



ANFPP National Program Centre

National Annual Data Report

1 July 2018-30 June 2019

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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 levels¹.

(*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.

¹ Commonwealth of Australia. (2013). National Aboriginal and Torres Strait Islander Health Plan 2013- 2023. Canberra, Australia: Commonwealth of Australia.

Abbreviations

ABS	Australian Bureau of Statistics
ANKA	ANFPP National Knowledge Access
ANFPP	Australian Nurse-Family Partnership Program
ASGS	Australian Statistical Geography Standard
ASQ	Ages and Stages Questionnaire
ASQ:SE	Ages and Stages Questionnaires: Social-Emotional
ВІОС	Birthing in Our Community
CQI	Continuous Quality Improvement
СМЕ	Core Model Elements
DANCE	Dyadic Assessment of Naturalistic Caregiver-child Experience
DCS	Data Collection System
DOH	Department of Health
DFV	Domestic and Family Violence
EPDS	Edinburgh Postnatal Depression Scale
FPW	Family Partnership Worker ²
FTE	Full-time Equivalent

² 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.

IUGR	Intra Uterine Growth Restriction
LBW	Low Birthweight
NFP	Nurse-Family Partnership ® (USA)
NHV	Nurse Home Visitor
NPC	National Program Centre
NS	Nurse Supervisor
PHIDU	Public Health Information Development Unit
SGA	Small for Gestational Age
STAR	Strengths and Risks Framework
РНСО	Primary Health Care Organisation

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Executive summary

The Australian Nurse-Family Partnership Program (ANFPP) presents client and operational data collected from 1 July 2018 to 30 June 2019 reporting period. Data for this collection was provided by the partner organisations that receive funding from the Department of Health (DoH) to implement the program with Aboriginal and Torres Strait Islander families.

Program Summary (2018–19)

FIDELITY MEASURES

- The ANFPP client acceptance to the program was 77% (NFP target: 75%). This represents a 1% increase in acceptance rate when compared to the 2017–18 measure (See Table 5).
- Client retention in 2018/19 was 58%, which is 1% lower than the figure reported in the 2017/18 reporting period (See Table 2).
- In 2018–19, 430 clients entered the program. During this period 42% (n =248) of clients left the program. The number of clients who left the program in this reporting year includes clients who were accepted to the program prior to this reporting year (See Table 5).

A summary of fidelity measures and maternal and child health outcomes is illustrated in Figure 1 infographic.

MATERNAL AND CHILD HEALTH OUTCOMES

- i. Breastfeeding: ANFPP clients' breastfeeding rates are very similar across the program apart from Inner Regional areas where the rate is about 10% below the program average of 84%. (See 6.3 Breastfeeding).
- ii. *Child development:* The Ages and Stages Questionnaire aims to identify children who have or are at risk of developmental delay. A few toddlers in the ANFPP program scored below the required benchmarks, indicating developmental concerns requiring follow-up and/or referral. (See 6.6 Child Development).
- iii. *Immunisation:* The ANFPP target for immunisation was set at ≥90% by the infants' second birthday. In 2018/19, 93% of infants were fully immunised at 12 months and 95% were immunised by the 24-month milestone. In both cases, this matches the national rate for Aboriginal and Torres Strait Islander children (See 6.2 Immunisation).
- iv. **Premature birth and low birthweight:** The overall low birthweight rate was 13%. However, correcting for women who received at least five home visits in pregnancy; the low birthweight rate reduced to 9%, the normal birthweight rate was 90% and high birthweight rate was 1%

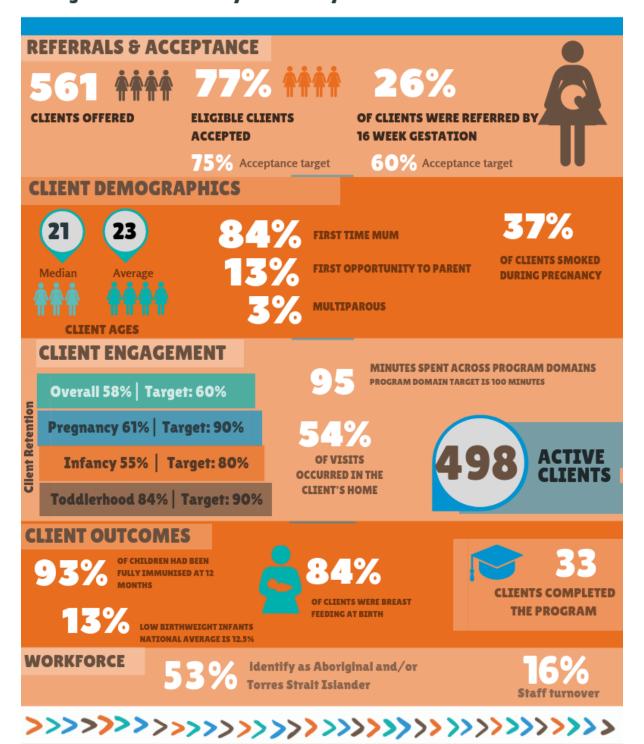
(See 6.4 Low birthweight). Although this relationship shows association, positive outcomes in birthweight and other lifestyle factors are observed with increased home visit programs.

- 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 2017/18, the incidence of low birthweight infants has increased by 2.1%.
 (See 6.4 Birthweights). Further investigation into the smoking status of mothers of premature infants would be of value.
- v. **Smoking:** The overall performance for this reporting year on smoking is poor, with 36.9% of clients reported they smoked during pregnancy. Given smoking status is a marker for overall vulnerability, this area requires a significantly higher focus. The 2018/19 smoking rate represents a 7% decrease in the proportion of clients reporting as smoking during pregnancy in the 2017/18 reporting period. However, the 2018/19 data contains a more diverse and robust dataset, especially with the inclusion of a high number of clients in the Inner Regional and Major City areas. (See 6.5 Smoking).

QUALITATIVE DATA

The narrative stories throughout the report exemplify program achievements and many demonstrate the profound changes in women's lives that are not captured by 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 and interpreting and developing local language resource, is evident in the qualitative narratives included throughout the report.

Program Data Summary from 1 July 2018 - 30 June 2019



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 and/or Torres Strait Islander child to improve their own health and the health of their baby. The program is designed to support mothers during pregnancy and until their child is two years of age, with regular home visits from a Nurse Home Visitor and an Aboriginal and/or Torres Strait Islander Family Partnership Worker. The ANFPP is a part of the Australian Government's commitment to improving 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 Program, 2018).

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

TABLE 1 ANFPP PARTNER ORGANISATION BY WAVE AND COMMENCEMENT PERIOD

Wave	Commencement of the Program	Partner organisation
Wave 1	2009	Central Australian Aboriginal Congress, (Congress, formerly CAAC), Alice Springs, Northern Territory. Wuchopperen Health Service (WHS), Cairns, Queensland. Wellington Aboriginal Corporation Health Service - Dubbo (WACHS-Dubbo), Wellington, New South Wales.
Wave 2	May 2016	Institute of Urban and Indigenous Health (IUIH-North), North Brisbane, Queensland.
	May 2016	Top End Health Services - Northern Territory Department of Health (TEHS), based in Casuarina, 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, (Nunkuwarrin Yunti) based in 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 - Blacktown (WACHS-Blacktown), 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)

ANFPP PARTNER ORGANISATIONS BY REMOTENESS

ANFPP partner organisations work in all five different geographic categories as outlined by the Australian Statistical Geography Standard (ASGS). The location of individual partner organisation plays a crucial role in determining the types of services rendered to mothers and families, since some sites are limited by increased logistical challenges. The ANFPP partner organisations within each geographic category are shown in Figure 2.

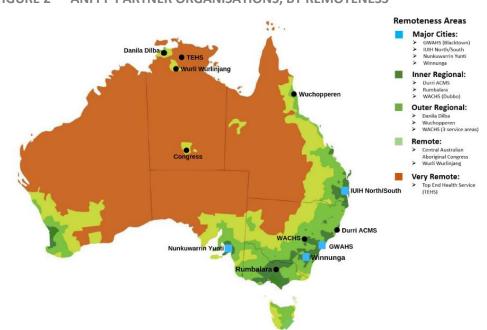


FIGURE 2 ANFPP PARTNER ORGANISATIONS, BY REMOTENESS

1.2 ANFPP Objectives and Targets

The objective of the ANFPP is to improve 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 future.

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 Core Model Elements to ensure implementation and service delivery achieves 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, pregnant with an Aboriginal and/or Torres Strait
 Islander child in the target regions. Multiparous women may be included under special circumstances.
- Family Partnership Workers (FPW) have been considered an integral part of the program since inception.

The ANFPP has adapted NFP materials and education to meet the Australian Aboriginal and Torres Strait Islander context, the health system in Australian jurisdictions, and Australian standards and language usage.

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 heart's 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.

PURPOSE OF THE ANNUAL DATA REPORT

The Annual Data Report represents national and site comparison data for all thirteen ANFPP 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:

- 1. Progress against the ANFPP fidelity measures related to client and infant participation in the ANFPP.
- 2. Health outcomes experienced by clients and their babies.
- 3. 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 2018–19 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.

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 trends across all partner organisations. During the program, data specifications have evolved, and data collection systems have become increasingly sophisticated. Consequently, 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 Aboriginal and Torres Strait Islander peoples 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.

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 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 2018-19		Performance benchmark/Target	2018/19 outcome
voluntar Australia	articipates rily in the an Nurse- artnership	100%	100% (see page 10)
mother. Variation multipan on a case	a first-time n to include rous mothers e-by-case basis n accepted.	100%	100% (incl. first opportunity to parent and multiparous mums) (See page 27)
3. Client m socioecc disadvar at intake	onomic ntage criteria	100% are women pregnant with an Aboriginal and/or Torres Strait Islander child.	100% (See page 27)
program pregnan receives	her first home ater than the ek of	 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 	88% (see Table 11)77% (see Table 5)26% (Figure 1)

ANFPP CME 2018-19	Performance benchmark/Target	2018/19 outcome
5. Each client is assigned an identified ANFPP nurse who establishes a therapeutic relationship through individual ANFPP home visits.	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 final caseload benchmarks appropriate for ANFPP. Client Attrition/ Retention: Program attrition is 40% or less (retention of 60% or more) through to the child's 2 nd birthday as an average across partner organisations 10% or less for pregnancy phase (≥ 90% retention) 20% or less for infancy phase (≥ 80% retention)	 100% of clients are assigned an ANFPP nurse. 42% 42% 45% 16%
	retention)	(See Table 14)
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.	54% of clients are visited in their home. (see Table 10) Key Below range Table 10
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: 55%; Infancy: 57%; Toddlerhood: 65%. (See Table 12)

