our Community day every Tuesday. Our clients decide what creative activities we will focus on each week.

Self-esteem and focus on strengths:

Over these few weeks, we have observed self-esteem and self-efficacy developing in all the clients who have attended. Their collaborative and creative skills are flourishing. Clients report reconnecting with their creativity. Some have highly developed artistic skills, others realise that for numerous reasons, their creativity and imagination was stalled back in childhood.

Follow your hearts desire:

As the cultural days are driven by the requests of our clients, we have encouraged feedback using a variety of strategies to ensure we are capturing and implementing our client requests. Evaluation forms, opportunities to write feedback and suggestions on a white board in our community room, scratch paper evaluation statements and verbal feedback are all employed to promote ownership of the program by our clients. Clients have expressed interest in a variety of creative activities including cooking, painting, collage, tie dye, making cards and gifts.

2.0 Methodology

To develop this annual report, data from Communicare was migrated into the national data set (ANKA). With Phase 2 and 3 of the national expansion in progress, eight sites (Wave 3 and 4) within this reporting period were at early stages of implementation. As a result, this report provides some examples of trend data at newer sites. Over the life of the program the data specifications have evolved, and data collection systems have become increasingly sophisticated. As a consequence, the number of data items that can be tracked over the duration of the program is at times limited. This is described in detail in each section.

ANFPP datasets were collated, analysed and interpreted to develop an understanding of the program's progress against the international NFP performance benchmarks. The datasets provide important information about the program and strategies to enhance program delivery.

For comparison purposes the national averages for the Indigenous population by Remoteness category were used. This was provided by the Public Health Information Development Unit (PHIDU), Social Health Atlas of Australia (PHIDU Torrens University Australia, 2017). To protect client confidentiality no analysis is reported if any reporting cohort had less than five clients.

To ensure the data presented is as complete as possible, regular data exception reports were provided to sites and gaps or inconsistencies in data were identified and corrected. Although this process was enacted effectively for the current reporting period; in practice historical data can be difficult for sites to correct retrospectively. The improvement in data completeness, and the increase in sample size accompanying program development and expansion, will improve the rigor of this analysis.

Detailed methodology descriptions and data limitations are outlined throughout the report. The NPC will continue to improve quality assurance measures around data entry. As part of the quality improvement process, regular feedback will be provided to partner organisations to enhance data completeness.

Qualitative case studies from partner organisations have been woven throughout the report to illustrate the programs impact on mothers and families. The stories captured in this report directly illustrate how ANFPP affects Aboriginal and Torres Strait Islander lives.

3.0 NPC Model Fidelity

Fidelity is measured to ensure the program can replicate the outcomes achieved by the original NFP model. Fidelity is measured against the 14 Core Model Elements (CME) of the program and corresponding benchmarks as shown in Table 2.

TABLE 2 CORE MODEL ELEMENTS RELATED TO CLIENT AND INFANT PARTICIPATION AND ASSOCIATED PERFORMANCE BENCHMARKS

ANFPP CME 2018	Performance benchmark/Target	2017/18 outcome	Included in this report
1. Client participates voluntarily in the Australian Nurse-Family Partnership Program	100%	100%	✓
2. Client is a first-time mother Variation to include multiparous mothers on a case-by-case basis has been accepted.	100%	100% (incl. first opportunity to parent and multiparous mums)	✓
3. Client meets socioeconomic disadvantage criteria at intake.	100% are women pregnant with an Aboriginal or Torres pregnancy Strait Islander child.	100%	✓
4. Client is enrolled in the program early in her pregnancy and receives her first home visit no later than the 28th week of pregnancy	100% of clients receive their first home visit no later than the 28th week. 75% of eligible referrals who are intended to be recruited to ANFPP are enrolled in the program 60% of pregnant women are enrolled by 16 weeks gestation or earlier	87.2%	✓
5. Each client is assigned an identified ANFPP nurse who establishes a therapeutic relationship	100% of clients are assigned an identified ANFPP nurse. The ANFPP Home Visiting team has a caseload range of between 15–20 clients. Technical, workforce, cultural and contextual guidance and funding considerations are considered in determining	100% of clients are assigned an ANFPP nurse.	✓

	through individual ANFPP home visits.	final caseload benchmarks appropriate for ANFPP **Client Attrition/ Retention:** • Program attrition is 40% or less through to the child's 2nd birthday. (60% retention) as an average across partner organisations • 10% or less for pregnancy phase (≥ 90% retention) • 20% or less for infancy phase (≥ 80% retention) • 10% or less for toddler phase (≥ 90% retention)		
6.	**Client is visited face-to-face in the home, or occasionally in another setting (mutually determined by the ANFPP nurse and client) when this is not possible.**	All clients are visited in the client's home as a minimum of once every four visits across the standard visit schedule (this equates to a total of 16 visits over the life of client involvement in the program, or 25% of completed visits). Home visiting teams acknowledge the importance of conducting visits in the place the client and her child sleeps most often on a regular basis throughout the program.	55% of clients are visited in their home.	✓
7.	**Client is visited throughout her pregnancy and the first two years of her child's life in accordance with the current standard NFP visit schedule or an alternative visit schedule agreed upon between the client and nurse.**	Dosage: as per UoC Guidance Document, no benchmark will be set for expected number of completed visits. Visit Schedule: as per UoC Guidance Document, the standard visit schedule will guide delivery of the ANFPP unless an alternative visit schedule is developed between a home visiting team and the client.	Pregnancy: 41% Infancy: 61% Toddlerhood: 70%	✓
8.	**ANFPP nurses and supervisors are registered nurses or registered nurse-midwives** with a minimum of a baccalaureate /bachelor's degree.	100%. A variation on this CME will be requested to include registered midwives	100% (TBC) Records kept by individual sites; recruitment is a site responsibility.	✓
9.	**ANFPP nurses, nurse supervisors and**	100% of ANFPP nurses and supervisors will complete the required ANFPP educational	Unit 1 is delivered online and includes summative	✓

<table>
<tr><td>Family Partnership Workers develop the core ANFPP competencies by completing the required ANFPP educational curriculum and participating in on-going learning activities</td><td>curricula and participate in on-going learning activities</td><td>assessment items. Records are kept by the NPC. Unit 1, 2 and 3 attendance and progress are monitored through internal systems. Excluding those who left the program during this reporting period, 100% of ANFPP Nurses, NHVs and FPWs received all the required trainings.</td><td></td></tr>
<tr><td>10. ANFPP nurses, using professional knowledge, judgment and skill, utilise the Home Visit Guidelines, individualising them to the strengths and risks of each family and apportioning time across the six program domains</td><td><table>
<tr><th>Domain</th><th>Pregnancy</th><th>Infancy</th><th>Toddler</th></tr>
<tr><td>My Health</td><td>35-40%</td><td>14-20%</td><td>10-15%</td></tr>
<tr><td>My Home</td><td>5-7%</td><td>7-10%</td><td>7-10%</td></tr>
<tr><td>My Life</td><td>10-15%</td><td>10-15%</td><td>18-20%</td></tr>
<tr><td>My Child</td><td>23-25%</td><td>45-50%</td><td>40-45%</td></tr>
<tr><td>My Family and Friends</td><td>10-15%</td><td>10-15%</td><td>10-15%</td></tr>
<tr><td>Total</td><td>100%</td><td>100%</td><td>100%</td></tr>
</table></td><td><table>
<tr><th>Domain</th><th>Pregnancy %</th><th>Infancy %</th><th>Toddler %</th></tr>
<tr><td>My Health</td><td>35.6</td><td>27.1</td><td>17.2</td></tr>
<tr><td>My Home</td><td>11.4</td><td>12.6</td><td>10.8</td></tr>
<tr><td>My Life</td><td>12.6</td><td>9.8</td><td>15</td></tr>
<tr><td>My Child</td><td>21.4</td><td>33.2</td><td>33</td></tr>
<tr><td>My Family and Friends</td><td>12</td><td>12.7</td><td>14.3</td></tr>
</table>✓</td><td></td></tr>
<tr><td>11. ANFPP Nurses and supervisors and Family Partnership Workers apply the theoretical framework that underpins the program (self-efficacy, human ecology, and attachment theories) to guide their clinical work and achievement of the three NFP goals.</td><td>It is expected that ANFPP nurses and supervisors will apply the theories through current clinical methods/delivery of the program. There is no specific benchmark for this CME</td><td>This CME is not directly measurable. However, these theories are incorporated across the training curriculum and provide a focus for Community of Practice meetings.</td><td>✓</td></tr>
</table>

12. Each ANFPP team has an assigned ANFPP supervisor who leads and manages the team and provides nurses with regular clinical and reflective supervision.	A full time ANFPP supervisor can lead a team of no more than eight ANFPP nurses (including community mediators or similar positions where applicable) and a team administrator The minimum team size is four ANFPP nurses with a half time supervisor 100%	69% of Partner Organisations meet this criterion.	✓
13. ANFPP teams, implementing agencies, and the national units collect / and utilise data to: guide program implementation, inform continuous quality improvement, demonstrate program fidelity, assess indicative client outcomes, and guide clinical practice / reflective supervision.	Although there are no objectives that relate to the collection and use of data, all the ANFPP benchmarks for the program are measured through use of regular standardised data collection	Quarterly program fidelity reporting is used to track program fidelity	✓
14. High quality ANFPP implementation is developed and sustained through national and local organised support.	In principle at least 85% of clients and their children should receive 100% of assessments and have their client record complete.	Monthly exception reporting is used to encourage Partner Organisation data quality which identifies where required actions have been missed (e.g. ASQ, and EPDS).	✓

3.1 ANFPP active clients by location

The highest number of active clients are in major cities and very few clients are from Inner regional areas as of 30 June 2018. Nearly 40% of active clients reside in Very remote and Remote areas. The client acceptance rate for ANFPP Partner Organisations for the program duration is higher than the program target of 75%. In Major cities and Remote areas, the acceptance rates were very close to meeting the program target and in Inner and Outer Regional areas exceeded the target. It should be noted that Inner Regional only includes two new sites, Durri and Rumbalara. Durri may not have been operational for the full reporting year.

TABLE 3: SUMMARY OF ANFPP ACTIVE CLIENTS AT 30 JUNE 2018

	Major Cities	Inner Regional	Outer Regional	Remote	Very Remote	Total
Active Clients	115	3	72	77	40	**307**

TABLE 4: SUMMARY OF ANFPP CLIENT REFERRALS, OFFERS, EXITS, GRADUATIONS AND HOME VISITS AT 30 JUNE 2018 FOR THE DURATION OF THE PROGRAM

	Referrals	Offered	Accepted (%)	Home Visits	Left the program	Graduated
Major Cities	388	339	264 (79%)	1747	101	3
Inner Regional	14	12	12 (100%)	40	3	0
Outer Regional	1132	848	697 (82%)	11083	482	141
Remote	847	667	472 (71%)	9951	257	133
Very Remote	90	70	50 (71%)	240	6	0
Total	**2471**	**1936**	**1495* (77%)**	**14105**	**904****	**277**

** In total there are 7 clients that do not fit the definition for Active, Graduated or Left the Program, this is likely due to data entry errors and will be audited in the next data review.*
***Includes 55 inactive clients at the time of running this report who have a Left the Program date after 30 June 2018.*

Over the entire duration of the program, approximately 1 in 5 mothers enrolled in the program have graduated with 61% of accepted clients leaving the program at some point before the child's second birthday. This is higher than the cumulative program attrition target rate of '40% or less'. Differing

number of referrals in various geographical locations are not necessarily indicative of the partner organisations performance or client characteristics as some sites were only established in the last 1–2 years. It is assumed client acceptance and retention rates will continue to improve as new partner organisations gain experience as they mature.

TABLE 4: SUMMARY OF ANFPP CLIENT REFERRALS, OFFERS, EXITS, GRADUATIONS AND HOME VISITS AT 30 JUNE 2018 FOR THE 2017/18 PERIOD

	Referrals	Offered	Accepted (%)	Home Visits	Left the program	Graduated
Major Cities	246	211	154 (78%)	1224	58	3
Inner Regional	14	11	11 (100%)	39	6	0
Outer Regional	109	83	53 (64%)	1024	43	7
Remote	121	88	69 (78%)	1256	22	14
Very Remote	68	49	37 (76%)	222	2	0
Total	**558**	**442**	**324 (73%)**	**3765**	**134**	**24**

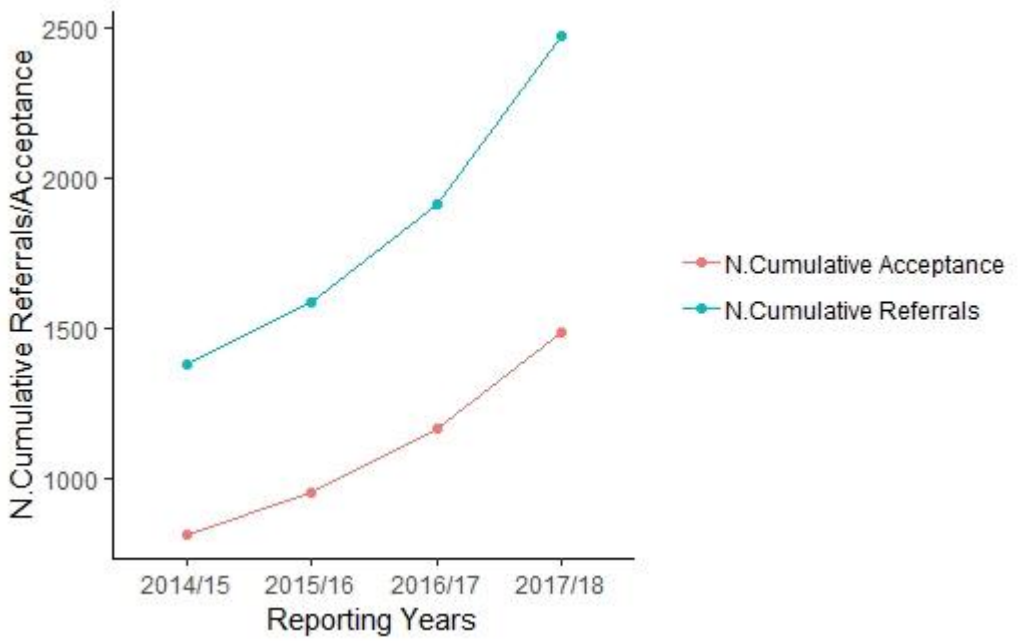
In 2017/18 all Partner Organisations except in Outer Regional area met the target client acceptance rate of 75%. The relatively lower acceptance rate at the outer regional sites needs further investigation.

Case Anecdote: Positive Achievement - Home visits (NHV, Remote site)

Suzie (pseudonym) has been very actively involved in the program and has attended all home visits scheduled. Suzie joined the program right on the 28-week mark. So, she could get as much education possible she chose to have weekly visits. When Suzie first started the program, she chose to have the visits in our office which is not unusual with our clients. However, after a few visits she decided it would be okay to have the visits at her place in the yard outside. This was a great achievement and showed she trusted us. Towards the end of her pregnancy, when I went to her place for a visit I was allowed inside her house to complete the visit which was also a great achievement. Suzie also mentioned she has learnt a lot from this program already and has learnt things her mum and nan hadn't known either.

3.2 ANFFP Client Referrals and Acceptance Trends

FIGURE 3: CUMULATIVE ANFPP CLIENT REFERRALS AND ACCEPTANCE FOR PROGRAM DURATION



The rate of client referrals and acceptance indicate an increasing trend with similar patterns of growth. Client referrals to the ANFPP program have steadily increased annually. A steep increase in referrals in 2017/18 is explained by the expansion of the ANFPP Partner Organisations in the reporting period.

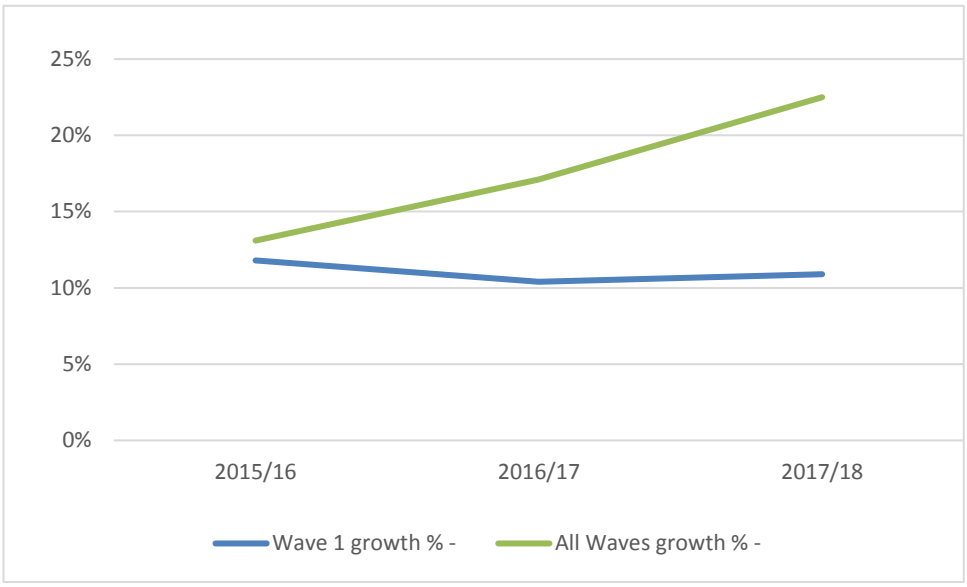
TABLE 5: REFERRALS GROWTH FOR WAVE 1 ANFPP PARTNER ORGANISATIONS COMPARED TO THE REST OF ANFPP PARTNER ORGANISATIONS

	Cumulative Referrals	Wave 1 Growth %	All Waves Growth %
2014/15	1380	-	-
2015/16	1588	11.8	13.1
2016/17	1915	10.4	17.1
2017/18	2471	10.9	22.5

3-year average growth		**11.0**	**17.6**

Wave 1 Partner Organisation client referrals have grown steadily at an average rate of 11%. In general, client referral rates across all Partner Organisations (inclusive of Wave 1) have risen on average by around 18%.

FIGURE 4: Percentage growth for Wave 1 ANFPP Partner organisations and all ANFPP organisations



Case Anecdote (referral): Cooperation and synergy between staff and clients (Remote site, ANFPP)

A recent demonstration of sharing the power wheel tool with the local psychologist and midwife was found to be useful. Further activity resulted in the FPW and two NHVs translating the tool into contextualised English to strengthen independent use of the tool.

Valued advice is always at hand for testing cultural suitability of material or approach to a topic. Synergy is also apparent where the clients have elected their kinship groupings, supporting the learning atmosphere. We note a more active participation where clients learn from each other, the NHVs and FPWs. The FPWs are skilled at using cooperation to encourage attendance by ensuring laughter. Reports of 'good fun' are filtering into the wider client group.

The cooperation results in genuine synergy between NHVs, FPWs and clients. On the next level, other providers respond to ANFPP, ensuring referrals between services are made with the aim of strengthening client active participation in all programs.

Case Anecdote: Parenting after child removal (Urban site, ANFPP)*Amelia has been part of ANFPP since she was fifteen weeks' pregnant. Amelia has had a difficult history having had one child removed previously due to her own mental health concerns and domestic violence.*

Amelia was determined to do things differently with her second pregnancy. Amelia had a new partner and was in a safe and loving relationship.

Throughout her pregnancy Amelia engaged really well with the Program, not missing any of her planned visits. Amelia had on-going concerns that the Department for Child Protection may become involved again, potentially removing this child, despite all of her hard work to try and build a better life for this child. Amelia was determined that this would not happen again

Amelia had her baby in August 2018. Following the birth of her baby, Amelia's engagement continued to be strong, only missing one visit, which she re-arranged for the following day.

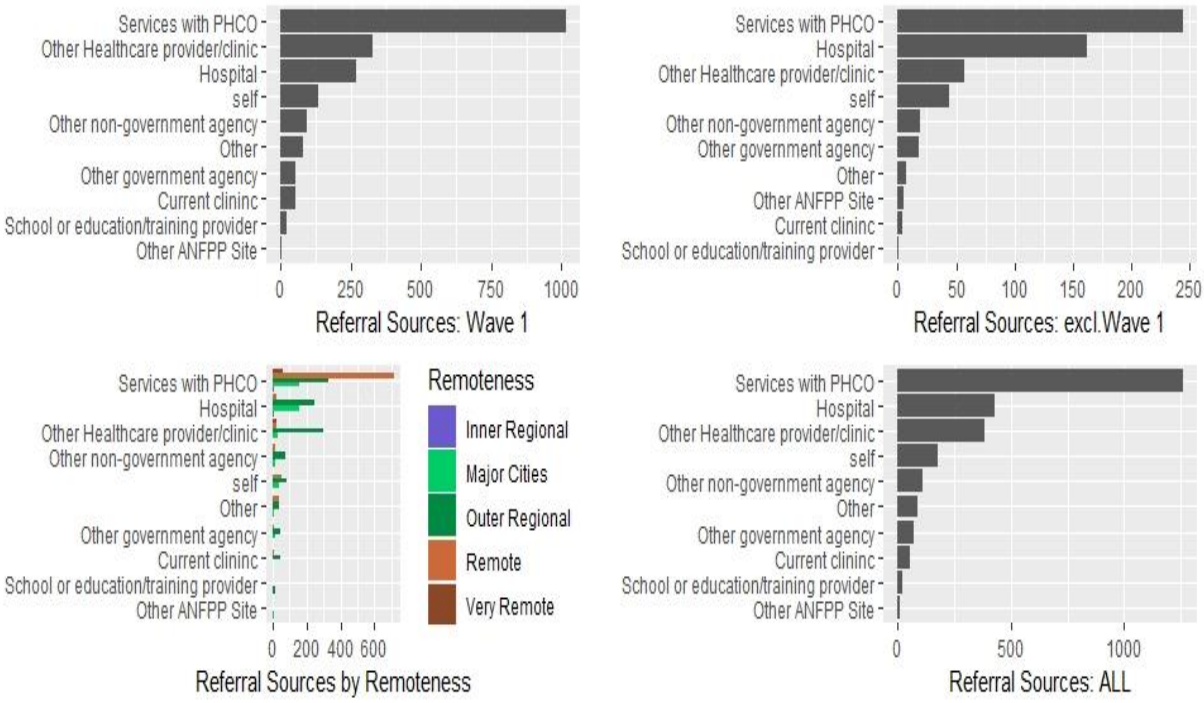
Amelia is a confident young woman, often not needing us for support, she's happy to access services with her partner or by herself. However, Amelia felt that the ANFPP would help her be the best mum she can be.

Amelia already has lots of parenting skills that together we work to strengthen. She is kind, patient, warm and caring. Amelia told us that she had previously completed 'Circle of Security' and how she had really enjoyed this. Amelia proceeded to tell us how she uses this in parenting her baby. Amelia is interested in and uses information from the ANFPP team, engages with all professionals involved in her and baby's care and sees a counsellor to strengthen her mental health.

Amelia and her partner eventually want to move to a country town, out of ANFPP's catchment area to be closer to family however their plans are on hold as they want to finish the Program first.

3.3 ANFFP Client Referrals Source Trends

FIGURE 5: ANFPP CLIENT REFERRAL SOURCES FOR PROGRAM DURATION



The top 5 referral sources account for 93% of referral sources in 2017/18 across ANFPP Partner Organisations (Table 7). The remaining 7% is a combination of 'non-government agency' and 'other ANFPP partner organisations'.

