Quit for New Life

Phase 1 Evaluation Report

2016

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List of Abbreviations

ACCHS	Aboriginal Community Controlled Health Services
AHEO	Aboriginal Health Education Officer
AHW	Aboriginal Health Worker
AMDC	Aboriginal Maternal and Infant Health Service Data Collection
AMIHS	Aboriginal Maternal And Infant Health Service
AMS	Aboriginal Medical Service
BSF	Building Strong Foundations for Aboriginal Children, Families and Communities
CFHN	Child and Family Health Nurse
CHIME	Community Health Information Management Enterprise
CHOC	Community Health and Outpatient Care program
CI	Confidence Interval
CPD	Cigarettes Smoked Per Day
ECHS	Early Childhood Health Centre
FTE	Full Time Equivalent
KPI	Key Performance Indicator
LHD	Local Health District
NRT	Nicotine Replacement Therapy
Q	Quarter
QFNL	Quit For New Life
SEIFA	Socio-Economic Indexes for Areas

List of LHD Abbreviations

CC	Central Coast
FW	Far West
HNE	Hunter New England
IS	Illawarra Shoalhaven
MNC	Mid North Coast
MUR	Murrumbidgee
NBM	Nepean Blue Mountains
NNSW	Northern New South Wales
NS	Northern Sydney
SES	South Eastern Sydney
SNSW	Southern New South Wales
SWS	South Western Sydney
SYD	Sydney
WS	Western Sydney
WNSW	Western New South Wales

List of Definitions

Aboriginal Maternal And Infant Health Service (AMIHS): Clinics where midwives and Aboriginal Health Workers (AHWs) provide antenatal and postnatal care (up to 8 weeks postpartum) to mothers of Aboriginal babies.

Building Strong Foundations (BSF) service: Early childhood health service provided by teams of child and family nurses (CFHNs) and AHWs, for Aboriginal children from birth to school-entry age and their families.

Clinic: The health service where women receive antenatal or postnatal care. This includes AMIHS and BSF postnatal services as well as hospitals and community health centres.

Clinic Staff: Midwives, child and family health nurses and AHWs who see women for their appointments in the clinic.

Core QFNL interventions: NRT, Quitline cessation support and follow-up support offered through QFNL.

Eligible women: Pregnant mothers of Aboriginal babies who smoked in the first half of pregnancy and received antenatal care in an LHD implementing QFNL.

Evaluation team: The research team at the University of Newcastle contracted to conduct the data collection, analyses and reporting for the evaluation.

First half of pregnancy: Prior to 20 weeks gestation.

ObstetriX: The patient information system used in most LHDs to record information during antenatal care appointments.

QFNL coordinator: QFNL staff member responsible for overseeing QFNL implementation.

QFNL service: An antenatal care service identified as implementing QFNL.

Reach of QFNL: The number of eligible women who attended a QFNL service implementing QFNL for antenatal care at any time in their pregnancy.

Second half of pregnancy: From 20 weeks gestation to the birth of the baby.

LHD of residence: The LHD in which the women resided at the time of birth

LHD of service: The LHD of service attended for pregnancy care where known or hospital of birth if not.

Smoking care advisor: QFNL staff member who provides smoking cessation support to clients.

Smoking cessation: For the evaluation a woman was considered to have ceased smoking during pregnancy if she was recorded as smoking in the first half of pregnancy (<20wks) but not in the second half of pregnancy (>20wks).

Uptake of QFNL: The number of eligible women receiving QFNL who took up a core QFNL intervention during the antenatal period**.**

Executive Summary

Background

In NSW, around 45% of Aboriginal women smoke during pregnancy compared with ~8% of non-Aboriginal women. To address this high smoking rate the Quit for new life (QFNL) initiative was developed by the NSW Ministry of Health's Centre for Population Health in partnership with the Health and Social Policy Branch. QFNL aims to contribute to an increase in smoking cessation rates among mothers of Aboriginal babies and their household members. The QFNL model 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 are supported to enact practice change strategies through the development of policies, training and data monitoring. Under the QFNL Model of Care, women who attend these services and identify as a current smoker are expected to be:

i) Given brief advice
ii) Offered a referral to Quitline
iii) Assessed and offered Nicotine Replacement Therapy (NRT) if appropriate
iv) Offered intensive follow-up support

These interventions are expected to be carried through from antenatal care to the postnatal period to prevent smoking relapse among those who have ceased smoking during pregnancy and further encourage those who did not cease during pregnancy to do so. Interventions are also offered to cohabitants who smoke. As part of QFNL, smoking should be addressed at every clinic visit.

The QFNL evaluation was designed to describe the implementation of QFNL in participating antenatal and postnatal services, as well as assess the impact of QFNL on smoking cessation rates amongst eligible women. The specific aims of the evaluation are to:

Aim 1. Describe how QFNL has been **implemented** at the state level and in participating antenatal and postnatal services.

Aim 2. Assess the **acceptability** of QFNL from the perspective of QFNL participants and implementers.

Aim 3. Measure the **reach** of QFNL to pregnant mothers of Aboriginal babies in NSW who smoke.

Aim 4. Measure the **uptake** of core QFNL interventions (NRT, Quitline and follow-up support) amongst QFNL participants.

Aim 5. Measure the **impact** of QFNL on smoking cessation rates amongst pregnant mothers of Aboriginal babies and their household members.

The evaluation of QFNL commenced in February 2015. Separate reports will be presented for Phase 1 and Phase 2 of the evaluation.

Methods

A mixed methods design is being used to evaluate QFNL. The evaluation has three components as follows:

Component 1: Analysis of Aboriginal Maternal and Infant Health Service Data Collection data.

The Aboriginal Maternal and Infant Health Service Data Collection (AMDC) holds records of all births in NSW for which the baby or the baby's mother is recorded as Aboriginal. AMDC records include a range of routinely collected variables relating to the pregnancy and the birth, 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.

For this report, AMDC records were analysed for the period July 2012-June 2015 to determine the reach of QFNL (Aim 3), uptake of core QFNL interventions (Aim 4) and impact of QFNL (Aim 5) on smoking cessation rates among eligible women. During the study period, the AMDC did not hold records of Aboriginal births occurring in Sydney LHD and South Western Sydney LHD. Therefore, births occurring in these LHDs were excluded from analyses. Descriptive statistics for reach, uptake and impact were calculated for NSW and individual LHDs. Generalised linear models were used to explore factors associated with participation (reach and uptake) in the program. Smoking cessation rates were compared in eligible women attending a service pre- QFNL implementation (did not receive QFNL) to those attending post- QFNL implementation (received QFNL). Segmented regression was used to further measure impact.

Component 2: Analysis of program monitoring data.

Program monitoring data were interrogated to describe the uptake (Aim 4) and delivery of QFNL (Aim 1). The period of analysis was January 2013-March 2015. The following data were analysed:

- **2A.** Staff training records - The number and type of staff attending QFNL smoking cessation training in each LHD collected on training workshop sign in sheets.
- **2B.** QFNL client numbers - The number of clients (pregnant, postnatal and cohabitants) accepting a core QFNL intervention recorded separately by LHDs and reported quarterly.
- **2C.** NRT provision data - Collected by i) LHDs providing NRT directly to QFNL clients and ii) the NSW Pharmacy Guild for cases where NRT is provided by voucher redeemed through NSW pharmacies.
- **2D.** Quitline delivery data - Details provided by NSW Quitline on the number of Quitline referrals received, successful contacts made and acceptance of call-backs to clients referred by QFNL.

Program monitoring data were analysed descriptively, with results presented for NSW and individual LHDs. Demographic factors associated with uptake of Quitline were assessed using logistic regression.

Component 3: Semi-structured interviews with QFNL coordinators and other key stakeholders.

A series of interviews were conducted between September 2015 and January 2016 which sought information about how QFNL has been implemented (Aim 1), integrated (Aim 1) and accepted (Aim 2) in participating services. Twenty one interviews were conducted with 28 stakeholders including QFNL coordinators in all 13 LHDs, smoking care advisors, health promotion managers and representatives from organisations involved with QFNL. Most interviews were conducted by phone with several face-to-face. Data were analysed using qualitative thematic analysis. Further stakeholder interviews will be conducted in 2017.

Results

Analysis to date has provided key insights across all five evaluation aims.

Implementation

QFNL is implemented in 70 services located in 13 Local Health Districts (LHDs) across NSW. The implementation was staged as follows:

- Illawarra Shoalhaven (IS) commenced in January 2013
- Hunter New England (HNE) commenced in August 2013
- Central Coast (CC) commenced in September 2013
- Northern New South Wales (NNSW) commenced in October 2013
- Nepean Blue Mountains (NBM) commenced in October 2013
- Western Sydney (WS) commenced in November 2013
- Mid North Coast (MNC) commenced in January 2014
- South Western Sydney (SWS) commenced in March 2014
- Murrumbidgee (MUR) commenced in June 2014
- South Eastern Sydney (SES) commenced in July 2014
- Southern New South Wales (SNSW) commenced in August 2014
- Sydney (SYD) commenced in October 2014
- Western New South Wales (WNSW) commenced in January 2015

The services implementing QFNL include 44 AMIHS services, 15 BSF, 14 hospital-based antenatal care services and 8 other services. Each LHD implements QFNL differently depending on the size, capacity and needs of the LHD. Three general models of care for implementing QFNL were identified:

i) Capacity building model implemented by HNE where QFNL is integrated into the role of clinic staff who address smoking at every visit with the client;
ii) Referral system implemented by 10 LHDs (CC, IS, MNC, MUR, NBM, NNSW, SES, SNSW, SWS, SYD) where clinic staff refer women to a dedicated smoking care advisor employed through QFNL funding to provide cessation support; and
iii) Direct service provision implemented by WNSW and WS where the role of smoking care advisor is integrated into the role of an existing staff member.