ANFPP CME 2018-19	Performa	nce benc	hmark/Ta	arget		2018/19	outcome		
8. ANFPP nurses and supervisors are registered nurses or registered midwives with a minimum of a baccalaureate /bachelor's degree.	100%					100% Records kept by individual sites; recruitment is a site responsibility.			•
9. 100% of ANFPP nurses, Family Partnership Workers (FPWs), and supervisors will complete the required ANFPP educational curricula and participate in on-going learning activities.	will comp education on-going The inclu Universit There will	ANFPP nur olete the runal curricu learning a sion of FP y of Colora I not be re easure foll	equired A lla and pa ctivities. Ws to CM ado autho etrospect	NFPP articipate IE 9 is pe prisation. ive applic	in nding cation	summati are kept attendar monitore Excluding during th ANFPP N	delivered of the assessment of the NPC and project through get those who is reporting the sea, NHV all the requirement of the requirement of the sea, and the requirement of the sea, which is the sea, which all the requirement of the sea, which is	nent item C. Unit 1, ogress are internal o left the g period /s and FP	as. Records 2 and 3 e systems. e program , 100% of Ws
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	My Health My Home My Life My Child My Family and Friends Total	Pregnancy 35-40% 5-7% 10-15% 23-25% 10-15%	14-20% 7-10% 10-15% 45-50% 10-15%	Toddler 10-15% 7-10% 18-20% 40-45% 10-15%		My Health My Home My Life My Child My Family and Friends (See page	Pregnancy % 33.1% 8.7% 13.8% 21.3% 11.6%	19.9% 19.1% 13.1% 36.2%	7.7% 12.4% 31.4% 11.7%
11. ANFPP Nurses and supervisors and Family Partnership Workers apply the theoretical framework that underpins the program (self-efficacy, human ecology, and attachment theories)	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				However incorpor curriculu	E is not dire r, these the ated across m and pro- nity of Prac	eories are s the trai vide a fo	e ning cus for	

to guide their clinical

ANFPP CME 2018-19	Performance benchmark/Target	2018/19 outcome
work and achievement of the three NFP goals.		
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%	54% of Partner Organisations meet this criterion. (See page 23)
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 support 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, few clients are from Inner regional areas as of 30 June 2019. Nearly 31% of active clients reside in Very remote and Remote areas. In Major Cities and Remote areas, the acceptance rate is slightly below the program target. All other areas exceed the target. The client acceptance rate for ANFPP Partner Organisations for the program duration is 76% which is slightly higher than the program target of 75%.

TABLE 3 SUMMARY OF ANFPP ACTIVE CLIENTS AT 30 JUNE 2019

	Major Cities	Inner Regional	Outer Regional	Remote	Very Remote	Total	
Active Clients	241	26	69	97	65	498	

TABLE 4 SUMMARY OF ANFPP CLIENT REFERRALS, OFFERS, EXITS, GRADUATIONS AND HOME VISITS AT 30 JUNE 2019 FOR THE DURATION OF THE PROGRAM

	Referrals	Offered	Accepted (%)	Home Visits [^]	Left the program	Graduated
Major Cities	734	659	490 (74%)	5147	226	14
Inner Regional	58	47	40 (85%)	242	13	0
Outer Regional	1258	934	766 (82%)	13951	543	154
Remote	994	757	537 (71%)	16421	305	143
Very Remote	149	123	91 (74%)	645	26	0
Total	3193	2520	1924 (76%)	36406	1113	311

^{*} In total there are 2 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.

Over the duration of the program, approximately 1 in 6 mothers enrolled in the program have graduated. 58% of accepted clients have left the program before program completion. 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 organisation's 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.

[^] Includes attempted visits

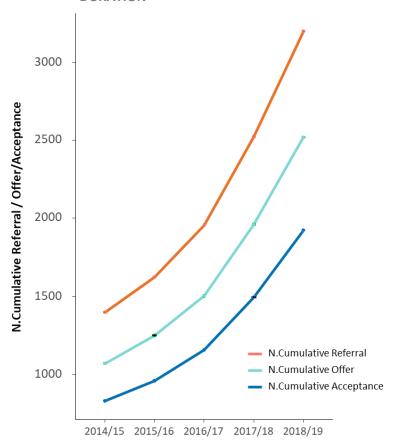
TABLE 5 SUMMARY OF ANFPP CLIENT REFERRALS, OFFERS, EXITS, GRADUATIONS AND HOME VISITS AT 30 JUNE 2019 FOR THE 2018/19 PERIOD

	Referrals	Offered	Accepted (%)	Home Visits	Left the program	Graduated
Major Cities	347	318	238 (75%)	2897	124	12
Inner Regional	44	35	28 (80%)	196	11	0
Outer Regional	105	73	62 (85%)	876	54	13
Remote	118	82	65 (79%)	1209	44	8
Very Remote	58	53	37 (70%)	392	15	0
Total	672	561	430 (77%)	5570	248	33

In 2018/19, all Partner Organisations except in Very Remote area met the target client acceptance rate of 75%. The overall 2018/19 acceptance rate of 77% is slightly higher the overall program target of 75%.

3.2 ANFFP Client Referrals and Acceptance Trends

FIGURE 3 CUMULATIVE ANFPP CLIENT REFERRAL, OFFER AND ACCEPTANCE FOR PROGRAM DURATION

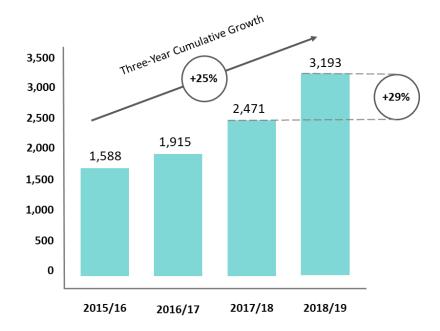


The rate of client referrals, offers and acceptance indicate an increasing trend with similar patterns of growth. Client referrals to the ANFPP program have steadily increased annually. The noticeable increase in referrals is explained by the previous expansion of the ANFPP Partner Organisations. Client offers, and acceptance appear to be largely consistent.

TABLE 6 CUMULATIVE REFERRALS FOR EACH ANFPP PARTNER ORGANISATION (2017/18 –2018/19)

Referrals	IUIH-North	Danila Dilba	Wurli	WACHS-Blacktown	Rumbalara	TEHS	Nunkuwarrin Yunti	Winnunga	Durri	IUIH-South	WHS	WACHS-Dubbo	Congress
Cumulative (2017/18)	250	38	16	24	12	90	13	9	2	54	610	522	831
Cumulative (2018/19)	330	89	45	75	33	149	49	35	25	156	658	600	949
% Increase	32	134	181	213	175	66	277	289	1150	189	8	15	14

FIGURE 4 REFERRALS GROWTH FOR ANFPP PARTNER ORGANISATIONS COMPARED FROM 2015/16 –2018/19



Client referrals to the ANFPP program have steadily increased annually. There was a 29% increase in clients referred to the program within this reporting period. Cumulatively, there is a 26% growth in client referrals since program inception until 30 June 2019.

Case Anecdote: Active Client (Remote Site, ANFPP)

Julia (pseudonym) joined the Australian Nurse-Family Partnership Program (ANFPP) in 2018 while in the early stages of her pregnancy. During this time, she and her partner were living with her partner's family and usually had their visits at the ANFPP office. In March 2019, she gave birth to a baby boy. Not long after, the new family moved into their very own home. In the ANFPP's first visit at their new home, Julia proudly showed off some of the art projects she has been working on for her baby, which included a baby blanket and a beautiful stuffed toy giraffe. She says that she plans on making stuffed toys for her friend's children as well. Julia and her baby continue to have regular visits with the ANFPP and are doing well.

3.3 ANFFP Client Referrals Source Trends

FIGURE 5 ANFPP CLIENT REFERRAL SOURCES FOR PROGRAM DURATION

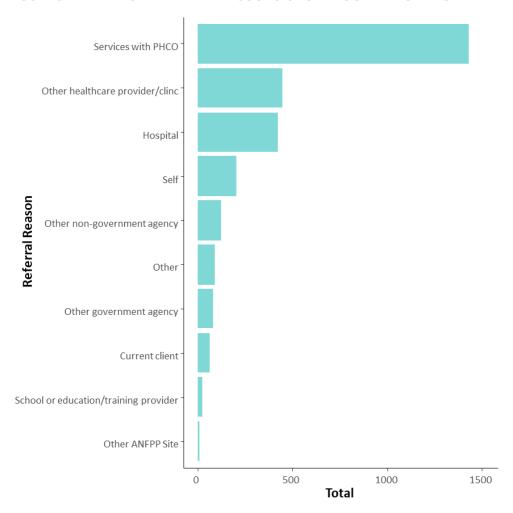


Table 7 shows the top (%) referral sources for the 2018–19 financial year. The top five referral sources in 2018/19 across ANFPP Partner Organisations account for 94% of program referrals.

 TABLE 7
 TOP FIVE REFERRAL SOURCES BY ANFPP PARTNER ORGANISATIONS (2018/19)

Partner Organisation	Services with PHCO	Other healthcare provider/ clinic	Hospital	Self- Referral	Other non- government agency
IUIH-North	14	0	29*	7	0
Danila Dilba	20*	1	4	3	0
Wurli	19*	1	0	4	1
WACHS-Blacktown	8	8	8	11*	0
Rumbalara	5*	3	1	1	0
TEHS	13	33*	0	0	0
Nunkuwarrin Yunti	6*	0	4	5	4
Winnunga	3*	2	1	2	1
Durri	12*	2	0	1	1
IUIH-South	5	3	4	6*	0
WHS	28*	3	2	2	2
WACHS-Dubbo	1	33*	10	12	6
Congress	80*	1	2	0	3
Total (Referral Source)	275	89	65	54	18

^{*} top referral source for each partner organisation

Client referral sources are generally consistent across all Partner Organisations, with very slight variations. The majority of ANFPP client were referred from the local Primary Health Care.

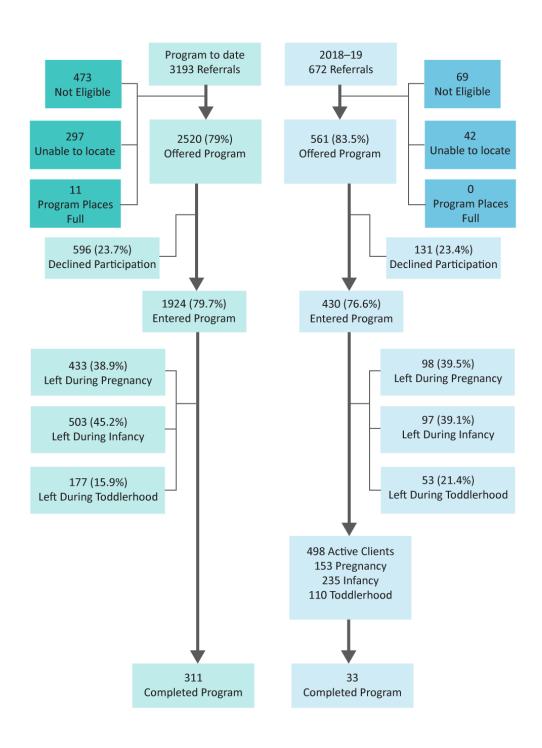
TABLE 8 REFERRAL PATHWAY OF EXIT CLIENTS, (2018/19)

Referral Source	N (%)
Services with PHCO	114 (46.0%)
Hospital	44 (17.7%)
Other healthcare provider/clinic	21 (16.5%)
Self-Referral	20 (8.1%)
Other non-government agency	18 (7.3%)
Other	6 (2.4%)
Other government agency	3 (1.2%)
Current client	2 (0.8%)
Total	248 (100%)

Table 8 shows clients who had been referred by a current ANFPP client had the lowest exit rate in the program.