TABLE 6: TOP 5 REFERRAL SOURCES BY ANFPP PARTNER ORGANISATIONS (2017/18)

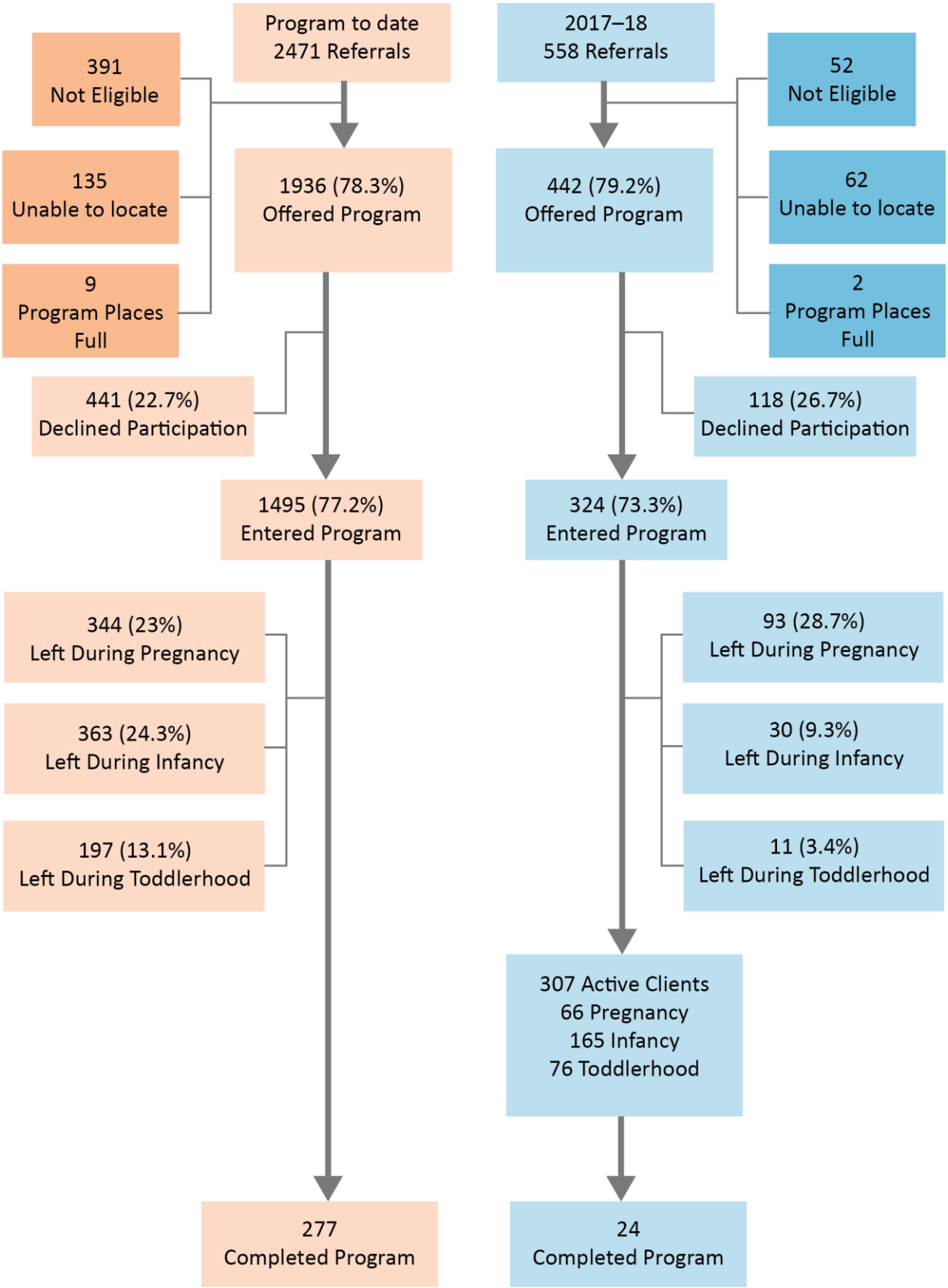
Partner Name	Services with PHCO	Hospital	Other Healthcare Provider/Clinic	Other	Self-Referral
Congress Aboriginal Health Service	65	0	1	34	3
Danila Dilba Health Service	25	1	2	1	4
Durri Aboriginal Corporation Medical Service	3	0	0	0	0
Institute of Urban Indigenous Health (North)	21	41	1	3	4
Institute of Urban Indigenous Health (South)	18	5	6	0	2
Nunkuwarrin Yunti of South Australia Inc	6	3	1	1	0
Rumbalara Aboriginal Co-Operative	0	6	0	0	2
Top End Health Service	24	0	10	0	1
Wellington Aboriginal Corporation Health Service (Blacktown)	3	25	24	2	7
Wellington Aboriginal Corporation Health Service (Dubbo)	3	3	5	0	5
Wuchopperen Health Service	26	6	4	1	6
Winnunga Aboriginal Health and Community Service	3	0	3	0	0
Wurli-Wurlinjang Health Service	12	0	0	0	0
Total	**209**	**90**	**57**	**42**	**34**

Client Referral sources are generally consistent across all Partner Organisations, with slight variations:

- The clear majority of ANFPP client referrals are from the local Primary Health Care Organisation.
- The next largest referral source is Other Healthcare provider/clinic for Wave 1 Partner Organisations. For the rest of ANFPP Partner Organisations the next largest referral source is the Hospital.
- The remainder of referral sources are similar across all ANFPP Partner Organisations.
- Remoteness does not appear to influence referral source.

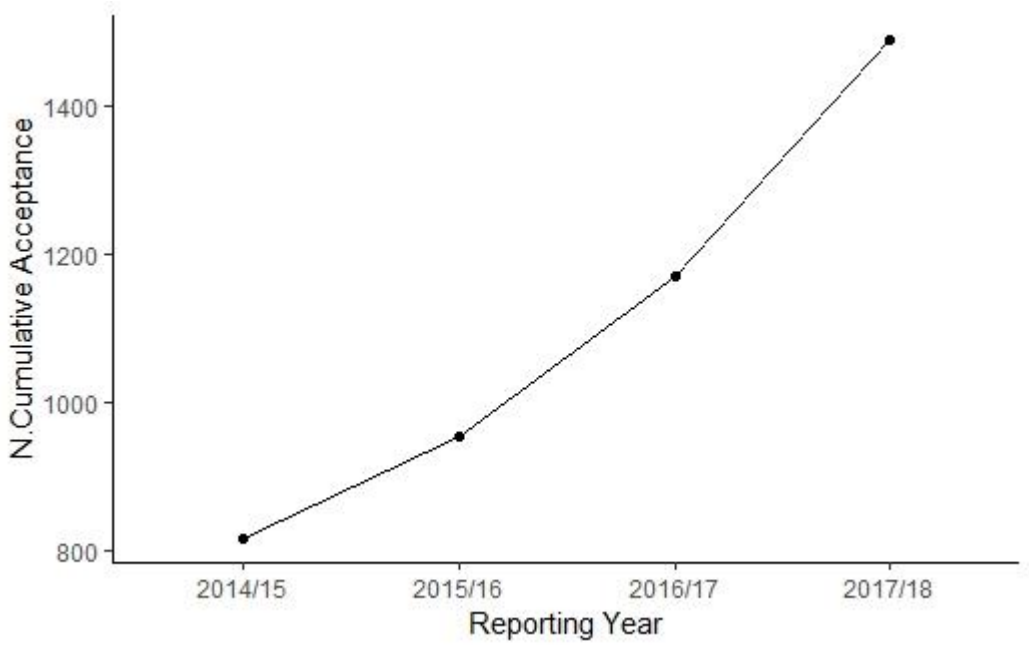
Over the entire period in which ANFPP sites have been operational, the program has received 2471 referrals. Of these, 1919 women were offered the program and 1483 accepted, resulting in a program acceptance rate of 73.3%. As of 30 June 2018, the program had 319 active clients. Figure 6 shows referral outcomes to date and for the 2017–18 financial year. The figure below contrasts the cumulative to 30 June 2018 data (on the left) with the 12-month data for the reporting period (on the right).

FIGURE 6: CUMULATIVE CLIENT NUMBERS AND STATUS OVER THE LIFE OF THE PROGRAM



3.3 ANFFP Client Acceptance Trends

FIGURE 7: CUMULATIVE ANFPP CLIENT ACCEPTANCE FOR PROGRAM DURATION



The graph shows a steady increase in client acceptance to the program that has kept pace with client referrals. An overall increase in client acceptance numbers is notable in 2017/18, which is explained by the increase in participating ANFPP Partner Organisations.

FIGURE 8: Cumulative Client Acceptance Numbers

Although client acceptance to the ANFPP program is increasing at an average of 18%. The annual rate of growth in client acceptance for Wave 1 sites is declining. It can be speculated that Wave 1 sites are maintaining a relatively constant rate of client acceptance while the newer sites are growing more rapidly.

TABLE 7: ANNUAL RATE OF GROWTH IN CLIENT ACCEPTANCE - WAVE 1 VS ALL SITES

	Cumulative Acceptance	Wave 1 growth %	All Waves growth %
2014/15	817	-	-
2015/16	954	12.6	14.3
2016/17	1170	10.9	18.5
2017/18	1495	9.4	21.7

3.4 ANFPP Home Visits Analysis

The amount of time spent delivering ANFPP information across all domains varies. Accomodating the *clients hearts desire* and physical issues like hearing loss and limited education mean at times it may take longer to provide ANFPP program information. Partner Organisations in Remote and Very Remote locations also have to contend with logistical issues. Bearing in mind, the challenges our Home Visting Teams face, the total time spent in each domain reflects well on our Home Visting Teams. The program contents need to be delivered across five domains as defined in CME benchmark #10 (refer to Table 9).

TABLE 8: 2017–18 TIME SPENT IN PROGRAM DOMAIN FOR PROGRAM DURATION (DURATION IN AVERAGE MINUTES)

Remoteness	Phase	My Child	My Family	My Health	My Home	My Life	Total
Major Cities	Pregnancy	22.2	10.3	34.6	8.4	11.8	87.2
Inner Regional	Pregnancy	12.8	5.4	47.5	19.0	15.3	100
Outer Regional	Pregnancy	26	14.5	33	8.5	9	91
Remote	Pregnancy	23.7	11.9	41.8	8.9	11.3	97.5
Very Remote	Pregnancy	21.1	16.5	29.4	14.8	14.9	96.8

	Benchmark	23-25	10-15	35-40	5-7	10-15	
Major Cities	Infancy	27.4	13.7	28.8	14.9	9.2	94.2
Inner Regional	Infancy	60	2.5	32.5	2.5	2.5	100
Outer Regional	Infancy	36.5	14	20.5	10	11	92
Remote	Infancy	35	11	31	13.5	8	98.5
Very Remote	Infancy	31.4	14.0	24.8	12.9	12.5	95.7
	Benchmark	**45-50**	**10-15**	**14-20**	**7-10**	**10-15**	
Major Cities	Toddlerhood	26.1	11.2	16.9	9.1	14.2	77.5
Outer Regional	Toddlerhood	36	14.5	17.5	10.5	14.5	93
Remote	Toddlerhood	34	17	17	13	17	98
	Benchmark	**40-45**	**10-15**	**10-15**	**7-10**	**18-20**	

Case Anecdote: Antenatal care, home visits (Metropolitan site, ANFPP)

Mum 16 years old was referred to the program at 16 weeks of pregnancy. Once signed up and consented and the rapport was built we started our home visits. She started off with her mum being there for the visits and was quite shy at first. After a few home visits and having an Aboriginal FPW and nurse I believe she was able to feel comfortable and has started to open up more with her NHV team and she is now attending home visits alone without her mum.

It's really hard to engage our women in attending antenatal care so this is a huge step for her to be attending all her antenatal appointments. After one home visit discussing dental hygiene and health during pregnancy the client discussed how she was scared of going to the dentist but with building her confidence she booked herself in for a dental checkup and everything went well.

She is doing a fantastic job with taking the right steps to take care of herself and her baby.

Case Anecdote: Antenatal care, home visits (Metropolitan site, ANFPP)

It all started with a referral. The mum was 40 years old and nine weeks pregnant. Her concerned midwife and counsellor indicated she was experiencing family violence. She was originally from a remote community 516 km away. She had depression to the point where she couldn't even get out of bed and wasn't eating. There was a six week wait for perinatal mental health. She had engaged with counselling once. Staff were concerned for her mental and physical health during pregnancy. Her EPDS score was high at 17 in the first trimester. Initially, it took a while to engage her and it took a lot of rapport building to gain her trust, show we cared, that we were there for her and led by her. It would have been so easy to take this mum as 'not interested' in the program. But we waited and were patient.

She engaged in the program, the FPW supported her in her Centrelink payments and job search which was causing lots of added stress. This allowed the Nurse Home visitor to engage the client in the ANFPP content to facilitate a healthy strong pregnancy. I believe having an Aboriginal FPW and Nurse meant she was able to open us up and we could relate to her. It allowed us to understand her situation in a cultural aspect and wrap the appropriate services around her.

The wrap around support from all services allowed this client to feel strong, to put a sign up at her door to stop the family violence and humbug. It was something so small but empowering for this client.

A comment from the midwife at 30 weeks gestation was 'I have never seen a client do such a big turnaround, she is beaming and happy because of you guys' When you're on the ground working with clients you are able to see these small strength-based changes.

On a home visit, the client said she wanted her sister to be referred to the program as she could do with the support. Her willingness to refer a family member showed she really trusted the program. This client is now 30 weeks gestation and is engaged with her midwife, counsellor and ANFPP. She is able to get out of bed, is eating, gaining weight and looking forward to having her baby. Her EPDS score went from 17 to a low risk of four. We are excited to continue to support this mum and bub, to see them grow and focus on the small steps.

3.5 Home Visits Dosage

To compare the percentage of Home visits completed with NFP Benchmarks, it is preferable to use clients that have completed the phase. Therefore, to guarantee this, home visit dosage calculations are based on the clients in the next program phase. For example, to determine the number of clients that completed the Pregnancy phase, these clients must be in the Infancy phase.

In brief

- # clients that have completed Pregnancy phase = # of clients receiving home visits in Infancy. N.B. The clients in this phase cannot be certain to have had the opportunity to have the full set of visits due to late commencement date.
- # clients that have completed Infancy phase = # of clients receiving home visits in Toddlerhood
- # clients that have completed Toddlerhood = # of clients Graduated

Clients are expected to receive:

- 14 visits in pregnancy
- 28 visits in infancy
- 22 visits in toddlerhood

The method used to calculate dosage is based on clients that have completed each phase and therefore had the opportunity to receive the complete number of visits for each phase. The table 10 below describes dosage rate as:

- The total number of visits in a phase divided by the number clients that have completed a phase multiplied by the prescribed number of phase visits.

TABLE 9: HOME VISITING DOSAGE RATE FOR PROGRAM DURATION BY COMPLETED PHASE

	Pregnancy	Infancy	Toddlerhood	Entire Program
Dosage Rate	48%	59%	66%	58%

3.5 ANFFP Client Attrition Analysis

TABLE 10: ANFPP CLIENT ATTRITION BY REMOTENESS AND PHASE FOR THE DURATION OF THE PROGRAM

Remoteness	Pregnancy	Infancy	Toddlerhood	All Phases
Major Cities	77	28	39	144
Inner Regional	4	5	0	9
Outer Regional	171	227	84	482
Remote	87	99	73	259
Very Remote	5	4	1	10
Total	**344 (38.1%)**	**363(41.0%)**	**197 (21.7%)**	**904**

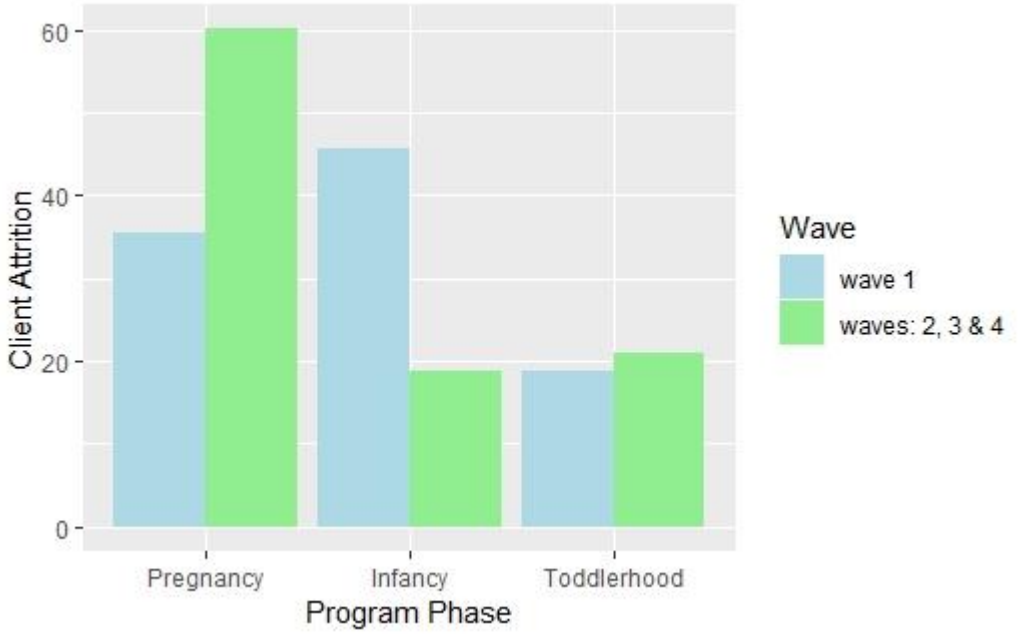
As a proportion of all client attrition, attrition during Infancy is only 2% higher than client attrition during Pregnancy. Client attrition of 19.1% during Toddlerhood is the least volatile of all program phases.

Client attrition patterns by remoteness shows:

- Pregnancy as the peak program attrition phase for Partner Organisations located in Major Cities.
- Infancy is the peak program attrition phase for Partner Organisations located in Outer Regional Australia.
- Infancy slightly edges out Pregnancy for higher client attrition in Partner Organisations located in Remote Australia.
- Regardless of remoteness measure Toddlerhood shows the lowest rate of client attrition.

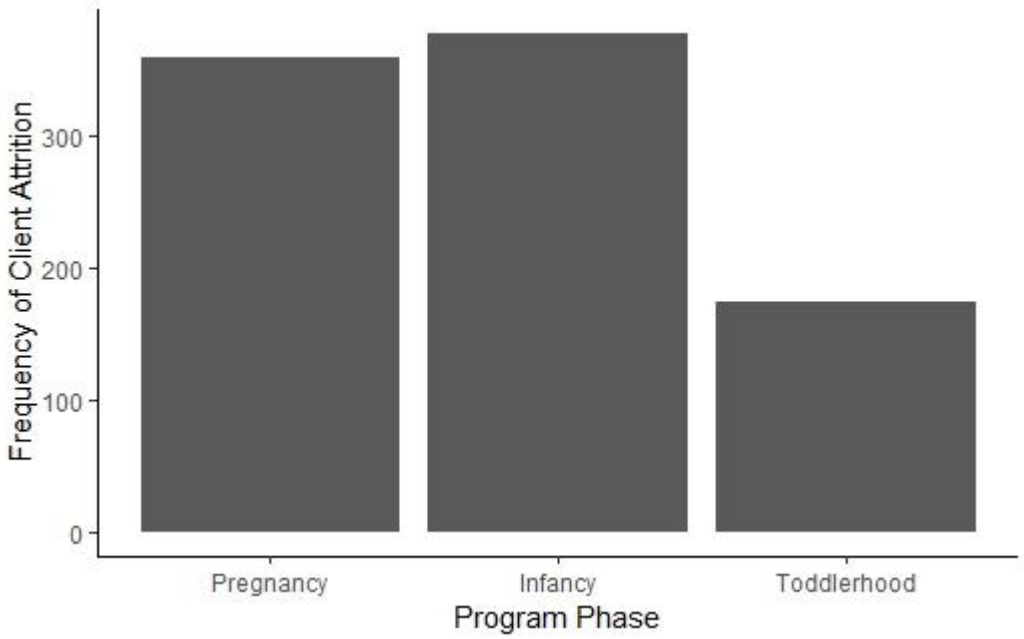
Currently Partner Organisations' located in Inner Regional and Very Remote Australia do not have enough data to reflect any trends. A variety of potential factors across regions may explain these differences but no concrete conclusion is evident.

FIGURE 9: CLIENT ATTRITION BY PARTNER ORIGINATION IMPLEMENTATION AND PROGRAM PHASE FOR THE DURATION OF THE PROGRAM.



Wave 1 Partner Organisations are considered mature (from 2009) in ANFPP implementation, whereas Waves, 2, 3 and 4 (from 2016) are still developing. Examining client attrition from this perspective shows Toddlerhood attrition is similar across all Waves. However, the bulk of client attrition in Waves 1 Partner Organisation occurs in Infancy as opposed to Pregnancy for Wave 2, 3 and 4 Partner Organisations.

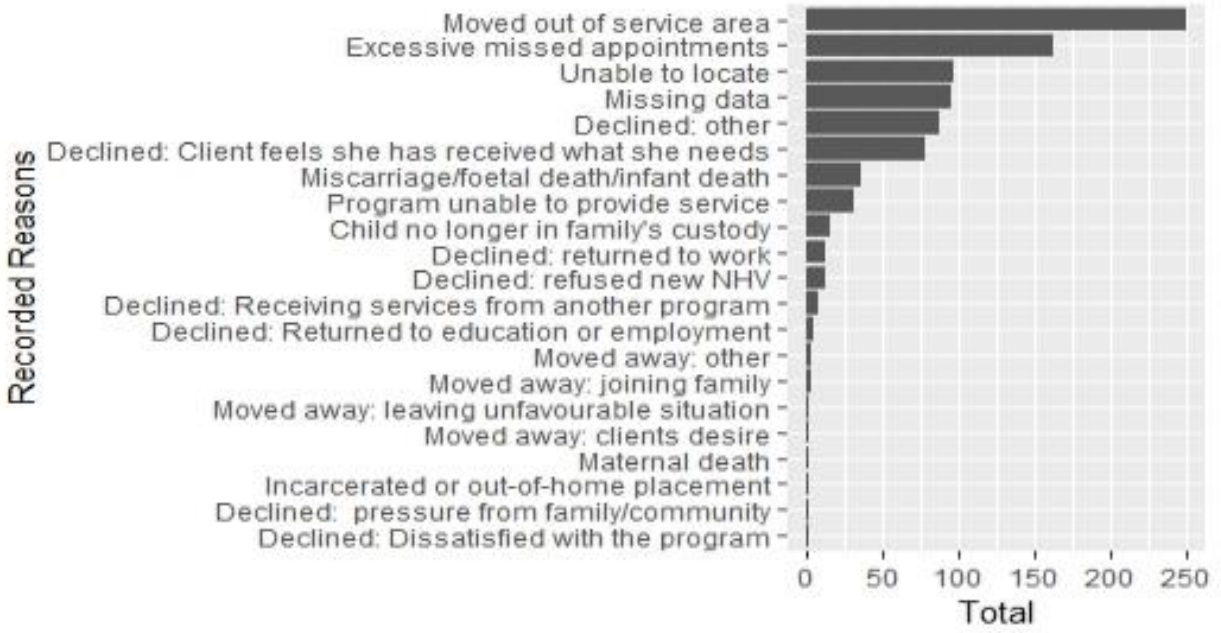
FIGURE 10: CLIENT ATTRITION BY PHASE FOR THE DURATION OF THE PROGRAM



Client attrition for all Partner Organisations irrespective of remoteness shows attrition is lowest during toddlerhood, while attrition is slightly higher in infancy than it is in pregnancy.

Summary of recorded reasons for client attrition for the program duration is provided in figure 11 below.

FIGURE 11: RECORDED REASON FOR CLIENT ATTRITION BY FREQUENCY FOR THE PROGRAM DURATION



Top three recorded reasons for client attrition for 2017/18 are consistent with historical trends:

- Moved out of service area (31%)
- Excessive missed appointments (20%)
- Unable to locate the client (12%)

10% of ANFPP clients are recorded as leaving the program because the client felt she had gained sufficient knowledge and insight from the program to raise her family, (*Declined: client feels she has received what she needs)*. This indicates even though the client has not formally completed the program she has acknowledged benefiting from the education, knowledge and support she has received from the ANFPP Home Visiting Team. Overall client attrition for program duration was 61%.

