NSW GOVERNMENT

Quit for new life

Evaluation Summary Report

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Illustrated artwork by Bronwyn Bancroft ©

About this report

This report provides an overview of findings of the evaluation of the *Quit for new life* (QFNL) initiative. Comprehensive descriptions of the evaluation methods, findings and implications can be found in two larger reports on Phase 1 and Phase 2 of the evaluation.

In this report, Aboriginal and Torres Strait Islander people are referred to as Aboriginal people in recognition that Aboriginal people are the original inhabitants of NSW.

Acknowledgements

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Thank you to the QFNL staff and clients who were interviewed for their time and valuable insights.

Thank you also to the Health Behaviour Research Collaborative at the University of Newcastle for conducting the evaluation.

The NSW Ministry of Health acknowledges Aboriginal people as the traditional custodians of the lands and waters of NSW and pays respect to elders past, present and future.

Synopsis

Background

Reducing antenatal smoking among Aboriginal women is a NSW Health priority. *Quit for new life* (QFNL) is a large, culturally appropriate tobacco smoking cessation initiative for pregnant women having an Aboriginal baby. Eligible women are offered brief cessation advice plus follow-up support, nicotine replacement therapy (NRT) (if clinically appropriate), and referral for behavioural counselling. An evaluation was undertaken to investigate how the program is delivered, its reach and impact on smoking behaviours, and its acceptability among stakeholders.

Methods

The evaluation included an implementation review and outcome evaluation, followed by a case study analysis of QFNL service models in three local health districts (LHDs). A mixed methods approach was used, which included analysis of administrative data and semi-structured interviews with QFNL coordinators, clients and other stakeholders.

Results

The implementation review identified three main ways in which QFNL was delivered: a capacity building model, a referral system model, and a direct service provision model. The program was implemented in 70 services in 13 LHDs in NSW. Most stakeholders interviewed considered the program appropriate for reducing smoking in pregnant women having an Aboriginal baby. Staff turnover and challenges in training program staff were considered implementation barriers in some QFNL services. Still, most program coordinators observed improvements in staff self-confidence to provide smoking cessation care, which they attributed to QFNL.

The outcome evaluation found that the proportion of program-eligible women attending QFNL services increased from 1% in 2012–13 to 24% in 2013–14 and 53% in 2014–15. Of these women (n=1,549), 21% accepted at least one core QFNL intervention, although, due to the way these data were collected, this may be an underestimate. Uptake of follow-up support (12%) was slightly higher than uptake of NRT (11%) and referral to NSW Quitline (9%). No association was found between exposure to QFNL and quitting smoking, however, the indicator of quitting used could only capture successful quit attempts occurring in the first half of pregnancy.

In the three case study LHDs, QFNL delivery was tailored to local contexts. Northern NSW and South Western Sydney LHDs implemented referral models in which smoking care advisors rather than frontline health staff provided most of the quit support. In Northern NSW LHD, clients who had more contact with the QFNL team were more likely to quit smoking than clients with less exposure (OR=1.1, 95% CI 1.06–1.16, P<0.001), whereas in South Western Sydney LHD there was no difference in the likelihood of quitting smoking between women who did and did not receive QFNL. Hunter New England LHD implemented a capacity building model in which frontline health staff were supported to provide smoking cessation care during routine antenatal and postnatal visits. Impact data were limited for this LHD, however, implementation staff reported that embedding QFNL in routine care had increased the capability of clinic staff to help women quit smoking.

All clients interviewed (n=6) had reduced their smoking following engagement with QFNL, with two quitting fully. They were satisfied with the care they had received through QFNL, and especially valued being able to try different types of NRT. They identified some barriers to engaging in the program, like not wanting to quit smoking completely and having other life issues to address.

The NSW Ministry of Health is using the evaluation results, along with other forms of evidence, to support NSW Health services and other organisations to provide high quality smoking cessation care to women having an Aboriginal baby and more broadly universal strategies for all pregnant women.

Background

Aboriginal people have strong, diverse cultures and resilient communities. It is the resilience of Aboriginal people and their kinship relationships that provide the foundation upon which to build efforts to improve maternal and child health.

Reducing rates of antenatal smoking in Aboriginal women is a NSW Health priority. In recent years, there has been a reduction in the rate of smoking among pregnant Aboriginal women in NSW, however, the rate remains high in contrast with non-Aboriginal pregnant women. In 2018, 43% of Aboriginal women reported smoking during pregnancy, compared to 8% of non-Aboriginal women.[1] Few studies have evaluated strategies for reducing smoking among pregnant Aboriginal women.

Program overview

Quit for new life (QFNL) is a culturally appropriate smoking cessation initiative that aims to contribute to reducing tobacco-related harm among pregnant women having an Aboriginal baby. The NSW Ministry of Health invested $9.5 million for the delivery of QFNL in 13 local health districts (LHDs) from January 2013 until June 2018. The program was designed to be run through Aboriginal Maternal and Infant Health Services (AMIHS) and Building Strong Foundations for Aboriginal Children, Families and Communities (BSF) services. These services were supported to enact practice change strategies and embed QFNL into routine care. Although dedicated QFNL funding is no longer provided by the NSW Ministry of Health, QFNL delivery is ongoing in LHDs.

The QFNL objectives are to:

1. Build the capacity of participating antenatal and postnatal services to provide evidence-based smoking cessation care to all clients who smoke, as part of routine care
2. Provide smoking cessation care and support to clients of participating services and other members of their households
3. Reduce the rate of environmental tobacco smoke (passive smoking) in households of mothers of Aboriginal babies in the antenatal and postnatal periods
4. Reduce the risk of smoking relapse by clients of participating services in the antenatal and postnatal periods.

Women who attend these services and identify as a current smoker are expected to be:

- given brief advice
- offered a referral to the NSW Quitline or a smoking care advisor
- assessed and offered up to 12 weeks of free nicotine replacement therapy (NRT), if appropriate
- offered intensive smoking cessation follow-up support, such as free NRT for cohabitants.