Over the entire period in which ANFPP sites have been operational, the program has received 3,193 referrals. Of these, 2,520 women were offered the program and 1,924 accepted, resulting in a program acceptance rate of 76%. As of 30 June 2019, the program had 498 active clients (Figure 6).

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



3.4 ANFPP Home Visits Analysis

The amount of time spent delivering ANFPP information across all domains varies. Accommodating the clients' hearts desires and addressing other physical and educational needs also increases the time spent in providing ANFPP program information. Partner Organisations in Remote and Very Remote locations also have to contend with logistical issues. The program contents need to be delivered across five domains as defined in CME benchmark #10 (refer to Table 3).

TABLE 9 TIME SPENT IN PROGRAM DOMAIN FOR PROGRAM DURATION (2018/19) (DURATION IN AVERAGE MINUTES)

Remoteness	Phase	My Child	My Family	My Health	My Home	My Life	Total
Major Cities	Pregnancy	25.5	12.6	32.5	9.7	15.9	96.3
Inner Regional	Pregnancy	15.6	10.0	42.7	13.2	16.0	97.6
Outer Regional	Pregnancy	26.0	15.0	32.5	8.5	9.0	91.0
Remote	Pregnancy	21.9	12.2	40.9	8.3	13.7	97.0
Very Remote	Pregnancy	19.7	12.0	40.3	10.8	15.8	98.7
	Benchmark	23-25	10-15	35-40	5-7	10-15	
Major Cities	Infancy	42.1	12.7	18.6	10.6	14.3	98.3
Inner Regional	Infancy	44.4	7.1	20.2	8.3	20.1	100.0
Outer Regional	Infancy	37.0	14.0	20.5	10.0	10.5	92.0
Remote	Infancy	39.8	12.1	23.7	9.1	13.4	98.0
Very Remote	Infancy	35.3	8.8	22.3	8.7	10.8	85.9
	Benchmark	45-50	10-15	14-20	7-10	10-15	
Major Cities	Toddlerhood	40.0	13.9	19.5	9.1	16.8	99.4
Outer Regional	Toddlerhood	37.0	14.5	17.5	10.5	14.5	94.0
Remote	Toddlerhood	32.0	11.0	26.0	21.5	8.0	98.5
Very Remote	Toddlerhood	34.2	8.3	17.2	8.3	14.0	81.9
	Benchmark	40-45	10-15	10-15	7-10	18-20	



TABLE 10 PERCENTAGE OF VISITS IN THE CLIENTS HOME (2018–19)

Remoteness	Client Home
Major Cities	71%
Inner Regional	51%
Outer Regional	57%
Remote	22%
Very Remote	22%

TABLE 11 HOME VISITS BEFORE 28 WEEKS, EXCLUDING CLIENTS WHO JOINED THE PROGRAM AFTER 28 WEEKS (2018/19)

Remoteness	% of Clients First Home Visits < 28 weeks
Major Cities	89%
Inner Regional	81%
Outer Regional	88%
Remote	92%
Very Remote	84%

3.5 Home Visits Dosage

To compare the percentage of Home visits completed with NFP Benchmarks, analysis has been restricted to active clients because this increases the likelihood that the client has recently received a home visit. 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;

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

The count of visits includes home visits and telephone visits with program content. Ideally, clients complete 14 visits in pregnancy, 28 in infancy, and 22 in toddlerhood and the dosage rate percentage of expected visits uses this frequency of visits. However, the ideal number of home visits in pregnancy has been adjusted to 9 to account for the fact that majority of clients do not join the program by 16 weeks.

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. Dosage rate is 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 12 shows the average percentage of visits received compared to the visits prescribed per phase:

TABLE 12 HOME VISITING DOSAGE RATE FOR PROGRAM DURATION BY COMPLETED PHASE

	Pregnancy	Infancy	Toddlerhood	Entire Program
Dosage Rate	55%	57%	65%	59%

A range of factors prevent the completion of a scheduled home visit. ANFPP clients live with a range of complex circumstances, e.g. housing insecurity and domestic violence. Therefore, the ANFPP suggested visits per phase do not always reach the ideal dosage.

Regardless, dosage still gives program administrators an estimate of visit completions achieved by program home visiting staff. The amount of time spent during a visit (see Table 9) indicates the time used to deliver program content.

3.6 ANFFP Client Attrition Analysis

Client attrition by partner organisation (Table 13) indicates 248 clients left the program at different phases in this reporting period.

TABLE 13 ANFPP CLIENT ATTRITION BY REMOTENESS FOR THE DURATION OF THE PROGRAM

Attrition	Major Cities	Inner Regional	Outer Regional	Remote	Vary Remote	Total
Cumulative (2017/18)	102	2	490	261	10	865
Cumulative (2018/19)	226	13	543	305	26	1113
Current (2018/19)	124	11	53	44	16	248

TABLE 14 ANFPP CLIENT ATTRITION BY REMOTENESS AND PHASE FOR THE DURATION OF THE PROGRAM

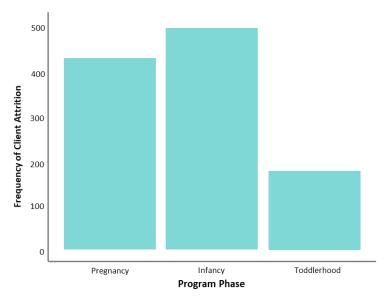
Remoteness	Pregnancy	Infancy	Toddlerhood	All Phases
Major Cities	116	95	15	226 (20%)
Inner Regional	10	3	0	13 (1%)
Outer Regional	189	273	81	543 (49%)
Remote	100	127	78	305 (27%)
Very Remote	18	5	3	26 (3%)
Total	433 (39%)	503 (45%)	177 (16%)	1113 (100%)

Overall, client attrition is highest in infancy (45%) and lowest in Toddlerhood (16%); indicating the longer a client remains in the program, the higher the chances of retention.

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 however, no concrete conclusion is evident.

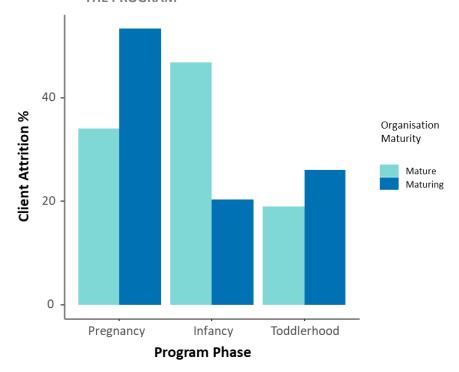
Overall, Client attrition for all Partner Organisations irrespective of remoteness shows attrition is lowest during Toddlerhood, while attrition is slightly higher in Infancy than it is in Pregnancy.

FIGURE 7 CLIENT ATTRITION BY PHASE FOR THE DURATION OF THE PROGRAM



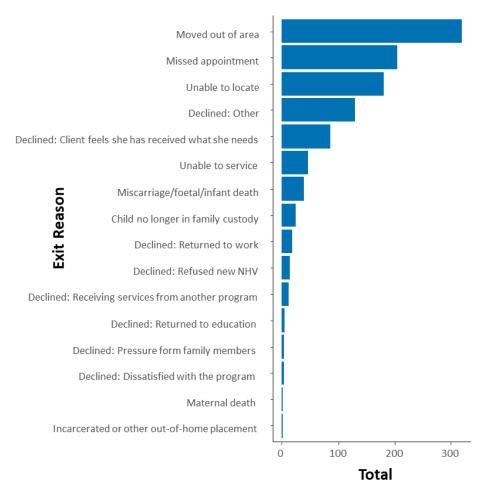
Wave 1 Partner Organisations are considered mature in ANFPP implementation, whereas Waves 2, 3 and 4 (from 2016) are still maturing. Examining client attrition from this perspective shows overall client attrition is lowest during Infancy, with the bulk of attrition occurring during Pregnancy (Figure 8).

FIGURE 8 CLIENT ATTRITION BY PARTNER ORGANISATION MATURITY FOR THE DURATION OF THE PROGRAM



Summary of recorded reasons for client attrition for the program duration is provided in Figure 9 below.

FIGURE 9 RECORDED REASON FOR CLIENT ATTRITION BY FREQUENCY FOR THE PROGRAM DURATION



The top three recorded reasons for client attrition in 2018/19 are consistent with historical trends:

- Moved out of service area (29%)
- Excessive missed appointments (19%)
- Unable to locate the client (17%)

8% 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 42%.

4.0 Workforce

This section covers the following data:

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

Each Partner Organisation has a home visiting team comprising: Nurse Supervisor (NS), Nurse Home Visitor (NHV) and Family Partnership Worker (FPW). In line with CME 12, the ANFPP Nurse Supervisor to Staff ratio is 1:8. A full time ANFPP supervisor can lead a team of no more than eight.

TABLE 15 ANFPP PARTNER ORGANISATION COMPOSITION HOME VISITING TEAM

Partner Organisation	NS	NHV	FPW	Total
Congress Aboriginal Health Service	1	8	3	12
Danila Dilba Health Service	1	4	4	9
Durri Aboriginal Corporation Medical Service	1	2	4	7
Institute of Urban Indigenous Health (North)	1	9*	4	14
Institute of Urban Indigenous Health (South)	1	7*	4	12
Nunkuwarrin Yunti of South Australia Inc	1	3	4	8
Rumbalara Aboriginal Co-Operative	1	2	2	5
Top End Health Service	1	6	5	12
Wellington Aboriginal Corporation Health Service (Blacktown)	1	3	5	9
Wellington Aboriginal Corporation Health Service (Dubbo)	1	3	3	7
Winnunga Aboriginal Health and Community Service	1	3	2	6
Wuchoperren Health Service	1	4	3	8
Wurli-Wurlinjang Health Service	1	3	4	8
Total	13	56*	47	116

^{*}includes NHV who works across more than one site

There are about 8% more Nurse Home Visitors than Family Partnership Workers. Nurse Supervisors have a leadership role and each site has one full-time Nurse Supervisor. 31% of partner organisations exceed the 1:8 (Nurse Supervisor: Team ratio).