Case Anecdote: Nurturing mother and baby attachment and bonding (Metropolitan site, ANFPP)

Two of our young mums have reported in their feedback forms, they particularly enjoy the connection developing between their infants. An important element of ANFPP is our focus on attachment and building babies brains. Tuesday mornings provide a nourishing environment for the babies to socialise and connect in a safe space, under the watchful eyes of their parents and our team. It has been exciting to see the babies explore, play together and then, to the delight of their mums, feed and fall asleep together. Mums felt nourished by sharing experiences with their peers, creating memories through the arts and crafts and participating in cooking a healthy lunch for themselves and their infants.

Photo credit: Feedback from two young mums at the end of the Community day

4.0 Workforce

The workforce section covers the following data:

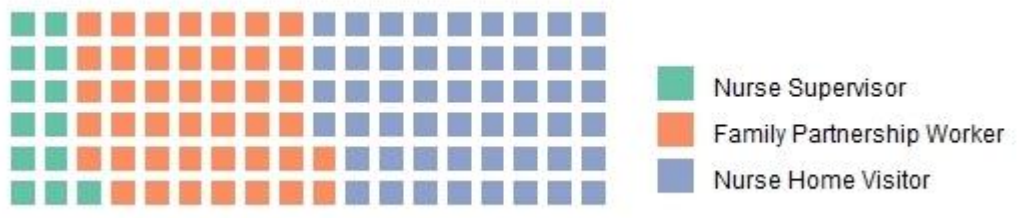
- The makeup of the workforce e.g. NS, NHV, FPW numbers at each site and ANFPP wide
- Indigenous status
- Retention and turnover plus strategies sites implement to address attrition and exploration regarding why turnover varies between sites.

Each Partner Organisation has a home visiting team comprising three roles: Nurse Supervisor (NS), Nurse Home Visitor (NHV) and Family Partnership Worker (FPW).

TABLE 11: ANFPP PARTNER ORGANISATION COMPOSITION HOME VISITING TEAM

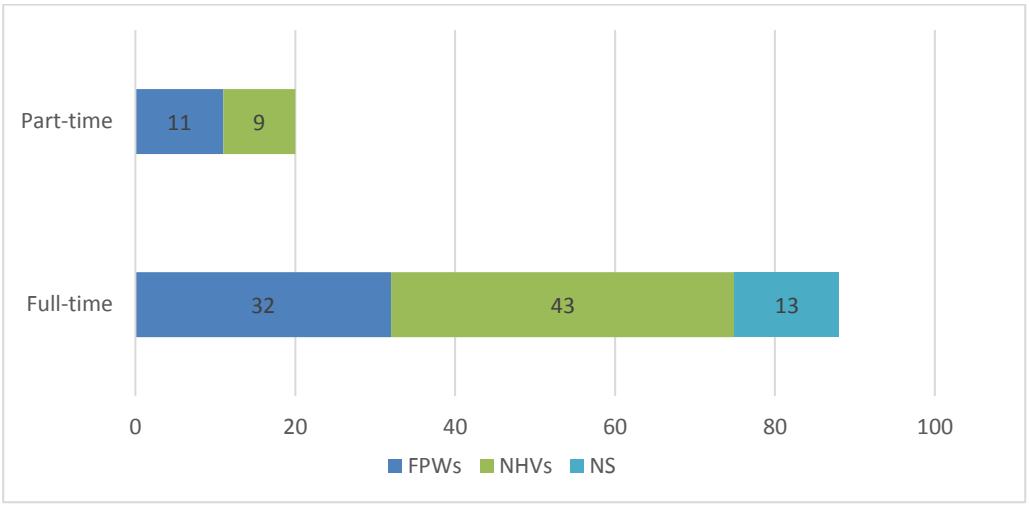
Partner organisation	NS	NHV	FPW	Total
Congress Aboriginal Health Service	1	7	4	12
Danila Dilba Health Service	1	4	4	9
Durri Aboriginal Corporation Medical Service	1	0	0	1
Institute of Urban Indigenous Health (North)	1	9	4	14
Institute of Urban Indigenous Health (South)	1	6	4	11
Nunkuwarrin Yunti of South Australia Inc	1	2	3	6
Rumbalara Aboriginal Co-Operative	1	2	2	5
Top End Health Service	1	5	6	12
Wellington Aboriginal Corporation Health Service (Blacktown)	1	5	5	11
Wellington Aboriginal Corporation Health Service (Dubbo)	1	3	3	7
Winnunga Aboriginal Health and Community Service	1	3	2	6
Wuchoperren Health Service	1	3	3	7
Wurli-Wurlinjang Health Service	1	3	3	7
Total	**13**	**52**	**43**	**108**

FIGURE 12: COMPOSITION OF ANFPP HOME VISITING TEAM



The split between Nurse Home Visitor and Family Partnership Worker roles is fairly even. Nurse Supervisors have a leadership role and each site has one Nurse Supervisor.

FIGURE 13: SIZE OF OUR PROGRAM (WORKFORCE FTE)



Case Anecdote: Increasing Confidence of Family Partnership Workers (Remote site, ANFPP)

Melissa & Virginia are proud Family Partnership Workers (FPW). They both wear their uniform around community proudly and demonstrate enthusiasm and a strong commitment to ANFPP. Melissa and Virginia have a strong tie to the community as they were both born and raised in the area.

They have been an invaluable addition as they provide NHV with cultural knowledge, interpretation in local language and they know EVERYONE within the community. As FPWs they are also eager to learn and are competing their Certificate I in Skills for Vocational Pathways that ANFPP are supporting them in completing.

The ANFPP nurse home visitor has gained the commitment of the Cert I Educator to incorporate ANFPP client centred principles. This has allowed the FPW's an opportunity to develop local resources in both English and in their local language as a component of Cert I Training. The integration of Vocational training contextualised to the ANFPP needs has strengthened both programs. It is encouraging to see the FPWs' growing confidence in demonstrating program outcomes.

TABLE 12: CULTURAL BACKGROUND OF ANFPP PARTNER ORGANISATION HOME VISITING TEAMS

Home visiting role	Aboriginal	Aboriginal & Torres Strait Islander	Non-Indigenous	Total
Family Partnership Worker	41	2	0	43 (40%)
Nurse Home Visitor	11	0	41	52 (48%)
Nurse Supervisor	3	0	10	13 (12%)
Total	**55**	**2**	**51**	**108 (100%)**

FIGURE 14: CULTURAL BACKGROUND OF ANFPP HOME VISITING TEAM 2017/18 BY PROGRAM ROLE

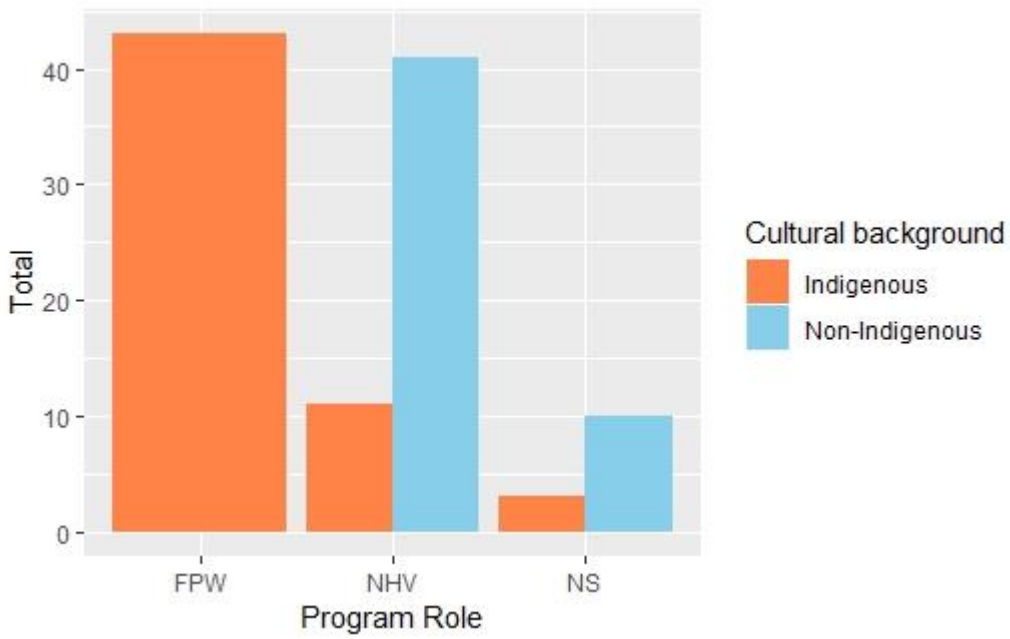
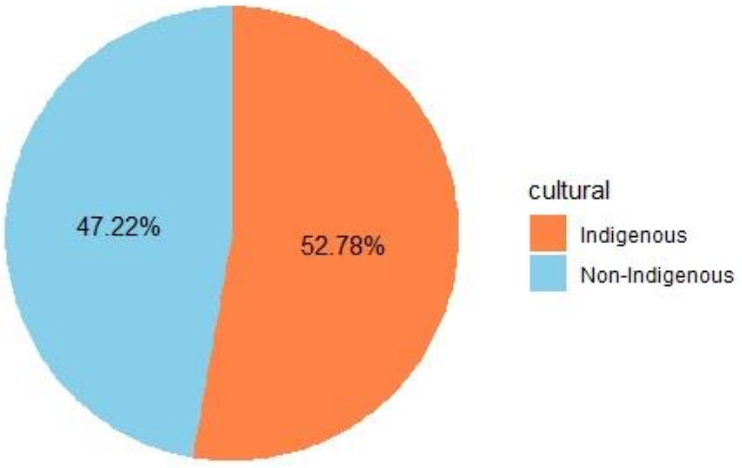


FIGURE 95: CULTURAL BACKGROUND OF ANFPP HOME VISITING TEAM 2017/18



$$Turnover = \frac{Staff\ who\ have\ left\ ANFPP\ 2017/18}{Staff\ who\ have\ left\ ANFPP\ 2017/18\ +\ \ Staff\ employed\ by\ ANFPP\ at\ 30\ June\ 2018}$$

TABLE 13: ANFPP PARTNER ORGANISATION STAFF TURNOVER IN 2017/18

Home Visiting Role	# Staff left ANFPP
Family Partnership Worker	7
Nurse Home Visitor	9
Nurse Supervisor	3
Total	19

As a proportion of program role, staff turnover within each group was highest among Nurse Supervisors' at 23%, followed by Nurse Home Visitors' at 17% and Family Partnership Workers' had a turnover of 16%. This represents a vast improvement in retention compared to the previous reporting period where the rate was 48%.

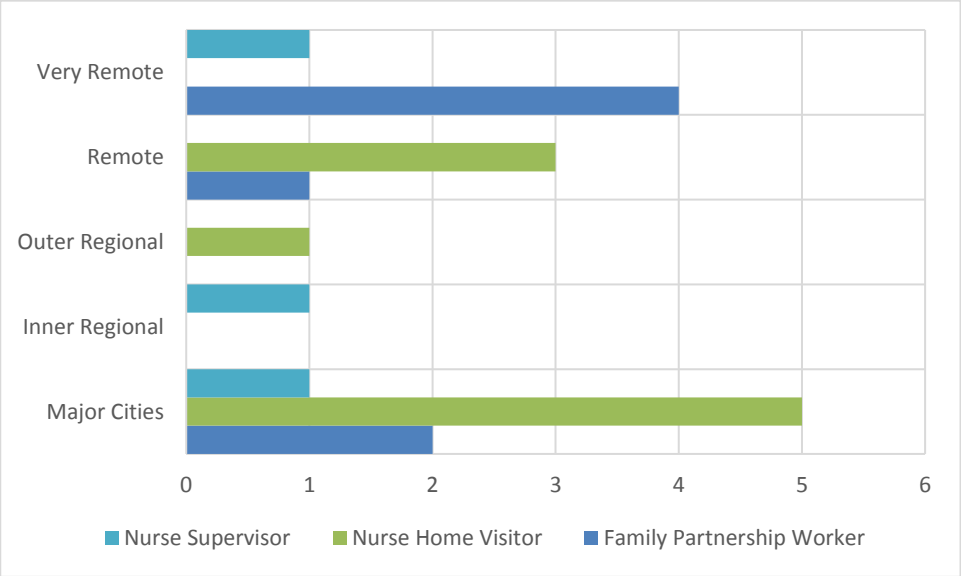
Case Anecdote: Community Days: Connect, Create and Nourish (Metropolitan site, ANFPP)

ANFPP are now hosting Cultural Days for their mums, bubs, partners and family every Tuesday morning at the Mum's and Bub's site.

The Family Partnership Workers have led the development of Cultural day projects, encouraging our young mums, partners, and their babies to come into the office for a morning of connection, creating and nourishment.

Our young families enjoy the experience of coming together to cook, laugh, create beautiful art works and delight in engaging and bonding with their babies. The babies delight in connecting with other babies, parents and our incredibly skilled team of strong women. Everyone who attended was keen to commit to coming regularly and were full of ideas about activities (like going fishing); reminding many of times in the past when they had felt enriched by connecting to family, community and country.

FIGURE 16: PROPORTION OF WORKFORCE ATTRITION BY REMOTENESS



Staff turnover by remoteness;

- The highest number of staff departures occurred in Major Cities.
- The lowest number of staff departures occurred across Regional (Inner and Outer) Australia.

In summary, the overall staff turnover of 17% in 2017/18 indicates a substantial improvement from an overall staff turnover of 48% in 2016/17.

Case Anecdote: Reflective Supervision offered by NPC

Reflective Supervision is a valued and essential component of the ANFPP program and provides opportunity for professional growth, which in turn strengthens practice and program quality. Our Nurse Supervisors support dynamic teams of Nurse Home visitors and Family Partnership Workers who work every day to improve the health and wellbeing of our clients and their babies.

Our Nurse Supervisors lead teams across Australia, from Darwin in the North to Shepperton in the South. Distance is certainly a challenge and furthermore effective Reflective Supervision relies on the development of a collaborative relationship between Supervisor and Supervisee. This year saw new recruitment into the Supervisor Position based at the NPC in Brisbane and work was needed to develop relationships. Conveniently, the National ANFPP conference coincided with filling the position and provided a perfect opportunity to kick things off. All Nurse Supervisors were in attendance and time was spent getting to know each other. Other touch points in the proceeding months when Nurse Supervisors where at Brisbane training provided further contact.

The first Refection Supervision sessions started in July and have been offered to all staff on a regular 2–3 weekly basis. The least optimal modality is telephone and where possible face to face options are pursued using video link and facetime and in person. To date, the NPC has provided 42 hours of Reflective Supervision to Nurse Supervisors. Additionally, 19 hours of Reflective Supervision has been provided to NHV and FPW's in transition between Nurse Supervisors.

These remarkable men and women support equally remarkable teams who are faced with different challenges daily. NPC is delighted to offer Nurse Supervisors with a private and confidential space to reflect on their practice and to strengthen program quality.

5.0 Client Demographics

Out of 442 eligible client referrals, 324 clients (73%) accepted referral and enrolled in the program. This is close to the program performance target of 75%. However, early referral and enrolment by 16 weeks of pregnancy remains a challenge, with only 18% of clients enrolled by 16 weeks, compared to the program target of 60%. This could be explained by a relatively higher number of new partner organisations with eight out of 13 commencing in 2017. The percentage of early enrolment was comparatively higher at 29% in 2016/17.

The large number of sites at an early stage of maturity coupled with higher rates (48%) of staff turnover in 2016/17 may have caused the higher client attrition rates in the pregnancy stage during the next reporting period. Pregnancy attrition increased from 11% in 2016/17 to 29% in 2017/18. However, attrition rates for Infancy and Toddlerhood declined significantly in 2017/18 and meet program targets for both stages (see Table 15). Because of higher attrition rates during the pregnancy stage, overall attrition increased by 2% in 2017/18 compared to 2016/17. The top three reasons for client attrition were; moving out of the service area, excessive missed appointments and inability to locate the client. Anecdotal evidence suggests some clients feel they have acquired adequate knowledge and skills from the program to be able to continue without ANFPP support and leave the program mostly in infancy stage.

TABLE 14: COMPARISON OF ATTRITION RATE, BY STAGES

Reporting period	During pregnancy	Infancy stage	Toddlerhood stage	Overall attrition
2017/18	29%	9%	3%	41%
2016/17	11%	22%	6%	39%
Program target	**<10%**	**<20%**	**<10%**	**60%**

As new sites develop skills and experience we expect a gradual reduction in the attrition rate in the Pregnancy stage. Current data reflects the large number of sites (8 out of 13 sites) at an early stage of maturity.

5.1 Cultural Background and Parenting Status

Table 16 and 17 show the ***cultural background and parity*** of accepted clients. The majority (76%) of clients have Aboriginal background and are first-time mothers. Close to 10% of clients are experiencing their first opportunity to parent; indicating client complexity and the high needs of clients who potentially require extensive support and encouragement.

TABLE 15: NUMBER AND PERCENTAGES OF CLIENT ETHNICITY, 2017/18

Ethnicity	N	%
Aboriginal	246	75.9
Aboriginal and Torres Strait Islander	4	1.2
Non-Indigenous woman with Aboriginal and/or Torres Strait Islander partner	42	12.9
Torres Strait Islander	9	2.78
Missing Data	23	7.06
Total	**324**	**100**

TABLE 16: NUMBER AND PERCENTAGE FOR MOTHER'S PARITY, 2017/18

Parity	N*	%
First Time Mother	257	86.8
First Opportunity to Parent	29	9.8
Multiparous	10	3.4
Total	296	100

*28 records do not have parity information

5.2 Client Age

ANFPP ***client age*** ranged between 14 and 40 with a mean age of 22 years. More than one third of the mothers were teenage mothers (Table 18).

TABLE 17: AGE AT INTAKE FOR WOMEN PARTICIPATING IN THE PROGRAM, 2017/18

	Age in Years
Mean age at intake	22
Median age at intake	21
Minimum age	14
Maximum age	40

TABLE 18: AGE DISTRIBUTION AT INTAKE FOR WOMEN PARTICIPATING IN THE PROGRAM, 2017/18

Age ranges	N (%)
14-19	65 (34.9%)
20-34	118 (63.4%)
35+	3 (1.6%)
Total	186

5.3 Housing and Living Arrangements

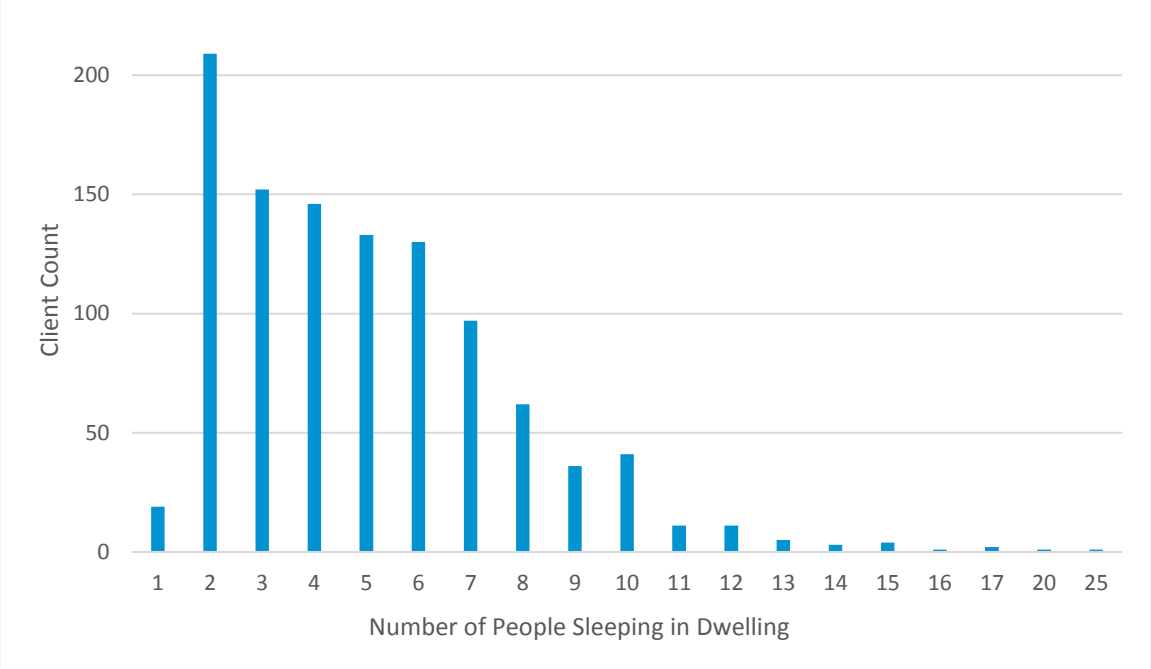
It is critical to understand the housing conditions and living arrangement of clients to ensure the program is delivered in an appropriate manner. Staff feedback suggests many clients prefer visits outside the home due to various factors including overcrowding and lack of privacy.

Figure 18 illustrates the number of people (including the client) sleeping in client households. Individuals are considered to sleep in the household/dwell in the residence if they are present four or more nights per week.

The majority of clients have between three and seven people sleeping at their dwelling; 50 % of the clients live with more than six people in the house and some clients live with as many as 15–25 people sleeping in the same dwelling.

Overcrowding is associated with a range of health problems including otitis media, trachoma, scabies, gastroenteritis and respiratory infections (RACGP, 2018). Mental health issues and domestic violence may be exacerbated by overcrowding (RACGP, 2018).

FIGURE 17: NUMBER OF PEOPLE SLEEP (AT LEAST 4 NIGHTS PER WEEK) AT THE CLIENT'S HOUSEHOLD, PROGRAM DURATION

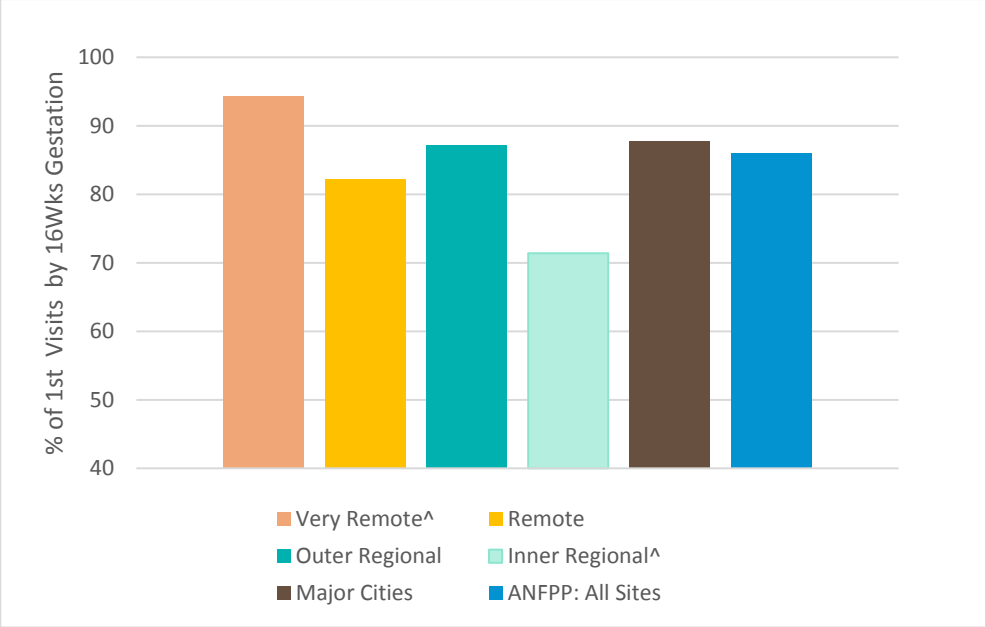


5.4 Antenatal Care Visits

Antenatal care (ANC) is associated with positive health outcomes for mothers and their babies, including better maternal health in pregnancy, fewer interventions in late pregnancy, and positive child outcomes (Australian Institute of Health and Welfare, 2017a). On average, ANFPP Partner Organisations report the first antenatal visit (to a local health provider) occurred by the 16th week of gestation for 81.5% of clients.