To prevent smoking relapse, these core QFNL interventions are expected to be carried through from antenatal care to the postnatal period. Smoking should be addressed at every clinic visit.

[1] Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health. Available at: www.healthstats.nsw.gov.au. Accessed 21 January 2020.

Program evaluation

An evaluation of the QFNL program was undertaken to describe the implementation of QFNL in participating services and to measure the impact of the initiative on smoking cessation rates among eligible women. The evaluation occurred in two phases. Firstly, an implementation review and outcome evaluation was conducted. This initial phase was followed by a case study analysis of QFNL service models in three LHDs. The Health Behaviour Research Collaborative, University of Newcastle was commissioned to conduct the evaluation.

The implementation review and outcome evaluation objectives were to:

1. Describe how QFNL had been **implemented** at the state level and in participating antenatal and postnatal services
2. Assess the **acceptability** of QFNL from the perspective of QFNL participants and implementers
3. Measure the **reach** of QFNL to smoking women who are pregnant with Aboriginal babies
4. Measure the **uptake** of core QFNL interventions among QFNL participants
5. Measure the **impact** of QFNL on smoking cessation rates among pregnant mothers of Aboriginal babies and their household members.

The case study analysis objectives were to:

1. Describe in depth promising **models of QFNL implementation** within specific LHDs
2. Explore **client experiences and perspectives** of smoking care received through QFNL.

An advisory committee was established to guide the design and conduct of the evaluation and included representatives of the following organisations and networks: Aboriginal Health and Medical Research Council of NSW; NSW Ministry of Health, including staff of the Centre for Aboriginal Health; Nepean Blue Mountains, Hunter New England, Northern NSW, Mid North Coast, and Illawarra Shoalhaven LHDs; and the NSW Aboriginal Strategic Leadership Group.

The evaluation received ethics approval from the NSW Population and Health Services Research Ethics Committee (HREC/14/CIPHS/46), the Aboriginal Health & Medical Research Council of NSW Ethics Committee (1029/14), and the University of Newcastle Human Research Ethics Committee (H-2015-0124).

Evaluation methods

Implementation Review and Outcome Evaluation

A mixed methods design was used to evaluate the QFNL program. The implementation review and outcome evaluation had three components:

1. **Data from the Aboriginal Maternal and Infant Health Service Data Collection (AMDC) were analysed.** AMDC records provided a range of routinely collected information relating to the antenatal period and birth of Aboriginal babies, including information on whether the mother attended an AMIHS, her smoking status in the first and second half of pregnancy, and uptake of core QFNL interventions. These data were analysed for the period July 2012–June 2015. Descriptive statistics for reach, uptake and impact were calculated for NSW and individual LHDs. Regression analyses were used to explore factors associated with participation in the program and to investigate the impact of QFNL on quit rates.
2. **Program monitoring data were analysed** descriptively. The indicators were:
    a. the number and type of staff attending QFNL smoking cessation training
    b. the number of clients (pregnant, postnatal and cohabitants) accepting a core QFNL intervention (derived from data maintained separately from the AMDC)
    c. the number of times NRT was given to clients and the type of NRT provided, presented by the method of administration: either direct supply or voucher to be redeemed through NSW pharmacies
    d. the cost of NRT provided via the voucher system
    e. the number of NSW Quitline calls to QFNL clients and the proportion of those calls that were accepted.
3. **Semi-structured interviews were conducted with 28 key stakeholders.** Between September 2015 and January 2016, 21 interviews were conducted with:
    a. QFNL coordinators in all 13 LHDs implementing the program
    b. smoking care advisors (involved in delivering QFNL) (n=5)
    c. health promotion managers (involved in coordinating and managing QFNL) (n=3)
    d. representatives from five organisations involved with QFNL (n=7).

    Most interviews were conducted by phone with some face-to-face. The interview schedule included questions exploring how QFNL was implemented in each LHD, the sustainability of adopted service delivery, and the acceptability of the program. Data were analysed using qualitative thematic analysis.

Figure 1 shows how each of the above three components address the objectives of the implementation review and outcome evaluation.

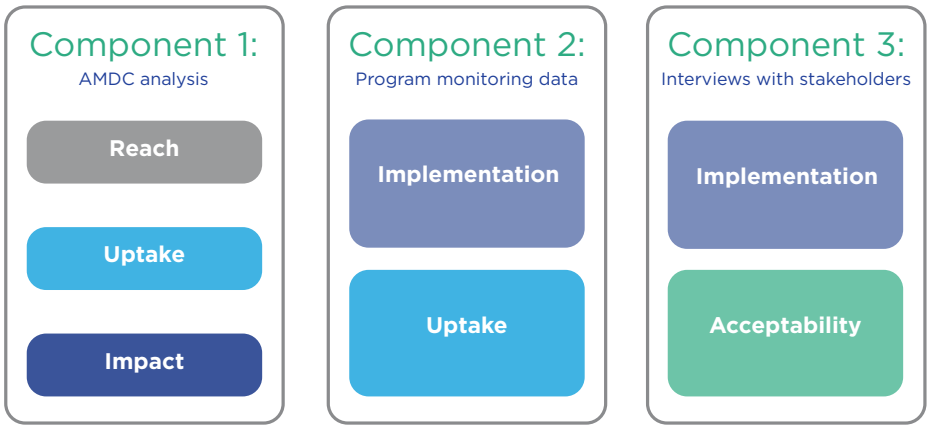

Figure 1. The three components which informed the objectives of the implementation review and outcome evaluation

Case Study Analysis

The case study analysis aimed to build on the implementation review and outcome evaluation by exploring program delivery and achievements in depth in three LHDs with promising QFNL service models. Case studies were conducted in the Northern NSW, South Western Sydney, and Hunter New England LHDs. The following methods were used to investigate each case:

1. **Routinely collected program monitoring data were analysed** to investigate program reach, offers and uptake of core QFNL interventions, and the impact of the program on smoking behaviours among eligible women. Regression analyses were conducted where applicable.
2. **Semi-structured interviews were conducted with QFNL coordinators and other key stakeholders** to investigate how the program is integrated into routine practice, the sustainability of the chosen model, key implementation enablers and challenges, and the acceptability of QFNL to staff and clients. Interviews were either conducted face-to-face or via telephone. Data were analysed using an inductive qualitative content analysis approach.
3. **Semi-structured interviews were conducted with QFNL clients** via telephone to gain a detailed understanding of their experiences of the program. The topics explored include: uptake of QFNL components (including the core interventions); the impacts of smoking cessation advice; barriers to adopting advice; and the acceptability of the care received. Data were analysed using an inductive qualitative content analysis approach, and were aggregated across all three LHDs due to the small number of interviews conducted with QFNL clients.

Evaluation results

Implementation Review and Outcome Evaluation

The implementation review and outcome evaluation provided key insights about program implementation, acceptability, reach, uptake and impact.

Implementation: As of December 2015, QFNL was implemented in 70 services in 13 LHDs across NSW (Table 1). The services implementing QFNL included 44 AMIHS sites,[2] 15 BSF services, 14 hospital-based antenatal care services and eight other services.

Table 1. Summary of QFNL implementation, uptake and impact, by LHD

LHD of service						Attended QFNL service 2014/2015		
	Start date	Model implemented†	QFNL services	Staff trained	Eligible women	Eligible women attending %	Women taking up a core QFNL intervention %	Ceased smoking %
Illawarra Shoalhaven	Jan-13	Referral	4	23	143	94	56	30
Hunter New England	Aug-13	Capacity building	12	103	543	60	21	13
Central Coast	Sep-13	Referral	3	23	98	64	16	22
Nepean Blue Mountains	Oct-13	Referral	3	20	184	44	22	22
Northern NSW	Oct-13	Referral	16	52	135	87	22	18
Western Sydney	Nov-13	Direct provision	4	7	128	44	13	20
Mid North Coast	Jan-14	Referral	5	19	135	62	21	7
Murrumbidgee	Jun-14	Referral	4	17	113	45	2	12
South Western Sydney	Mar-14	Referral	5	51	N/A	N/A	N/A	N/A
South Eastern Sydney	Jul-14	Referral	2	28	46	N/A	N/A	N/A
Southern NSW	Aug-14	Referral	2	11	62	N/A	N/A	N/A
Sydney	Oct-14	Referral	1	9	N/A	N/A	N/A	N/A
Western NSW	Jan-15	Direct provision	9	50	364	N/A	N/A	N/A

Sources: Centre for Population Health, NSW Ministry of Health data; stakeholder interviews; staff training records January 2013 to April 2015; Aboriginal Maternal and Infant Health Service Data Collection data, July 2014 to June 2015 (n=1,479).
†Implementation models are described in Table 2.

Each LHD implemented QFNL differently depending on the size, capacity and needs of the LHD, however, three general models of QFNL implementation were identified and are described in Table 2.

Table 2. General models of QFNL implementation

General model of care	Description*
Capacity building	QFNL is integrated into the role of clinic staff who address smoking at every visit with the client. Implemented in Hunter New England LHD.
Referral system	Clinic staff refer women to a dedicated smoking care advisor employed through QFNL funding to provide cessation support. Implemented in 10 LHDs: • Central Coast • Illawarra Shoalhaven • Mid North Coast • Murrumbidgee • Nepean Blue Mountains • Northern NSW • South Eastern Sydney • Southern NSW • South Western Sydney • Sydney
Direct service provision	The role of smoking care advisor is integrated into the role of an existing staff member. Implemented in Western NSW and Western Sydney LHDs.

Source: Interviews with stakeholders.
*These observations were current as of December 2015.

[2] Some AMIHS services have more than one site.

Overall, the resources provided to support program implementation—like training sessions, policy documents and support via the state-wide coordinator—were well received. A few QFNL coordinators identified difficulties in recruiting staff which led to delays or breaks in implementation. Several QFNL coordinators found it difficult to train all relevant staff, especially in large geographic areas where staff needed to travel to attend the training. The reported high staff turnover in some LHDs led some coordinators to feel frustrated at the frequent need to retrain people.

All QFNL coordinators reported challenges with data reporting requirements, stating concerns about the accuracy and content of the data collected. They suggested capturing additional data on offers of support and program impacts, so quitting smoking is not the only measure of success.

Acceptability: Most stakeholders interviewed considered the QFNL model to be appropriate for addressing antenatal and postnatal smoking among Aboriginal women but did note several challenges with implementation. Some stakeholders reported inherent challenges in reaching the eligible population, especially household members, citing that women often did not attend appointments or answer their phone. They also said that engaging women early in their pregnancy was hard. QFNL coordinators in several larger LHDs felt that covering a large geographic area exacerbated the challenge of maintaining contact with clients. Some coordinators faced challenges overcoming the low uptake of the QFNL interventions. On the contrary, many coordinators highlighted the positive changes they saw in some clients, such as when they accepted the supports offered and when they made quit attempts either individually or as families.

Several coordinators felt that, because of QFNL, there had been an increased awareness about smoking cessation among pregnant women, their families, Aboriginal community groups, and health professionals. While fully embedding QFNL into routine practice will take time, most coordinators reported that they had already witnessed changes in the care provided to women through increased staff confidence, knowledge or awareness of the need to address smoking, and having NRT and referral pathways readily available.

It was suggested that for QFNL to be successfully implemented: staff needed to address client smoking as a priority; departmental relationships needed to be strengthened and consolidated to support efforts to implement QFNL; and ongoing support of service management was paramount. Several stakeholders expressed concerns that a large part of the eligible population was missed by focusing on AMIHS and BSF services.