FIGURE 10 SIZE OF THE PROGRAM (WORKFORCE FTE)

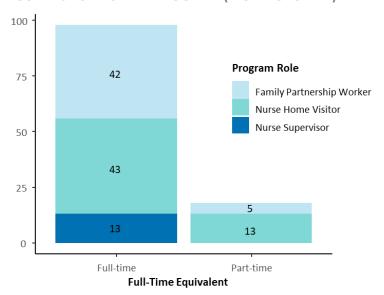


TABLE 16 CULTURAL BACKGROUND OF ANFPP PARTNER ORGANISATION HOME VISITING TEAMS

Home visiting role	Indigenous	Non-Indigenous	Total (Indigenous %)
Family Partnership Worker	47	0	47 (100%)
Nurse Home Visitor	11	45	56 (20%)
Nurse Supervisor	2	11	13 (23%)
Total (N, %)	60 (52%)	56 (48%)	116

FIGURE 11 CULTURAL BACKGROUND OF ANFPP HOME VISITING TEAM 2018/19 BY PROGRAM ROLE

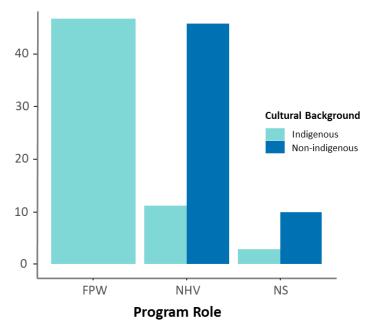


FIGURE 12 CULTURAL BACKGROUND OF ANFPP HOME VISITING TEAM 2018/19

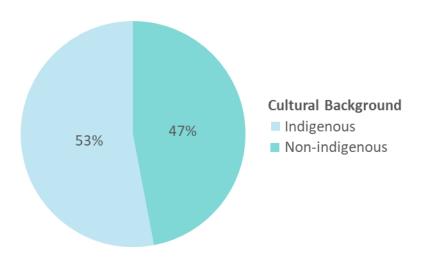


TABLE 17 ANFPP PARTNER ORGANISATION STAFF TURNOVER IN 2018/19

Program Role	Count (%)
Family Partnership Worker	8 (36%)
Nurse Home Visitor	11 (50%)
Nurse Supervisor	3 (14%)
Total	22 (100%)

The highest proportion of staff leaving the program in 2018/19 was observed amongst the Nurse Home Visitors (NHVs) 11/22 (50%) leaving the program, while the Nurse Supervisor role experienced the least staff turnover, accounting for 3/22 (14%) of the staff turnover in 2018/19.

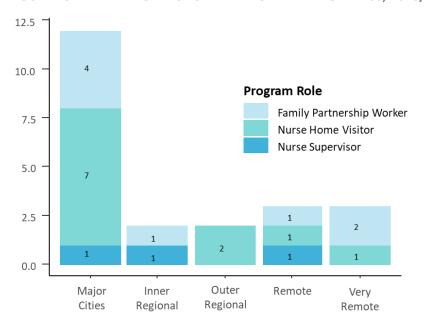


FIGURE 13 ANFPP WORKFORCE ATTRITION BY REMOTENESS, 2018/19

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 22/116 (19%) in 2018/19 is comparable to that from the previous reporting period (17%) and a marked improvement on the overall rate of 48% recorded in 2016/17. The staff turnover rate reported during the 2018/19 period also corresponds the overall annual rate of 15.1% that was observed amongst nurses in a study conducted in three Australian states (Roche et al., 2014).

Case Anecdote: Reflecting on the 2018/2019 Annual Conference (Very Remote, ANFPP)

The Family Partnership Workers (FPW) at Top End Health Service (TEHS) attended the ANFPP Conference in Alice Springs for the first time in 2019. This was met with excitement as well as some trepidation surrounding being away from family and for some travelling to Alice Springs for the first time.

Taking our FPWs to the conference began weeks prior with lots of discussion and troubleshooting of the "what ifs" and ensuring cultural safety was maintained. The vast majority of this support was provided by the Nurse Home Visitors whom they work in partnership within their specific community. Their favourite presentations were those run in smaller groups and they would like to see a few smaller sessions taking place outside on a mat on the lawn or under a tree in the future. The FPWs were grateful for the opportunity to participate and learn from the various presenters and other sites, particularly from other FPWs, and look forward to the 2020 Conference.

5.0 Client Demographics

Out of 561 eligible client referrals, 430 clients (77%) accepted referral and enrolled in the program. This is slightly above the program performance target of 75%. However, early referral and enrolment by 16 weeks of pregnancy remains a challenge, with only 26% of clients enrolled by 16 weeks, compared to the program target of 60%. The percentage of early enrolment has increased from 18% in 2017/18 to 26% in 2018/19.

Although, attrition rates increased across all phases in 2018/19, there was a 56% increase in the number of active clients compared to the 2017/18 reporting period. 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 the infancy stage.

TABLE 18 COMPARISON OF ATTRITION RATE BY STAGES, 2017/18 – 2018/19

Reporting period	During pregnancy	Infancy stage	Toddlerhood stage	Overall attrition
2018/19	39.5%	39%	21%	42%
2017/18	29%	9%	3%	41%
Program target	<10%	<20%	<10%	40%

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 19 and 20 show the cultural background and parity of accepted clients. The majority (76%) of clients are Aboriginal 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 19 NUMBER AND PERCENTAGES OF CLIENT ETHNICITY, 2018/19

Ethnicity	N	%
Aboriginal	357	83.0%
Aboriginal and Torres Strait Islander	12	2.8%
Non-Indigenous woman with Aboriginal and/or Torres Strait Islander partner	51	11.9%
Torres Strait Islander	10	2.3%
Total	430	100%

TABLE 20 NUMBER AND PERCENTAGE FOR MOTHER'S PARITY, 2018/19

Parity	N*	%
First Time Mother	351	81.7%
First Opportunity to Parent	44	10.2%
Multiparous	35	8.1%
Total	430	100%

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 22).

TABLE 21 AGE AT INTAKE FOR WOMEN PARTICIPATING IN THE PROGRAM, 2018/19

Parameter	Age in Years
Mean age at intake	22.5
Median age at intake	21
Youngest client	14
Oldest client	42

TABLE 22 AGE DISTRIBUTION AT INTAKE FOR WOMEN PARTICIPATING IN THE PROGRAM, 2018/19

Age ranges	N (%)
14-19	149 (35%)
20-34	266 (62%)
35+	15 (3%)
Total	430

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 14 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.

About 10% of the clients live alone in the house, while 14% of clients identified as being homeless. This proportion of homeless clients is significantly higher than the 4% reported on Census night in 2016 (AIHW, 2019).

The majority (85%) of clients have between two and six people sleeping at their dwelling and 15% of clients have more than seven people sleeping in the same dwelling. Traditional obligations require Aboriginal and Torres Strait Islander people to accommodate visiting members of their wider family group, often for an extended time (Peters & Christensen, 2015).

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).

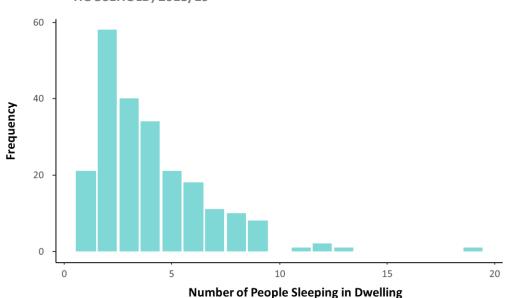


FIGURE 14 NUMBER OF PEOPLE SLEEP (AT LEAST 4 NIGHTS PER WEEK) AT THE CLIENT'S HOUSEHOLD, 2018/19

5.4 Antenatal Care Visits

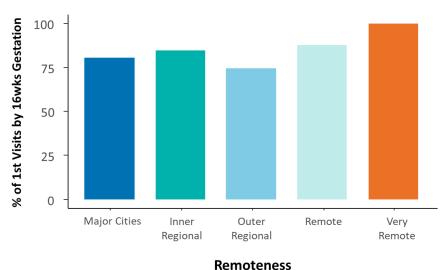
Antenatal care visits provide women with screening, clinical examinations to monitor their health and the health of the foetus during pregnancy as well as information, support and reassurance (Downe, Finlayson, Tunçalp, & Gülmezoglu, 2019).

Early and regular antenatal care (ANC) is associated with positive health outcomes for mothers and their babies, including improved maternal health during pregnancy, a lower rate of interventions in late pregnancy, and better child health outcomes (AIHW, 2018; DoH, 2018). Antenatal care providing education on nutrition appears effective in reducing the risk of low birthweight and preterm birth in women who are undernourished (Ota, Hori, Mori, Tobe-Gai, & Farrar, 2015).

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 15 indicates the percentage of program participants whose first ANC visit occurred by 16 weeks of gestation in various geographic areas by remoteness. The total count for Very Remote is <20, therefore, values for this area should be treated with caution.

FIGURE 15 PERCENTAGE OF FIRST ANTENATAL VISITS OCCURRING BEFORE 16WK GESTATION BY REMOTENESS, 2018/19



Remotenes

5.5 Client Complexity

ANFPP clients' complex personal 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 evidenced by a relatively high number of teenage pregnancies, overcrowded housing conditions and homelessness, a higher proportion of clients experiencing Domestic Violence (DV) and nearly half the clients smoked during pregnancy. The cases below present the ways ANFPP teams 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 Domestic Violence 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 – Assisting clients to achieve their goals and inspire others (ANFPP, Major City Site)

Initially, Marta (pseudonym) was shy and withdrawn at our Community Day events. With encouragement from her FPW and NHV, she began to engage with other women, babies and staff. Her baby Ray (pseudonym) was born 13 weeks prematurely and presented with a variety of developmental and parenting challenges. Inspired by our weekly creative art adventures and the nutritious lunches we had organised, Marta confided to the team she would love to cook one of her special dishes as a lunch time treat. Her NHV and FPW understood the importance of her request.

This was a client-centred, strength-based, solution-focused activity, promoting Marta's capacity to identify and work through strategies to achieve her goals. Marta identified and organised the resources for her culinary debut at our next Community Day. She arrived barely recognisable; looking powerful and confident, immaculate hair and makeup and a stunning outfit. She took full control of the kitchen, insisting on cleaning up as she went, her delivery was professional and well organised. Her food was delicious and nutritious.

Inspired by the positive feedback from staff and clients, Marta was motivated to set herself other goals connected to her passion for cooking. She has support from our psychologist and our dietician to scaffold her therapeutic journey as she moves into the last year of the program. A dramatic improvement in her toddler's capacity to self-regulate and be soothed was apparent as her motivation and confidence has developed. Her NHV and FPW will continue to support her empowerment by structuring her cooking involvement to alternate with other creative activities; including PIPE activities that specifically promote bonding and attachment with her toddler and emotional refuelling. Her current goals involve opportunities to teach and inspire other clients to cook.

6.0 Program Outcomes

6.1 Overview

Analysis of ANFPP data from 2014/15 to 2018/19 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 2018/19 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 period.

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

- Immunisation
- Breastfeeding
- Birthweight
- Smoking
- ASQ Scores

A summary of the ANFPP Performance and Quality Framework outcome measures and targets for the program is depicted in Table 23.