Figure 18 indicates the percentage of ANC visits occurring by 16 weeks of gestation in various geographic areas by remoteness.

FIGURE 18: PERCENTAGE OF FIRST ANTENATAL VISITS OCCURRING BEFORE 16WK GESTATION*, BY REMOTENESS, PROGRAM DURATION.



*% of total number of first antenatal visits

^ total count is low (<20). Values should be used with caution.

The actual number of ANC visits for Partner Organisations in Inner Regional and Very Remote Australia is sparse, thus need to be interpreted with caution (see Table 20 below).

TABLE 19: NUMBER OF ANC VISITS REPORTED BY 16 WEEKS OF GESTATION FOR THE DURATION OF THE PROGRAM

Remoteness Area	Antenatal Visit by the 16th Week	Total Number of Visits
Major Cities	114 (87.75%)	130
Inner Regional	5 (71.4%)	7
Outer Regional	517 (87.2%)	593
Remote	319 (82.2%)	388
Very Remote	17 (94.4%)	18
Total	972 (81.5%)	1193

5.5 Client Complexity

ANFPP clients' complex personal and behavioural circumstances need to be taken into consideration for the implementation of the program as well as for the assessment of its progress and success. The complexity of clients is demonstrated by a relatively higher number of teenage pregnancies, congested housing conditions, a higher proportion of clients experiencing Domestic Violence (DV) and nearly half the clients smoked during pregnancy. The cases below present the ways ANFPP nurses provide the most needed care in a culturally appropriate manner during client's challenging times.

Case Anecdote – Client complexity and support during challenging times (ANFPP, Remote Site)

Paula (pseudonym) moved interstate to escape a dangerous DV situation. She brought her 2-year-old and 3-year-old sons and 12-year-old daughter with her.

She had no prior antenatal care and was in a very vulnerable state. However, as many of our mums are, she is amazingly resilient and extremely capable and organised. The love for her children shines through in her interaction with them and she only wants the best for them.

She and her three children were living in one bedroom of a two-bedroom unit and she was very grateful for the roof over her head. This was when we first engaged with this amazing young lady. There was a party being organised at this unit for the same night and Paula was extremely worried about her children, especially her twelve-year-old. We organised an immediate transfer to the Women's Crisis Centre (WCC). Paula was so thankful and relieved she cried and hugged us both for helping her out. She reported it was the first night that she could relax and feel safe.

We had regular home visits and assisted with referrals to Counselling, Centrelink, Obstetric appointments, and Physio appointments etc. Our nurses also assisted in following up any concerns or worries about her pregnancy. She was particularly concerned about not being able to breastfeed, however, I am pleased to report that with our support and support from midwives at the hospital this amazing young woman had a normal birth and bub is fully breast feeding.

Case Anecdote – Young mum and welfare service involvement (ANFPP nurse, Remote Site)

Yesterday I found myself sitting with one of our beautiful mums, her bub, our family partnership worker and a lawyer from a community legal service. What had brought us to this point was a case of disadvantage and lack of resources that many of our family's face.

The young woman Sarah (pseudonym) is 16 years old and she is from a remote community. She has family at her community but no parents. She left her community because of lack of opportunity and family conflict.

Sarah met a young man at a party one night. She wasn't on any contraception and had little knowledge about contraception and how to access it, she was too shy to attend the local clinic. She discovered she was pregnant and decided to move to a bigger town to live with her aunty. However, soon after she returned to Katherine to be with her partner and in-laws.

The unit the family live in is crowded. It has two bedrooms and it is common to have 10 people staying in or around the unit. Her mother-in- law is a lovely lady; however, she has a problem with alcohol. As a result, her children were removed from her care and some of them were raised in foster care including the young man.

The young man also has problems with alcohol. On occasion he gets into fights with young men from other communities. Sarah denies domestic violence to us; however, mandatory reports have been made by the local hospital. We have noticed injuries to her face on two occasions.

Welfare services became involved and have warned her they will take her baby if she does not leave this house. The young woman became scared and followed welfare instructions.

The ANFPP home visit team assisted her through this journey. She has a very good relationship with the team. Our staff works hard to help this family stay together as the outcomes for children who have been removed are poor. This is also reflected in the case of the young man in this story. This is a snap shot of one of our cases to provide insight into the challenges faced by families and our staff.

6.0 Program Outcomes

6.1 Overview

Analysis of ANFPP data from 2014/15 to 2017/18 requires the assimilation of datasets collected at points in time across multiple systems. As the program has matured the number and type of data collected has also evolved, through Data Specification 2.1 to Data Specification 2.5, then extended to include the ANKA data specifications.

For the reasons outlined above, there are limitations to the number of data items consistently collected from 2014/15 to 2017/18 in a form that makes valid comparisons possible. For example, while a variety of data items are collected on breastfeeding practices, only two are available that support valid comparisons from 2014 through to the present.

Datasets for the following outcomes and their related Program Targets were investigated in greater detail as these are key program outcome areas:

1. Immunisation
2. Breastfeeding
3. Birthweight
4. Smoking
5. ASQ Scores

A summary of the ANFPP Performance and Quality Framework outcome measures and targets for the program is depicted in Table 21 below (ANFPP National Program Centre, 2018).

Table 20: ANFPP Outcome Measures and Targets

Outcome measures	Measured by	Program Target	ANFPP performance for 2017/18
A. Pregnancy outcome			
Smoking	Percentage of women smoking from intake to 36 weeks pregnancy	Reduction by 20% or greater	Below the target. Smoking rates increased by 3% in the last year from 40.7% (2016/17) to 43.9% (2017/18). However, the Very Remote area smoking rate is 11.5% below the National Indigenous average. (35.5% vs 47.0% National value)

	Number of cigarettes smoked per day between intake and 36 weeks pregnancy	Average reduction by 3.5% for women who smoked 5 or more cigarettes at intake	Inadequate data to report the reduction accurately as there are no adequate number of client records with more than two records between intake and 36 weeks.
Premature and low birthweight	The percentage of infants born prematurely	7.6% or less	13%. This is below the program target but in line with the National average for Indigenous infants born prematurely
	The percentage of infants born with low birthweight (LBW)	5% or less	11.8%. This is below the program target but in line with the National average for Indigenous birth
B. Child health and development outcome			
Immunisation	Completion rates for all recommended childhood immunisations by the second birthday	90% or greater	94.4% (higher than National rate for Indigenous Children at 88.49% in 2017/18)
Breastfeeding	The percentage of mothers who ever breastfed	No target set	92% of ANFPP clients have ever breastfed
English Language Assessment	The percentage of toddlers who fall below the given milestones for their age and gender	25% or less	All toddlers reported at 20-months were well within the program target in all five ASQ domains.
C. Improving parent's life-course outcomes			
Subsequent pregnancy frequency	Percentage of women having subsequent pregnancies within two years of the infants' birth	25%	Insufficient data was collected against these measures and there should be a greater focus on improving the data collection in this space
Mother's employment	Mean number of months women (18 years or older) are employed following the infant's birth	No specified target	Insufficient data was collected against these measures and there should be a greater focus on improving the data collection in this space

6.2 Immunisation

Immunisation plays a critical role in reducing the incidence of vaccine-preventable diseases and protects children from the serious consequences of diseases such as tetanus, diphtheria, pertussis and measles. To effectively prevent the spread of disease-causing bacteria and viruses,' sufficient numbers of infants and the wider community require vaccination to achieve so called 'herd immunity' (Australian Government Department of Health, 2018a). To achieve herd immunity, a level of immunisation of over 92–94% is required (Australian Government Department of Health, 2018a). Overall in Australia, in September 2018 the immunisation coverage rates for Aboriginal and Torres Strait Islander one-year olds was 92.64% and for two-year olds 88.49% (Australian Government Department of Health, 2018b).

In this section, ANFPP immunisation data collected between 2014/15 and 2017/18 is used to explore program performance against targets, data trends over time and, where possible, make comparisons to a relevant national dataset.

The national datasets used for immunisation comparison are 'Aboriginal and Torres Strait Islander Remoteness in Australia' released in July 2018 and August 2018 by PHIDU, Torrens University PHIDU Torrens University Australia. (2017). These datasets provide immunisation data for Indigenous children by remoteness for the years 2015 and 2016.

For reporting purposes, in most instances the ANFPP data has been disaggregated into Remoteness Area Categories following the ABS 2016 categorisations for Remoteness. This allows a more appropriate comparison with national Indigenous childhood immunisation data and a clearer picture of trends within the program.

6.2.1 How Was the Analysis Performed?

To determine immunisations rates as per the targets, it is necessary to identify the number of children who turned 12 and 24 months during the reporting year (the denominator) and how many of these children are recorded as fully immunised at 12 and 24 months (numerator). In practice however, home visits (therefore record dates) do not correspond exactly with these milestones, and children are not immunised exactly on their first birthday or milestone date. To allow for this, a one-month buffer was added to immunisation due dates when determining if an infant immunisation has occurred on the 12-month milestone. This is in line with the National due and overdue rules for immunisation (Australian Immunisation Register, 2018), under which any child remaining unimmunised more than one month after their 12 months immunisation milestone is considered overdue (Australian Immunisation Register, 2018).

Therefore, the following criteria were used to identify immunisation coverage and data completeness for 12-month records:

- To be considered fully immunised, each child turning 12 months (365 days) within the reporting period must have 12-month immunisations recorded by their 13-month anniversary.
- Child records are excluded from the denominator if the child is 12-months old but has not turned 13 months on the record date. This prevents children being considered 'unimmunised' when the buffer period has not yet elapsed.
- Child records are excluded from the denominator if the child has left the program before their 13-month anniversary was reached.

With respect to 24-month immunisation, a slightly different approach was used as there are no scheduled immunisations for 24 months. In this case, the records for the child's 18- and 24-month milestone visits were used to determine immunisation status.

In 2017/18 the above criteria produced twenty-seven 12-month immunisation records. These were distributed between Major Cities (7), Outer Regional (9) and Remote (11) areas.

6.2.2 Program Performance

Data analysis was performed to investigate the program's childhood immunisation rates with respect to the program target. The target stated in the ANFPP Performance and Quality Framework is as follows:

- Completion rates for all recommended childhood immunisations are **90% or greater by the second birthday**

The percentage of children fully immunised by their first birthday has also been explored.

Does ANFPP meet its target for childhood immunisation?

Overall, the ANFPP program target set for childhood immunisation has been consistently met during the periods 2014/15 to 2017/18 (See Table 22 and Figure 19):

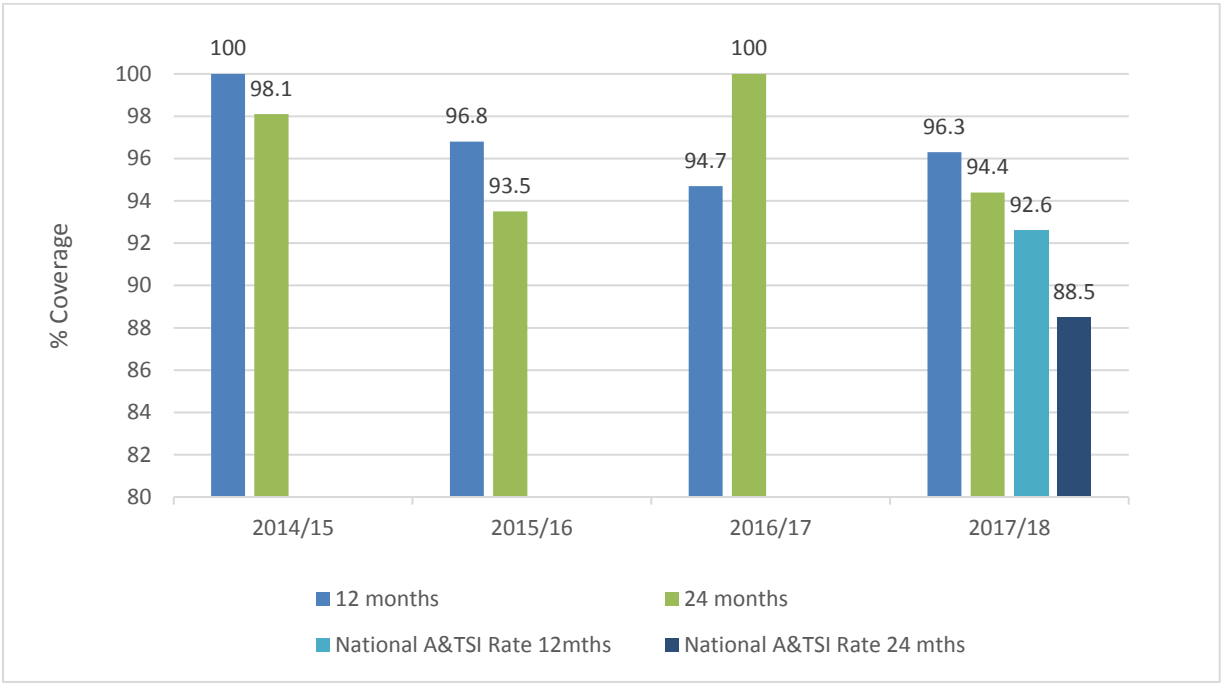
- More than 90% of children were immunised both at the 12 month and 24-month milestones.
- The ANFPP result is favourable when compared to the National Aboriginal and Torres Strait Islander child immunisation rates

TABLE 21: PERCENTAGE OF ANFPP CHILDREN FULLY IMMUNISED AT 12 AND 24 MONTHS, BY PERIOD.

Stage	ANFPP immunisation coverage by period				National rate for Aboriginal and Torres Strait Islander Children*
	2014–15	2015–16	2016–17	2017–18	
12 months	100.0%	96.8%	94.7%	96.3%	92.64%
24 months	98.1%	93.5%	100.0%	94.4%	88.49%

*2017/18 data, sourced from DoH (Australian Government Department of Health, 2018b).

FIGURE 19: ANFPP IMMUNISATION COVERAGE (%) AT 12 AND 24 MONTHS, BY PERIOD



Does ANFPP immunisation coverage vary with Remoteness?

For the periods evaluated, ANFPP sites are located within Outer Regional, Remote and Major City areas. For the 2017/18 period, twenty-seven 12-month immunisation records were received, and eighteen 24-month records. Figures 20 and 21 below show 12 month and 24-month immunisation data respectively, by period and Remoteness Area category.

- ANFPP children living in Remote areas had a relatively lower 12-month coverage in 2016/17 and 2017/18 compared with other areas.
- 24-month immunisation rates show slightly lower coverage compared to 12 monthly rates (with the exception of 2016/17).

The comparatively lower 12-month coverage in remote areas may be explained, in part, by distance to travel, staff turnover and other personal and behavioural circumstances. Lack of provider knowledge and recommendations may also have been a contributing factor. Further in-depth research may be required if consistently lower coverage is observed in these areas.

Children in outer regional areas in 2015/16 showed a relatively lower coverage (92%). However, a change in the Infant Health Care form used for collection of immunisation data during the 2015/16 period has resulted in some data being unavailable or under-reported.

The reduction of coverage at 24 months vs 12 months is consistent with the national comparison data which also shows a lower coverage for 24-months vaccination.

Major City data is only available for 2017/18 and only for 12-month immunisations. These sites had no clients with infants before 2017/18 and no 24-month-old infants during the 2017/18 period. The presence of 100% values in the result set is a combination of successful program efforts and the low sample size reducing variation.

FIGURE 20: ANFPP 12-MONTH IMMUNISATION COVERAGE (%), 2014/15 TO 2017/18, BY REMOTENESS AREA.

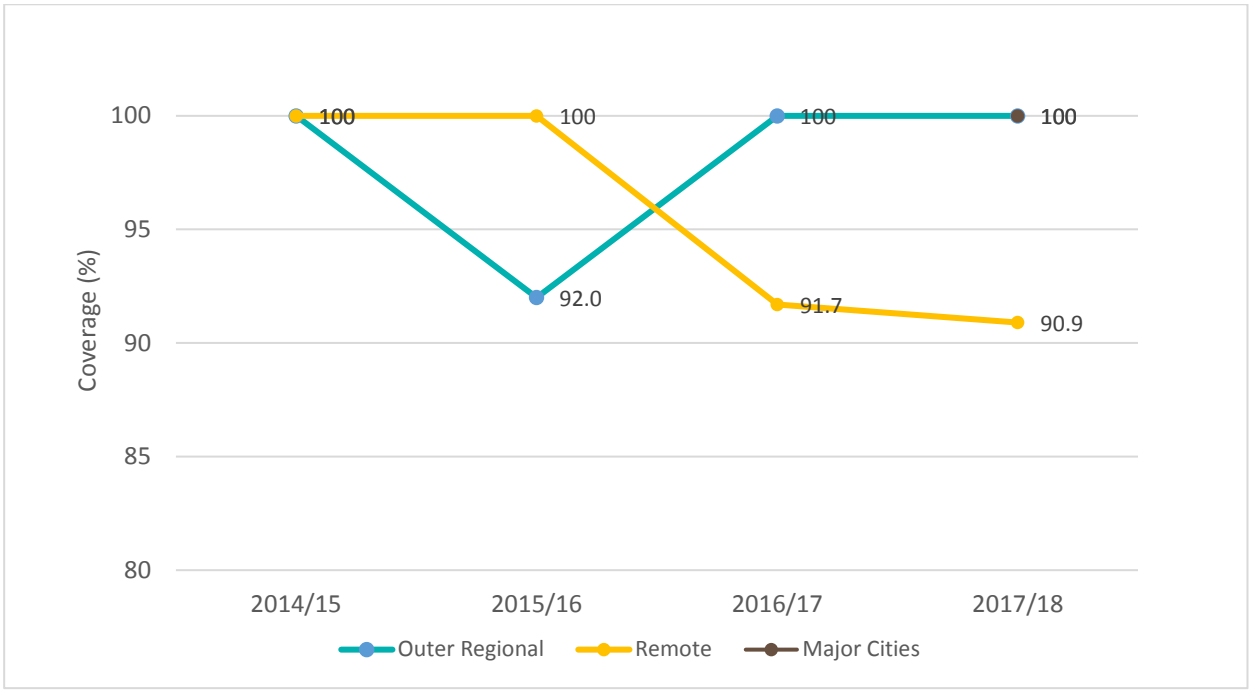
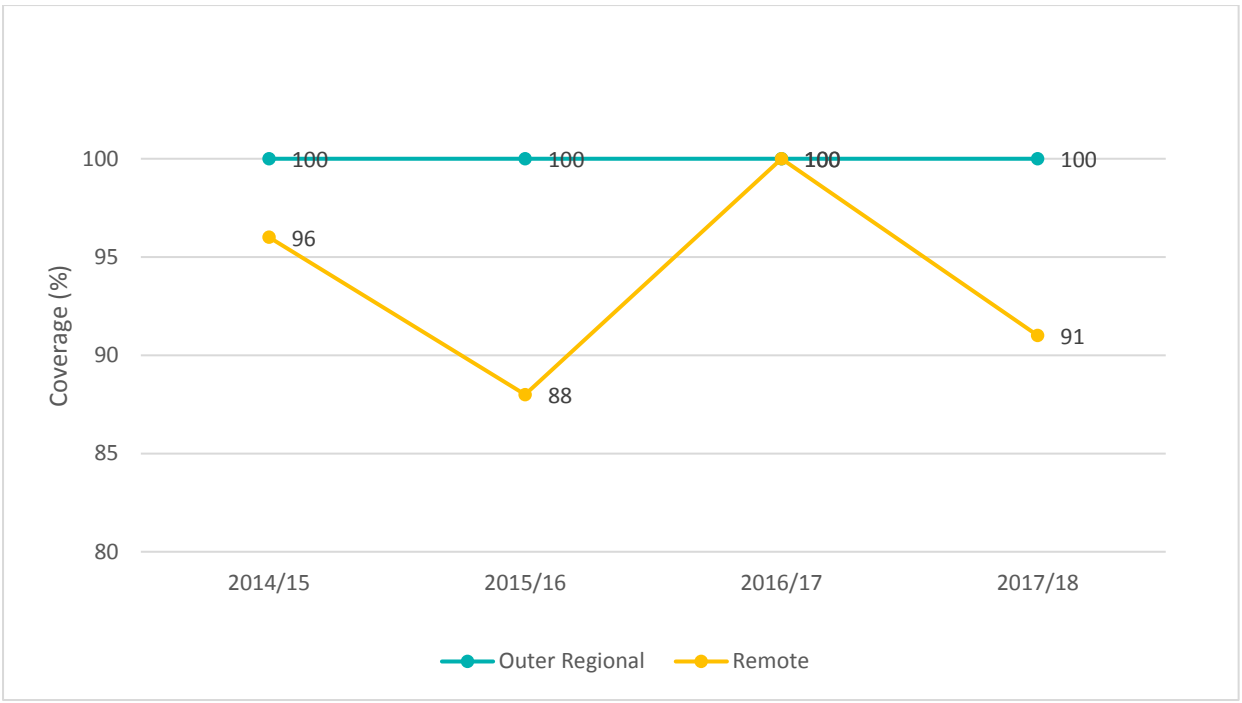


FIGURE 21: ANFPP 24-MONTH VACCINATION COVERAGE (%) 2014/15 TO 2017/18 BY REMOTENESS AREA



6.2.3 Comparison with National Immunisation Data

Period 2017/18

For the 2017/18 period, national Aboriginal and Torres Strait Islander comparative immunisation datasets are not available by remoteness category. Therefore, ANFPP infant immunisation coverage must be aggregated to a program-wide basis for comparison. Results here are positive:

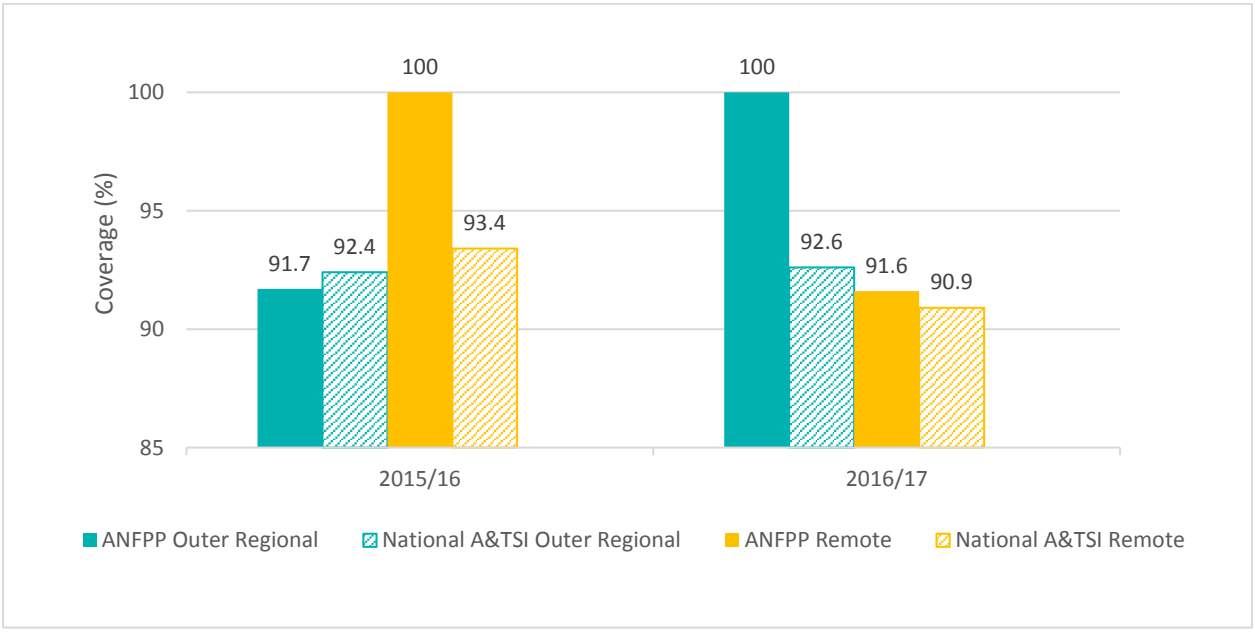
- ANFPP coverage rates for 2017/18 exceed national averages for Aboriginal and Torres Strait Islander children at both the 12-month and 24-month milestones. ANFPP coverage rates are 96.3% for one-year olds and 94.4% two-year olds, compared to the national rates for Aboriginal and Torres Strait Islander children of 92.6% for one-year olds and 88.5% for two-year olds (2018 comparison data[4]).