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

All QFNL coordinators reported challenges with data reporting requirements stating concerns about the accuracy and content of the data collected. This has implications for the program monitoring data provided for the evaluation. It was suggested that additional measures of impact and offering of supports be captured.

Acceptability

Most stakeholders interviewed considered the QFNL model to be appropriate to address smoking in the target group, but noted several challenges with implementing the model. It

was suggested that for QFNL to be successfully implemented: staff resistance must be overcome to ensure that antenatal staff addressed client smoking as a priority; departmental relationships needed to be established and consolidated to support efforts to implement QFNL; and ongoing support of service management is paramount. Several stakeholders expressed concerns that a large part of the target population was missed by focusing on AMIHS and BSF. Some stakeholders reported inherent challenges in reaching the target population, especially household members, citing that women often do not turn up for appointments or answer the phone. 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. Many coordinators however highlighted achievements in seeing positive changes in some clients such as accepting the supports offered, making quit attempts and whole families quitting together.

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

Reach

Reach is defined as attendance by women having an Aboriginal baby at a service offering QFNL. As no data is collected on offers of QFNL support the analysis assumes that those attending a service after QFNL implementation commenced were reached through QFNL. Across NSW 41% of mothers of Aboriginal babies recorded in the AMDC, whose babies were born between July 2012 and June 2015, smoked in the first half of pregnancy. Consistent with the downward trend seen at the population level in NSW in recent years this value dropped from 43% in 2012/13 to 40% in 2014/15. Over the study period 27% of eligible women attended an antenatal care service identified as implementing QFNL. This figure increased from 1.4% in 2012/2013 to 24% in 2013/2014 and 53% in 2014/2015. The proportion of eligible women attending in 2014/2015 is close to the 56% initially predicted to be reached by the program. Women not reached through QFNL seek their antenatal care through services not involved in the program such as GP shared care, some Aboriginal Community Controlled Health Services and some hospital antenatal clinics. In 2014/2015 the greatest number of women attending a service implementing QFNL was in HNE (327). The greatest proportion of eligible women reached was in IS (94%) followed by NNSW (87%), CC (64%), SNSW (63%), MNC (62%), HNE (60%), MUR (45%), NBM and WS (44%), SES (20%) and WNSW (19%). Aboriginal mothers were significantly ($p<0.001$) more likely to attend a service implementing QFNL than non-Aboriginal mothers of Aboriginal babies.

Uptake

The AMDC and separately maintained LHD records hold data on women who accepted a core QFNL intervention (e.g. women who agreed to a referral being sent to Quitline, accepted an NRT voucher or direct supply or arranged a follow up appointment to be made to discuss smoking cessation). However, the actual use of these interventions is not recorded. The uptake rates of any QFNL interventions among eligible women attending services implementing QFNL recorded in the AMDC between July 2012 and June 2015 was

21%. This equated to 5.5% of all smoking mothers of Aboriginal babies in NSW in the 3 year AMDC sample. Overall uptake of follow-up support (12%) was slightly higher than uptake of NRT (11%) and Quitline (8.8%). There was considerable variation in uptake across LHDs, with the highest seen in IS (39%) followed by CC and NNSW (21%), NBM (20%), HNE (18%), MNC (17%), SNSW (15%), SES (11%), WS (9.25), MUR (3.2%) and WNSW (1.5%).

In the separately maintained LHD records a total of 1569 clients (pregnant, postnatal or cohabitant) were recorded as taking up at least one of the core QFNL interventions in the period since initial roll out of the initiative in January 2013 until the end of March 2015. This included 644 pregnant women (54% uptake). This value is much greater than the 280 (23%) pregnant clients taking up a QFNL intervention recorded over the same period in the AMDC. There were concerns among stakeholders that the AMDC records were not accurate as the data was entered inconsistently into a free text field by midwives who often were not the ones providing cessation care. Improvements to the data monitoring system are currently being rolled out and it is hoped that these better capture the uptake of QFNL.

Impact

The AMDC records whether women smoked at all in the first or second half of pregnancy. For this evaluation, smoking cessation in pregnancy was therefore, defined as smoking in the first half of pregnancy and not smoking **at any stage** in the second half of pregnancy. Hence, smoking cessation occurring during the second half of pregnancy was not captured.

Over the study period 19% of eligible women who attended a service pre-QFNL implementation (control) and 18% of those attending post-QFNL implementation (intervention) ceased smoking. There was no evidence of a difference in the odds of smoking in the second half of pregnancy between the control and intervention groups (N=3502; OR=1.28; 95% Confidence Interval (CI)=0.96-1.70; p-value=0.0905). The proportion of eligible women attending a service post-QFNL implementation, who ceased smoking varied across LHDs from 7.1% in MNC to 67% in SES. Using segmented linear regression there was no evidence of an effect due to QFNL on the proportion of eligible women who ceased smoking (N=3502; OR=1.23; 95% CI=0.77-1.97; p-value=0.3005) when accounting for LHD. Similarly, there was no impact of taking up a core QFNL intervention on ceasing smoking (N=1549; OR=1.09; 95% CI=0.84-1.42; p-value=0.4895).

On average, eligible women attending services post-QFNL implementation 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. There was no evidence of a difference in the change in number of cigarettes smoked between eligible women due to QFNL (N=3502; OR=0.31; 95% CI=-0.35 to 0.96; p-value=0.3482).

Discussion

In NSW in recent years there has been a demonstrable reduction in smoking during pregnancy among Aboriginal women. In 2011, 52.2% of pregnant Aboriginal women smoked but the proportion has steadily reduced to 45.2% in 2014. The NSW Government takes a comprehensive approach to tobacco control, with reducing rates of smoking among pregnant Aboriginal women a key priority. Reducing smoking amongst pregnant Aboriginal women is also a priority at the National level with QFNL developed as part of the National Partnership Agreement on ‘Closing the Gap in Indigenous Health Outcomes’.

The results presented in this report suggest that QFNL is not having an impact on smoking cessation rates. There are several reasons suggested for this. Perhaps most significantly the measure of impact is confined to instances of successful smoking cessation prior to the second half of pregnancy, which leaves relatively little time for QFNL to have a measured effect. The main data source used for the evaluation, the AMDC, contains very limited data about smoking cessation. Smoking cessation occurring during the second half of pregnancy is not recorded. Therefore for an impact of QFNL to be detected using the data available for the evaluation, eligible women would have to successfully quit smoking prior to the second half of pregnancy. However, antenatal care generally commences only a short time before the second half of pregnancy, thus limiting exposure to QFNL in the first half of pregnancy. It is therefore not surprising that no effect was seen using this definition. While we were also able to analyse data for the change in the number of cigarettes smoked per day, this data is inconsistently collected and reported to contain inaccuracies. No other measures of cessation are consistently collected for monitoring of QFNL.

Variable levels of performance were demonstrated across LHDs in relation to the measured outcomes. Many factors likely contributed to this, including the staged implementation of the program across NSW, the amount that QFNL is embedded into routine practice, the capacity of staff to address smoking, differing program monitoring practices and the willingness of women in the local community to accept the offered support. Overall, the uptake of QFNL interventions was low. This may be due to staff not offering the interventions or clients not accepting the offered support. Using the data available for the evaluation these limiting factors could not be differentiated. Sub-optimal program monitoring has also contributed to this finding. Separately maintained LHD records suggest that over half the cases of uptake were missing from the AMDC.

In considering the practical steps in the QFNL pathway from implementation to impact, each step has either limited or incomplete data (i.e. for Implementation, Reach, Uptake and Impact) or are missing from the evaluation analysis (i.e. Offers of support and Use of interventions). These data are critical if we are to understand where along the pathway improvements can be made to the QFNL model in order to see an impact.

Implications

Numerous insights have been attained from this evaluation that will support ongoing improvements in QFNL delivery and monitoring. Broadly these are as follows:

- Enhance the QFNL model of care by considering additional interventions which could be offered such as financial incentives and increased household involvement.
- Consider ways to further embed QFNL into routine care. This could include increasing the role of clinic staff, working towards making the model sustainable and developing additional training modules.
- Improve data monitoring systems to allow more data to be captured about offers of support and measures of impact such as quitting at any stage in pregnancy.
- Consult with Aboriginal communities to understand how to increase the uptake and acceptability of the interventions including ways to improve client's perception of Quitline.
- Make changes to the phase 2 components of the evaluation to better understand how QFNL is embedded into routine care.