TABLE 23 ANFPP OUTCOME MEASURES AND TARGETS

Outcome measures	Measured by	Program Target	ANFPP performance for 2018/19			
A. Pregnancy outcome						
Smoking	Percentage of women smoking from intake to 36 weeks pregnancy	Reduction by 20% or greater	There was a 25% reduction of women smoking from intake to 36 weeks pregnancy			
	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 and 36 weeks pregnancy	83% reduction in the number of women smoking 5 or more cigarettes per day between intake and 36 weeks. Self-reported smoking data are under-reported; therefore, this measure should be treated with caution			
Premature and low birthweight	The percentage of infants born prematurely	7.6% or less	17.6% of infants were premature			
	The percentage of infants born with low birthweight (LBW)	5% or less	13% of infants were low birthweight			
B. Child health and	development outcome					
Immunisation	Completion rates for all recommended childhood immunisations by the second birthday	90% or greater	95% of infants had their recommended immunisations by their 2 nd birthday			
Breastfeeding	The percentage of mothers who ever breastfed	No target set	84% of mothers reported having ever breastfed			
English Language Assessment	The percentage of toddlers who fall below the given milestones for their age and gender	25% or less	47% of mono-lingual infants fell below the program target. 63% of bilingual infants fell below the program target.			
C. Improving paren	C. Improving parent's life-course outcomes					

Outcome measures	Measured by	Program Target	ANFPP performance for 2018/19
Subsequent pregnancy frequency	Percentage of women having subsequent pregnancies within two years of the infants' birth	25%	6% of active clients (excl. pregnancy) report a subsequent pregnancy within two years of infants' birth.
Mother's employment	Mean number of months women (18 years or older) are employed following the infant's birth	No specified target	19% of active clients (excl. pregnancy) report participation in paid work following the infants' birth. Duration of employment is not tracked.

6.2 Immunisation

The National Immunisation Strategy 2019–2024 prioritises the improvement of immunisation coverage in Australia (Department of Health, 2018a). To effectively prevent the spread of vaccine-preventable diseases such as tetanus, diphtheria, pertussis and measles, herd immunity, a level of immunisation of about 92 - 94% is required (Australian Government Department of Health, 2018a). Australia's aspirational immunisation target for children one to five years of age is 95%. Overall in Australia, in December 2018, the immunisation coverage rates for Aboriginal and Torres Strait Islander one and two-year olds was 92.62% and 88.20% respectively (Australian Government Department of Health, 2019).

In this section, ANFPP immunisation data collected between 2017/18 and 2018/19 was 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 by PHIDU Torrens University Australia (2019). These datasets provide immunisation data for Indigenous children by remoteness category for 2017.

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 old 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 has been immunised at 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 milestone:

- To be considered fully immunised, each child turning 12 months (365 days) within the reporting period must have 12-month immunisation data 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 the 24-month immunisation milestone, a slightly different approach was used as there are no scheduled immunisation requirements 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 2018/19, the above criteria produced fifty-three 12-month immunisation records.

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 2015/16 to 2018/19 (See Table 24):

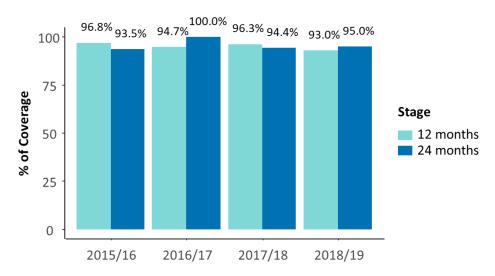
- More than 90% of children were immunised both at the 12-month and 24-month milestones.
- The ANFPP result is favourable when compared to the National Aboriginal and Torres Strait Islander child immunisation rates.

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

Stage	ANFPP immunisation coverage by period				National rate for Aboriginal and
	2015–16	2016–17	2017–18	2018–19	Torres Strait Islander Children*
12 months	96.8%	94.7%	96.3%	93.0%	92.64%
24 months	93.5%	100.0%	94.4%	95.0%	88.49%

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

FIGURE 16 ANFPP IMMUNISATION COVERAGE (%) AT 12 AND 24 MONTHS, BY PERIOD



Does ANFPP immunisation coverage vary with Remoteness?

For the periods evaluated, ANFPP sites were located within Outer Regional, Remote and Major City areas. For the 2018/19 period, fifty-five 12-month and forty 24-month immunisation records were received.

Figure 17 and Figure 18 below show 12-month and 24-month immunisation data respectively, by period and Remoteness Area category.

- ANFPP children living in Remote and Very Remote areas had a 100% 12-month coverage in 2018/19.
- Children in outer regional areas in 2018/19 showed lower coverage (83%) at 12-monthcoverage.
- ANFPP children living in Major Cities, Outer Regional and Very Remote areas had a 100% 24month coverage in 2018/19.
- There is a slight increase in coverage at 24 months vs 12 months

FIGURE 17 ANFPP 12-MONTH IMMUNISATION COVERAGE (%), 2018/19, BY REMOTENESS AREA.

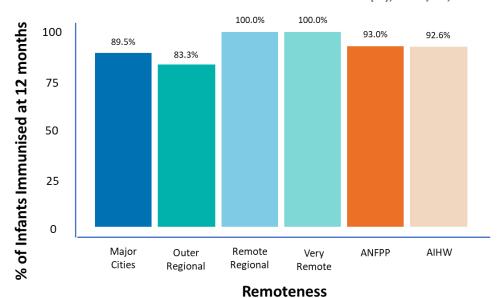
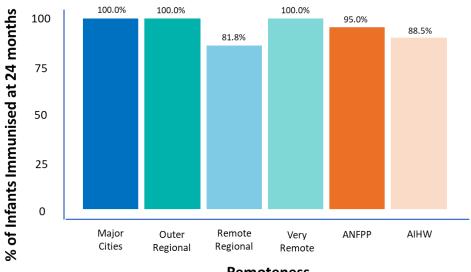


FIGURE 18 ANFPP 24-MONTH IMMUNISATION COVERAGE (%), 2018/19, BY REMOTENESS AREA.



6.2.3 COMPARISON WITH NATIONAL IMMUNISATION DATA

As shown in Figure 17 and Figure 18, the percentage of infants fully immunised at 12 months was 93%, which is slightly higher than the national average of 92.6%, while 95% (national average - 88.5%) of infants at 24 months were fully immunised in the 2018/19 reporting period.

6.3 Breastfeeding

Breastfeeding has significant benefits for infants and mothers (Hellmuth et al., 2018). The World Health Organisation (WHO) and United Nations Children's Fund (UNICEF) recommend exclusive breastfeeding for the first six months of life, followed by continued breastfeeding for two years along with complementary feeding as the optimum nutrition for infants (Gupta, Suri, Dadhich, Trejos, & Nalubanga, 2019). Benefits of breastfeeding include an association with fewer childhood episodes of acute otitis media and otitis media with effusion (Brophy-Williams, Jarosz, Sommer, Leach, & Morris, 2019; Greer, Sicherer, & Burks, 2019).

Exclusive breastfeeding for up to six months and breastfeeding for >12 months is protective against asthma even when adverse childhood experiences are considered (Abarca, Garro, & Pearlman, 2019). Breastfeeding provides passive immunity to infants, reducing their risk of gastrointestinal and lower respiratory tract infections and necrotising enterocolitis (Brock & Long, 2019). This results in a lower infectious morbidity and mortality in breastfed infants related to reduction in sudden infant deaths, protection against diarrhoea, and other infections (Victoria et al., 2016).

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). Breastfeeding for 12 months or longer is associated with a healthier diet in children aged from 3–5 years (Borkhoff et al., 2018). Breastfeeding influences the infants' epigenome and is associated with decreased stress responsivity, which may explain some of the positive effects noted in breastfed children (Lester et al., 2018).

For premature infants, breast milk makes a positive contribution to neurological development (Păduraru, 2018). Breastfeeding for ≥3 to 4 months appears to protect infants against wheezing for the first two years of life (Azad et al., 2017).

Maternal benefits include a reduced risk of cardiometabolic diseases including type 2 diabetes mellitus, metabolic syndrome, hypertension, myocardial infarction as well as a reduced risk of breast, ovarian and endometrial cancer (Louis-Jacques & Stuebe, 2018). Lactational amenorrhoea

also increases birth spacing (Victora et al., 2016). From an environmental perspective breastfeeding has a lower carbon footprint than breastmilk substitutes (Karlsson, Garnett, Rollins, & Röös, 2019).

This section reports on 2018/19 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 are still breastfeeding at 6 months of age?

The program rates are then compared with an appropriate national population for the same period. For comparative purposes, the report 'AIHW: Aboriginal and Torres Strait Islander Health Performance Framework 2017' was 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 'still breastfeeding at 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.

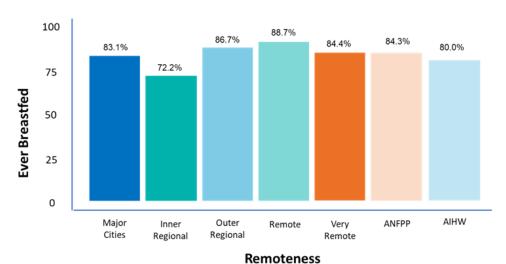
6.3.2 PROGRAM PERFORMANCE

No specific breastfeeding targets were set within the ANFPP program. However, the 'Overview of Aboriginal and Torres Strait Islander Health Status 2017' indicates in 2014–15 that 80% of Aboriginal and Torres Strait Islander children aged 0–3 years had ever been breastfed, while 39% of indigenous infants had a breastfeeding duration of less than 6 months. These values could be considered as appropriate quasi-comparison values for the program.

Percentage of Infants 'Ever Breastfed'

Figure 19 shows the ANFPP breastfeeding rates for 2018/19, by Remoteness Area, for the program (ANFPP) and the comparison dataset (AIHW). Breastfeeding rates within the program (84.3%) are higher than the 2014/15 national average (80%) for Aboriginal and Torres Strait Islander children aged 0–3 years (Australian Institute of Health and Welfare, 2017a).





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

TABLE 25 ANFPP INFANTS EVER BREASTFED (%), 2014/15 TO 2018/19, BY REMOTENESS AREA

Remoteness Area		ANFPP % Ever	Breastfed Rates	
	2015–16	2016–17	2017–18	2018–19
Major Cities	*	90.2%	87.6%	83.1%
Inner Regional			*	72.2%
Outer Regional	83.0%	89.7%	89.9%	86.7%
Remote	76%	100%**	98.5%	88.7%
Very Remote		*	100%	84.4%

ANFPP: All Sites	92%	93%	92%	84.3%

^{*}Total counts are < 5

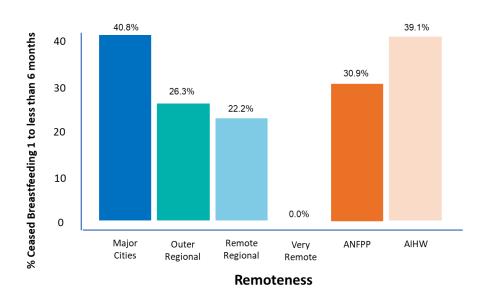
Cells are blank where no data is available for that Area and time period.