Periods 2015/16 and 2016/17

For 12-month immunisations over the periods 2015/16 and 2016/17, national comparative datasets which incorporate Remoteness Areas are available. Exploring the ANFPP data for these periods by Remoteness Area delivers a slightly different picture to the one above. Figure 22 below contrasts the 12-month immunisation national coverage with ANFPP coverage values for these time periods.

In general, ANFPP immunisation rates track close to or exceed the national average, by remoteness, for these time periods. However as discussed below, inconsistencies are evident.

FIGURE 22: ANFPP 12-MONTH IMMUNISATION COVERAGE (%) 2015/16 AND 2016/17 COMPARED WITH NATIONAL A&TSI DATA.



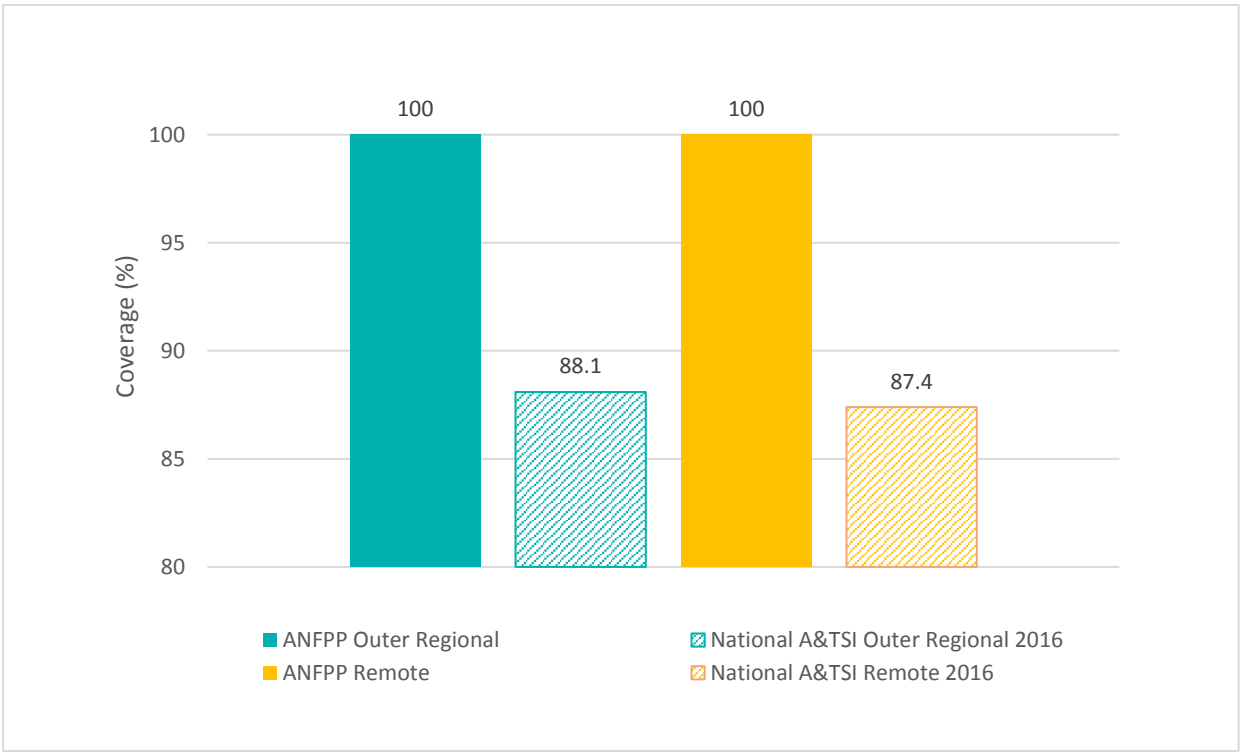
4 https://beta.health.gov.au/health-topics/immunisation/childhood-immunisation-coverage/immunisation-coverage-rates-for-aboriginal-and-torres-strait-islander-children

Less comparative data is available for the 24-month milestone, with only the 2016/17 period providing an acceptable comparative national dataset. Figure 23 (below) presents this data alongside comparative ANFPP data for the same time period.

- In 2016/17 the ANFPP coverage rates at 24 months are higher in all regions (by remoteness).

While this is a positive result, we should note factors such as high attrition rates by 24 months (i.e. smaller datasets) and data collection time points may have contributed to this relatively large gap between the ANFPP and national rates.

FIGURE 23: ANFPP 24-MONTH IMMUNISATION COVERAGE (%) 2016/17, COMPARED WITH NATIONAL ABORIGINAL AND TORRES STRAIT ISLANDER DATA



6.3 Breastfeeding

Breastfeeding confers significant well-documented advantages for mothers and infants. The World Health Organization (WHO, 2018) recommends exclusive breastfeeding for six months followed by complementary feeding combined with continued breastfeeding for up to two years or beyond. Breastfed infants have lower infectious morbidity and mortality related to reduction in sudden infant deaths, decrease in necrotising enterocolitis, protection against diarrhoea, respiratory infections, otitis media, allergic rhinitis and asthma and fewer dental malocclusions. Long-term beneficial effects include higher intelligence and a reduction in the odds of being overweight/obese or developing type 2 diabetes (Victora et al., 2016).

For mothers, lactational amenorrhoea increases birth spacing, decreases the rate of breast and ovarian cancer and type 2 diabetes (Victora et al., 2016). Breastfeeding has been associated with decreased risk of cardiometabolic diseases such as metabolic syndrome, hypertension, myocardial infarction and a decreased risk of endometrial cancer (Louis-Jacques & Stuebe, 2018). Breastfeeding also positively impacts on parenting by enhancing mother-child attachment.

This section reports on 2017/18 ANFPP client breastfeeding practices, presenting the data alongside breastfeeding rates in previous years. It explores how the ANFPP is progressing over time with respect to two breastfeeding indicator questions:

- What percentage of children aged 0 to 2 within the program have *ever been breastfed?*
- What percentage of infants in the ANFPP *ceased breastfeeding* before 6 months of age?

The program rates are then compared with an appropriate national population for the same period. For comparative purposes, the ABS dataset 'AIHW: Aboriginal and Torres Strait Islander Health Performance Framework 2017' is used (Australian Institute of Health and Welfare, 2017a). This dataset provides data on breastfeeding status, by Indigenous status and remoteness, for infants aged 0–2 years, 2014–15. The comparative data was generated by the AIHW and ABS from analysis of the National Aboriginal and Torres Strait Islander Social Survey 2014–15 and National Health Survey 2014–15 delivered between July 2014 and June 2015. Due to changes to ABS data collection practices, this remains the most recent comparative dataset (incorporating remoteness indicators). With respect to ANFPP 2017/18 data, the age of this dataset limits its value for comparative purposes.

Once again, site data was analysed by ABS Remoteness Area, to improve the comparative value of the results and highlight regional variation.

6.3.1 How Was the Analysis Performed?

In the tables and figures that follow, the ANFPP 'Ever Breastfed' totals were built from ANFPP Infant Birth and Infant Health Check records. For a given infant, a positive breastfeeding indication in any of these records was taken to indicate breastfeeding had occurred. There is no requirement that breastfeeding occur repeatedly over an extended period for an infant to be considered 'ever breastfed'. The denominator for this data is all ANFPP infant births recorded during the period.

The nature of the collected data required assessment of 'cessation before 6 months' rather than continuation of breastfeeding beyond the 6-month threshold. Values were calculated from specific cessation records entered by Nurse Home Visitors in combination with Currently Breastfeeding records, for all children who were aged at least 6 months of age (calculated as 24 weeks) during the period.

In all cases, remoteness areas are excluded where the number of records for analysis is five or less. Also note that the dataset expands to include ANFPP Wave 3 and Wave 4 sites during these periods. As a result, later data periods include data in Remoteness Area categories where no data was present in earlier periods. In addition, in some newer sites all clients are still in the pregnancy phase (therefore no infant data is available) or very few infants have been born.

6.3.2 Program Performance

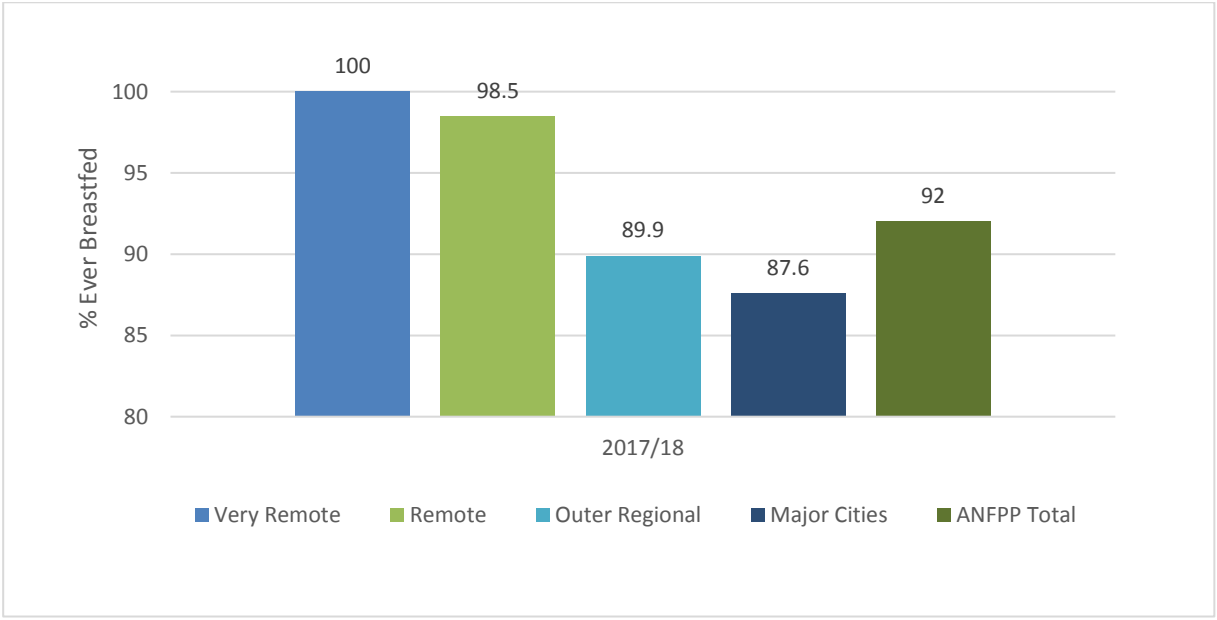
No specific breastfeeding targets are set within the ANFPP program. However, the 'Overview of Aboriginal and Torres Strait Islander health status 2017' indicates in 2014–15, 80% of Aboriginal and Torres Strait Islander children aged 0–3 years had been breastfed, and 82.4 % had *ceased* breastfeeding by 6 months (Australian Indigenous HealthInfoNet, 2018). These values could be considered as appropriate quasi-target values for the program.

Percentage of Infants 'Ever Breastfed'

The ANFPP breastfeeding rates for 2017/18 are shown, by Remoteness Area and for the program as a whole, in Figure 24. Table 23 presents the trends in the 'Ever Breastfed' indicator over time. In some datasets, 100% values can be the result of small sample sizes for some regions and years. In this instance; however, in the 2017/18 Very Remote N=34, and 2016/17 Remote N = 75. The 100% results here may be a genuine reflection of breastfeeding practices or may reflect to some degree the data collection process; in particular, the collection of 'Ever Breastfed' as an indicator in the birth record (see 'How was the analysis performed?' above).

- Breastfeeding rates within the program are higher than the 80% 2014/15 national average for Aboriginal and Torres Strait Islander children aged 0–3 years (Australian Indigenous HealthInfoNet, 2018), across all remoteness areas.
- Breastfeeding rates are particularly high in remote and very remote areas. This is in keeping with national trends for Very Remote areas (see Figure 24)

FIGURE 24: ANFPP INFANTS EVER BREASTFED* (%), 2017/18, BY REMOTENESS



*dataset includes all babies born to ANFPP clients within the designated period

TABLE 22: ANFPP INFANTS EVER BREASTFED++ (%), 2014/15 TO 2017/18, BY REMOTENESS AREA

Remoteness Area	ANFPP % Ever Breastfed Rates			
	2014–15	**2015–16**	**2016–17**	**2017–18**
Major Cities		*	90.2	87.6
Inner Regional				*
Outer Regional	82.3	83.0	89.7	89.9
Remote	98.9	76	100	98.5
Very Remote			*	100
ANFPP: All Sites	89	92	93	92

**Total counts are < 5*

Cells are blank where no data is available for that Area and time period.

++dataset includes all babies born to ANFPP clients within the designated period

Case Anecdote: Strengthening parent child bond and attachment (Inner regional, ANFPP)

A 29-year-old client Ellie (pseudonym) joined the ANFPP program early in pregnancy. Ellie has a past medical history of an intellectual disability, acquired brain injury, bipolar disorder, anger issues, anxiety and depression. Her previous child was removed at birth two years earlier and she had had no contact. As Ellie has grown with the program she has overcome many hurdles including managing her anger and anxiety, realising only small changes are necessary.

Post birth her baby was removed by DHS, with the help of the ANFP program Ellie has had daily visitation with baby and has developed a bond. She was able to breast feed and was able to follow heart's desire of 'being a good mum' and is currently going through court to gain full custody of baby.

Infants ceasing breastfeeding before six months.

Figure 25 below shows the ANFPP breastfeeding cessation rates across remoteness areas for 2017/18. Table 24 presents these rates across a range of years, 2014/15 to 2017/18. The absence of data for some regions and periods reflects the fact that less than five infants in these sites had reached 6 months of age in the time period.

- Breastfeeding cessation before six months of age is consistently lower for clients in the ANFPP, across all areas than the national comparator of 82.4%. Therefore, more ANFPP infants are being fed beyond the 6-month milestone than the national Aboriginal and/or Torres Strait Islander average.
- Particularly high levels of breastfeeding beyond 6 months (low cessation rates) are being achieved by sites in remote areas.
- In most areas, cessation rates have continued to drop (i.e. mothers are breastfeeding longer) as the program matures.

In 2017/18, the number of effective 'Ceased Breastfeeding' data records for a given Remoteness Area varied from N=13 (Major Cities) to N=34 and N=35 (Outer Regional and Remote, respectively). Very Remote was excluded with five records only. In 2016/17, the range was N=38 to N=34.

FIGURE 25: ANFPP BREASTFEEDING CESSATION BEFORE 6 MONTHS (24 WEEKS), 2017/18, BY REMOTENESS

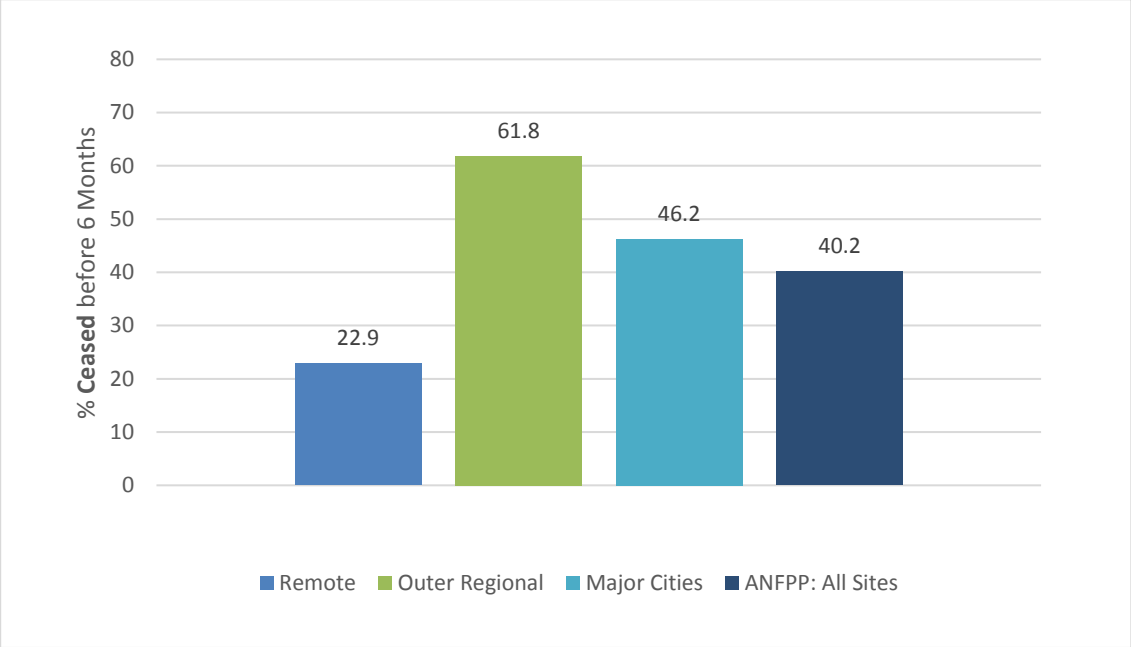


TABLE 23: ANFPP BREASTFEEDING CESSATION BEFORE 6 MONTHS (24 WEEKS), 2014/15 TO 2017/18, BY REMOTENESS

Remoteness Area	ANFPP % Ceasing Breastfeeding Before 6 months			
	2014–15	**2015–16**	**2016–17**	**2017–18**
Major Cities			*	46.2
Inner Regional				
Outer Regional	69.2	67.4	68.4	61.8
Remote	19.0	17.6	13.6	22.9
Very Remote				*
ANFPP: All Sites	44.5	43.7	40.7	42.7

**Total counts are < 5*

Cells are blank where no data is available for that Area and time period.

6.3.3 Comparison with National Breastfeeding Data

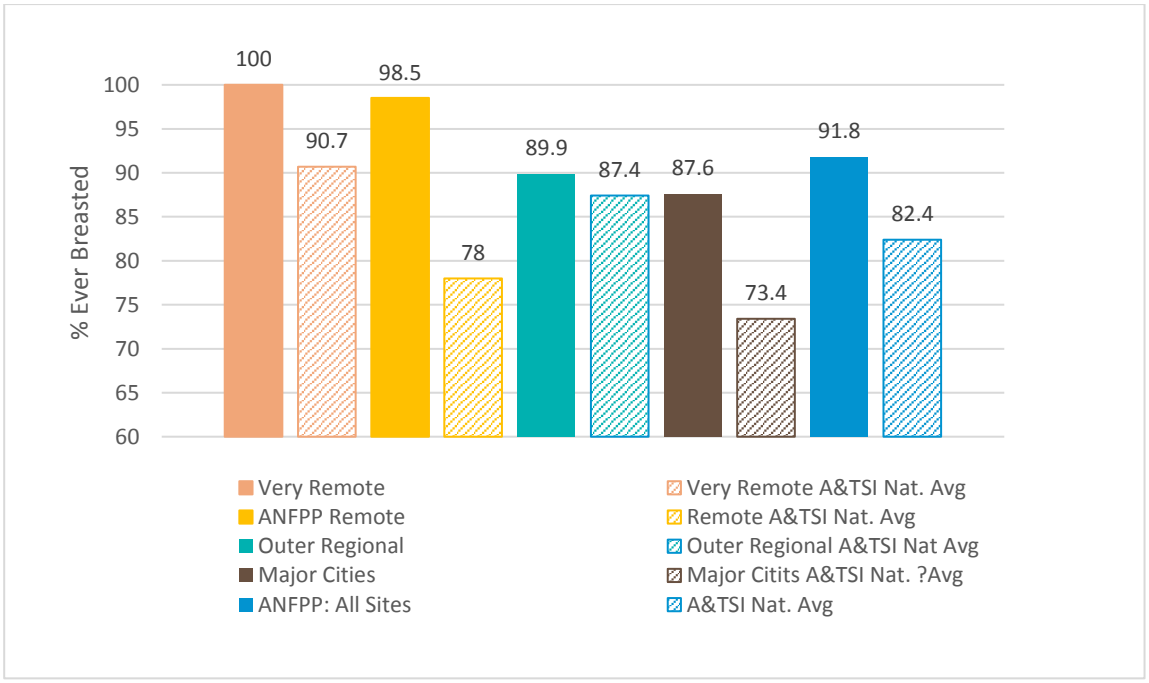
The comparative national data on breastfeeding rates is taken from the Aboriginal and Torres Strait Islander Health Performance Framework 2017, AIHW, which references data collected from 2014/15. The data is presented in Figures 26 and 27. Not all remoteness areas had sufficient data to be included in results (N < 6)

- Overall, the ANFPP outperformed the Australian average in 2014/15 for Ever Breastfed rates, particularly in remote areas. More recent comparative national data is not currently available.

In 2017/18 ANFPP performance against the Australian 2014/15 average for Breastfeeding for 6 months or more (framed in terms of cessation before 6 months) was mixed (see Figure 27).

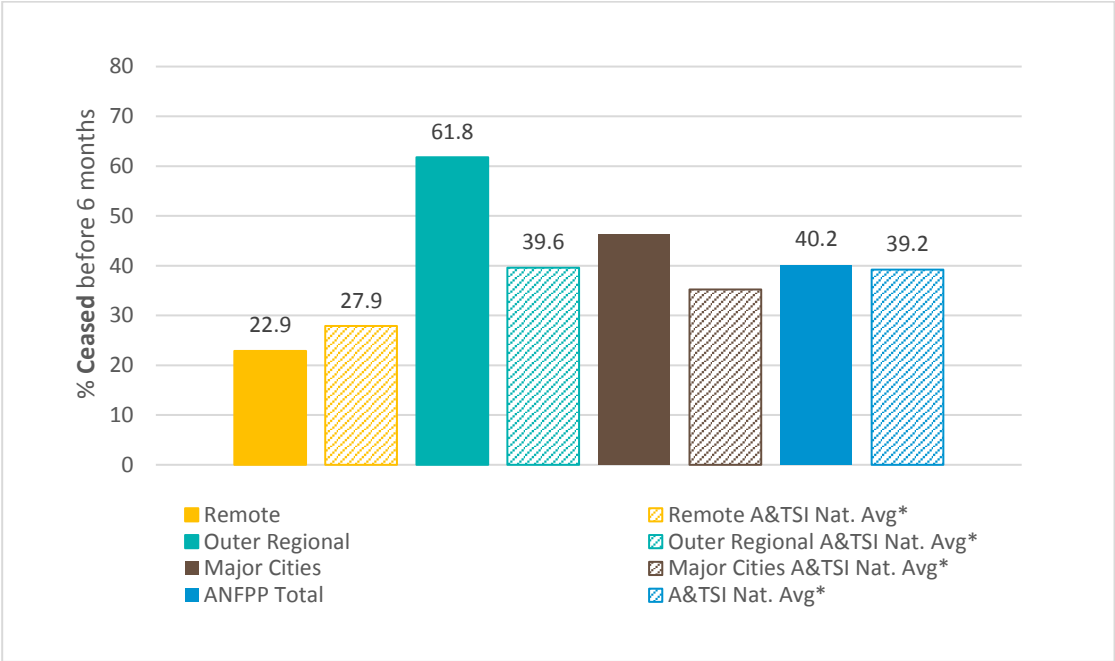
- Overall, the ANFPP cessation rates were on par with the national average.
- In Remote areas, cessation rates were 5% lower than the national Remote average 2014/15 (22.9%, N=35). This is in strong contrast with Outer Regional areas, where ANFPP cessation rates were much higher than 2014/15 Aboriginal and Torres Strait Islander averages (61.8%, N=34). A number of factors may be contributing to the disparity between Remote and Outer Regional cessation rates. These may include client access to breastfeeding alternatives (formula), variation between cultural practices in different regions, variations in client lifestyle practices (employment and child care arrangements for example) or variation in program implementation methods between sites. Further investigation is necessary, in order for ANFPP sites to learn from the improved outcomes in Remote areas.
  The ABS indicate a high relative standard error in their data for Outer Regional and Very Remote areas, and recommend the data is used with caution. With this in mind, comparison between ANFPP and national data in Outer Regional areas may be of limited value.