Chapter 1:
Background to Quit for new life

Rationale for QFNL

Burden of tobacco use

Tobacco use is the leading cause of premature mortality and preventable morbidity worldwide. Latest figures suggest that 12.8% of the Australian population currently smoke tobacco.[1] Tobacco is estimated to be responsible for 7.8% of the total burden of disease in Australia,[2] causing more than 15,000 deaths (primarily from cancer and cardiovascular disease), resulting in more than 750,000 hospital bed days, and costing more than $669 million dollars in healthcare costs to the hospital system alone in 2004-2005.[3] Each year in NSW smoking accounts for around 5,500 deaths and 46,300 hospitalisations.[4]

For Aboriginal and Torres Strait Islander people, the burden of disease from tobacco use is much greater. Smoking has been estimated to be responsible for 12% of the burden of disease for Aboriginal Australians, and for 17% of the health gap between Aboriginal and non-Aboriginal Australians.[5] An estimated 220,000 Aboriginal people live in NSW, which is the largest Aboriginal population of any State or Territory.[6] It is estimated that in 2015, 35% of the Aboriginal population in NSW 16 years or older smoked tobacco.[4] Aboriginal people in NSW were 2.7 times more likely to smoke tobacco than non-Aboriginal people. In NSW in 2013-2014 rates of smoking attributable hospitalisations were over 2.5 times higher for Aboriginal people than non-Aboriginal people.[4]

Smoking amongst pregnant Aboriginal women

Smoking is the most significant modifiable cause of adverse pregnancy outcomes**.** Babies born to mothers who smoke during pregnancy have 50% greater risk of perinatal death,[7] 60% greater risk of preterm birth,[7] and weigh on average 200g less than babies born to non-smoking mothers.[8] Babies born to Aboriginal and Torres Strait Islander mothers have higher rates of prematurity, growth retardation and low birth weight than those born to non-Aboriginal mothers,[9, 10] and smoking has been confirmed as an independent risk factor for these outcomes.[10] Smoking cessation can reduce negative pregnancy outcomes including miscarriage, foetal growth retardation, preterm delivery and perinatal mortality.[11] Smoking in the post-natal period is associated with Sudden Infant Death Syndrome (SIDS), asthma, childhood respiratory, meningococcal and middle ear infections.[12] Evidence suggests that if smoking during pregnancy was completely eliminated, 19.8% of total low birth-weight incidence, 7.8% of preterm births and 3.6% of admissions required to special care nursery or neonatal intensive care unit in Australia could be prevented.[13] Despite the significant adverse impact of smoking on pregnancy outcomes, latest evidence suggests that 12% of Australian women smoke during pregnancy,[14] and 20% of women who are pregnant or

breastfeeding smoke.[15] Among Aboriginal women nationally, the rate of antenatal smoking is much higher, with 47% of women smoking during pregnancy.[14] In NSW 45% of pregnant Aboriginal women smoked during pregnancy, compared to 8% of non-Aboriginal pregnant women.[4]

Funding to close the gap in health outcomes

Reducing rates of smoking among pregnant Aboriginal women is a key priority of the NSW Government. The NSW State Health Plan: Towards 2021[16] sets targets to reduce rates of smoking in pregnancy by 0.5% per year for non-Aboriginal women and by 2% per year for Aboriginal women. The NSW Tobacco Strategy 2012-2017,[17] outlines the activities the NSW Government will undertake to meet the targets set in the NSW 2021 plan. This strategy focuses on particular population groups including pregnant Aboriginal women. In 2009, $2.42 million in funding was provided by the New South Wales (NSW) Government as part of the National Partnership Agreement on 'Closing the Gap in Indigenous Health Outcomes' to specifically develop and implement an initiative to reduce smoking rates amongst pregnant Aboriginal women.[18] This funding was used to develop the Quit for new life (QFNL) initiative.

Quit for new life Initiative

QFNL is a smoking cessation support initiative for mothers of Aboriginal babies that aims to contribute to a reduction in tobacco related harm from maternal smoking and environmental tobacco smoke among women who identify as having an Aboriginal baby. QFNL is an initiative of the Centre for Population Health, NSW Ministry of Health in partnership with the Health and Social Policy Branch. The NSW Ministry of Health committed $4.58 million for the implementation and evaluation of the QFNL initiative over a four year period (2012/13 – 2015/16). In 2014, an additional two years funding ($3.2 million) was provided to ensure adequate time and resources to embed QFNL into routine clinical care.[18]

The specific objectives of QFNL 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; and
4) Reduce the risk of smoking relapse by clients of participating services in the antenatal and postnatal periods.

QFNL is being delivered primarily through antenatal Aboriginal Maternal and Infant Health Services (AMIHS) and Building Strong Foundations for Aboriginal Children, Families and Communities (BSF) services within Local Health Districts (LHDs). In some locations, other services are involved in delivering QFNL such as mainstream antenatal services, child and

family health services and Aboriginal Medical Services. The decision to extend QFNL beyond the AMIHS/BSF services is made by the LHD.

Expected reach and impact of QFNL

Based on 2011 data on the number of women who received antenatal care through AMIHS and the estimated proportion of Aboriginal women who smoked during pregnancy, it was estimated that QFNL would reach approximately 56% of all mothers of Aboriginal babies in NSW who smoked.[18] Based on the findings of a study among pregnant Aboriginal women using a similar intervention[19] it was predicted that QFNL will result in a 6% increase in the number of pregnant women ceasing smoking compared to those receiving usual care.

QFNL Model of Care

The QFNL model of care was primarily developed by the Centre for Population Health, NSW Ministry of Health in partnership with the Health and Social Policy Branch. Given the lack of evidence about the effectiveness of smoking cessation interventions for mothers of Aboriginal babies, the development of the QFNL model was informed by the best available evidence relating to smoking cessation generally. Evidence relating to capacity-building was also used to derive sustainable support mechanisms within the model for addressing smoking cessation within the clinical setting. This resulted in a comprehensive, multi-component QFNL model which incorporated the maximum available evidence of what was likely to be successful in supporting mothers of Aboriginal babies to quit smoking.

The QFNL model of care guides the implementation of the initiative at the LHD level. It consists of two primary components:

1) Cessation support for mothers of Aboriginal babies

- **a)** **Identification of smoking status** at the first antenatal care visit. Identification should include ascertainment of the smoking status of the mother, as well as individuals residing in their household. A brief advice form was developed to guide the smoking status identification process.
- **b)** Provision of **Brief Intervention** at every visit. A brief intervention protocol was developed based on the evidence-based 5As approach (Ask, Assess, Advise, Assist and Ask again).
- **c)** Referral to **Quitline** offered to all smokers or recent quitters. A Quitline fax referral form is available to facilitate this or phone contact can be made while the client is present. Quitline offers a pregnancy specific call schedule which includes calls both during pregnancy and post-partum. It is recommended clients receive 6 calls with more available as needed. Clients are followed up after quitting to implement relapse prevention strategies. Aboriginal Quitline is part of NSW Quitline and is utilised if the client requests an Aboriginal Advisor. All Quitline staff have received cultural awareness training to facilitate speaking with Aboriginal clients.
- **d)** Provision of **Nicotine Replacement Therapy** (NRT) when clinically indicated. Women unable to quit and assessed as being nicotine dependent are offered free NRT. It is preferred that the 12 weeks supply of NRT available is provided in small quantities (2-4 weeks) at a time. NRT is administered either directly under local NRT protocols or via the QFNL voucher scheme for redemption at a pharmacy.

e) **Extended cessation support and follow-up** offered to all smokers. This support is more intensive than brief advice. The cessation care provider and format of the extended cessation support and follow-up is determined by each LHD.

f) **Self-help information pamphlets** provided to women as part of brief advice and at follow-up. Pamphlets cover information on: why your baby needs you to quit; how to quit; staying smoke free; how to protect your baby from passive smoking; and how to support mum to quit and stay quit.

g) **Support for household members**. The above interventions (a-f) are also offered to household members who smoke.

h) **Postnatal smoking cessation care** is provided by AMIHS staff until women are referred to a BSF postnatal service around 6 weeks postpartum. All women attending BSF have their smoking status assessed and smokers and recent quitters are offered the QFNL interventions. For those already receiving QFNL cessation support from the Quitline, provision of NRT and extended follow-up care by a local provider continues for at least 3 months postpartum and longer if required.

2) Provision of support for practice change strategies for service providers

a) Implementation or modification of relevant **policies and procedures** to support long-term sustainability of the QFNL model of care. Resources were provided to LHDs to be tailored to local needs and circumstances. This included brief intervention forms, referral pathways, monitoring systems, protocols for the provision of NRT, consumer brochures and promotional material

b) Delivery of **smoking cessation training** to relevant staff members. A state-wide training module was developed to train all AMIHS and BSF staff and other relevant staff involved in QFNL. A state-wide Tobacco Cessation trainer facilitates the training workshop which runs over a full day (6 hrs). Training sessions are run as required by the LHD. Training incorporates information about smoking and quitting, what QFNL is and why it is important, specifics of the QFNL interventions and strategies to use to talk to women about smoking. There is time available for LHDs to talk about how QFNL will work in their LHD. The training is aimed at giving staff knowledge, skills and confidence to have discussions with women about smoking and quitting.

c) **Data collection and monitoring**. Monitoring data is routinely collected and recorded in ObstetriX in most LHDs and in Cerner in SLHD and SWSLHD, with additional measures reported by LHDs each quarter. Service measures for QFNL have been included within service agreements between the NSW Ministry of Health and participating LHDs. The current targets (2016/17) are set for the proportion of pregnant women who identify as having an Aboriginal baby, report smoking and attend a service implementing QFNL who are:

i) Referred to the Quitline (Target of 65%);

ii) Provided with NRT, if clinically appropriate (Target of 65%); or

iii) Booked in for follow-up smoking cessation care (Target of 65%).

NSW Ministry of Health Planning for QFNL

Prior to QFNL being rolled out, the NSW Ministry of Health developed manuals and procedural documents detailing: What QFNL is; the evidence base for the interventions; the model of care; how it should be implemented; and performance expectations. LHDs then developed their own delivery models and submitted these along with a funding application to the NSW Ministry of Health for approval. Further preparation by the NSW Ministry of Health surrounded NRT protocols, data reporting systems and forms, compiling a QFNL handbook and developing the training material.

Phased Implementation of QFNL

The implementation of QFNL occurred in 3 phases across NSW. LHDs in phase 1 commenced implementation from January 2013, LHDs in phase 2 from August 2013, and LHDs in phase 3 from January 2014. Six LHDs commenced implementation of QFNL at all participating services at the one time, whereas six LHDs rolled out QFNL across services in additional stages. Table 1 shows the date QFNL commenced in each LHD, the number of services implementing QFNL and the type of rollout. Appendix A contains the full list of all the services implementing QFNL and the date that implementation commenced at the service.

Table 1: Summary of the phased roll out of QFNL including the date QFNL initially commenced in each LHD.