Reach: Program reach was defined as attendance at a service offering QFNL among eligible women – that is, women who were having an Aboriginal baby and who smoked in the first half of their pregnancy. In NSW, between July 2012 and June 2015, 41% of mothers of Aboriginal babies recorded in the AMDC were eligible for QFNL. During this period, 27% of eligible women attended an antenatal care service implementing QFNL. This proportion increased from 1.4% in 2012–13 to 25% in 2013–14 and 53% in 2014–15 (Table 3).

Table 3. Number of eligible women who attended a service implementing QFNL as a proportion of all eligible women, by year of baby's birth and LHD of service

LHD of service	Year of baby's birth							
	Jul 12–Jun 13		Jul 13–Jun 14		Jul 14–Jun 15		Study period	
	Eligible women	Attended QFNL n (%)	Eligible women	Attended QFNL n (%)	Eligible women	Attended QFNL n (%)	Eligible women	Attended QFNL n (%)
Central Coast	93		81	32 (40)	98	63 (64)	272	95 (35)
Hunter New England	557		522	155 (30)	543	327 (60)	1,622	482 (30)
Illawarra Shoalhaven	129	27 (21)	144	118 (82)	143	134 (94)	416	279 (67)
Mid North Coast	132		127	28 (22)	135	84 (62)	394	112 (28)
Murrumbidgee	115		120	11 (9.2)	113	51 (45)	348	62 (18)
Nepean Blue Mountains	153		175	33 (19)	184	81 (44)	512	114 (22)
Northern NSW	150		149	84 (56)	135	118 (87)	434	202 (47)
South Eastern Sydney	37		48		46	9 (20)	131	9 (6.9)
Southern NSW	59		59		62	39 (63)	180	39 (22)
Western NSW	361		343		364	68 (19)	1,068	68 (6.4)
Western Sydney	114		179	31 (17)	128	56 (44)	421	87 (21)
NSW total	1,900	27 (1.4)	1,947	492 (25)	1951	1,030 (53)	5,798	1,549 (27)

Source: Aboriginal Maternal and Infant Health Service Data Collection, July 2012 to June 2015 (n=5,798).
Data were not available for South Western Sydney or Sydney LHDs.

In 2014–15, the greatest number of women attending a service implementing QFNL was in Hunter New England LHD (n=327). The proportion of eligible women reached varied by LHD (Table 3). Aboriginal women were between 35% and 91% (Odds ratio (OR)=1.61; 95% Confidence interval (95% CI)=1.35, 1.91; p-value <0.001) more likely to attend a service implementing QFNL than non-Aboriginal women having Aboriginal babies.

Uptake: The AMDC and separately maintained LHD records held data on women who accepted a core QFNL intervention, however, the actual use of these interventions was not recorded. Among eligible women who attended a QFNL service, 21% (320/1549) were recorded in the AMDC as accepting at least one core QFNL intervention (NRT (if clinically appropriate), referral to NSW Quitline, follow-up support) (Table 4). This represented 5.5% of all mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy and received antenatal care. From these data we calculated that over the three-year study period among eligible women attending a QFNL service:

i) 168 (11%) accepted an offer of NRT

ii) 136 (8.8%) accepted a referral to Quitline

iii) 190 (12%) accepted follow-up support.

Note that women could accept more than one intervention. Client acceptance of core QFNL interventions varied among LHDs (Table 4).

Table 4. Number of eligible women attending a QFNL service and accepting a core QFNL intervention, by LHD of service and year of baby's birth

LHD of service	Year of baby's birth							
	Jul 12–Jun 13		Jul 13–Jun 14		Jul 14–Jun 15		Study period	
	Attended QFNL	Accepted intervention n (%)	Attended QFNL	Accepted intervention n (%)	Attended QFNL	Accepted intervention n (%)	Attended QFNL	Accepted intervention n (%)
Central Coast			32	10 (31)	63	10 (16)	95	20 (21)
Hunter New England			155	19 (12)	327	70 (21)	482	89 (18)
Illawarra Shoalhaven	27	2 (7.4)	118	31 (26)	134	75 (56)	279	108 (39)
Mid North Coast			28	1 (3.6)	84	18 (21)	112	19 (17)
Murrumbidgee			11	1 (9.1)	51	1 (2)	62	2 (3.2)
Nepean Blue Mountains			33	5 (15)	81	18 (22)	114	23 (20)
Northern NSW			84	17 (20)	118	26 (22)	202	43 (21)
South Eastern Sydney					9	1 (11)	9	1 (11)
Southern NSW					39	6 (15)	39	6 (15)
Western NSW					68	1 (1.5)	68	1 (1.5)
Western Sydney			31	1 (3.2)	56	7 (13)	87	8 (9.2)
NSW total	27	2 (7.4)	492	85 (17)	1,030	233 (23)	1,549	320 (21)

Source: Aboriginal Maternal and Infant Health Service Data Collection, July 2012 to June 2015 (n=1,549).
Data were not available for South Western Sydney or Sydney LHDs.

There was a disparity in the numbers between the AMDC and LHD records. In the separately maintained LHD records, a total of 1,569 clients were recorded as taking up at least one of the core QFNL interventions, including 644 pregnant women (54% uptake). There were concerns among stakeholders that the AMDC records were not as accurate due to the possibility that the data were entered inconsistently into a free text field by midwives who often were not the ones providing cessation care.

Impact: For the outcome evaluation, smoking cessation was defined as smoking in the first half of pregnancy but not in the second half of pregnancy. The indicator used was derived from two AMDC fields and did not capture smoking cessation occurring during the second half of pregnancy. Quit rates were compared between women attending a QFNL service pre-QFNL implementation (control group) and women attending a QFNL service following initiation of QFNL (intervention group).