FIGURE 26: ANFPP EVER BREASTFED* (%), 2017/18, COMPARED WITH NATIONAL ABORIGINAL AND TORRES STRAIT ISLANDER DATA 2014/15, BY REMOTENESS AREA



*dataset includes all babies born to ANFPP clients within the designated period

FIGURE 27: ANFPP BREASTFEEDING CESSATION RATES, 2017/18, COMPARED WITH AUSTRALIAN ABORIGINAL AND TORRES STRAIT ISLANDER DATA 2014/15, BY REMOTENESS AREA.



**ABS data incorporates values with a relative standard error between 25% and 50%. ABS advise this data should be used with caution.*

Case Anecdote: Attachment and bonding (Metropolitan site, ANFPP)

Community days provide a unique opportunity to promote attachment between our mothers and babies. One activity that demonstrates this bond exquisitely is using plaster to make hand and fist castes of baby. Mum, dad, partners, grandparents – are invited to be part of this inclusive, creative activity. Mum's hands clasped – with bub's hands or feet resting on them, standing independently or collectively; these beautiful mementos will be treasured for a life time.

Case Anecdote: Person-centred, holistic support to the family: learning to cook nutritious food (Metropolitan site, ANFPP)

An important part of becoming a mum is learning how to nourish themselves, as well as their babies. Leann (FPW) has been inspiring our mums to cook some of her family's favorite dishes. Coconut Chicken Curry, her mum's apple slice and Nan Tutt's ginger biscuits were absolutely delicious. Not only did our mums engage enthusiastically in the preparing and cooking of nutritious food, they also embraced the idea of making their 'deadly' choices for babies too; mashing up veggies and fruit to introduce new tastes and textures to their infants. Debbie (FPW) provides information on nutritional properties and benefits, as she shares her knowledge and passion for Bush Tucker.

Many positive memories emerged for our mums as shared in this nourishing environment; cooking with their mums, aunties and nans. A profound appreciation for the experience was reported by the clients who have asked to participate in cooking a healthy meal each Tuesday. Clients have also enquired about referrals to our wonderful dietician Jillian Dray, who facilitates healthy meal preparations at Salisbury Mums and Bubs Community Day every second Friday and the Goodna clinic on Wednesdays.

Our mums have increasingly expressed a desire to learn to cook, so we are assisting them to build self-efficacy by supporting them to create healthy, nutritious, budget meals at our Community Days. Our partnership with FoodBank ensures we have lots of Deadly Food Choices and we offer them a choice of food or a hamper to take home. The clients chose what meals they would like for the following week. Karen (FPW) continues to develop her project, having organised folders for clients to create a file with recipes, Bush Tucker/Nutritional information and benefits - for clients who request them.

6.4 Birthweights

Birthweight reflects the intrauterine environment and low birthweight infants have been studied to determine subsequent adverse health outcomes (Belbasis et al., 2016). Infants with a birthweight below 2500 grams are considered low birthweight (WHO, 2012). A neonate is termed small for gestational age (SGA) if they are under the 10th percentile for gestational age (McEwan et al., 2018). Intrauterine growth restriction (IUGR) refers to the failure of the foetus to grow as expected. Low birthweight has been associated with increased perinatal morbidity and mortality, developmental delays and lower academic achievement (McEwen et al., 2018). Premature birth, low birthweight and birth length are associated with higher rates of infection-related hospital admissions (Miller et al., 2016). Low birthweight infants are at increased risk of adverse perinatal outcomes and operative birth with babies at or below the 3rd birthweight centile having the most risk (Dowdall et al., 2017). Neonates with lower birthweight may be one of the factors perpetuating transmission of health and socioeconomic disadvantage between generations (McEwen et al., 2018).

Indigenous Australians have more than twice the chance of being low birthweight as non-Indigenous newborns (Australian Institute of Health and Welfare, 2018a) and are more likely to be preterm (Whish-Wilson et al., 2016). A study examining birthweight in remote Indigenous communities in Australia found a higher risk of cardiovascular disease with a birthweight below 2500 grams (Arnold et al., 2016). Indigenous women who were LBW were more likely to receive a diagnosis of hypertension during hospitalisation; however, this association was not evident in men (Arnold et al., 2016). A retrospective cohort study in the Northern Territory found the median birthweight percentile was 29.2 in Aboriginal infants (44 in non-Indigenous infants) and perinatal mortality was reduced by 4% with every one percentile increase in birthweight (McEwen et al., 2018) Perinatal mortality was significantly higher in Indigenous infants with birthweights below the 32st percentile and the highest scores in reading and numeracy were evident in children with a birthweight over the 50th percentile (McEwen et al., 2018). Many Indigenous women are subject to food insecurity and have anaemia. Improving maternal nutrition has positive effects on LBW, SGA and preterm birth (Hambidge & Krebs, 2018).

This section presents ANFPP infant low birthweight data from 2014/15 to 2017/18 for the program as a whole, and then disaggregated by Remoteness Area for comparison with relevant national datasets.

6.4.1 Program Performance

- The ANFPP target for the percentage of infants born prematurely is **7.6% or less**
- The ANFPP target for the percentage of infants born with low birthweight is **5% or less**

How Was the Analysis Performed?

Babies are categorised as 'Low Birthweight' if their birthweight is less than 2,500 grams, as per the AIHW P102 Birthweight result (Australian Institute of Health and Welfare, 2016). This analysis considers only singleton births that occur within the program during the specified periods and no distinction is made between pre-term babies who are appropriate weight for gestational age and full-term babies who are small for gestational age.

Values given are percentage of births with low birthweight, calculated from the number of low birthweight births as a proportion of the total number of births with a recorded birthweight during the period. Regions with less than three births in a given period are excluded from calculations, as indicated in the tables.

Comparison data for Low Birthweight infants has been drawn from the Aboriginal and Torres Strait Islander Health Performance Framework Report, 2017 (Australian Institute of Health and Welfare, 2017b). It presents data for the 2014 calendar year.

Does ANFPP meet its target for percentage of low birthweight births?

Table 25 shows the percentage of infants with low birthweight from 2014/15 to 2017/18. Births that occurred after 20 weeks are distinguished from those that occurred after 37 weeks.

- The percentage of low birthweights of 11.8% in 2017/18 is higher than the ANFPP target but in line with the national average for Indigenous births (10.5%).

The program has not met the low birthweight target of 5% or less since inception and continues to struggle to achieve low birthweight rates below 10%. This is likely to reflect client complexity and the multiple challenges including poor social determinants of health (e.g. poor housing and overcrowding, food insecurity) that the majority of client's face. Higher rates of risk factors identified as impacting on birthweight in Indigenous communities include more teenage pregnancies, later antenatal care attendance, higher preterm birth rates and smoking during pregnancy (Kildea et al., 2017). The

percentage of women smoking during pregnancy in this population is high and may also be impacting on infant birthweights.

Historically, in:

- 2014/15, 36% of mothers with low birthweight babies are also recorded as having smoked during pregnancy.
- 2015/16, 20% of mothers with low birthweight babies are also recorded as having smoked during pregnancy.
- 2016/17, 60% of mothers with low birthweight babies are also recorded as having smoked during pregnancy.
- 2017/18, 18% of mothers with low birthweight are also recorded as having smoked during pregnancy.

This analysis does not include investigation of low birthweight births where the mother is recorded as *not* smoking, or where no smoking status record was found.

TABLE 24: PROPORTION OF LOW BIRTHWEIGHTS FOR ALL ANFPP PARTNER ORGANISATIONS

ANFPP Low Birthweight Rates					
	Total Singleton Births	> 20 weeks gestation		> 37 weeks gestation	
		Number of LBW Births	%	Number of LBW Births	%
2014/15	94	11	11.7	4	4.3
2015/16	84	10	11.9	4	4.7
2016/17	103	10	9.7	7	6.8
2017/18	186	22	11.8	12	6.5

Due to the outlying data in some Partner Organisations, further analysis was undertaken. The analysis indicated some clients with low birthweights in Very Remote and Major Cities) experienced a range of pregnancy related conditions including Intrauterine Growth Restriction, Premature Rupture of Membranes, and Prematurity that adversely impacted birthweight. The Nurse Supervisor outlined their experience with mothers who were isolated from family and culture in the urban environment and identified a high incidence of substance abuse.

Tables 25 shows the low birthweight rates for the program with locations; Major Cities and Very Remote data excluded. This highlights the impact this has on program reporting as a whole, 2017/18 data shows a Low Birthweight percentage of 7.4%.

TABLE 25: PROPORTION OF LOW BIRTHWEIGHT BIRTHS FOR ANFPP PARTNER ORGANISATIONS (EXCL. MAJOR CITIES & VERY REMOTE)

ANFPP Low Birthweight Rates excluding major cities and very remote			
	Total Singleton Births	**LBW Births**	**% LBW**
2014/15	94	11	11.7
2015/16	83	9	10.8
2016/17	66	6	9.09
2017/18	81	6	7.4

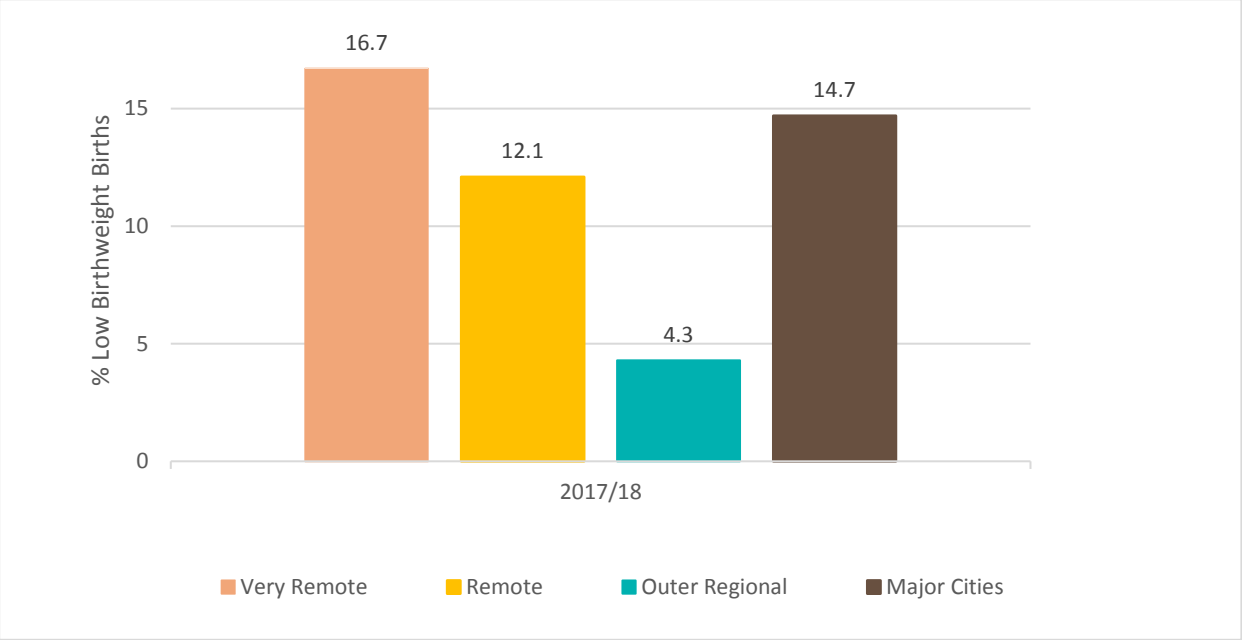
Does ANFPP percentage of low birthweight births vary with Remoteness?

Figure 28 presents ANFPP low birthweight % by remoteness area, 2017/18

- In 2017/18, the percentage of low birthweight babies within the ANFPP was highest in Very Remote and Metropolitan areas. In Outer Regional sites, a very low rate of LBW was recorded (4.3%).

The dataset under analysis for 2017/18 consisted of N=186 recorded birthweights.
Major Cities contributed N=75 records, Outer Regional N=47 records, Remote and Very Remote N=33 and N=30 respectively. Inner regional was excluded from individual reporting, having only one birthweight record 2017/18.

FIGURE 28: ANFPP LOW BIRTHWEIGHT BIRTHS* (%), 2017/18, BY REMOTENESS AREA

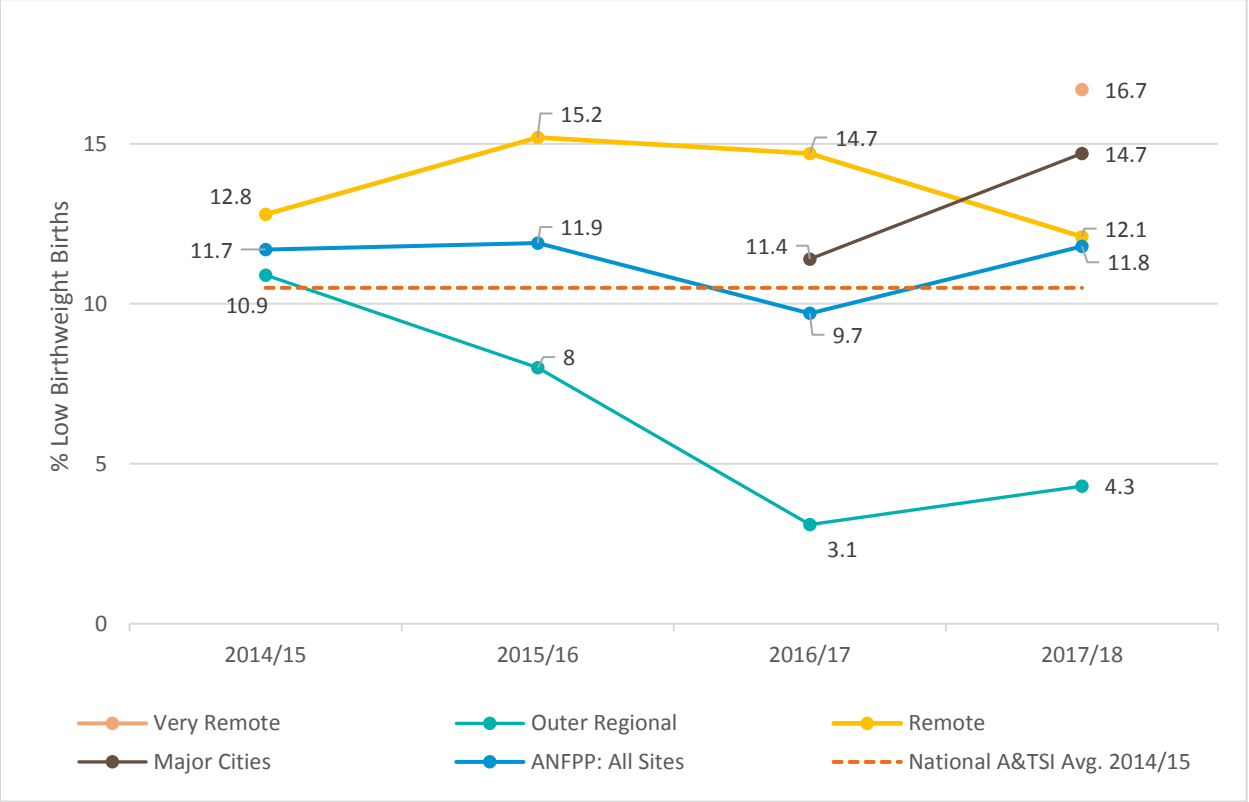


*% of total number of ANFPP births recorded in the period

The ANFPP trends in Low Birthweight over time, by Remoteness Area, are explored in Figure 29. The national Aboriginal and Torres Strait Islander average for 2014/15 is provided as a comparator. Projections suggest comparison data after 2014/15 has an annual change of -0.1

- Low birthweight percentage varies significantly by regional area. In 2016/17 the number of births was similar across Remote, Outer Regional and Major Cities reasons (N= 35, 32 and 34 respectively) but low birthweight rates ranged from 3.1 to 14.7%.
- In general, low birthweight percentages have decreased since 2015/16, particularly in established sites. High rates at particular sites are influencing 2017/18 program averages, as noted above.
- Very Remote sites feature in the data for the first time in 2017/18. At 16.7%, the rate of low birthweight births is particularly high. This is in keeping with patterns of lower birthweights in Very Remote Australia and may reflect client complexity issues, including food insecurity. A low birthweight rate of 17.4% was found in a study examining two large remote Aboriginal communities in the Northern Territory (Kildea et al., 2017).

FIGURE 29: ANFPP LOW BIRTHWEIGHT BIRTHS (%), 2014/15 TO 2017/18, BY REMOTENESS AREA



The availability of data for particular areas is affected by the maturity of ANFPP sites in that area. Inner Regional is not represented in the data until 2017/18, and for this period insufficient records were available (N <3) for valid analysis. Similarly, Very Remote areas have data for 2017/18 but insufficient data for analysis prior to this period. Metropolitan sites have sufficient data for 2016/17 and 2017/18 only.

Reducing low birthweights has been a particular focus in Wuchopperen (an outer regional site), and this is clearly proving effective. In 2017/18, only N=2 low birthweight births were recorded at Wuchopperen (from N=30 births total) and only N=1 in 2016/17. This highlights the effective work being performed within the program, and the importance of encouraging knowledge sharing between sites to compound successes. See the Case Anecdote below for an overview of Wuchopperen's approach.

Case Anecdote: Achieving Healthy Birthweights for ANFPP Mums and Bubs.

In recent years, Wuchopperen Health Service has been very successful at achieving healthy birthweights for babies born to their clients. WHS uses a number of approaches that work together to support healthier pregnancies and healthy birthweight babies:

Nutrition: Start Early

The focus on a mum's nutrition begins early - by the second Pregnancy Home Visit. In this visit the focus is on good nutrition, exploration of current diet practices and development of healthy eating strategies. The importance of Vitamin C and Iron intake is emphasised, and family members are included wherever possible.

The Broader Picture

Careful attention is paid to the broader living situation of the mother. Food security is considered, all clients are provided with contacts for services and charities that provide food parcels, and clients are encouraged and supported to establish strong connections with antenatal services for routine care.

Lifestyle Changes.

Smoking and other substance use is addressed early in the Home Visit sequence and Motivational Interview Strategies and the Stay Strong App (Developed by Menzies) are used to encourage goal setting and explore readiness for change.

Managing Stress

The PIPE Topic 'Emotional Refuelling' is covered around Pregnancy Home Visit 5. This is part of a focus on supporting the client to identify stressors in their life, and to develop their own stress management techniques.

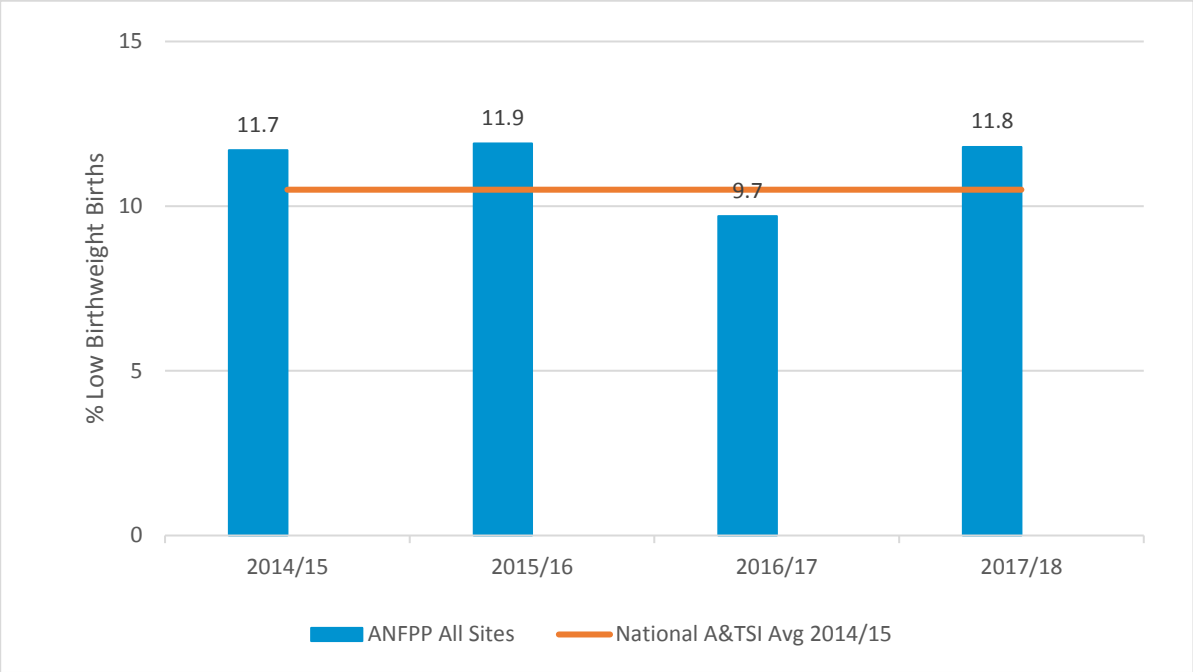
Putting it All Together

WHS incorporates all of the above in their monthly client activities, such as 'BBQ at the Esplanade' where nutrition, exercise and quality time with family and friends are the focus. The 'Good Quick Tukka' sessions teach clients to cook healthy, affordable family meals, and in 'Home and Garden' clients explore emotional refuelling and better nutrition by growing their own herbs and using them in cooking and craft activities.

6.4.2 Comparison with National Low Birthweight Data

- In 2017/18, the percentage of low birthweight babies within the program on a whole-of-program basis was 7.4%, which is lower than the national average 2014/15 of 10.5%. When major cities and very remote are excluded from the dataset.

FIGURE 30: ANFPP LOW BIRTHWEIGHT BIRTHS (%) COMPARED TO THE NATIONAL A&TSI AVERAGE (2014/15), BY PERIOD.



6.5 Smoking

Smoking during pregnancy and smoke exposure has long established and newly emerging adverse effects on the mother and her infant. Well known factors include the association of smoking with prematurity, low birthweight, congenital anomalies, increased miscarriage, stillbirth and sudden infant death rates (Cope, 2015). Cigarette smoking presents a hazardous environmental exposure with possible long-term consequences for offspring related to epigenetic alterations (Lee et al., 2015; Nielsen, Larson & Nielson, 2016). Prenatal smoking dysregulates the neonatal hypothalamic-pituitary-adrenal axis of neonates causing a blunted stress response which may explain some long-term impacts (Haslinger et al., 2018).

Maternal smoking has been associated with reduced kidney volume, suboptimal lung development, increased risk of wheezing and asthma, increased risk of infantile colic (Cope, 2015) and childhood adiposity (Cameron et al., 2018).

Mothers who smoke during pregnancy often experience multiple problems and their infants tend to have early behavioural difficulties and cognitive vulnerabilities (Tzoumakis et al., 2018). Prenatal smoking is a risk factor for long-term neurological morbidity (Gutvirtz et al., 2018; Micalizzi & Knopik, 2018).

Cigarette smoke is a reproductive toxicant related to maternal complications including miscarriage, placental abruption, placenta praevia, preterm labour, premature rupture of membranes and ectopic pregnancy (Leybovitz-Haleluya et al., 2018). Postnatal complications include slower wound healing following caesarean section and a shorter breastfeeding duration (Cope, 2015).