Infants ceasing breastfeeding before six months

Figure 20 shows the ANFPP breastfeeding cessation rates across remoteness areas for 2018/19. Table 26 presents these rates across a range of years, 2016/17 to 2018/19. 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 apart from Major Cities than the national comparator of 39.1%. Therefore, more ANFPP infants are being fed beyond the 6-month milestone than the national Aboriginal and Torres Strait Islander average in ANFPP sites outside Major Cities.
- Particularly high levels of breastfeeding beyond 6 months (low cessation rates) are being achieved by sites in Remote and Very Remote areas.
- In most areas, cessation rates have continued to drop (i.e. mothers are breastfeeding longer)
 as the program matures.

FIGURE 20 ANFPP BREASTFEEDING CESSATION BEFORE 6 MONTHS (24 WEEKS), 2018/19, BY REMOTENESS



^{*} Inner Regional Total counts are < 5

^{**100%} values can be the result of small sample size

TABLE 26 ANFPP INFANTS STILL BREASTFEEDING AT 6 MONTHS (24 WEEKS), 2015/16 TO 2018/19, BY REMOTENESS

Remoteness Area	ANFPP % Still Breastfeeding at 6 months								
	2015–16	2016–17	2017–18	2018–19					
Major Cities	-	*	53.8%	53.1%					
Inner Regional	-	-	-	-					
Outer Regional	31.6%	31.2%	38.2%	31.6%					
Remote	86.4%	86.4%	77.1%	77.8%					
Very Remote	-	-	*	100%					
ANFPP: All Sites	56.3%	59.3%	57.7%	67.0%					

^{*}Total counts are < 5

Cells are blank where no data is available for that remoteness area and period.

6.3.3 COMPARISON WITH NATIONAL BREASTFEEDING DATA

The comparative national data on breastfeeding rates was retrieved from the Aboriginal and Torres Strait Islander Health Performance Framework 2017, AIHW, which references data collected from 2014/15.

Overall, the ANFPP outperformed the Australian average in 2018/19 for "Ever Breastfed" rates, and "Ceased breastfeeding 1 to 6 months" (see Figure 20) particularly in remote areas.
 More recent comparative national data are not currently available.

6.4 Birthweights

Infants with a birthweight below 2500 grams are considered low birthweight (WHO, 2012). Infants born prior to 37 completed weeks of gestation are considered premature. 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 (LBW) is one of the strongest predictors of infant mortality (McGovern, 2019; Sherf et al., 2019.) LBW has been associated with increased perinatal morbidity, developmental delays, lower academic achievement (McEwen et al., 2018), poor growth, coughing, fever, anaemia and diarrhoea (McGovern, 2019) cardiovascular disease, type-2 diabetes, and chronic kidney disease in adulthood (Zhang, Kris-Etherton, & Hartman, 2014). In Australian Indigenous communities, low birthweight is one of the factors reducing cardiovascular health in adulthood (Arnold et al., 2016; Sjöholm, Pahkala, Davison, Juonala, & Singh, 2018).

Low birthweight may be a factor perpetuating transmission of health and socioeconomic disadvantage between generations (McEwen et al., 2018). Indigenous newborns have more than double the chance of being low birthweight compared to non-Indigenous newborns (Australian Institute of Health and Welfare, 2018a) and are more likely to be preterm (Kildea et al., 2019; Whish-Wilson et al., 2016).

On the other hand, normal birthweights are associated with improved IQ, educational achievement, employability, income and the longevity of males (Bharadwaj, Lundborg, & Rooth, 2018) and optimal motor development (Okuda, Swardfager, Ploubidis, Pangelinan, & Cogo-Moreira, 2019).

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 a one percentile increase in birthweight (McEwen et al., 2018). Perinatal mortality was significantly higher in Indigenous infants with birthweights below the 31st percentile and higher reading and numeracy scores were evident in children with a birthweight over the 50th percentile (McEwen et al., 2018). The mean birthweight of Indigenous infants is 67 grams or 4.2 percentile units lower than that for non-Indigenous newborns (Smith et al., 2019).

Improving maternal nutrition has positive effects on LBW, SGA and preterm birth (Hambidge & Krebs, 2018). Other protective factors include increasing cultural-based resilience, smoking cessation (Westrupp, D'Esposito, Freemantle, Mensah, & Nicholson, 2019) and reducing domestic violence during pregnancy (Berhanie, Gebregziabher, Berihu, Gerezgiher, & Kidane, 2019; Stadtlander, 2018).

This section presents ANFPP infant low birthweight data from 2014/15 to 2018/19 for the entire program duration.

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 (Australian Institute of Health and Welfare, 2016). This analysis considers only singleton births that occur within the program after consent during the specified periods and no distinction is made between preterm 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 27 shows the percentage of infants with low birthweight from 2015/16 to 2018/19. Births that occurred after 20 weeks are distinguished from those that occurred after 37 weeks.

• The percentage of low birthweights of 13.2% in 2018/19 is higher than the ANFPP target and the national average for Indigenous births (12.5%).

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 could be attributed to clients' complexity and the multiple challenges including poor social determinants of health (e.g. poor housing, overcrowding and food insecurity) faced by many of the clients. 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 this may also be impacting on infant birthweight.

TABLE 27 PROPORTION OF LOW/NORMAL/HIGH BIRTHWEIGHTS FOR ALL ANFPP PARTNER ORGANISATIONS

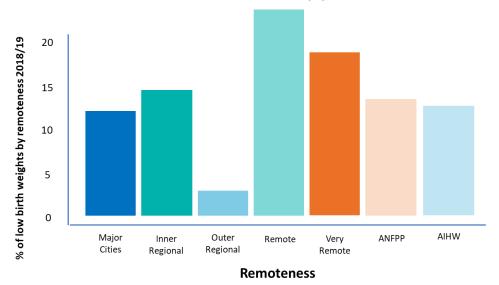
	Low	Low %	Normal	Normal %	High	High %	Reported Smoking (%)	Total Singleton Births
2015/16	10	11.9%	72	85.7%	2	2.4%	52%	84
2016/17	10	9.7%	92	89.3%	1	0.9%	41%	103
2017/18*	21	11.1%	168	88.4%	1	0.5%	44%	190
2018/19	34	13.2%	214	83.2%	5	2.0%	39%	257

^{*4} additional birthweights were recorded after 2017/18 Annual Data Report

Does ANFPP percentage of low birthweight births vary with Remoteness?

 In 2018/19, the percentage of low birthweight babies within the ANFPP was highest in Very Remote and Remote areas, with the remote areas, recording a high of 22% and lowest in Outer Regional sites at 3.1%.

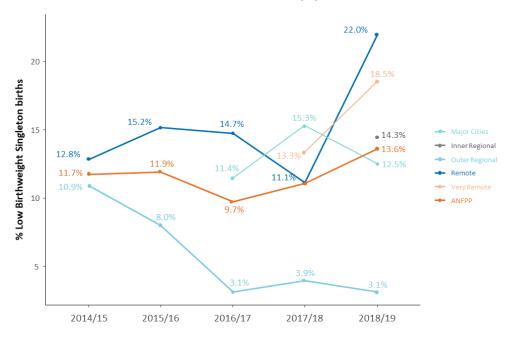
FIGURE 21 ANFPP LOW BIRTHWEIGHT BIRTHS* (%), 2018/19, BY REMOTENESS AREA



The ANFPP trends in low birthweight over time, by Remoteness Area, are explored in Figure 22. The image depicts that low birthweight percentage varies significantly by regional area. In 2016/17, the number of births was similar across Remote, Outer Regional and Major Cities regions (n = 35, 32 and 34 respectively); however, low birthweight rates ranged from 3.1 to 14.7%.

 In general, low birthweight percentages have decreased since 2015/16, particularly in established sites. Significantly higher rates at particular partner organisations are influencing 2018/19 program averages, as noted above.

FIGURE 22 ANFPP LOW BIRTHWEIGHT BIRTHS (%), 2014/15 TO 2018/19, BY REMOTENESS AREA



Reducing low birthweights has been a focus in Wuchopperen Health Service and Wellington Aboriginal Corporation Health Service - Dubbo and this is clearly proving effective, having maintained a low birthweight rate between 3.1% - 3.9% since 2016/17. In 2018/19, only one low birthweight infant was reported across both sites. This highlights the effective work being performed within the program, and the importance of encouraging knowledge sharing between sites to compound successes

6.4.2 COMPARISON WITH NATIONAL LOW BIRTHWEIGHT DATA

• In 2018/19, the percentage of low birthweight babies within the program on a whole-of-program basis was 9%, which is lower than the national average 2017 of 12.5%, when clients who had not received five or more home visits in pregnancy were excluded from the dataset.

A further analysis of low birthweight figures was conducted to establish a factor that had the most impact on low birthweights across the ANFPP program. Comparing the low birthweight and the normal birthweight groups, the most significant factor was the number of home visits received during pregnancy.

Using a measure of at least five home visits in pregnancy, the low birthweight rate was reduced to 9%; the normal birthweight rate was 90%; and the high birthweight rate was 1%. Although this is relationship only shows association, it is reasonable to suggest that the home visiting program given the chance to develop a relationship with the client can possibly influence negative behavioural factors (e.g. smoking, diet, lifestyle) and have a positive outcome on birthweight.

Table 28 shows the low birthweight rates for the program where the client has had five or more home visits during pregnancy.

TABLE 28 PROPORTION OF LOW/NORMAL/HIGH BIRTHWEIGHT BIRTHS OF CLIENTS WHO RECEIVED AT LEAST 5 VISITS IN PREGNANCY (2018/19)

	Low	Low %	Normal	Normal %	High	High %	Total Singleton Births
2018/19	13	9%	132	90%	2	1%	147

6.5 Smoking

Women who smoke in pregnancy experience significantly worse obstetric and perinatal outcomes and should be considered and managed as high risk (Li, Lodge, Flatley, & Kumar, 2019). Paternal smoking and passive smoking also increase adverse neonatal outcomes (Li et al., 2019).

Maternal prenatal smoking is associated with prematurity, low birthweight, perinatal death (Gould, Lim & Mattes, 2017; Small, Porr, Swab & Murray, 2018), congenital anomalies, increased miscarriage, stillbirth (Cope, 2015), poorer neonatal outcomes with increased incidence of neonatal intensive care admissions and severe acidosis (Li et al., 2019), chronic lung disease (Gould, Lim, & Mattes, 2017), early behavioural difficulties, cognitive vulnerabilities (Tzoumakis et al., 2018), long-term neurological morbidity (Gutvirtz et al., 2018; Micalizzi & Knopik, 2018), reduced kidney volume, suboptimal lung development, increased risk of wheezing, asthma, infantile colic (Cope, 2015) and childhood adiposity (Cameron et al., 2018).