LHD	Phase	Date QFNL commenced	Number of services implementing QFNL	Type of roll out
CC	1	Sep-13	3	Same date
HNE	1	Aug-13	12	Staged
IS	1	Jan-13	4	Same date
NBM	1	Oct-13	3	Same date
WS	1	Nov-13	4	Staged
MNC	2	Jan-14	5	Same date
NNSW	2	Oct-13	16	Same date
SWS	2	Mar-14	5	Staged
SYD	2	Oct-14	1	Same date
WNSW	2	Jan-15	9	Staged
MUR	3	Jun-14	4	2 phases
SES	3	Jul-14	2	2 phases
SNSW	3	Aug-14	2	2 phases

Source: Centre for Population Health, NSW Ministry of Health Data and QFNL coordinators. Current as of December 2015

Chapter 2:
Overview of Quit for new life Evaluation

Evaluation of Quit for new life

Additional funding has been committed by the NSW Ministry of Health to evaluate the implementation of QFNL. The purpose of the QFNL evaluation is to describe the implementation of QFNL in participating services and measure the impact of the initiative on smoking cessation rates among eligible women.

The QFNL evaluation is being co-ordinated by the Centre for Epidemiology and Evidence in collaboration with the Centre for Population Health. The University of Newcastle was engaged in February 2015 via competitive tender process to undertake the evaluation. The Evaluation is overseen by an Evaluation Advisory Committee – which includes representatives of several Aboriginal community-controlled organisations, including the Aboriginal Health and Medical Research Council of NSW – and an Evaluation Project Group. The Evaluation framework was devised by these two groups and refined by the University of Newcastle evaluation team.

Evaluation Aims

The aims of the QFNL evaluation are to:

1. Describe how QFNL has 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 pregnant mothers of Aboriginal babies in NSW who smoke;
4. Measure the **uptake** of core QFNL interventions (NRT, Quitline and follow-up support) amongst QFNL participants;
5. Measure the **impact** of QFNL on smoking cessation rates amongst pregnant mothers of Aboriginal babies and their household members;

Data Sources

The evaluation uses a mixed methods design, drawing information from both existing and new data sources. The evaluation is comprised of the following three components:

COMPONENT 1) ABORIGINAL MATERNAL AND INFANT HEALTH SERVICE DATA COLLECTION (AMDC) ANALYSIS: An analysis of routinely collected administrative data to determine the reach of QFNL, uptake of core QFNL interventions and impact of QFNL on smoking cessation rates among participants.

COMPONENT 2) REVIEW OF PROGRAM MONITORING DATA: An analysis of the following routinely collected program monitoring data to describe the uptake and delivery of QFNL:

2A. Staff training records. Information about the number and type of staff trained in each LHD collected by LHDs on training workshop sign in sheets.

2B. QFNL client numbers. The number of clients (pregnant, postnatal and cohabitants) accepting a core QFNL intervention reported by each LHD.

2C. NRT provision data. Collected by i) LHDs providing NRT directly to QFNL clients and ii) the NSW pharmacy guild where NRT is provided by voucher.

2D. Quitline delivery data. Details provided by Quitline on the number and outcome of calls made to clients referred by QFNL.

COMPONENT 3) INTERVIEWS WITH STAKEHOLDERS: The conduct of semi-structured interviews with QFNL coordinators in each LHD and other key stakeholders to collect information about how QFNL has been implemented and accepted in participating services.

Figure 1 shows how each of the above 3 components will address the Evaluation aims.

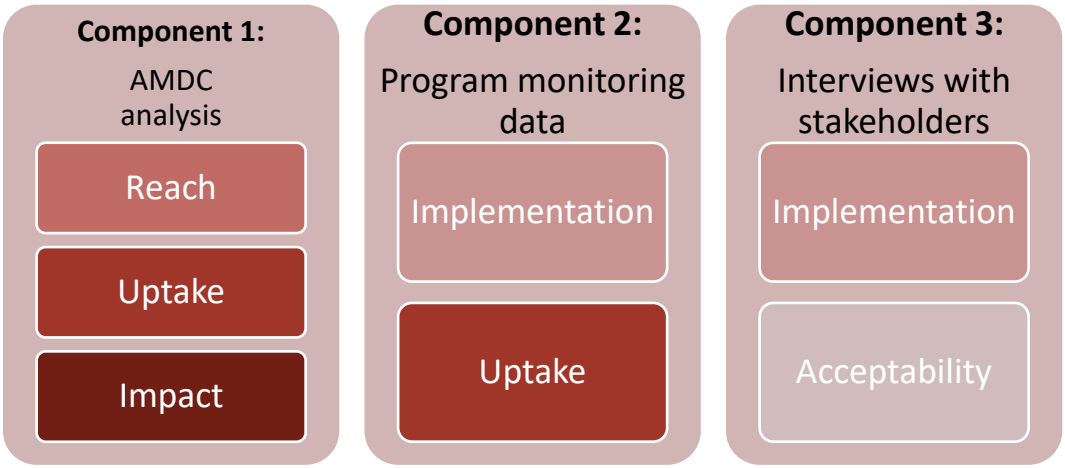

Figure 1: The three evaluation components which will inform each of the aims of the QFNL evaluation.

Scope of Evaluation

Data included in Evaluation reports

Two reports will be prepared for the evaluation of QFNL.

The Phase 1 evaluation report includes:

i) Analysis of AMDC data for babies born between July 2012-June 2015 (Component 1)

ii) Analysis of program monitoring data from January 2013-March 2015 (Component 2)

iii) Interviews with QFNL coordinators and key stakeholders conducted from September 2015-January 2016 (Component 3)

Phase 2 of the evaluation will use a case study analysis approach. It will describe promising implementation models in detail, and explore client perspectives of QFNL.

LHDs included in the Evaluation

The evaluation includes data from the following thirteen LHDs:

- Central Coast (CC)
- Hunter New England (HNE)
- Illawarra Shoalhaven (IS)
- Mid North Coast (MNC)
- Murrumbidgee (MUR)
- Nepean Blue Mountains (NBM)
- Northern New South Wales (NNSW)
- South Eastern Sydney (SES)
- Southern New South Wales (SNSW)
- South Western Sydney (SWS)
- Sydney (SYD)
- Western Sydney (WS)
- Western New South Wales (WNSW)

Northern Sydney (NS) LHD is not implementing QFNL and is not included in any evaluation results. Far West LHD (FW) was offering QFNL for a short period and then withdrew from the program. No data is presented for this LHD.

South Western Sydney (SWS) and Sydney (SYD) LHDs use a different patient information system to other LHDs in NSW. During the study period, the system used in SWS and SYD (Cerner) did not contribute birth records to the AMDC. Therefore, births occurring in these LHDs were not included in the analysis of the AMDC data (Component 1).

Ethics Approval

The evaluation protocols were approved by the Aboriginal Health and Medical Research Council Ethics Committee (protocol number 1029/14) on 7/10/2014. An amendment to the protocol was approved on 28/7/2015. The evaluation was also approved by the NSW Population & Health Services Research Ethics Committee (HREC/14/CIPHS/46) on 17/2/2015 with the amendment approved on 30/6/2015. The protocol was registered with the University of Newcastle Human Research Ethics Committee (H-2015-0124) who granted approval including amendments on 17th August 2015.

Chapter 3: Evaluation Components and Methodology

The following sections outline in detail the methodology used for each of the components included in this report. The aims, data source and analysis methods for each component are presented.

Component 1) Aboriginal Maternal and Infant Health Service Data Collection Analysis Methodology

1.1 Aims

The AMDC holds records of all births in NSW for which the baby or the baby's mother is recorded as Aboriginal. The AMDC was interrogated to:

i) Assess the proportion of smoking mothers of Aboriginal babies who received QFNL (Aim 3);

ii) Describe the uptake of core QFNL interventions (NRT, Quitline and follow-up support) amongst smoking mothers of Aboriginal babies (Aim 4); and

iii) Assess the impact of QFNL on smoking cessation rates among mothers of Aboriginal babies (Aim 5)

1.2 Study Design

A retrospective non-randomised cohort design was used to compare the characteristics and smoking cessation rates of women who attended a QFNL service post-QFNL implementation (received QFNL) with those who attended a QFNL service pre-QFNL implementation (did not receive QFNL).

1.3 Sampling frame

Records were provided for all babies identified as Aboriginal born in NSW between July 2012 and June 2015.

1.4 Data source

The AMDC holds records of all births in NSW for which the baby or the baby's mother is recorded as an Aboriginal person. Data are available from 2012 onwards. AMDC records contain information that is routinely collected during antenatal care and recorded in a

patient information management system, typically by midwives and other maternity service staff. At the time of data collection, ObstetriX was the main system used by LHDs in NSW, although Cerner was used in two LHDs (SWS and SYD). Records include fields describing: the socio-demographic characteristics of the mother and baby; the health outcomes and health behaviours (including health seeking behaviours) of the mother during the antenatal period; whether the mother attended an AMIHS service; the nature of the labour and the delivery; the condition of the infant; and health procedures provided to the infant postpartum. Table 2 shows the AMDC data items provided for the evaluation of QFNL.

The AMDC contains four items related to smoking in pregnancy. The items relating to smoking in the first half of pregnancy are collected at the first antenatal care appointment. Women are asked "*Are you a smoker?"* and if yes "*How many cigarettes do you smoke per day*. Women who present for labour are asked "*Have you smoked any time during pregnancy?* If yes "*Have you smoked during the second half of pregnancy?"* and then "*How many cigarettes per day are you smoking now?"* Women who report that they usually smoked less than one cigarette per day are recorded as occasional smokers.

The AMDC contains items relating to attendance at AMIHS, including: service attended; LHD of service; and date AMIHS referral was accepted. AMDC records also include information on the core QFNL interventions (NRT, Quitline and follow-up support) that are taken up by eligible women (records do not include information on interventions that are offered to smoking women but declined). These data were recorded in ObstetriX in a 'free text' field.

Table 2: Aboriginal Maternal and Infant Health Service Data Collection items provided for the evaluation.