This section reports on 2017/18 ANFPP client cigarette smoking rates, presenting the data alongside smoking rates in previous years.

The ANFPP smoking dataset is negatively impacted by the change in Data Specifications over time. As a result, there are few data items that can be compared across time periods in a valid way.

Therefore, the analysis that follows explores how the ANFPP is progressing over time with respect to the following two smoking indicator questions:

- What % of ANFPP clients identified as smoking during pregnancy during the reporting period?

- What % of ANFPP clients identified as smoking during the reporting period, regardless of program phase?

These program rates for smoking are then compared with an appropriate national population cohort for the same periods, and also analysed by Remoteness Area.

2017/18 marks the first Annual Data Report to attempt to investigate the reduction in client smoking. To asses smoking reduction, multiple records must exist for a given client within the time period. For a change in the number of cigarettes smoked, each of these records must include details of the number of cigarettes smoked at that time-point. Since Smoking data is recorded as part of the client Health Checks at particular points in time (e.g. intake and 12 months), there are very few records that meet this criterion. As a result, there is insufficient data to analyse reduction in smoking effectively, in any period. Further consideration needs to be given to the collection of this data in order for performance against the smoking reduction targets to be assessed. Quality assurance plans are being implemented to encourage staff to enter smoking data at more frequent intervals within the ANKA system. The Communicare system does not have the capacity at present to collect this data at more frequent intervals. This makes program-wide assessment of smoking reduction problematic; specific interventions outside the normal ANFPP data collection workflow may be necessary.

The Aboriginal and Torres Strait Islander Health Performance Framework 2017 (Australian Institute of Health and Welfare, 2017a) publishes data tables on smoking rates within the Aboriginal and Torres Strait Islander population. This includes 'Smoker status by age and remoteness, 2002 to 2014–15, for Indigenous Australians aged 15 and over'. That data is used here to provide comparative overall smoking rates. When considering smoking rates during pregnancy, the comparative dataset used is published by AIHW in Goal 3 'Tracking progress against the Implementation Plan Goals for the Aboriginal and Torres Strait Islander Health plan 2013–2023' (Australian Institute of Health and Welfare, 2018b). Once again, this presents 2015 data only.

6.5.1 Program Performance

The smoking targets stated in the ANFPP Performance and Quality Framework are:

- Percentage of women smoking from intake to 36 weeks pregnancy **reduced by 20% or greater.**

- Number of cigarettes smoked per day between intake and 36 weeks pregnancy shows an **average reduction of 3.5%** for women who smoked **5 or more cigarettes at intake.**

How Was the Analysis Performed?

The percentage of clients currently smoking during pregnancy were calculated as a percentage of all valid smoking status records collected during pregnancy phase within the period. The pregnancy outcome (live birth, miscarriage etc) was not considered as part of this analysis.

For data collected through the Communicare DCS (v2.1 and v2.5), valid smoking status records were those where a response (either Yes or No) was recorded to the question: *Have you smoked cigarettes at all during this pregnancy, even before you knew you were pregnant?*

For data collected though ANKA, valid smoking status records were all those where the smoking status was indicated as one of 'Current Smoker', 'Ex-Smoker' or 'Never Smoked'. Any records where the status was 'Declined to Answer' or 'Question Not Asked' were excluded from the analysis. Records with no status recorded were also excluded.

Do ANFPP smoking rates vary with Remoteness?

Figure 31 shows ANFPP smoking rates from 2014/15 to 2017/18, by Remoteness area and for the program as a whole.

- In 2017/18, smoking rates during pregnancy increased in Metropolitan and Outer Regional sites, while continuing a historical pattern of reduction in Remote sites.
- Smoking across all phases showed a very similar pattern to smoking during Pregnancy, probably reflecting the fact that many of the newer sites have most of their clients in the Pregnancy phase.

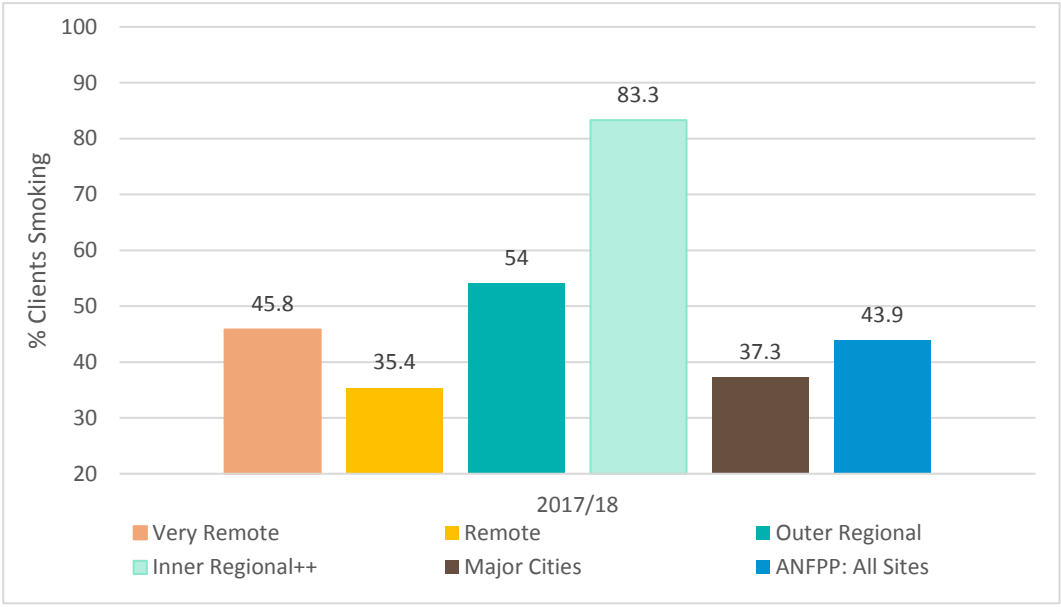
Smoking rates decreased steadily for Remote and Outer Regional sites between 2014/5 and 2016/17. The reason for the increase in Outer Regional rates 2017/18 is currently unexplained. The particularly high value (83.3%) for Inner Regional sites is a result of a very small sample size producing high variability; only N=6 clients were included in the dataset for this region and period and hence need to be read with caution (see Table 27).

Regardless of data issues, these results highlight once again the complexity of challenges facing ANFPP mothers and their children. Indigenous women have complex health issues including anaemia, smoking, gestational diabetes, hypertensive disorders, teenage pregnancy, increased maternal mortality, poverty,

institutional racism (Bar-Zeev et al, 2014). The clients seen by ANFPP are more likely to have higher rates of housing instability, exposure to domestic and family violence, child protection involvement, developmental vulnerability particularly related to language and cognition and lower rates of full or part-time employment, (Nguyen et al., 2018).

It should also be noted that individual Partner Organisations also run programs outside of ANFPP to address the high smoking rates in some Aboriginal and Torres Strait Islander populations, and these programs may be influencing results at particular sites.

FIGURE 31: ANFPP CLIENTS WHO SMOKED DURING PREGNANCY* (%), 2017/18, BY REMOTENESS AREA



*as a % of the number of smoking status records.
++ N=6; percentage should be used with caution

TABLE 26: PROPORTION OF ANFPP CLIENTS WHO SMOKED AT SOME POINT DURING PREGNANCY BY PERIOD AND REMOTENESS CATEGORY

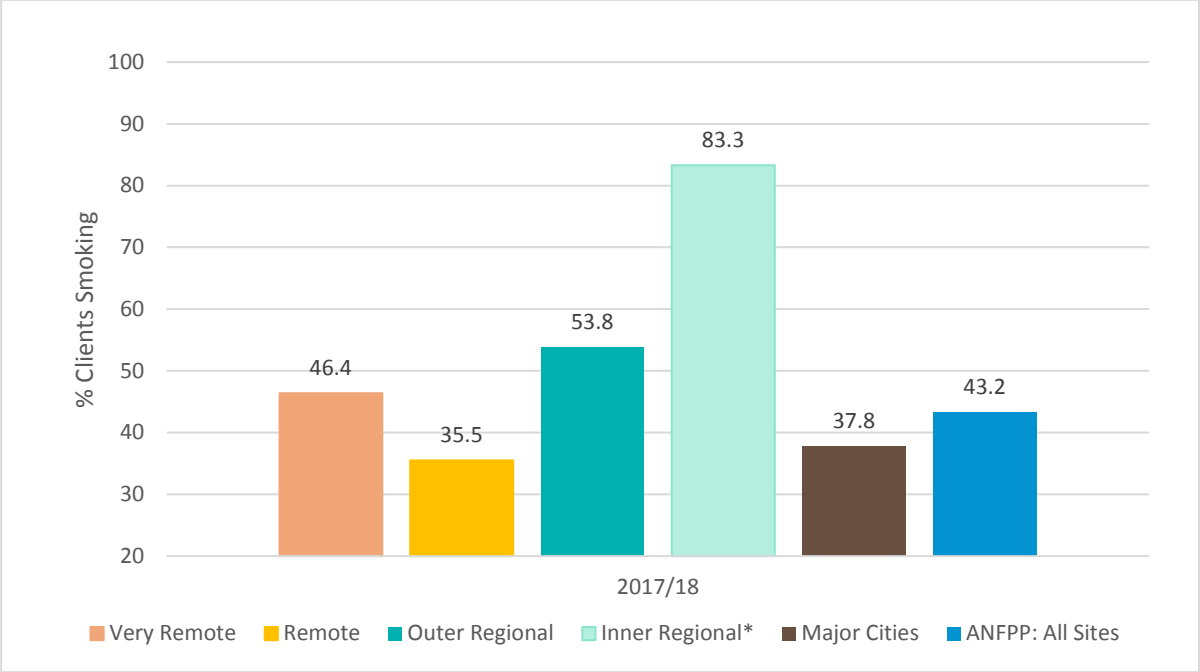
ANFPP % Clients Smoking^ During Pregnancy				
Remoteness Area	**2014–15**	**2015–16**	**2016–17**	**2017–18**
Major Cities		*	30.8 (N=26)	37.3 (N=59)
Inner Regional				83.3 (N=6)
Outer Regional	53.7 (N=54)	51.5 (N=66)	46.0 (N=50)	54.0 (N=50)
Remote	65.6 (N=32)	53.3 (N=30)	41.9 (N=31)	35.4 (N=48)
Very Remote			*	45.8 (N=24)
ANFPP: All Sites	58.1	52.0	40.7	43.9

*Total counts are < 5

^as a % of number of smoking status records

Cells are blank where no data is available for that Area and time period.

FIGURE 32: ANFPP CLIENTS SMOKING* (%), 2017/18, ACROSS ALL PROGRAM PHASES, BY REMOTENESS



*as a % of the number of smoking status records.

++ N=6; percentage should be used with caution

TABLE 27: PROPORTION OF ANFPP CLIENTS IDENTIFYING AS SMOKERS, BY PERIOD AND REMOTENESS (ALL PHASES)

Remoteness Area	ANFPP % Clients Smoking^ Any Phase			
	2014–15	2015–16	2016–17	2017–18
Major Cities		*	31.2 (N=32)	37.8 (N=74)
Inner Regional				83.3 (N=6)
Outer Regional	49.4 (N=77)	49.3 (N=73)	45.5 (N=55)	53.8 (N=52)
Remote	64.4 (N=59)	57.4 (N=54)	44.7 (N=47)	35.5 (N=62)
Very Remote			*	46.4 (N=28)
ANFPP: All Sites	55.9	52.7	41.5	43.2

*Total counts are < 5

^as a % of number of smoking status records

Cells are blank where no data is available for that Area and time period.

6.5.2 Comparison with National Smoking Data

Figure 33 presents ANFPP smoking during pregnancy 2017/18 alongside the 2015 national comparative dataset.

- ANFPP smoking rates in pregnancy for 2017/18 were lower than the national averages in Very Remote areas, Remote areas and Major Cities. Very Remote sites performed particularly well, with smoking during pregnancy 11.5% below the national Aboriginal and Torres Strait Islander average for this remoteness category (35.5% vs 47.0% national value.)

The high rate for ANFPP in Inner Regional areas, compared to other areas and the national average, is very likely the result of the variation created by such a small number of records (N = 6).

FIGURE 33: ANFPP SMOKING IN PREGNANCY (%), 2017/18, COMPARED WITH NATIONAL 2015 DATA

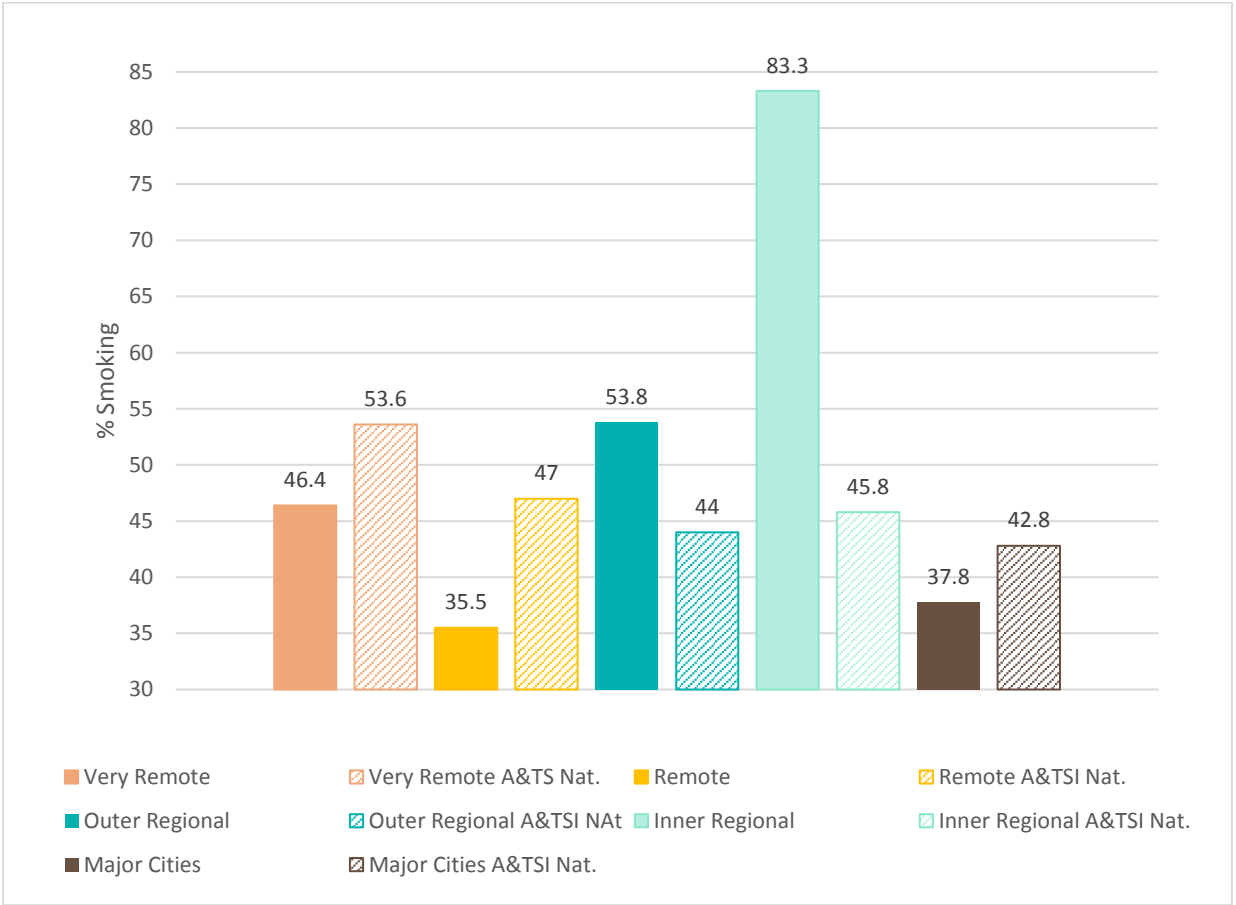
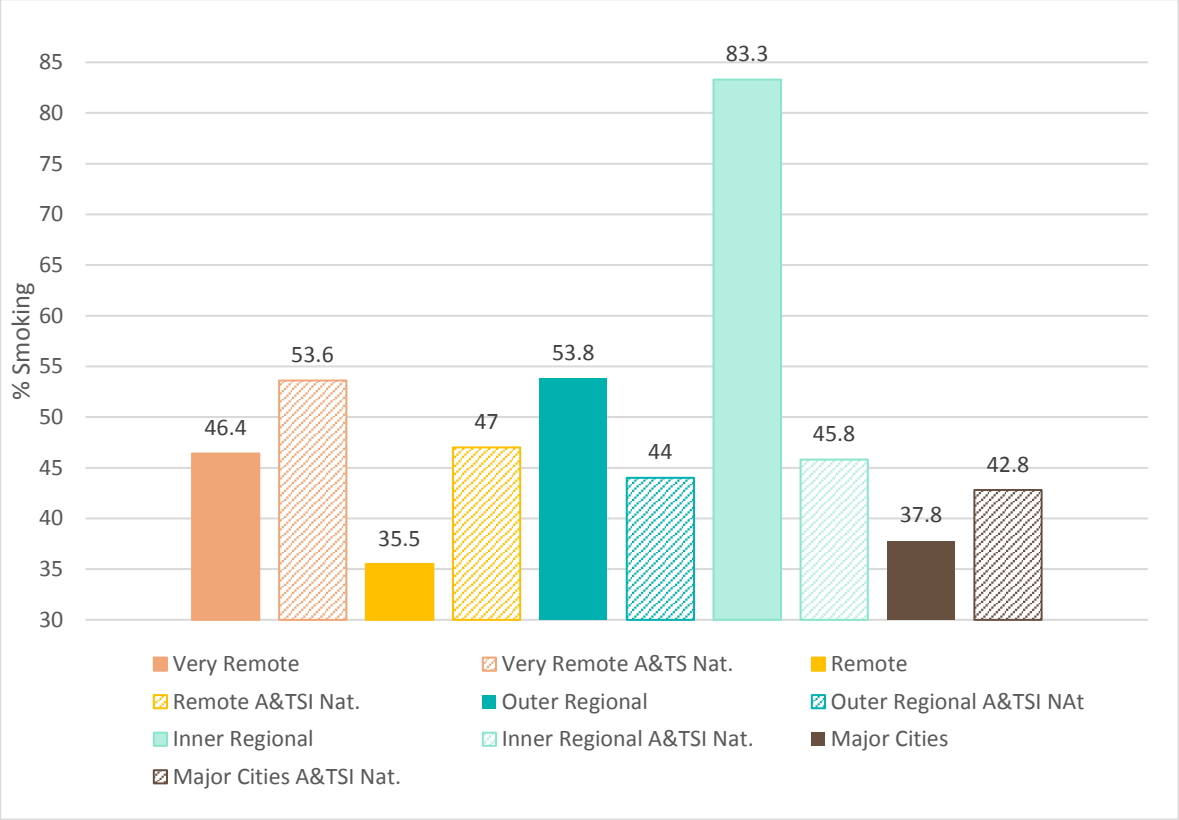


FIGURE 34: ANFPP 2017/18 SMOKING IN PREGNANCY COMPARED WITH NATIONAL 2015 DATA



6.6 Child Development

The *Ages and Stages Questionnaire* (ASQ) monitors child development outcomes for the infants born to clients in the ANFPP program. The ASQ is a standard developmental screening tool in use world-wide. ASQ assessment produces a score for the child in each of the five domains, which can then be compared to standard 'Monitor' and 'Refer' benchmark values. This screening and surveillance of child development enables early identification of children with any potential for developmental delay.

Within the ANFPP, data is collected on four occasions during the program, at or close as is practicable to the following program phases:

- Infancy at 4 months
- Infancy at 10 months
- Toddlerhood at 14 months
- Toddlerhood at 20 months

6.6.1 Program Performance

The ANFPP Performance and Quality Framework does not state specific ASQ-related program targets. However, as part of child health and development the Framework does identify a target related to English Language Assessment. Specifically:

- The ANFPP target for the percentage of toddlers who fall below the given milestones for their age and gender is **25% or less**.

This value has been considered as a quasi-target for each of the five ASQ domains.

A national comparative dataset for these ASQ results is not available.

6.6.2 How Was the Analysis Performed?

The analysis that follows focuses on data collected during Toddlerhood at 20 months, as this represents the highest developmental level (maturity) a child can attain within the duration of the ANFPP program.

For 2017/18, this data was available for 17 infants across three sites. This number reflects the fact that few ANFPP infants had reached 20 months of age during 2017/18 and is in keeping with the number of 24-month immunisation records for 2017/18–19. The data has not been analysed by Remoteness Area due to the small record count, and the fact that 20-month ASQ data is only available from three sites in this time period.

The distribution of results within each of five ASQ domains are presented. These domains are: Communication, Gross Motor, Fine Motor, Problem Solving and Personal-Social.

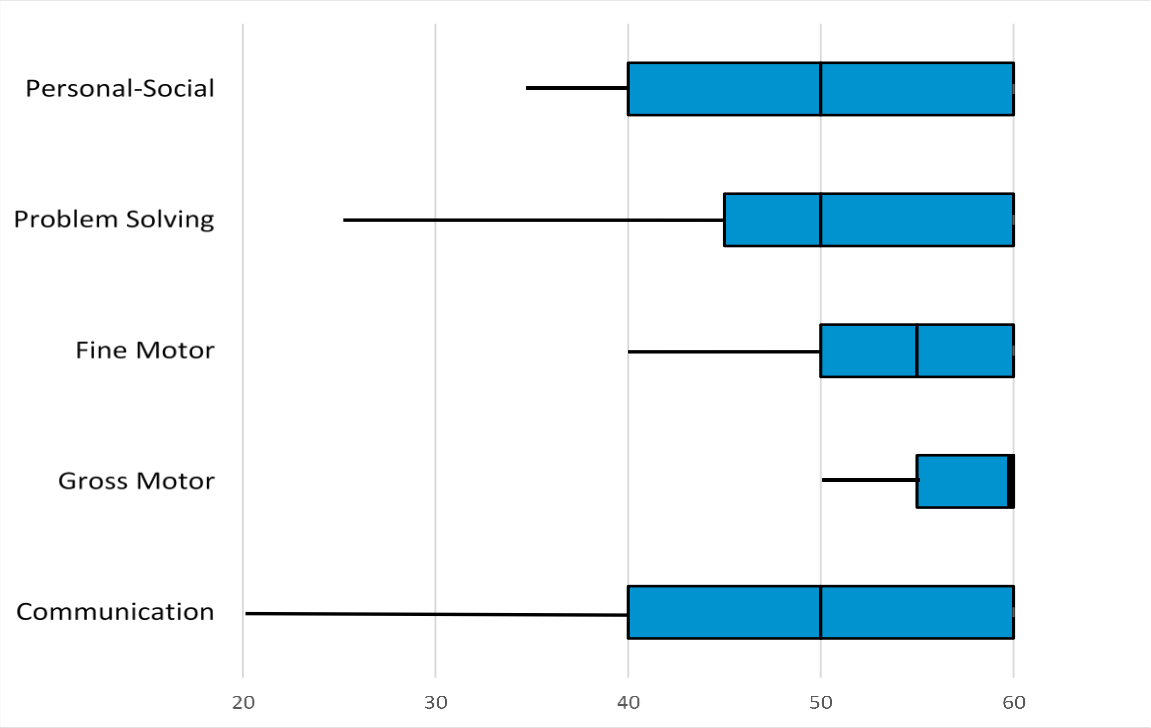
6.6.3 Does ANFPP meet its target for percentage of Toddlers falling below milestones?

Figure 35 plots key statistics on ANFPP toddler ASQ scores against each of the domains. The discussion that follows describes the distributions and identifies where infants were found to fall below standard threshold values, signifying a potential need for referral to support services.