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). Cigarette smoke is a reproductive toxicant associated with maternal complications including miscarriage, placental abruption, placenta praevia, preterm labour, premature rupture of membranes and ectopic pregnancy (Gould, Lim & Mattes, 2017; Leybovitz-Haleluya et al., 2018). Women who smoke are more likely to have an emergency caesarean section for non-reassuring foetal status (Li et al., 2019). Postnatal complications include slower wound healing following caesarean section and a shorter breastfeeding duration (Cope, 2015).

6.5.1 COMPARISON WITH NATIONAL SMOKING DATA

This section reports on 2018/19 ANFPP cigarette smoking rates, presenting the data alongside smoking rates in previous years and the appropriate national comparative rates. Specifically, this section addresses the following questions;

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

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 'Tobacco smoking status of mothers during pregnancy, by Indigenous status and remoteness 2016'. This data is used to provide comparative overall smoking rates. When considering smoking rates during pregnancy, the comparative dataset used was 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). The proportion of Indigenous women smoking during pregnancy in 2016 was 42.8%.

How was the Analysis Performed?

The percentage of clients currently smoking during pregnancy was calculated as a percentage of all valid smoking status records collected during pregnancy phase. 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.

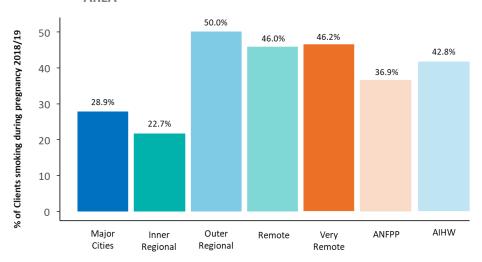
Do ANFPP smoking rates vary with Remoteness?

The ANFPP dataset revealed that 39.4% of clients identified as smokers (Figure 24), while 36.9% of clients reported smoking at some point during pregnancy (Figure 23). Furthermore, Figure 23 revealed that ANFPP smoking rates vary by remoteness area. When compared to the 2017/18 reporting period, smoking rates during pregnancy decreased in all areas; apart from Remote and Very Remote (Table 29). This decrease is welcomed but it is important to note that smoking data within the program is self-reported and is susceptible to social desirability bias (Latkin *et al*, 2017); a client may answer in a manner that they feel pleases the home visiting team.

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 and 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 Partner Organisations.

FIGURE 23 ANFPP CLIENTS WHO SMOKED DURING PREGNANCY(%), 2018/19, BY REMOTENESS AREA



Remoteness

TABLE 29 PROPORTION OF ANFPP CLIENTS WHO SMOKED AT SOME POINT DURING PREGNANCY BY PERIOD AND REMOTENESS CATEGORY

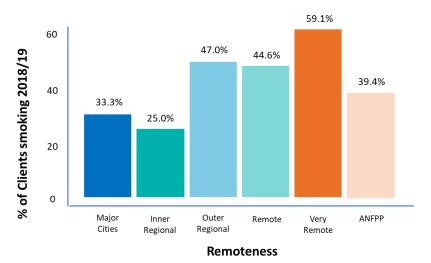
ANFPP % Clients Smoking^ During Pregnancy											
Remoteness Area	2014–15	2015–16	2016–17	2017–18	2018–19						
Major Cities		*	30.8% (n =26)	37.3% (n =59)	28.9% (n =135)						
Inner Regional				83.3% (n =6)	22.7% (n =22)						
Outer Regional	53.7% (n =54)	51.5% (n =66)	46.0% (n =50)	54.0% (n =50)	50.0% (n =54)						
Remote	65.6% (n =32)	53.3% (n =30)	41.9% (n =31)	35.4% (n =48)	46.0% (n =63)						
Very Remote			*	45.8% (n =24)	46.2% (n =13)						
ANFPP: All Sites	58.1%	52.0%	40.7%	43.9%	36.9%						

^{*}Total counts are < 5

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

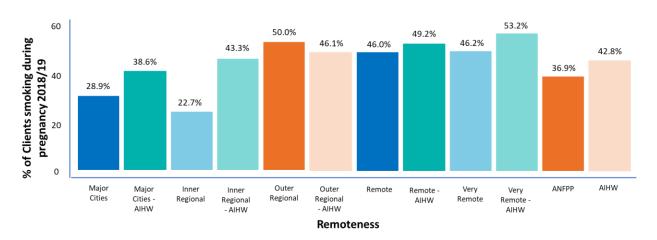
[^]as a % of number of smoking status records

FIGURE 24 ANFPP CLIENTS SMOKING (%), 2018/19, ACROSS ALL PROGRAM PHASES, BY REMOTENESS



Within ANFPP, smoking during pregnancy or across the program as a whole shows a downwards trend. However, as mentioned earlier self-reported data that has an associated social sigma should be viewed with caution.

FIGURE 25 ANFPP SMOKING IN PREGNANCY (%), 2018/19, COMPARED WITH 2016 NATIONAL DATA



ANFPP smoking rates during pregnancy by remoteness show that apart from Outer Regional areas, smoking during pregnancy in the ANFPP program is lower when compared with the AIHW national data (see Figure 25). It is important to bear in mind that smoking data within the program is self-reported. Smoking cessation and reduction is not the sole aim of the program, rather these goals are tackled alongside improving maternal and child outcomes. As such, interview questions and techniques that elicit tobacco use during pregnancy are not rigidly aligned with best practice when tackling Indigenous smoking during pregnancy.

6.5.2 PROGRAM PERFORMANCE

This section investigates the reduction in client smoking between *Pregnancy Intake* vs *Pregnancy at 36 weeks*. To assess smoking reduction, multiple records must exist for a given client at both timepoints within the 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. *Pregnancy Intake* vs *Pregnancy at 36 weeks*), there are very few records that meet this criterion. As a result, it should be noted that there is minimal data to analyse reduction in smoking effectively. Further consideration needs to be given to the collection of this data for performance against the smoking reduction targets to be assessed. Quality assurance plans are being implemented to encourage staff to enter smoking data at *Pregnancy Intake* vs *Pregnancy at 36 weeks* intervals within the ANKA and Communicare systems. Furthermore, the NPC is partnering with Ninti One, an independent not-for-profit company on a smoking cessation project, which will leverage Ninti One's National Best Practice Unit – Tackling Indigenous Smoking project.

The ANFPP smoking dataset is negatively impacted by the change in data specifications over time, e.g. ANKA and Communicare do not have an identical question set. As a result, there are few data items that can be compared across time periods in a valid way.

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

- A 20% reduction in the proportion of women smoking from intake to 36 weeks of pregnancy
- An average of 3.5% reduction in the number of women who smoked five or more cigarettes per day between intake and 36 weeks of pregnancy. The sample size of this group is less than 10, therefore the reported figure should be treated with caution.

TABLE 30: ANFPP PERFORMANCE AND QUALITY FRAMEWORK TARGETS

Indicator	Intake	36 weeks	% reduction
Reported smoking	12	9	25%
Smoked five or more cigarettes per day	6	1	83%*

^{*}small sample size, please treat reported figure with caution.

Twenty-five distinct women reported smoking data at both intake and at 36 weeks of pregnancy. There was a 25% reduction in the proportion of women smoking from intake to 36 weeks. A marked reduction (83%) in the number of women smoking five or more cigarettes per day was observed from intake to 36 weeks, however, this statistic is potentially unreliable owing to the small sample size (n=6).

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 worldwide. 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 as 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.

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.

With respect to these results, it is important to consider the need for a 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.

6.6.3 DOES ANFPP MEET ITS TARGET FOR PERCENTAGE OF INFANTS AT FOUR MONTHS FALLING BELOW MILESTONES?

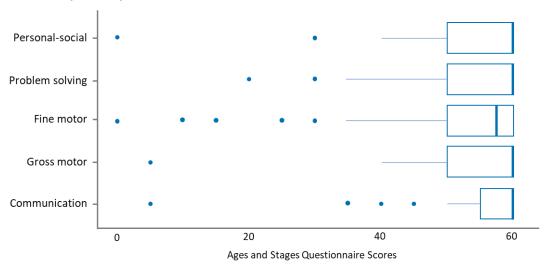
Figure 26 plots key statistics on ANFPP toddler ASQ scores against each of the domains. The following discussion describes the distributions and identifies where infants were found to fall below standard threshold values, signifying a potential need for referral to support services.

In 2018/19, a clear majority of ANFPP infants at 4 months were well within the Program target in all five ASQ domains. ASQ values below the standard threshold are detailed below;

TABLE 31 AGES AND STAGES QUESTIONNAIRE SCORES, 2018/19, INFANCY AT 4 MONTHS (N = 135)

PARAMETER	Mean	N	Min	Max	Median	SD	Cut-off score	Below cut-off score, N (%)
Communication	55.93	135	35	60	60.00	5.64	34.6	0
Gross Motor	55.67	135	40	60	60.00	6.04	29.6	0
fine motor	52.89	135	10	60	50.00	10.20	38.4	4 (3%)
Personal/Social	55.85	135	30	60	50.00	6.25	33.2	1(1%)
Problem Solving	55.30	135	35	60	60.00	7.72	35.0	2 (2%)

FIGURE 26 AGES AND STAGES QUESTIONNAIRE SCORES, 2018/19, INFANCY AT FOUR MONTHS (N = 135)



Overall, four unique infants scored below the referral threshold for ASQ at 4 months, representing 3% of the toddlers in the dataset. One of the infants was referred to a supporting organisation.

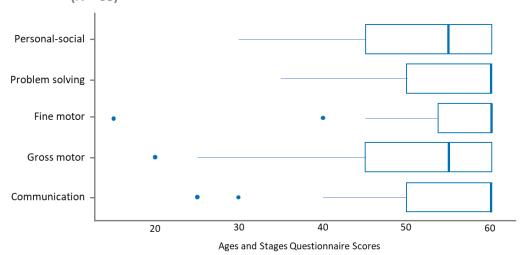
6.6.4 DOES ANFPP MEET ITS TARGET FOR PERCENTAGE OF INFANTS AT TEN MONTHS FALLING BELOW MILESTONES?

In 2018/19, the majority of infants at 10 months were well within the Program target in all five ASQ domains. ASQ values below the standard threshold are detailed below;

TABLE 32 AGES AND STAGES QUESTIONNAIRE SCORES, 2018/19, INFANCY AT 10 MONTHS (N = 68)

PARAMETER	Mean	N	Min	Max	Median	SD	Cut-off score	Below cut-off score, N (%)
Communication	54.41	68	25	60	60.00	8.31	22.9	0
Gross Motor	50.66	68	20	60	55.00	11.00	38.0	6 (9%)
fine motor	55.81	68	15	60	60.00	7.10	30.1	1 (2%)
Personal/Social	51.26	68	30	60	55.00	8.67	27.2	0
Problem Solving	54.41	68	35	60	60.00	7.61	32.5	0

FIGURE 27 AGES AND STAGES QUESTIONNAIRE SCORES, 2018/19, INFANCY AT 10 MONTHS (N = 68)



Overall, seven unique infants scored below the referral threshold for ASQ at 10 months, representing 10% of the toddlers in the dataset. One infant was referred to a supporting organisation, while three infants have been scheduled for ASQ follow-up.