AMDC Variables	
• LHD of residence • Maternal age • Aboriginal status of mother • LHD of birthing hospital • Baby month and year of birth • Aboriginal status of baby • Was antenatal care received • Model of antenatal care received • Duration of pregnancy at first booking/assessment • Number of visits prior to birth • Early Childhood Health Centre (ECHS) attended before discharge from AMIHS • Name of ECHS attended	• Woman offered AMIHS • Date AMIHS service was accepted • Name of AMIHS service referred to • LHD of AMIHS • AMIHS discharge status – mother • Date mother discharged from AMIHS • Non-AMIHS QFNL service attended • Smoking during first half pregnancy • Number of cigarettes smoked each day during first half of pregnancy • Smoking during second half of pregnancy • Number of cigarettes smoked each day in the second half of pregnancy • Extracted textbox entry – Quitline referral – NRT provided – Follow-up appointment made

Source: Centre for Epidemiology and Evidence, NSW Ministry of Health.

Data Exclusions

The NSW Ministry of Health supplied cleaned de-identified data to the evaluation team for analysis. In the case of multiple births (e.g. twins) just one record was retained in the sample. However, subsequent births were retained. Therefore, some mothers appear in the dataset on multiple occasions. These cases could not be identified and therefore could not be accounted for in the analysis.

SWS and SYD LHDs are not included in the analysis because, during the study period, the maternity patient information system used in these LHDs (Cerner) did not contribute birth data to the AMDC. Records for mothers attending an AMIHS or birthing at a hospital in FW were excluded as this LHD implemented QFNL for a limited time. Records for babies born at a hospital in NS LHD were also excluded as this LHD was not implementing QFNL.

Women who indicated they did not smoke in the first half of pregnancy were excluded as not being the target audience for QFNL. Similarly those who did not receive any antenatal care are not included in the analysis to allow comparison between the intervention and usual care.

1.5 Variable definitions

The following variables were defined for the analysis of the AMDC data:

Smoking cessation: A woman was considered to have ceased smoking during pregnancy if she was recorded as smoking in the first half of pregnancy (<20wks) but not in the second half of pregnancy (>20wks).

Date of first antenatal care visit: For all women included in the dataset, the date of first antenatal care visit was calculated from the baby's date of birth, gestational age at birth, and gestational age at first antenatal visit:

Baby's date of birth – gestational age at birth + gestational age at first antenatal care visit

This is an approximation of the first antenatal care visit date rather than the exact value which was not available.

LHD of service: The LHD of service attended was used to present results by LHD. For those receiving antenatal care at an AMIHS the LHD of the AMIHS was used. For those attending a non-AMIHS service, the LHD of the hospital of birth was used.

QFNL services: Antenatal care services identified as implementing QFNL. Several different types of services were included in the analysis (See Appendix A for the full list of services):

a) AMIHS services (45 services). For each woman in the AMDC attending an AMIHS service for antenatal care the service was identified by AMIHS code.
b) Non-AMIHS hospital-based antenatal care units implementing QFNL (14 services). Since the service attended for antenatal care was only identified for those attending an AMIHS service an assumption was made that women received antenatal care at a specific hospital-based antenatal care service if their baby was born at that hospital and the model of antenatal care they received was recorded as hospital-based.

Non-QFNL service: Antenatal care services not implementing QFNL or where clients could not be identified in the dataset. This included

a) Non-AMIHS hospital based services not implementing QFNL.
b) Other non-AMIHS antenatal care services: Attendance at these services is not recorded in the AMDC therefore women attending those services running QFNL (3 services) could not be identified.

Attended QFNL service post-QFNL implementation: Eligible women potentially received QFNL if they attended a QFNL service where QFNL implementation had commenced prior to the baby's birth date. This definition assumes all eligible women attending the service could start receiving QFNL at any time during their pregnancy.

Did not receive QFNL: An eligible woman was considered not to have received QFNL if she attended i) an antenatal service which was not a QFNL service; or ii) a QFNL service where QFNL implementation had not commenced at the time of the baby's birth.

1.6 Data Analysis

All analyses were conducted using SAS Version 9.42 (SAS Institute Inc., Cary NC, USA). For each of the three analyses (reach, uptake and impact of QFNL) descriptive statistics are presented for NSW in total and separately by LHD of service (using LHD of AMIHS or hospital of birth if AMIHS not attended). For the analysis of program reach and uptake of core QFNL interventions, results are also presented by year (July 2012-June 2013, July 2013-June 2014, July 2014-June 2015).

Reach of QFNL to eligible women (Aim 3)

The reach of QFNL was estimated as:

Numerator	Denominator
• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; • Attended antenatal care; and • **Attended QFNL service post-QFNL implementation**	• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; and • Attended antenatal care

Factors associated with reach were explored using a generalized linear model, where the outcome was whether the woman attended a QFNL service post-QFNL implementation (potentially received QFNL) or not (did not receive QFNL). Independent variables included: Aboriginal status of mother, maternal age, socio-economic status (based on SEIFA of residential area) and number of antenatal care visits. The model was also adjusted for LHD of service and year of baby's birth. Results are presented as odds ratios with accompanying p-values and 95% confidence intervals (CIs) adjusted using empirical (robust sandwich) standard errors.

Uptake of core QFNL interventions (Aim 4)

Eligible women who attended a QFNL service post-QFNL implementation were considered to have taken up a core QFNL intervention if they did any of the following:

i) Took a voucher for NRT or received NRT directly;

ii) Agreed to a referral being sent to Quitline; or
iii) Agreed to receive follow-up support.

This data was entered into a textbox in ObstetriX and was interpreted according to the rules in Table 3. Cases where the intervention taken up was not specified were also included in the count of women taking up an intervention. More than one intervention may be taken up by the women.

Table 3: Rules used to define QFNL uptake from data entered into the Textbox field in ObstetriX.

Textbox entry	Coded as*
Any descriptions of NRT: *e.g. NRT, nicotine replacement, lozenge, inhaler*	QFNL, NRT
Any descriptions of referral or follow-up: E.g. *follow-up, quit referral, QFNL advisor, referred for QFNL, counselling, quit smoking clinic, AMIHS D&A for smoking cessation support.*	QFNL, follow-up
Any description of telephone based support line *e.g. Quitline, hotline*	QFNL, Quitline
If intervention refused: e.g. *QFNL offered and declined, NRT refused*	No
If intervention offered, with no indication of whether taken up or refused: e.g. *NRT offered*	QFNL, intervention name
General description of QFNL, e.g. *QFNL, quit program, smoking cessation, QUIT*	QFNL

* The intervention taken up is named where possible otherwise only the QFNL code is used.

The uptake of core QFNL interventions among eligible women attending a QFNL service post-QFNL implementation was calculated as:

Numerator	Denominator
• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; • Attended antenatal care; • Attended QFNL service post-QFNL implementation; and • **Took up a core QFNL intervention**	• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; • Attended antenatal care; and • Attended QFNL service post-QFNL implementation

Uptake is also presented separately for each of the 3 interventions (NRT, Quitline and follow-up support). A series of logic checks were done on the data, and those who were found to have taken up a core QFNL intervention but did not attend a QFNL service post-QFNL implementation, were considered to not have taken up QFNL. Appendix B shows the cases where this occurred. For the calculations of uptake and impact these women were recoded as not taking up a core QFNL intervention.

Factors associated with uptake of the core QFNL interventions were explored using a generalised linear model. The outcome variable was whether those who attended a QFNL

service post-QFNL implementation took up a core QFNL intervention or not. The model was adjusted for LHD of service and year of baby's birth. Independent variables included: Aboriginal status of mother, maternal age, socioeconomic status and number of antenatal care visits. Results are presented as odds ratios with accompanying p-values and 95% CIs adjusted using empirical (robust sandwich) standard errors.

Impact of QFNL on smoking cessation rates (Aim 5)

Smoking cessation rates were compared in women attending a QFNL service (AMIHS services and non-AMIHS hospital-based antenatal care services implementing QFNL) pre-QFNL implementation (Control group) and post- QFNL implementation (intervention Group). This approach was taken since potentially confounding factors such as education and employment were not available for individuals in the dataset. Socio-economic status could be calculated from postcode using Australian Bureau of Statistics SEIFA data, however this is not individual level data.Therefore, differences in these factors between women attending different service types could not be controlled for. Limiting the analysis to QFNL services meant that each service acted as its own control, therefore limiting the effect of these potential biases. Cessation rates are also presented for those attending non-QFNL services to allow a population level understanding of cessation over time in a group not impacted by QFNL.

The impact of QFNL on smoking cessation was defined in two ways:

1) The impact on those receiving QFNL:

Intervention Group	Control Group
Numerator	**Numerator**
• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; • Attended QFNL service; • **Attended post-QFNL implementation**; and • Did not smoke in the second half of pregnancy	• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; • Attended QFNL service; • **Attended pre-QFNL implementation**; and • Did not smoke in the second half of pregnancy
Denominator	**Denominator**
• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; • Attended QFNL service; • **Attended post-QFNL implementation**	• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; • Attended QFNL service; • **Attended pre-QFNL implementation**

2) The impact on those taking up a core QFNL intervention

Intervention Group	Control Group
Numerator	**Numerator**
• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; • Attended QFNL service post-QFNL implementation; • **Took up a core QFNL intervention;** and • Did not smoke in the second half of pregnancy	• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; • Attended QFNL service post-QFNL implementation; • **Did not take up a core QFNL intervention**; and • Did not smoke in the second half of pregnancy
Denominator	**Denominator**
• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; • Attended QFNL service post-QFNL implementation; and • **Took up a core QFNL intervention**	• Number of mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy; • Attended QFNL service post-QFNL implementation; and • **Did not take up a core QFNL intervention**

A generalized linear model was used to determine the impact of QFNL on smoking cessation, taking into account any confounders. The model was fit using the logit link and binomial distribution. The outcome in the model was smoking cessation and the main independent variable of interest, was whether the woman attended a QFNL service pre-QFNL implementation or post. This was included in the model as a fixed effect, together with LHD of service and year of baby's birth and any potentially confounding variables (Aboriginal status of mother, maternal age, socioeconomic status and number of antenatal care visits). The model was also conducted with whether or not the participant took up a core QFNL intervention as the main independent variable. Results are presented as odds ratios with accompanying p-values and 95%CIs adjusted using empirical (robust sandwich) standard errors.