During the study period, 19% of women in the control group and 18% of women in the intervention group quit smoking. There was no evidence of a difference in the odds of quitting between the control and intervention groups (Table 5). The proportion of women in the intervention group who quit smoking varied by LHD (ranging from 7% to 67% (data not shown)). Accepting a core QFNL intervention was not associated with quitting smoking (N=1,549; OR=1.09; 95% CI=0.84–1.42; p-value=0.4895).

Table 5. Characteristics of eligible women (including whether they attended a QFNL service pre-QFNL implementation or following initiation of QFNL) and the odds of quitting smoking

Predictor	Summary	Smoking in the second half of pregnancy?		Odds of smoking in the second half of pregnancy	
		No (n=650) n (%)	Yes (n=2,852) n (%)	Adjusted OR (95% CI)†	p-value*
QFNL service attended	Pre-QFNL implementation (control group)	374 (19)	1,579 (81)	ref	
	Following initiation of QFNL (intervention group)	276 (18)	1,273 (82)	1.28 (0.96, 1.70)	0.0905
Aboriginal status of mother	Aboriginal	466 (18)	2,159 (82)	1.16 (0.96, 1.40)	0.1290
	Non-Aboriginal	184 (21)	693 (79)	ref	
SEIFA	1–5 (Most disadvantaged)	559 (18)	2,581 (82)	1.10 (0.83, 1.46)	0.4871
	6–10 (Least disadvantaged)	86 (25)	257 (75)	ref	
Maternal age	mean (SD)	25 (6)	26 (6)	1.01 (1.00, 1.03)	0.1277
No. of antenatal care visits	mean (SD)	10 (8)	9 (10)	1.00 (0.99, 1.00)	0.2600

Source: Aboriginal Maternal and Infant Health Service Data Collection, July 2012 to June 2015 (n=3,502).
*p<0.05 considered statistically significant.
†Adjusted for LHD, year of baby's birth, and all covariates presented in the table.

On average, women in the intervention group smoked 8.54 (SD=6.03) cigarettes per day in the first half of pregnancy and 7.73 (SD=6.75) in the second half of pregnancy. However, there was no evidence of a difference in reducing the number of cigarettes smoked during pregnancy between the control and intervention groups (N=3,502; OR=0.31; 95% CI=-0.35-0.96; p-value=0.3482).

Case Study Analysis

Three LHDs with promising, innovative and/or potentially sustainable models of QFNL implementation were explored. These case study sites had been implementing QFNL over several years so that processes, data collection and governance structures were well established.

Case Study 1: Northern NSW LHD

Northern NSW LHD implemented a referral model, commencing in October 2013. Midwives, Aboriginal health staff and other healthcare providers were trained to initiate a discussion with clients who were smokers, and to refer women who wanted cessation support to the QFNL team (a manager and two health promotion officers with clinical backgrounds).

Between October 2013 and November 2017, 362 clients were referred to the QFNL team. Most of these clients (58%, n=212) were antenatal, 17% (n=60) were postnatal and 25% (n=90) were household members. The median length of enrolment in QFNL was 77 days (Inter Quartile Range (IQR)=42–112).

Forty-four percent (n=159) of QFNL clients accepted a referral to the NSW Quitline, 77% (n=279) agreed to try NRT and 19% (n=67) reported quitting smoking at discharge from QFNL. The median length of time being smoke-free was 24.5 days (IQR=3–96 days). Clients who had more contact with the QFNL team were significantly more likely to be smoke-free than clients with less exposure (Table 6).

Table 6. Factors associated with being smoke-free on discharge from the QFNL team, Northern NSW LHD, 2013 to 2017 (n=305)

Northern NSW LHD		Quit smoking at discharge n (%)	Not quit at discharge n (%)	Adjusted OR (95% CI)*	P value†
Total contacts with QFNL team	Mean visits	10.1 (SD=9.4)	5.3 (SD=5.8)	1.1 (1.06–1.16)	<0.001
Quitline referral	Yes	27 (17)	132 (83)	0.82 (0.42–1.62)	0.57
	No	40 (20)	163 (80)		
NRT voucher received	Yes	53 (19)	226 (81)	1.14 (0.36–3.72)	0.82
	No	14 (17)	69 (83)		
Reducing to quit	Yes	27 (35)	50 (65)	1.40 (0.61–3.20)	0.42
	No	40 (15)	225 (85)		
First cigarette within 30 mins of waking	Yes	31 (14)	194 (86)	1.15 (0.73–3.29)	0.25
	No	22 (22)	76 (78)		
Year referred to QFNL	2013	4 (17)	19 (83)	ref	
	2014	15 (18)	68 (82)	1.39 (0.33–5.95)	0.66
	2015	14 (19)	59 (81)	2.35 (0.54–10.5)	0.25
	2016	18 (18)	82 (82)	1.87 (0.44–7.78)	0.40
	2017	16 (19)	67 (81)	1.39 (0.27–7.05)	0.69
Client type	Antenatal	43 (20)	169 (80)	ref	
	Postnatal	12 (20)	48 (80)	1.17 (0.48–2.83)	0.73
	Householder	12 (13)	78 (87)	0.78 (0.33–1.88)	0.59

Source: Program monitoring data supplied by Northern NSW LHD.
*Adjusted for all covariates presented in the table.
†p value<0.05 considered statistically significant.

Interviews were conducted with the QFNL coordinator and two QFNL team members. These staff felt that QFNL helped women become more aware of the benefits of quitting smoking, which often motivated a change in behaviour. They indicated that women who engaged in the program were either more likely to reduce the amount of cigarettes they consumed per day or to give up completely. The two QFNL team members reported that the training they had received through the program (self-learning and formal education sessions) helped motivate them to focus on smoking cessation and increased their ability to talk about smoking with clients.