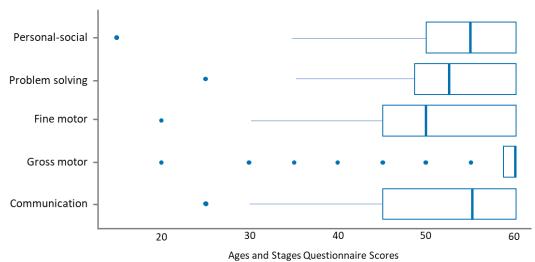
6.6.5 DOES ANFPP MEET ITS TARGET FOR PERCENTAGE OF TODDLERS AT 14 MONTHS FALLING BELOW MILESTONES?

In 2018/19, the vast majority of infants at 14 months were well within the Program target in all five ASQ domains. ASQ values below the standard threshold are detailed below;

TABLE 33 AGES AND STAGES QUESTIONNAIRE SCORES, 2018/19, INFANCY AT 14 MONTHS (N = 51)

PARAMETER	Mean	N	Min	Max	Median	SD	Cut-off score	Below cut-off score, N (%)
Communication	53.14	51	35	60	60.00	7.41	25.17	0
Gross Motor	55.00	51	20	60	55.00	10.50	38.07	2 (10%)
fine motor	50.98	51	20	60	60.00	9.06	35.16	1 (8%)
Personal/Social	53.24	51	15	60	55.00	9.48	31.54	1 (2%)
Problem Solving	51.47	51	25	60	60.00	8.61	29.78	0

FIGURE 28 AGES AND STAGES QUESTIONNAIRE SCORES, 2018/19, TODDLERHOOD AT 14 MONTHS (N = 51)



Overall, four unique infants scored below the referral threshold for ASQ at 14 months. This represents 8% of the toddlers falling below the required benchmark. One infant was referred to a supporting organisation and another infant have been scheduled for ASQ follow-up. Three of the infants had a previously known physical condition, therefore, no referral or follow-up was required.

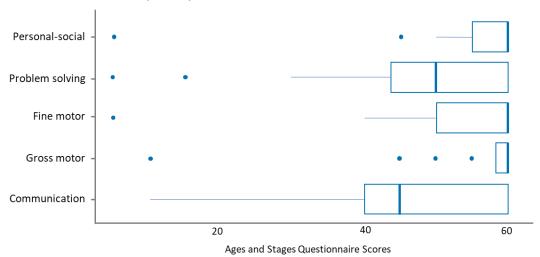
6.6.6 DOES ANFPP MEET ITS TARGET FOR PERCENTAGE OF TODDLERS AT 20 MONTHS FALLING BELOW MILESTONES?

In 2018/19, the majority of infants at 20 months were well within the Program target in all five ASQ domains. ASQ values below the standard threshold are detailed below;

TABLE 34 AGES AND STAGES QUESTIONNAIRE SCORES, 2018/19, INFANCY AT 20 MONTHS (N = 28)

PARAMETER	Mean	N	Min	Max	Median	SD	Cut-off score	Below cut-off score, N (%)
Communication	46.32	28	10	60	60.00	14.50	13.1	1 (4%)
Gross Motor	56.25	28	10	60	55.00	10.10	34.3	1 (4%)
fine motor	53.21	28	5	60	60.00	11.20	37.4	1 (4%)
Personal/Social	55.71	28	5	60	55.00	10.90	27.2	1 (4%)
Problem Solving	48.39	28	5	60	60.00	14.10	25.7	2 (7%)

FIGURE 29 AGES AND STAGES QUESTIONNAIRE SCORES, 2018/19, TODDLERHOOD AT 20 MONTHS (N = 28)



Overall, two unique toddlers scored below the referral threshold for ASQ at 20 months, representing 7% of the toddlers in the dataset. One infant had a referral to a supporting organisation.

7.0 Conclusion

Over the 2018–19 reporting period, smoking rates are trending downwards during pregnancy. The percentage of women who ever breastfed and those still breastfeeding at six months have increased. A positive change in normal birthweight has been observed in the program.

The focus of this report was not limited to 2018/19 data only; it presents a trend analysis of key outcomes for the period 2014/15 – 2018/19, a comparative analysis of program outcome data to key national Indigenous statistics and data analysis of key outcomes against the program target. The program outcomes were compared with the most recent national level data namely, Aboriginal and Torres Strait Islander Remoteness Area data. The process allowed better understanding of data collection challenges, capacity gaps and areas to focus especially in terms of meeting program outcomes and areas for improvement. The report provides context, understanding and perspectives of the program through short anecdotal evidence provided by staff working with clients.

The referral rate for all thirteen partner organisations is steady, with 77% of eligible women participating in the program. The total number of active clients across all sites has increased by 56% compared to this time last year. The ability to capture these outcomes and fidelity measures is a testament to the work of program staff at partner organisations.

Key challenges:

- Many sites (8 out of 13 sites) are at their early stage of maturity and require training and capacity building both in program delivery and program management.
- Overall, client retention remains just below target (58%, NFP target >= 60%).
- The number of preterm births and babies born with low birthweight were below the program target. Many low birthweights were linked to mothers who reported smoking during pregnancy (Table 27). It is acknowledged that lifestyle changes require time, support and effort to enable positive outcomes. The Maternal Smoking Cessation Program has been developed to assist with the reduction of maternal smoking in the ANFPP population.
- Client complexity, lifestyle-related challenges and other socio-economic factors beyond the
 program capacity i.e. housing, education attainment etc, prevents the program in achieving its
 targets and can have a discouraging effect on program staff. This suggests the need for a more
 holistic and context-sensitive approach in conducting program performance evaluation.

Early referral and enrolment by 16 weeks of pregnancy remains a challenge in ANFPP, with only 26% of clients enrolled by this milestone in 2018/19 compared to the NFP target of 60%. The

improvements noted with increased pregnancy visit suggest early recruitment has the potential to improve program outcomes.

Approximately 58% of expected visits were completed in 2018-19. The proportion of expected visits completed were lowest in infancy and the highest number of visits were observed during the toddlerhood phase.

Key successes:

- Immunisation targets were consistently met during the reporting period of 2014/15 to 2018/19.
- Breastfeeding rates within the program are higher than the Indigenous average across all remoteness areas.
- A majority of toddlers reported at 20 months were well within the program target in all five
 ASQ domains. However, data completeness remains a challenge.
- Good news stories from partner organisations highlight the importance of achievements such
 as a removed child being returned to the mother's care following support from the ANFPP to
 help her develop parenting skills.

8.0 Looking to the future

8.1 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 commenced on 26 November 2018 with the training of 20 staff. Two online cohorts of staff have completed the DANCE training in April and May 2019 with one further training planned for the last half of 2019. The ability to record DANCE assessments has been added to ANKA in the client assessment section as part of the 12 April 2019 release. DANCE data entry may be further refined following user feedback.

Case Anecdote: Dyadic Assessment of Naturalistic Caregiver-child Experience DANCE (Outer Regional site, ANFPP)

An example of DANCE in action is with a client I have worked with over the last 12 months. She has a number of strengths but also a number of risk factors including childhood trauma, and like any mother, has doubts about herself and her parenting ability. I was able to do an initial DANCE observation when her daughter was around 2 months of age, having not long completing my training and being keen to implement DANCE! I was able to identify many strengths and used "What My Child Says" to give feedback about these. I also identified that this client wasn't completing interactions with her child, and provided

this feedback using the same tool. In future discussions the client has identified she now finds she completes interactions without even thinking about it, it just comes naturally to her. I recently completed another DANCE observation at 6 months, identifying that completing interactions is indeed a strength of this client, and that scaffolding is now an area that we can focus on. Another client I am working with had

"I have been able to do an opportunistic DANCE observation with her and her son (he was previously in daycare 5 days a week) and identify all the areas of strengths that she has"

Nurse Home Visitor

difficulties with attachment to her son and finds accepting that she is a "good enough" parent difficult. I have been able to do an opportunistic DANCE observation with her and her son (he was previously in daycare 5 days a week) and identify all the areas of strength that she has, and explain this from her son's point of view, again using the "What My Child Says" tool, making it much harder for her to say "But...". This also led to a discussion about how her attachment to her son has changed over time, strengthening and improving as their relationship grew.

We now have another Nurse Home Visitor who has completed DANCE online training and is gaining confidence in implementing DANCE with her clients. Our Aboriginal Family Partnership Workers will also receive DANCE training in future. June has now given birth to a healthy baby and has been able to bring her child home to a safe environment.

8.2 The Maternal Smoking Cessation Program

As part of efforts to reduce maternal smoking rate in the ANFPP population, the NPC has rolled out a new and exciting partnership project with Indigenous not-for-profit company, Ninti One Limited, to coordinate the National Best Practice Unit for the Tackling Indigenous Smoking Program. This partnership will analyse best practice from the Tackling Indigenous Smoking program and ANFPP's staff and the resources and tools utilised. The project has begun by conducting an environmental scan across all thirteen ANFPP sites, Identifying the gaps in maternal smoking cessation tools the resources and education and then mapping where best practice can improve the capacity of ANFPP staff. The overall goal of this project is to improve ANFPP staff knowledge, practice on understanding smoking cessation and how-to best support women and their families to contribute to decreasing the prevalence of smoking in the ANFPP population.

Data collected from the following innovations implemented within the current reporting period will be reported in the next Annual Data Report for 2019–20.

8.3 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. Incorporation of STAR was planned for early 2019; however, implementation has been delayed due to the International review. STAR is being incorporated in the ANFPP education program and will be implemented in ANKA by 30 June 2020.

8.4 Domestic and Family Violence (DFV)

Domestic and Family Violence education has been embedded in the ANFPP curriculum. All ANFPP sites have received education on Domestic and Family Violence and have access to the action pathway. Implementation of the DFV pathway was a gradual process and took longer than anticipated. The DFV identification history and record was released in ANKA on 12 April 2019. Data will be collected on the number of referrals to domestic violence services as a proxy for the minimum number of clients experiencing DFV.

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10.0 Appendices

Appendix 1: ANFPP Site Profiles

TABLE 35 AUSTRALIAN NURSE AND FAMILY PARTNERSHIP PROGRAM SITES, ASSOCIATED INDIGENOUS AREA, ABORIGINAL AND 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	Canberra–North	ACT	Major Cities
Health Clinic/Health Service (ACT)	Canberra–South	ACT	Major Cities
Danila Dilba Biluru Butji Binnilutlum Health Service Aboriginal Corporation	Palmerston	NT	Outer Regional Australia
Nukuwarrin Yunti of South	Playford	SA	Major Cities of Australia
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	Dubbo	NSW	Inner Regional Australia
Western Aboriginal Health Services)	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
	Alice exc. Town Camps	NT	Remote Australia

ANFPP Program Sites	Service Area	State	ABS Remoteness Structure
Central Australian Aboriginal Congress Inc.	Alice Springs Town Camps	NT	Remote Australia
Top End Health Services (NT Government)	Maningrida and Outstations	NT	Very Remote Australia
	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