Amount smoked

To examine whether mothers of Aboriginal babies are **cutting down on smoking** under QFNL we have also repeated the above analysis using the change in number of cigarettes smoked from the first to the second half of pregnancy as the outcome. The number of cigarettes smoked per day is recorded in the AMDC for the first and second half of

pregnancy. Five percent of smokers in the AMDC are recorded as occasional smokers. These women smoke less than 1 cigarette a day and may smoke less than 1 per month[20]. A value of 0.05 cigarettes smoked per day was given to these cases. Those who ceased smoking were included in the sample with the amount smoked in the second half of pregnancy equal to 0.

Sensitivity analysis

Since the definition of ceasing smoking is whether women ceased prior to the second half of pregnancy a **sensitivity analysis** was conducted to account for those who did not receive antenatal care in the first half of pregnancy and, therefore, would not have the opportunity to receive QFNL and quit smoking prior to the second half of pregnancy. This analysis excluded those who: i) did not receive antenatal care prior to 20 weeks gestation; and ii) were part way through their antenatal care when QFNL commenced at the service (i.e. baby's birth date was post-QFNL implementation but first antenatal care visit was pre-QFNL implementation). The above analysis of impact of accepting QFNL on smoking in the second half of pregnancy was repeated on the reduced sample.

Smoking cessation over time

A secondary analysis was conducted considering the data for those attending a QFNL service in an interrupted time series design. Segmented logistic regression was used to examine the change in the 6-monthly trend from pre- QFNL implementation to post-QFNL implementation, in the proportion of eligible women who were recorded as smoking in the second half of pregnancy. The data included in the analysis were restricted to 2 years either side of the intervention and were divided into 6 monthly intervals based on the date of birth of the baby. The outcome is in the form of events/trials, with those smoking in the second half of pregnancy as the events and the total number of women attending a QFNL service across NSW at that point in time as the trials. Time was included as a fixed effect in the model (presented as 6 monthly increments), along with the Period (0=Pre intervention, 1=Post Intervention), increasing time post-intervention and the LHD of service. Lack of independence in the time series data was accounted for by specifying an autoregressive (ar(1)) residual correlation matrix.

Smoking cessation in non-QFNL services

The rate of smoking cessation in mothers of Aboriginal babies not attending a QFNL service was examined to provide an understanding of population level cessation in a group not affected by QFNL. Cessation rates in each LHD and the overall trend over the study period (July 2012-June 2015) are presented. These results are not directly comparable to those for women attending a QFNL service due to potentially confounding biases which could not be controlled for.

Component 2) Program Monitoring Data Methodology

Component 2 has four parts detailed below: A) Staff training records; B) NRT provision data; C) Quitline delivery data and D) QFNL client numbers. Data were provided for the period January 2013 to March 2015.

2A: Staff Training Records

2A.1 Aims

To describe how QFNL was implemented across LHDs (Aim 1) in terms of training of staff in QFNL.

2A.2 Data Source

QFNL smoking cessation training is provided by a state-wide tobacco cessation trainer as needed in each LHD. The job title and organisation of all staff attending the training workshops are recorded on a sign-in sheet. Sign-in sheets were provided from the first training workshop in January 2013 until March 2015.

2A.3 Data Analysis

The number of training sessions held, the number of staff receiving smoking cessation training, the service types represented and a summary of the roles of staff attending training are presented for each LHD and NSW as a whole.

2B: Client Numbers Maintained by LHDs

2B.1 Aims

To measure uptake of core QFNL interventions amongst QFNL participants (Aim 4) as reported by LHDs.

2B.2 Data Source

Each quarter LHDs report client numbers (new and existing) to the Centre for Population Health, NSW Ministry of Health. This data is separate to that entered into ObstetriX or Cerner and may come from smoking care advisor records, separately maintained client databases or interrogation of client files. The data reported includes counts of all pregnant and postnatal women and their cohabitants who took up one or more of the core QFNL interventions during the reporting period. Details are reported on the number of new clients and number of existing clients using the form displayed in Box 1.

2B.3 Data Analysis

Numbers of pregnant, postnatal and cohabitant clients accepting a core QFNL intervention are presented for each LHD and NSW as a whole for each quarter. The distribution across LHDs is presented as the number of clients in an LHD compared to the total number of clients across all LHDs. A comparison was made between the number of clients provided by LHDs using the template shown in Box 2 and the number recorded in the AMDC (Component 1).

Box 1: Table used by LHDs to report client numbers each quarter

New QFNL clients seen in this period			
	Pregnant	Postnatal	Cohabitant
Number of new clients			
Continuing QFNL clients (reported previously and still being supported to quit by the service)			
	Pregnant	Postnatal	Cohabitant
Number of existing clients			
Combined total number of clients (new and existing)			

2C: NRT Provision Data

2C.1 Aims

To measure the uptake of core QFNL interventions amongst QFNL participants (Aim 4) and provide additional information about NRT provision.

2C.2 Data Source

Through the QFNL initiative, NRT is available to women and household members for whom it is clinically appropriate. NRT is administered either i) directly under local NRT protocols or ii) via the QFNL voucher scheme (for redemption at a pharmacy).

i) **Direct supply of NRT** through QFNL service
Each quarter the LHDs that have elected to provide some or all NRT directly to clients are asked to report on items for both pregnant/postnatal clients and cohabitants as follows:

i) Number of occasions NRT was provided
ii) Number of weeks NRT provided
iii) Type of NRT provided (Oral or Patch)

The template used to record the NRT direct provision data is provided in Box 2.

ii) **Voucher system** for the supply of NRT to QFNL clients through pharmacies.
The NSW Pharmacy Guild provides data to the Centre for Population Health each quarter for each voucher redeemed:

i) Recipient of the voucher (Pregnant/postnatal woman or cohabitant)
ii) LHD providing the voucher
iii) Number of weeks of NRT provided
iv) Type of NRT provided (oral or patch)
v) Cost

2C.3 Data Analysis

For each method of NRT provision we collated:

i) The number of times NRT was provided
ii) The total number of weeks of NRT provided
iii) The proportion of NRT provided in oral form.
iv) The cost of NRT provided via voucher.

Data is presented each quarter by LHD separately for pregnant/postnatal clients and cohabitants.

Data related to NRT provided directly by LHDs as part of Quit for new life

LHD:

Reporting Quarter:

Reporting period:	Number of occasions when NRT was provided to recipients		Resulting number of weeks of NRT provided		Type of NRT provided – (for occasions when NRT given to pregnant/postnatal clients)		Type of NRT provided – (for occasions when NRT given to cohabitant clients)	
	Pregnant/ Postnatal women	Cohabitants	Pregnant/ Postnatal women	Cohabitants	Oral	Patch	Oral	Patch
Sub -Total								
Total	**occasions**		**weeks NRT provided**					

Box 2: Template for recording Direct NRT provision

2D: Quitline Usage

2D.1 Aims

To measure the uptake of core QFNL interventions amongst QFNL participants (Aim 4) and provide additional information about Quitline referral, usage and factors associated with accepting Quitline calls.

2D.2 Data Source

The Quitline usage data were provided directly by the Quitline service. Referrals to Quitline are faxed to Quitline noting that the client is a QFNL participant. For each referral received by Quitline, the following variables were provided:

i) Whether successful phone contact was made with the client.
ii) Whether the client accepted call backs (further calls).
iii) The date of initiation of calls.
iv) The age, gender and LHD of the client.
v) LHD of service making the referral.
vi) Whether the client is pregnant, postnatal or cohabitant. Some data is missing for this field.

2D.3 Data Analysis

Descriptive statistics on the number of Quitline calls to QFNL clients and the proportion of those calls that were accepted are presented for each LHD and for NSW as a whole for each quarter.

Factors associated with the uptake of Quitline were assessed using logistic regression. The factors included in the model were: age, gender, Aboriginal status, client type (pregnant/postnatal/cohabitant) and Local Health District. For this model several LHDs which had limited client numbers using Quitline were merged with nearby LHDs. This included MNC (added to NNSW); SES (added to SWS) and MUR (added to SNSW).

Component 3) Stakeholder Interviews Methodology

3.1 Aims

Semi-structured interviews with stakeholders including QFNL coordinators and key stakeholders were conducted to:

i) Describe how QFNL was implemented within participating services (Aim 1)
ii) Compare the various models of care between LHDs (Aim 1).
iii) Provide information about changes to systems/policies/processes to facilitate the implementation and long term sustainability of QFNL (Aim 1)
iv) Investigate the acceptability of QFNL (Aim 2) by asking which components of QFNL were considered the most/least useful.
v) Better understand the reach of QFNL (Aim 3) through investigating which services are providing QFNL.

3.2 Study Design

Qualitative data collected by in-depth semi-structured interviews were thematically analysed to answer the evaluation questions.

3.3 Method

Sample

A list of QFNL coordinators and key stakeholders to interview was provided to the evaluation team by the Evaluation Advisory Group. The list comprised one to three contacts for each of the thirteen LHDs in NSW implementing QFNL along with the names of eight key stakeholders. The latter included representatives of the Office of Kids and Families, the Aboriginal Health & Medical Research Council, Quitline, and the NSW Ministry of Health.