"One of the key things it's done for me is that it's increased my prioritising of addressing smoking within pregnancy." (Stakeholder 2)

The interviewees identified the following program success factors: staff having dedicated time to provide cessation support to clients and household members; the ability to provide different types of NRT for clients to try; the use of carbon monoxide breath expiry monitors (CO monitors) to motivate quitting; access to QFNL training and other education; and partnership with the NSW Ministry of Health to seek feedback about program implementation.

Conversely, they highlighted the following implementation barriers: a perceived low level of clinic staff engagement and knowledge among part-time staff; lack of staff and high staff turnover in some clinics; decreasing engagement over time of the QFNL advisory group within the LHD; difficulties engaging clients; and difficulties with collecting and reporting QFNL data in client information systems.

More recently, Northern NSW LHD has adopted an opt-out referral model with a centralised clinic providing face-to-face support to eligible women.

Case Study 2: South Western Sydney LHD

South Western Sydney LHD implemented a referral model, commencing in March 2014. Clinic staff in maternity services offered smoking women a referral to the NSW Quitline, free NRT (either directly or through a voucher system), and/or a referral to see an Aboriginal smoking care advisor (SCA). This SCA provided clients with follow-up support over the phone, face-to-face counselling sessions, and ongoing access to NRT. Non-QFNL services and Aboriginal community members also referred program-eligible women to the SCA. This position has been retained on a permanent, full-time basis.

Between July 2014 and June 2018, 595 eligible women attended an antenatal clinic offering QFNL. Fifteen percent (n=91) of these women accepted at least one QFNL intervention. Follow-up support with the Aboriginal SCA (15%, n=88) was the most commonly accepted intervention, followed by NRT (8.1%, n=48) and a referral to the NSW Quitline (1.7%, n=10). The uptake of the QFNL interventions varied by quarter (Figure 1).

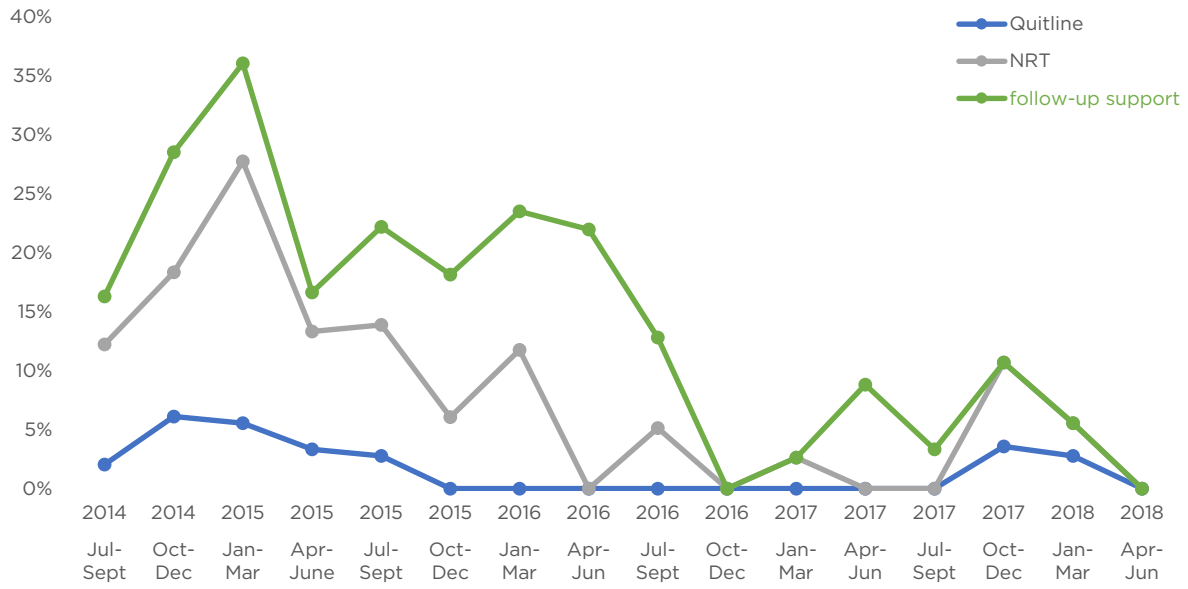

Figure 1: Uptake of the three QFNL interventions by pregnant women in South Western Sydney LHD, July 2014 to June 2018, by quarter (n=595).

Source: Program monitoring data supplied by South Western Sydney LHD.

The smoking cessation rate among eligible women who attended an antenatal clinic offering QFNL was 22% (n=128). A regression analysis found no association between taking up a QFNL intervention and quitting smoking.

Interviews were conducted with the QFNL coordinator, a SCA and a midwife. These staff reported that QFNL helped to increase women's readiness to engage in smoking cessation and that this was a key achievement of the program. They also felt that the use of evidence-based and culturally appropriate counselling increased women's awareness of the benefits of quitting—for themselves and their babies—which could lead to women and their cohabitants reducing their smoking or giving up completely.

The interviewees identified the following program enablers: having a designated Aboriginal SCA; provision of free NRT and the ability to provide different types of NRT for women to try; use of CO monitors to motivate quitting; incentives (baby hats, colouring books); training for QFNL staff about evidence-based interventions by recognised experts; home visits; and ability to offer household members quit support.

"But I think the best thing about the program is the fact that the NRT was available to the woman, the partner and anyone else that's in the household." (Stakeholder 6)

On the other hand, they identified the following implementation barriers: difficulties managing differences in policies and practises across healthcare services; difficulties securing ongoing support from health service management; lack of timely feedback about program impact; high turnover of clinic staff; time pressures and difficulties engaging with and following-up women; and lack of clinic staff awareness of QFNL.

"A lot of the other midwives that weren't working in Aboriginal Health really didn't know about the service very much." (Stakeholder 5)

Case Study 3: Hunter New England LHD

Hunter New England LHD implemented a capacity-building model, commencing in August 2013. This model involved increasing the capacity of staff in AMIHS, BSF and New Directions[3] services to provide smoking cessation support. Clients who were identified as smokers received cessation support during regular antenatal and postnatal appointments. Training was provided to clinic staff and implementation was guided and monitored by health behaviour researchers from Hunter Population Health.