- In 2017/18 ANFPP toddlers at 20 months were well within the Program target in all 5 ASQ domains. Only 3 children were found to have ASQ values below the standard threshold for referral: One infant in the Problem-Solving domain and two within the Communication domain.

With respect to these results, it is important to consider the need for culturally-appropriate assessment of infant development, across all ASQ domains. Further research into the delivery of ASQ assessment within the program, cultural appropriateness, and the role of FPWs in this assessment, may be of value.

FIGURE 35: AGES AND STAGES QUESTIONNAIRE SCORES, 2017/18, TODDLERHOOD AT 20 MONTHS (N= 17)



The median *Person-social* score is 50. Most toddlers in the dataset had a *Personal-social* score between 40 and 60. No toddlers scored below the 33.36 referral threshold.

The median *Problem-Solving* score is 50. Most toddlers had a *Problem-Solving* score between 45 and 60. A single toddler scored 25, which is below the 28.84 referral threshold. At 6% of the dataset, this is well within the ANFPP quasi-target of 25% or less.

The median *Fine motor* score is 55. Most toddlers had a *Fine motor* score between 50 and 60. No toddlers scored below the 36.05 referral threshold

The median *Gross Motor* score in this dataset is 60. Most toddlers had a *Gross motor* score between 55 and 60. No toddlers scored below the 38.9 referral threshold.

The median *Communication* score for these children is 50. Most toddlers in the dataset have a communication score between 40 and 60. Two toddlers scored 20 which is slightly below the 20.5 threshold for referral. This represents 12% of the toddlers in the dataset, significantly within the quasi-target of 25% or less of Toddlers falling below benchmarks.

Case Anecdote: Mother and child outcomes (Regional site, ANFPP)

Pregnancy Outcomes

During the 2017–2018 period, babies born on the program have reached 37 weeks gestation or above, with no premature births occurring throughout this time. The team have supported many clients through their journey into parenthood over the past year. Due to the resources and training available to staff through the organisation and program content, we have been able to successfully identify and support a client through postnatal psychosis. This involved the home visiting team assisting her to access appropriate services and make necessary changes to resolve her symptoms. The outcome resulted in limiting any impact on her infant and keeping the family together.

Child Health and Development:
During the 2017–2018 period we had 24 babies born into the program at our catchment site. As part of the program, the home visiting team are required to perform developmental questionnaires to determine if a child's development is on track for their age. Areas examined include communication, gross motor, fine motor, problem-solving and personal/social. In one case this year, it was identified through the program that a child required a referral to additional services which resulted in the child scoring above the monitoring or referral cut off in all domains.

7.0 Conclusion

The report focus was not limited to 2017/18 data only; it presents trend analysis of key outcomes for the period 2014/15–2017/18, a comparative analysis of program outcome data to key national Indigenous statistics, and data analysis of key outcomes against the program targets. The program outcomes were compared against national level data namely, Aboriginal & Torres Strait Islander Remoteness Area data. The process allowed better understanding of data collection challenges, capacity gaps and areas for focus, especially in terms of meeting program outcomes and areas for improvement. The report provides context, understanding and short anecdotal evidence from staff working with clients. Of note the more mature sites had far better outcomes e.g. Birthweight.

Key challenges:

- The large number of sites (8 out of 13 sites) are at an early stage of maturity requiring training and capacity building both in program delivery (i.e. cultural competence and clinical knowledge and skills) and program management (i.e. data collection and reporting).
- Higher rates (48%) of staff turnover in 2016/17 might have affected program performance of 2017/18 in some areas i.e. higher client attrition rate, data quality issues.
- Pregnancy retention (71%; NFP target >= 90%) and overall client retention remains below target (59%, NFP target >= 60%).
- Smoking, preterm birth and low birthweight targets are below the program target. A large number of the low-birthweights reported were linked to mother's who reported smoking during pregnancy. Smoking reduction and cessation present behavioural and lifestyle challenges to clients and require a large investment of time and effort to achieve changes.
- Client complexity, chronic behavioural and lifestyle related challenges and other socio-economic factors beyond the program capacity such as housing, education attainment etc make it challenging to achieve program targets and can have discouraging impact on program staff. This suggests a need for more holistic and context-sensitive approach in conducting program performance evaluation.
- Early referral and enrolment by 16 weeks of pregnancy remains a challenge for ANFPP, with only 18% of clients enrolled compared to the NFP target of 60%. There is a marked increase in

recruitment by the 28th week of pregnancy with 87.2% of women receiving their first home visit prior to 28 weeks of gestation.

- Approximately 58% of expected visits were completed in 2017–18. The proportion of expected visits completed were lowest across the pregnancy (reflecting the low number of women enrolled in early pregnancy) and infant phases but highest during the toddlerhood phase. Many visits involve crisis support and are counted as significant contact not program visits; meaning many clients receive more visits than those documented as official program visits.
- One of the main reasons for attrition was the client moving out of the service area (31%). ANFPP sites have put in place strategies to explore and mitigate potentially modifiable factors, particularly the modification of situation dependent factors to further reduce program attrition.

Key successes:

- Staff turnover reduced by 31% in 2017/18 (17% in 2017/18 Vs 48% in 2016/17)
- Immunisation targets were consistently met during the reporting period of 2014/15 to 2017/18
- Breastfeeding rates within the program are higher than comparative national data for Indigenous children across all remoteness areas
- All toddlers reported at 20-months were well within the program target in all 5 ASQ domains. However, data completeness remains challenge
- An increasing number of good news stories from partner organisations highlight the importance of achievements such as a removed child being returned to their mother's care following support from the ANFPP to help her develop mothering skills
- Demonstration of cross-learning and knowledge sharing opportunities between partner organisations; three of the sites have nearly 10 years of experience.

Case Anecdote: Cross learning between sites: WACHS and Winnunga (Metropolitan)

Moving out of the Silo
It's very easy to get tied up and bogged down in your own little world, so it's important to be a part of the larger ANFPP family, as well as being a part of our own services at Winnunga.

During the last week of Oct Wellington Aboriginal Corporation Heath Service (WACHS) invited Winnnuga (AHCS) ANFFP team to visit their site, this was something that was highlighted at the conference which the Winnunga team had not attended to as of yet. So, with much excitement the team minus their illustrious leader (Malcolm), the team left on the Monday morning from Canberra to drive to Dubbo. This was a great time for the team to be able to build a closer connection, nothing says team building like a 5 hours' drive in close proximity to each other!

The 3 days gave the Winnunga team great insight into how a team that has been doing it for a while actually get themselves organised and what processes are used to achieve their home visits successfully!

Some of the highlights were the discussions around community engagement, shadow visits, graduations, group activities, resource and milestone packs, and promotional equipment used.

Now the tough part comes in pulling together all what was learnt and working out what can be implemented and when to implement these learnings.

The ANFPP Winnunga team would like to extend their gratitude to ANFPP WACHS for taking the time to take us under their wing to encourage and support us in our endeavor to implement the ANFPP in Canberra, also the preparation work that Lyndall and her team put into our visit was phenomenal that you so much! This is truly working in collaboration for the greater good of our first nations people.

8.0 Looking to the future

Data collected from the following innovations implemented within the current reporting period will be reported in the next Annual Data Report for 2018–19.

8.1.1 Dyadic Assessment of Naturalistic Caregiver-child Experience (DANCE)

The Dyadic Assessment of Naturalistic Caregiver-child Experience (DANCE) is a strengths-based assessment tool used to help identify current strengths and areas for growth in caregiving behaviours. During home visits the interaction between caregiver and child is assessed over four domains covering 18 caregiving behaviours. The assessment informs targeted activities to enhance parenting skills and support a child's healthy growth and development. DANCE education for the ANFPP will commence on 26 November 2018 with the training of 20 staff. Over the following 9–12 months the remaining ANFPP staff will be trained. The DANCE assessment data will be captured in ANKA and reported in the next Annual Data Report 18/19.

Case Anecdote: Father and Partner Involvement (Urban site, ANFPP)

We have had positive feedback from partners who have come to our site at Mile End to be involved with belly casting, painting and gatherings to meet other women and their partners in the Program. These men have expressed great interest in the possibility of having a Family Partnership Worker to work directly with them in their role as fathers and partners. Some of these men are young and none of their mates are fathers yet and they would like support in their parenting role including engaging with other young fathers.

Case Anecdote: Father and Partner Involvement (Remote site, ANFPP)

This family story demonstrates how ANFPP is not only making a difference to the young mother and child but is also helping to strengthen the vital role of the father. The staff aims to empower the parents to make the correct choices for themselves and their child so that it improves the short and long-term outcomes for their child.

Young Luke (pseudonym) is thriving and meeting all his milestones, he loves his bush tucker such as buffalo, turtle and goose caught by proud dad. He has started walking, is communicating in the family's traditional languages and English as well as benefiting from his parents reading stories.

This young family is also a perfect example of how the ANFPP staff are continuously learning about parental expectations, strength-based approach and the importance of making small changes- it is definitely a give and take relationship that is beneficial to families but also rewarding for staff.

The 12-month photo below shows the proud father receiving his great achievement award for turning this special milestone for his child.

The 12-month photo below shows the proud father receiving his great achievement award for achieving this special milestone for his child.

8.1.2 Strengths and Risks (STAR) Framework

The Strengths and Risks (STAR) Framework enables Nurse Home Visitors to systematically identify client characteristics and information at specific program points. The STAR framework informs clinical decisions on visit content, frequency and methods of promoting behavioural change to enhance maternal and child health. The STAR framework will add additional data collection on social indicators including substance use, developmental and intellectual disability, loneliness and social isolation, economic adversity, homelessness, overcrowding and residential instability, home safety, well-child care during infancy and toddlerhood and use of other community services. STAR will be incorporated in the ANFPP education program and ANKA in early 2019.

Case Anecdote: STAR (Inner Regional site, ANFPP)

A 32-year-old client, June (pseudonym) has been in the program since early pregnancy (7 months). June started the program with anxiety and a lack of confidence about Motherhood, her ability to carry the baby and her housing situation. She was living with her partner at her Father's house who is an alcoholic and marijuana user. Her Mother lived in another house and she also had issues that prevented June from living with her at the time. June had never independently lived away from her parents.

From the start she was encouraged to follow her heart's desire to move so she could make a home of her own and give her child the best possible start in life. ANFPP staff were able to support her by linking her with our Aboriginal Housing service and later providing a letter of support. By focusing on her strengths of resilience, persistence and good organisational skills, step by step she was able to secure and furnish her first rental home. June has now given birth to a healthy baby and has been able to bring her child home to a safe environment.

8.1.4 Domestic and Family Violence (DFV)

Domestic and Family Violence education and a DFV action pathway is being provided to all ANFPP sites. The education program assists ANFPP nurses and midwives to have a relationships and safety discussion with clients. Staff learn how to observe for clinical signs, behaviours and risk indicators for DFV and how to respond to disclosure. Information on DFV will be included in ANKA from January 2019.

Case Anecdote: Supporting women with Child Protection involvement (Very Remote site, ANFPP)

Kelly's (pseudonym) previous three children aged 8, 6, and 2 years were removed by Territory Child Protection Services. All were placed with kinship carers- now all living in community and cared for by their maternal grandmother.

Kelly experienced a significant domestic violence issue from a partner and he was the cause of her having her children removed as she continued to go back to him which put the children in a vulnerable and dangerous position.

She attended ANFPP group activities including groups run in collaboration with the clinic Midwife and visiting psychologist. She was also attended billabong group which incorporated the opportunity to get out to 'country' and to participate in education by NHV with the assistance of the FPW to aid in the cultural brokerage.

The NHV formed a strong relationship with Kelly which resulted in her developing trust in NHV. This is a huge achievement in the remote setting where clients often associate organisations with negative experiences.

This was also followed up soon after with DV safety information, ensuring the mother had a safety plan, finance education, education on the impacts on the child when witnessing DV.

With the assistance and support as demonstrated in the strengths-based approach of the ANFPP program this mother was able to keep her child in her care until 10 months of age.

Unfortunately, once the partner was released from a period in incarceration he returned to community and continued to perpetuate violence resulting in child placed in care with a family member in Darwin.

Nevertheless, this mother continues to have periodic contact with NHV, even though she is no longer

under ANFPP, and recently expressed that she understood babe was 'better' with her relatives. The mother is involved with her other children as they remain in community.

Case Anecdote: Reconnecting and creating lasting relationships. (Metropolitan site, ANFPP)

The team and clients have a unique and special bond, which is amplified in the creative, peaceful and relaxing environment created for ANFPP Community Days. Our clients are learning life skills, developing capacities to self-regulate their emotions and the emotional reactions and responses of their babies. Past perceptions and strategies that toxic and punitive, connected to historical and often compounded and current violence and trauma are challenged and redirected through modelling and example. Many of the staff and increasingly the clients are informed by the Circle of Security program with group and individual work now consistently available.

We have a growing group of infant boys, who are delighting in the connection they are building each time they come along with their mums. Simultaneously, their mothers are also building relationships, as they reconnect each week, supporting each other by discussing their boys, their partners, friends and family. It is wonderful to witness each week these bonds developing.

Photo: The boys connecting and bonding.

9.0 References

ANFPP National Program Centre. (2018) Performance and Quality Framework, *August 2018 V2.7*

ANKA. (2018). *ANKA Final Viable Product Report June 2018 V0.1*

Arnold L, Hoy W, Wang Z. Low birthweight increases risk for cardiovascular disease hospitalisations in a remote Indigenous Australian community - a prospective cohort study. Australian & New Zealand Journal of Public Health. 2016 Apr 2; 40:S102–6.

Australian Government Department of Health. (2018a). Childhood Immunisation coverage. Retrieved from https://beta.health.gov.au/health-topics/immunisation/childhood-immunisation-coverage

Australian Government Department of Health. (2018b). Immunisation coverage rates for Aboriginal and Torres Strait Islander children. Retrieved from https://beta.health.gov.au/health-topics/immunisation/childhood-immunisation-coverage/immunisation-coverage-rates-for-aboriginal-and-torres-strait-islander-children

Australian Immunisation Register. (2018): National due and overdue rules for immunisation, Version 1.0 March 2018

Australian Indigenous HealthInfoNet (2018). *Overview of Aboriginal and Torres Strait Islander health status, 2017*. Perth: Australian Indigenous HealthInfoNet.

Australian Institute of Health and Welfare. (2016) National Key Performance Indicators Database: User guide, 2016

Australian Institute of Health and Welfare. (2017a). Aboriginal and Torres Strait Islander Health Performance Framework.

Australian Institute of Health and Welfare. (2017b). Aboriginal and Torres Strait Islander Health Performance Framework Report, 2017: 1-01 Low birthweight data table Available from: https://www.aihw.gov.au/reports/indigenous-health-welfare/health-performance-framework/data

Australian Institute of Health and Welfare. (2018a). Australia's health 2018: Low birthweight data. Available online from: https://www.aihw.gov.au/reports/australias-health/australias-health-2018/contents/indicators-of-australias-health/proportion-of-babies-born-with-low-birthweight

Australian Institute of Health and Welfare. (2018b). Australian Institute of Health and Welfare Data Visualisations: Tracking progress against the Implementation Plan Goals for the Aboriginal and Torres Strait Islander Health plan 2013–2023. Available from: https://www.aihw.gov.au/reports-statistics/population-groups/indigenous-australians/data Downloaded on 13/04/2018

Australian Nurse-Family Partnership Programme. (2018). ANFPP Information Brochure, Available online from https://www.anfpp.com.au/about-anfpp

Bar-Zeev S, Barclay L, Kruske S, Kildea S. Factors affecting the quality of antenatal care provided to remote dwelling Aboriginal women in northern Australia. Midwifery. 2014 Mar; 30(3):289–96.

Belbasis L, Savvidou MD, Kanu C, Evangelou E, Tzoulaki I. Birthweight in relation to health and disease in later life: an umbrella review of systematic reviews and meta-analyses. BMC Medicine. 2016 Sep 28;14:1–15.

Cameron JD, Doucet É, Adamo KB, Walker M, Tirelli A, Barnes JD, et al. Effects of prenatal exposure to cigarettes on anthropometrics, energy intake, energy expenditure, and screen time in children. Physiology & Behavior. 2018 Oct; 194:394–400.

Commonwealth of Australia. (2013). *National Aboriginal and Torres Strait Islander Health Plan 2013-2023.* Canberra, Australia: Commonwealth of Australia.

Cope G. How smoking during pregnancy affects the mother and foetus. Nurse Prescribing. 2015 Jun; 13(6):282–6.

Dowdall D, Flatley C, Kumar S. Birthweight centiles, risk of intrapartum compromise, and adverse perinatal outcomes in term infants. Journal of Maternal-Foetal & Neonatal Medicine. 2017 Sep; 30(17):2126–32.

Gutvirtz G, Wainstock T, Landau D, Sheiner E. 205: Maternal smoking and long-term neurological morbidity of the offspring. American Journal of Obstetrics & Gynaecology. 2018 Jan 2;218:S135–6.

Hambidge KM, Krebs NF. Strategies for optimizing maternal nutrition to promote infant development. Reproductive Health. 2018 Jun 23;15(1):N.PAG.

Haslinger C, Bamert H, Rauh M, Burkhardt T, Schäffer L. Effect of maternal smoking on stress physiology in healthy neonates. Journal of Perinatology. 2018 Feb; 38(2):132–6.

Haswell, M., Kavanagh, D., Tsey, K., Reilly, L., Cadet-James, Y., Laliberte, A., . . . Doran, C. (n.d.). Psychometric validation of the Growth and Empowerment Measure (GEM) applied with Indigenous Australians.

Kildea SV, Gao Y, Rolfe M, Boyle J, Tracy S, Barclay LM. Risk factors for preterm, low birthweight and small for gestational age births among Aboriginal women from remote communities in Northern Australia. Women & Birth. 2017 Oct;30(5):398–405.

Lee KWK, Richmond R, Pingzhao Hu, French L, Shin J, Bourdon C, et al. Prenatal Exposure to Maternal Cigarette Smoking and DNA Methylation: Epigenome-Wide Association in a Discovery Sample of Adolescents and Replication in an Independent Cohort at Birth through 17 Years of Age. Environmental Health Perspectives. 2015 Feb; 123(2):193–9.

Leybovitz-Haleluya N, Wainstock T, Landau D, Sheiner E. Maternal smoking during pregnancy and the risk of paediatric cardiovascular diseases of the offspring: A population-based cohort study with up to 18-years of follow up. Reproductive Toxicology. 2018 Jun; 78:69–74

Louis-Jacques A, Stuebe A. Long-term maternal benefits of breastfeeding. Contemporary OB/GYN. 2018 Jul; 63(7):26–9.

McEwen EC, Guthridge SL, He VY, McKenzie JW, Boulton TJ, Smith R. What birthweight percentile is associated with optimal perinatal mortality and childhood education outcomes? American Journal of Obstetrics & Gynaecology. 2018 Feb 2; 218:S712–24

Micalizzi L, Knopik VS. Maternal smoking during pregnancy and offspring executive function: What do we know and what are the next steps? Development & Psychopathology. 2018; 30(4):1333–54.

Miller JE, Hammond GC, Strunk T, Moore HC, Leonard H, Carter KW, et al. Association of gestational age and growth measures at birth with infection-related admissions to hospital throughout childhood: a population-based, data-linkage study from Western Australia. Lancet Infectious Diseases. 2016 Aug;16(8):952–61.

Nguyen H, Zarnowiecki D, Segal L, Gent D, Silver B, Boffa J. Feasibility of Implementing Infant Home Visiting in a Central Australian Aboriginal Community. Prevention Science. 2018 Oct;19(7):966–76.

Nielsen C, Larsen A, Nielsen A. DNA methylation alterations in response to prenatal exposure of maternal cigarette smoking: A persistent epigenetic impact on health from maternal lifestyle? Archives of Toxicology. 2016 Feb; 90:231-245.

PHIDU Torrens University Australia. (2017). *Social Health Atlas of Australia: Remoteness areas.* Retrieved from http://www.phidu.torrens.edu.au/social-health-atlases/data#social-health-atlas-of-australia-remoteness-areas.

Rowe A. Family Nurse Partnership: Theories, principles and practice methods. International Journal of Birth and Parenting Education. 2016; 3(2):9-13.

Tzoumakis S, Carr VJ, Dean K, Laurens KR, Kariuki M, Harris F, et al. Prenatal maternal smoking, maternal offending, and offspring behavioural and cognitive outcomes in early childhood. Criminal Behaviour & Mental Health. 2018 Oct; 28(5):397–408.

Victora CG, Bahl R, Barros AJD, França GVA, Horton S, Krasevec J, et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. Lancet [Internet]. 2016 Jan 30 [cited 2018 Nov 12];387 North American Edition (10017):475–90.

Whish-Wilson T, Tacey M, McCarthy E, Howat P. Indigenous birth outcomes at a Victorian urban hospital, a retrospective 5-year cohort study 2010-2014. Australian & New Zealand Journal of Obstetrics & Gynaecology. 2016 Jun ;56(3):238–44.

WHO (2018) World Health Organisation. Health Topics: Breastfeeding. Available online from: http://www.who.int/topics/breastfeeding/en/

WHO (2012) World Health Organization. WHA65.6 Comprehensive implementation plan on maternal, infant and young child nutrition. Available online from: http://www.who.int/nutrition/topics/wha_65_6/en/

10.0 Appendices

Appendix 1: ANFPP Site Profiles

TABLE 28: AUSTRALIAN NURSE AND FAMILY PARTNERSHIP PROGRAM SITES, ASSOCIATED INDIGENOUS AREA, ABORIGINAL AND/OR TORRES STRAIT ISLANDER POPULATION PROFILE, AND REMOTENESS STRUCTURES

ANFPP Program Sites	Service Area	State	ABS Remoteness Structure
ANFPP Metropolitan Site IUIH	Redcliffe	QLD	Major Cities of Australia
	Brisbane City	QLD	Major Cities (with some Inner regional, outer regional patches)
	Pine Rivers	QLD	Major Cities (with inner regional patches)
	Caboolture	QLD	Major Cities (with inner regional patches)
Winnunga Nimmityjah Aboriginal Health Clinic/Health Service (ACT)	Canberra–North	ACT	Major Cities
	Canberra–South	ACT	Major Cities
Danila Dilba Biluru Butji Binnilutlum Health Service Aboriginal Corporation	Palmerston	NT	Outer Regional Australia
Nukuwarrin Yunti of South Australia	Playford	SA	Major Cities of Australia
	Port Adelaide - Enfield	SA	Major Cities of Australia
Wuchopperen Health Service	Cairns	QLD	Outer Regional Australia
	Cairns–Southern Hinterlands	QLD	Outer Regional Australia
WACHS (Wellington and Greater Western Aboriginal Health Services)	Dubbo	NSW	Inner Regional Australia
	Gilgandra	NSW	Outer Regional Australia
	Narromine	NSW	Outer Regional Australia
	Wellington	NSW	Outer Regional Australia
	Blacktown	NSW	Major Cities of Australia
Durri Aboriginal Corporation Medical Service	Kempsey	NSW	Inner Regional Australia
Rumbalara Aboriginal Cooperative	Campaspe–Shepparton –Moira	Vic	Inner Regional Australia
Central Australian Aboriginal Congress Inc.	Alice exc. Town Camps	NT	Remote Australia
	Alice Springs Town Camps	NT	Remote Australia
	Maningrida and Outstations	NT	Very Remote Australia

ANFPP Program Sites	Service Area	State	ABS Remoteness Structure
Top End Health Services (NT Government)	North-West Arnhem	NT	Very Remote Australia
	Thamarrurr inc. Wadeye	NT	Very Remote Australia
	Tiwi Islands	NT	Very Remote Australia
Wurli Wurlinjang Aboriginal Corporation	Katherine Town	NT	Remote Australia
NT Government	Hermannsburg	NT	Very Remote Australia