Recruitment

Thirty potential interviewees were sent an email from L/Prof Rob Sanson-Fisher outlining the purpose of the evaluation, inviting them to participate in the study and asking those who were interested in participating for a preferred date and time for the interview to take place. If the potential interviewee did not respond within one week of the email being sent,

a follow-up telephone call was made by a Research Assistant. If an out-of-office reply was received the email was resent upon the recipients return. Where more than one person was listed as the representative of an LHD or organisation the interview was conducted as a joint interview unless this could not be arranged or individual interviews were preferred.

Completion of interviews

Interviews took place by telephone unless a face-to-face interview was requested. All interviews were conducted by a member of the evaluation team (Dr Emilie Cameron). Where possible a note taker (Mr Justin Walsh) was also present at the interview. The interviews were audio recorded with permission sought prior to the commencement of the interview. Interviews were conducted between September 2015 and January 2016.

A semi-structured interview guide was used to structure each interview (Appendix C). The guide contained a different set of questions for interviews with QFNL coordinators, LHD health promotion managers, and other key stakeholders. All QFNL coordinators were asked the same questions. The questions were tailored for the key stakeholders dependent on the position and role of the interviewee. The questions were sent to the interviewee upon setting a time for the interview.

3.4 Data Analysis

To enable thematic content analysis a detailed summary table (Appendix D) was completed by a member of the evaluation team (Dr Emilie Cameron or Mr Justin Walsh) immediately following each interview using the notes and audio-recordings for reference. Summaries included a condensed version of what was said coded under themes aligning with the interview schedule often using the interviewees own wording. Additional themes that emerged during the interview process were also thematically coded. Participant validation was sought by emailing completed summaries to each interviewee with a request for any changes to be made to the document. Changes were incorporated into the final summaries. For each coded theme, data in the summary tables was exported to a centralised table or spreadsheet to allow for direct comparison between LHD's. Illustrative statements were taken from the edited summaries to enhance the qualitative analysis. These may not always appear verbatim.

3.5 Stakeholder Interviews conducted

Of the 30 stakeholders invited to take part in the evaluation, 28 accepted the offer. The additional two were not available to take part in a joint interview but provided notes and comments on the interview summary. A total of 21 telephone or face-to-face interviews were conducted between 11/9/2015 and 19/1/2016. Fourteen interviews were conducted with a single interviewee, and seven interviews involved two interviewees. Participants included:

i) QFNL coordinators in all 13 LHDs implementing QFNL
ii) The state-wide QFNL coordinator and trainer
iii) Five smoking care advisors
iv) Three Health Promotion Managers
v) Representatives from five state-wide organisations involved with QFNL.

All participants agreed to their interview being audio-recorded to assist the interviewers in summarising all data. The duration of interviews ranged from 30 to 90 minutes.

Table 4 outlines the interviews conducted with QFNL coordinators and other stakeholders, their LHD or organisation, the date of the interview, interview method and number of staff who participated in the interview. The interviews ranged from 20 to 90 mins in length.

Table 4: Summary of stakeholder interviews conducted for the QFNL evaluation (n=21)

Interview date	Interview mode	LHD or organisation	Number of interviewees	Interview type
11/09/2015	Face-to-face	NSW Ministry of Health	1	Other stakeholders (State-wide coordinator)
16/09/2015	Telephone	MNC	2	Coordinators
16/09/2015	Telephone	NNSW	2	Coordinators
23/09/2015	Telephone	NBM	1	Coordinators
29/09/2015	Telephone	IS	1	Coordinators
29/09/2015	Telephone	SNSW	1	Coordinators
29/09/2015	Face-to-face	WS	2	Coordinators
6/10/2015	Telephone	CC	2	Coordinators
6/10/2015	Telephone	MUR	1	Coordinators
7/10/2015	Face-to-face	HNE	2	Coordinators
7/10/2015	Telephone	SWS	1	Coordinators
7/10/2015	Telephone	SYD	2	Coordinators
14/10/2015	Telephone	WNSW	1	Coordinators
28/10/2015	Telephone	SES	2	Coordinators
4/11/2015	Telephone	Office of Kids and Families	1	Other stakeholders
11/11/2015	Telephone	AH&MRC	1	Other stakeholders
24/11/2015	Telephone	NSW Ministry of Health	1	Other stakeholders(State-wide trainer)
9/12/2015	Telephone	Quitline	1	Other stakeholders
9/12/2015	Telephone	Quitline	1	Other stakeholders
9/12/2015	Telephone	HNE	1	Health promotion manager
19/01/2016	Face-to-face	NSW Ministry of Health	1	Other stakeholders

Chapter 4:
Evaluation Findings

Presentation of Evaluation Results

Evaluation results are presented as they inform the evaluation aims. A diagram showing the relationship between the five aims and three evaluation components is below (Figure 2).

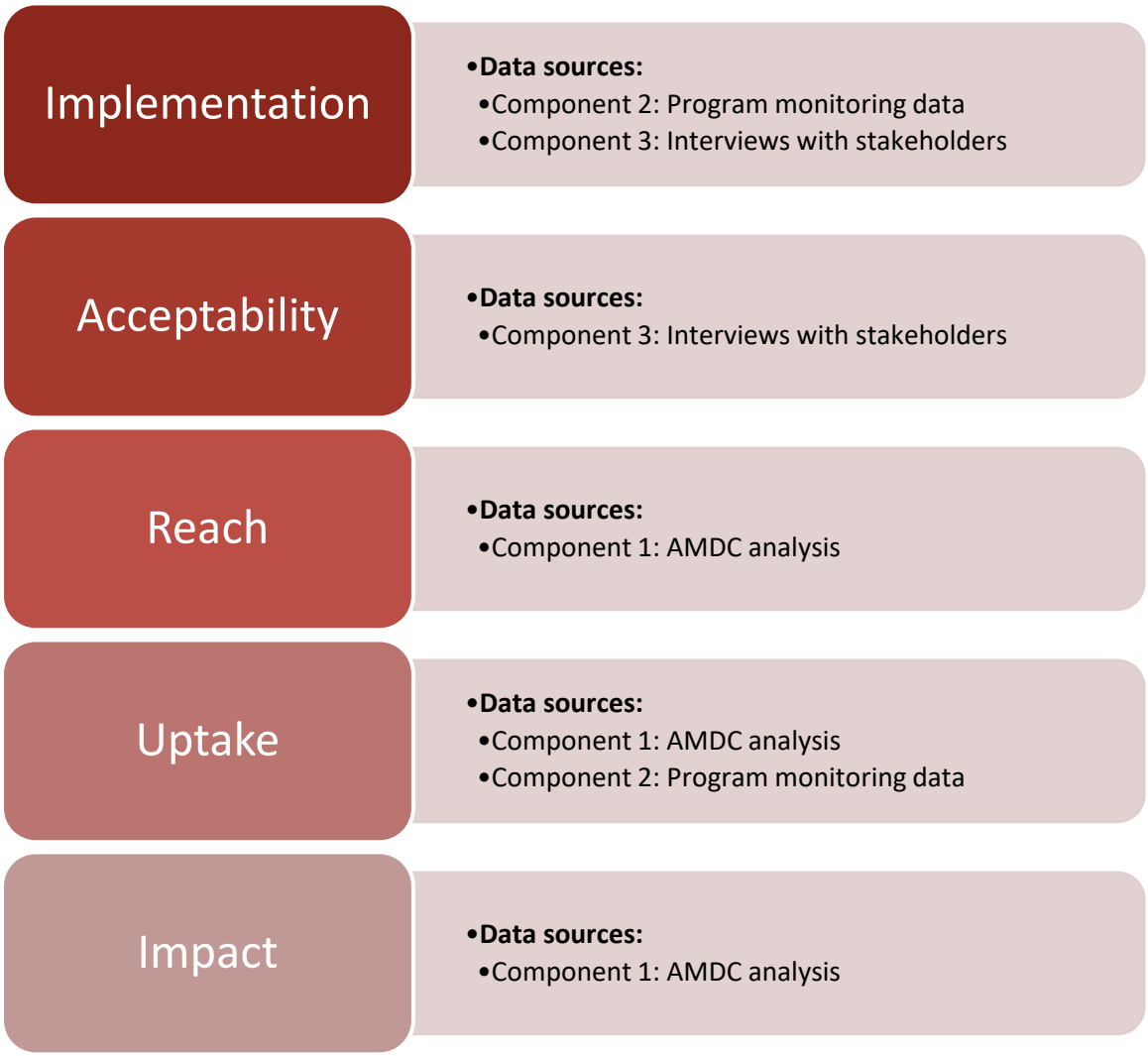

Figure 2: Relationship between the five evaluation aims and the three evaluation components.

Aim 1: Implementation of QFNL

Semi-structured interviews with QFNL coordinators and key stakeholders (Component 3) and program monitoring data (Component 2) were used to describe the extent to which QFNL was implemented as intended at the state level and within participating services. The qualitative nature of the interviews means it is only possible to report on what was explicitly stated within the context of each interview. The findings presented here are not intended to be an exhaustive representation of respondents' views on every issue which emerged during the interview process. It is likely that some respondents' views on various issues may not have been captured. Illustrative quotes were taken from interview summaries and are not verbatim.

i) QFNL Coordinator roles (Component 3)

KEY POINT: There is a QFNL coordinator position in each LHD implementing QFNL

All LHDs reported having at least one person in the role of QFNL coordinator. At the time of interview SNSW had no coordinator and the role was filled by the QFNL support worker.

"The role of the QFNL coordinators is to manage the implementation and drive all aspects of the program"

Specific responsibilities of the QFNL coordinators highlighted during interviews included: liaising with the NSW Ministry of Health; data reporting; developing the local delivery model; reviewing policies and procedures to support implementation; staff recruitment; organising training of staff; setting up data recording systems; liaising with clinic staff; reporting to LHD management; and in some cases, providing follow-up care to clients.