During the period January 2015 to September 2017, 15,507 clients attended a service offering QFNL. At any time, about 29% of these clients were current smokers and 13% were receiving a QFNL intervention. On average each month, 81% of QFNL clients attended an AMIHS service and 19% attended either a BSF or New Directions postnatal service. In antenatal services, 20–30%[4] of clients (n=1,183) accepted an offer of follow-up support, 16–24% (n=968) accepted NRT directly or via a voucher, and 7–10% (n=405) accepted a referral to the NSW Quitline. On average each month, 55% of smokers received at least one QFNL intervention and 4.2% quit smoking (Figure 2).

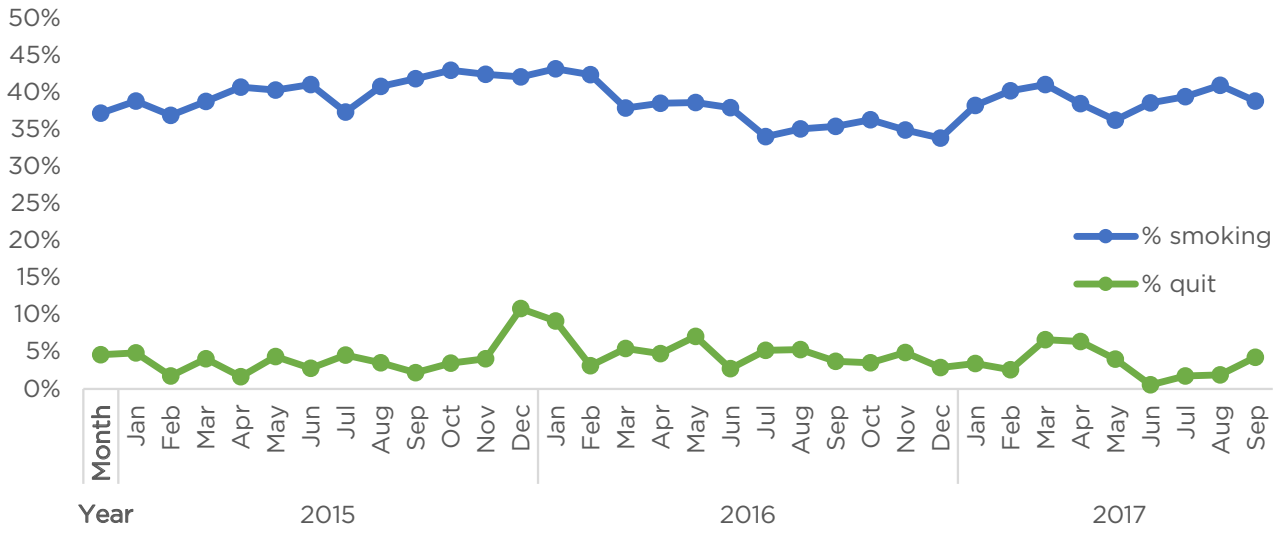

Figure 2: The proportion of clients who attended an AMIHS, BSF or New Directions service in Hunter New England LHD who were recorded as smoking and the proportion of these who were reported as quitting each month from January 2015 to September 2017.

Source: Program monitoring data supplied by Hunter New England LHD.

Interviews were conducted with the QFNL coordinator, a QFNL support officer, a service manager, a midwife and an Aboriginal health worker. These staff highlighted that developing a sustainable model by embedding QFNL into routine care was a key program achievement. They felt this helped increase clinic staff readiness to assist women to quit smoking and that it ensured staff viewed smoking cessation as a priority.

The interviewees identified the following program enablers: employing support officers; flexible implementation across services according to staff availability and skills; leadership from service managers and the executive leadership team, including interest in performance monitoring; integration of support through antenatal and postnatal care; direct provision of NRT to women and the opportunity for women to try different types of NRT; and quit support for household members.

Conversely, they highlighted the following implementation barriers: limited resources to provide additional follow-up appointments or phone calls outside of the standard schedule of visits to women; limited resources to support household members to quit; understaffing and high staff turnover; time burden of reporting; perceived unachievable KPIs; and little client interest in referral to the NSW Quitline.

[3] New Directions is a mothers and babies services program funded by the Australian Government.

[4] The specified ranges indicate that the total number of women asked is not clear in the dataset due to existing QFNL clients being re-offered the interventions they had previously declined.

Interviews with QFNL clients

Qualitative interviews were conducted with six clients from across the three case study LHDs. These clients each had different levels of engagement with QFNL and had various success with quitting smoking. All clients interviewed had: received support through QFNL, either in-person or over the phone; used a "tangible" support to help with their quit attempt, such as chewing gum or NRT; and were satisfied with the support they had received. The main motivation given for accepting a QFNL intervention was the health of their baby.

"I just wanted to give my baby the best chance of being fully healthy." (Client C)

Their own health, having more time and saving money were additional motivators. For some women, having QFNL available to help them offered the extra motivation they needed to address their smoking. They felt encouraged and supported having someone ask about their smoking and they appreciated being able to try different types of NRT to find the one that suited them best.

"I had help with the program. I was able to trial different products with the vouchers. Then I found the ones that worked for me, and that is what's helped." (Client D)

All clients interviewed had reduced their smoking following engagement with QFNL, while two individuals quit altogether. They reported feeling fitter and healthier. They also highlighted barriers to fully engaging with QFNL, including not wanting to completely quit smoking, having other complex life issues to address, having difficulty fitting in extra appointments, and feeling that their NRT was ineffective. Overall, these clients considered it appropriate to address smoking during the antenatal and postnatal periods.

Evaluation Limitations

The evaluation findings should be considered in light of the following main limitations. Firstly, the indicator of quitting smoking used in the outcome evaluation was only able to capture successful quit attempts occurring in the first half of pregnancy, which left relatively little time for QFNL to have a measured effect. Secondly, the main data source used in the outcome evaluation, the AMDC, seemed to have a lot of missing data relating to uptake of the core QFNL interventions; analysis of separately maintained LHD records suggested that over half the cases of uptake were missing from the AMDC. As such, the finding that 21% of eligible women accepted a core QFNL intervention may be an underestimate. Additionally, the program monitoring data collected and maintained by the three case study LHDs had some limitations, such as missing values, and did not allow for comparison between LHDs. Thirdly, analyses of program reach, uptake and effectiveness were mostly restricted to the antenatal period, which limits our understanding of the impact of QFNL in the postnatal period and among cohabitants. Finally, despite intensive and sustained recruitment efforts, only a small number of clients agreed to be interviewed for the evaluation. While these clients provided useful and actionable insights, it is possible that the range of experiences of, and views about, QFNL were not fully explored.

Conclusions

The QFNL program was widely implemented across NSW, with three main models of implementation identified. Although it reached a lot of eligible women, uptake of its core interventions was modest. The evaluation could not provide clear evidence about the effectiveness of QFNL. In one LHD, clients who had more contact with the QFNL team were significantly more likely to quit smoking than clients with less exposure. However, other analyses found no relationship between QFNL exposure and quitting. Still, sustainable practice changes were achieved in some QFNL services. Additionally, most stakeholders, including the clients interviewed, thought the program appropriate for addressing smoking among women having an Aboriginal baby. The case studies demonstrate different ways of tailoring and integrating smoking cessation care into maternity and early childhood health services.

Implications for practice

The evaluators at the University of Newcastle identified the following implications for practice:

- address system-, organisational- and clinician-level barriers to embedding QFNL into routine practice, including by: capturing better data on offers of quit support and a range of impact indicators, and using feedback loops; ensuring senior staff drive QFNL implementation; strengthening staff training and support; and trying to extend the time available in consultations
- improve eligible women's participation in smoking cessation care, including by: integrating support to deal with psychosocial stressors; engaging women early in their pregnancy; and strengthening engagement during the postnatal period
- consider ways of increasing participation in QFNL among non-Aboriginal women having an Aboriginal baby
- enhance QFNL by considering additional interventions like the offering of "tangible incentives", routine use of carbon monoxide breath expiry monitors, and embracing family-centred approaches
- explore ways in which NSW Quitline could be modified to be more readily accepted by QFNL clients
- consider strategies that QFNL clients seem to value, such as: employing Aboriginal smoking care advisors to provide culturally safe, intensive and regular support; home visits; cessation support for partners; providing clients with free NRT directly (when indicated); and offering different types of NRT.

NSW Health action on quit rates during pregnancy

The NSW Ministry of Health is using the QFNL evaluation findings, along with other forms of evidence, to strengthen culturally informed, cessation care for Aboriginal women during pregnancy. NSW Health's plan of action on smoking and pregnancy includes targeted approaches for Aboriginal women, as well as universal approaches to benefit all women. Examples of action areas are shown below.

Additional targeted strategies for Aboriginal women

- There has been funding for Aboriginal Community Controlled Health Organisations to provide **free nicotine replacement therapy**. This approach encourages family-based buddies for quit attempts by women having an Aboriginal baby and supports pregnant women to try NRT if clinically appropriate.

  NSW Health are **exploring other targeted strategies** such as financial incentives, family-based interventions, social support for pregnant women to quit and stay quit, and social marketing. This work includes research trials and literature reviews, as well as consultation with Aboriginal stakeholders.

Improvement of data monitoring and electronic referrals to Quitline

- There is **continued system accountability** through a key performance indicator on smoking cessation by Aboriginal women and by non-Aboriginal women during pregnancy in service agreements between the NSW Ministry of Health and LHDs.
- **Automated referral to NSW Quitline** with the person's consent is under development for e-Maternity and other clinical data platforms through the eMR enhancement project. This will provide an easier referral process to suit both clients and clinicians. The Aboriginal Quitline is undergoing evaluation and exploring a variety of measures to increase engagement by Aboriginal communities, including pregnant women and their partners.
- The **eMR enhancement project** led by the Cancer Institute NSW will also standardise questions on smoking and recommend key enhancements to smoking data applicable to all women. Plans for central reporting will provide data feedback loops to clinicians and help drive best practice.

Training and resources to support clinicians and services

- **Dissemination of promising service models for QFNL delivery** will share approaches to address challenges raised in the QFNL evaluation such as sustainability of support and engagement of Aboriginal women and their partners.
- A **new Advisory Committee on Reducing the Harms of Tobacco on Mothers and Babies**. The Committee is providing expert advice to guide the development and implementation of guidance, tools, key messages and other support for clinicians in NSW. Representatives are drawn from obstetrics, midwifery, general practice, smoking cessation experts, Aboriginal Health and others.
- **State-wide cessation training on smoking in pregnancy** has been strengthened through the development of two online (My Health Learning) modules and a complementary workshop. Aboriginal staff experience from QFNL has been integrated into the program elements. The Cancer Institute NSW conducted a training needs assessment and is developing a NSW Smoking Cessation Training Plan to further enhance training in NSW.

Collaboration on new initiatives and research

- NSW Health is partnering with the **national Safer Baby Bundle initiative** which addresses five key elements for prevention of still birth – one of these being smoking cessation. This initiative provides opportunities to strengthen state-wide efforts on smoking in pregnancy such as through increased engagement with GPs, embedding CO breath testing for all women at point of maternity care, intervention research and evaluation.
- In **support of research**, the Ministry and the National Health and Medical Research Council are funding the MOHMQuit (Midwives and Obstetricians Helping Mothers to Quit) trial. The aim is to trial midwife training as well as system, manager, clinician-focused training and tools across eight public hospitals providing antenatal care.