A QFNL coordinators' network was set up by the state-wide QFNL coordinator to facilitate the exchange of ideas, progress updates and the raising of issues. The network consists of QFNL coordinators in each LHD implementing QFNL and meets quarterly by teleconference. There is also the capacity for QFNL coordinators to share files and access information via a Popnet page.

ii) Services Implementing QFNL (Component 3)

KEY POINT: QFNL is implemented at 44 AMIHS, 15 postnatal services, 14 hospital based antenatal care services, and 8 other services across 13 LHDs.

A total of 70 services were identified as implementing QFNL across 13 LHDs. QFNL has been implemented mostly through AMIHS (44 sites including 2 Aboriginal Medical Services (AMSs) with an AMIHS midwife) and BSF and New Directions postnatal services (15 sites, 11 co-located with AMIHS). Across the 13 LHDs implementing QFNL just one AMIHS (in SWS) was identified as not yet running QFNL. Fourteen hospital-based antenatal care services across seven LHDs were reported to also implement QFNL and three LHDs implemented QFNL in a community health setting. Table 5 shows the number of services implementing QFNL in each LHD. Note that these numbers can change due to availability of staff at sites

and new services offering QFNL. The number of services offering QFNL varies across LHDs from one site to 16 reflecting the size and number of services in the LHD. The full list of services implementing QFNL is provided in Appendix A.

Table 5: Number of AMIHS, BSF and other services offering QFNL to eligible women. Numbers in () indicate BSF services located with AMIHS.

LHD	Total services offering QFNL	AMIHS services offering QFNL	BSF and New Directions services offering QFNL	Hospital-based antenatal care services offering QFNL	Other services offering QFNL
CC	3	1	(1)	2	
HNE	12	11	1 (6)		
IS	4	2		2	
MNC	5	4*	1		
MUR	4	4	(2)		
NBM	3	1	1	1	
NNSW	16	6		5	5
SES	2	1	1		
SNSW	2	2	(1)		
SWS	5	1		2	2
SYD	1			1	
WNSW	9	9	(1)		
WS	4	2*		1	1
NSW Total	70	44	4 (11)	14	8

Source: Centre for Population Health, NSW Ministry of Health Data and QFNL coordinators. Current as of December 2015

* Includes 1 AMS service employing an AMIHS midwife

Several of the stakeholders interviewed revealed concerns that a large part of the target population is being missed by focusing only on AMIHS and BSF.

"Confining QFNL to AMIHS meant some women are missed and so is not equitable for all Aboriginal pregnant women"

"AMIHS sees significant proportion of pregnant women but not all"

"Lots of potential clients missed in larger towns because they use mainstream services"

As one stakeholder pointed out, there are other settings (non-government) that aren't being utilised for QFNL (e.g. primary health care providers, Aboriginal Medical Services) even though they also provide maternal and child health care services.

"Other services wonder why they can't access the QFNL resources AMIHS are getting"

In seven LHDs, QFNL is also implemented at other maternity services such as hospital based antenatal care units. At least two additional LHDs are planning to implement QFNL in mainstream services to increase reach of QFNL.

"We are working on expanding QFNL to special care nursery and mainstream services to increase reach"

In Western Sydney, after failing to pick up many pregnant women through AMIHS, QFNL was taken to Aboriginal non-government organisations working with families in the community.

"This model has led to the involvement of families rather than just focusing on pregnant women"

iii) QFNL Models Adopted (Component 3)

KEY POINT: Three QFNL models of care were identified:
1) Capacity building model –adopted by one LHD
2) Referral system model –adopted by ten LHDs
3) Direct service provision – adopted by two LHDs

We identified three QFNL models implemented across LHDs: 1) Capacity building model; 2) Referral system and 3) Direct service provision. Within each LHD the model was adopted across antenatal and postnatal care services implementing QFNL. Each model is outlined in detail below.

1) Capacity building model

Under a capacity building model, QFNL is integrated into the role of all existing clinic staff providing care both in antenatal and postnatal services. Clinic staff provide behavioural smoking assessments, offer QFNL interventions and address smoking at every visit with the client. Cessation support is provide during regular appointments with the women, however additional appointments can be booked if extra support is required. An overview of the model is provided in Figure 3.

Figure 3: Overview of care pathway under a Capacity Building model as undertaken by clinic staff

A capacity building model was implemented by just one LHD, Hunter New England. The reported reasons for adopting this model were i) to ensure that the model was sustainable, and ii) that it was impractical to set up a referral system due to the size of the District and the available funding.

"The approach involves investing in existing staff so when the funding period finishes they have the skills needed to provide best practice cessation care as part of routine practice"

In HNE, the model of care utilises the midwife or child and family health nurse (CFHN) and the Aboriginal Health Worker (AHW) attending the client's appointments. As part of usual care for each client, both roles are responsible for talking about smoking. In

general, the AHWs provide most of the behavioural intervention and the midwife or child and family health nurse provide more clinical support, for example, considering the appropriateness of NRT. The involvement of the AHW relieves some of the extra work from clinical staff. Interviewees reported that:

"In practice the division of smoking care is dependent on the staff: member's relationship with the client and opportunity"

The HNE model of care is provided in Appendix E. The focus of the capacity building model is to build the skills and confidence of staff in providing smoking cessation support during appointments. To facilitate this, interviewees reported that several processes have been put in place:

- Two QFNL support officers were employed by the LHD to support implementation of QFNL across services. The individuals in these roles coordinate skills training, provision of resources and NRT to services, data collection and monitoring, and working group meetings.

  "Having support officers is critical to building relationships with staff"

- Staff at each service attended a QFNL training workshop prior to QFNL starting at their service. Following training, staff were consulted by the support officer about any problems they faced with commencing the implementation.
- A support officer meets monthly with services either face-to-face (preferred) or via teleconference to address needs of staff and build confidence to provide care.
- Funding is provided to services to assist with the implementation of QFNL for example to fund a staff member to complete the additional data entry and reporting requirements. This is provided as 0.15 FTE clinic hours.
- Due to the likelihood of staff turnover, each service has tried to ensure that multiple staff members are involved in driving the QFNL initiative. However, at smaller sites this is not always possible and QFNL may occasionally be put on hold until vacant staff positions are filled.
- Monitoring data is collected within the LHD including whether the core QFNL interventions are offered, if they are taken up, whether the household members accepted support and whether the woman quit smoking for a period of seven days or more. This data is provided as feedback to services about their performance, including how they are performing relative to other services. Data is presented at District meetings and many services have quarterly targets written into their service plans. Support Officers help to address underperformance at targeted sites, e.g. by enhancing skills and confidence of staff to motivate clients or developing more resources.

2) Referral model

Ten LHDs have implemented a referral model (CC, IS, MNC, MUR, NBM, NNSW, SES, SNSW, SWS, SYD). In each of these LHDs at least one individual was hired to provide smoking cessation support to clients identified by clinic staff as smokers. For the evaluation we have used the term smoking care advisor to refer to this role. However, each LHD has different terms for this role such as QFNL team, QFNL worker or smoking cessation advisor.

Figure 4: Overview of care pathway under a Referral model.

Figure 4 shows an overview of the referral model. In general clinic staff referred women identified as smokers to the smoking care advisor to receive follow up cessation support. While the main features of the model are the same across LHDs, implementation varied slightly by LHD to accommodate local needs. For example, there were differences in the degree to which interventions were provided by the clinic staff, the type of staff hired for the smoking care advisor role and the type of follow-up care provided. Broadly, the model consists of the following:

- During a client's first visit, clinic staff are expected to identify smokers and provide brief smoking intervention. In some LHDs the clinic staff will also offer a Quitline referral (CC, IS, NBM, SES, SWS) and offer NRT after an assessment (IS, SWS).
- Clinic staff refer clients to the smoking care advisor for further support.

"Smoking care advisor does full assessment, offers follow-up support and provides NRT directly if appropriate"

In CC additional follow-up support after an initial appointment with the smoking care advisor can be done by clinic staff.

- Smoking care advisor roles are filled by various health professionals such as health promotion officers (IS, SYD); clinical nurse specialists (CC); registered nurses (MNC); Aboriginal health education officers (AHEO; MUR); and Aboriginal women with nursing/midwifery background (SES). While most LHDs have one smoking care advisor who looks after all sites, several LHDs have two smoking care advisors (MNC, MUR, SES) or a QFNL team (NNSW).
- Most LHDs run QFNL in the same way across all services. However, several LHDs (MNC, MUR, SNSW, NBM) implement QFNL differently across sites due to the availability or location of the local smoking care advisor and the clinical setting.
- Some smoking care advisors are located in the same location as maternity services so are generally able to see women straight away and are known to clinic staff (CC, MUR, SES, SNSW, SYD). IS has two AMIHS services where the smoking care advisor is well known by staff.
- Two LHDs (IS, SYD) have an Aboriginal midwife who was identified as a champion for QFNL.
- For those women not accepting the support offered through QFNL at the first visit, it is up to the clinic staff to continue to offer and address smoking on subsequent visits. However, it remains unclear to what extent this is undertaken in practice.
- At least three LHDs (IS, NNSW, SWS) have established a process for providing feedback to services about the outcomes of referrals. The coordinators felt that this provided an opportunity for clinic staff to see the positive impact that referrals were having for their clients. This feedback also assisted in scheduling follow-up appointments and providing information to the clients' General Practitioner if needed.

Coordinators reported that this model was chosen to either limit the time burden on clinical staff, to have someone with more experience in smoking cessation providing the behavioural support or to provide support outside a clinical setting.

"A referral model was chosen to not overload clinical staff who don't have time to provide intensive intervention"

"The referral model gives an 'extra' level of support within the service from someone with expertise who can spend more time with the client"

"A referral model was chosen because this direct interaction with the community works best"

3) Direct service provision

Both Western NSW LHD and Western Sydney LHD implemented a model which combined elements from both the capacity building model and referral system- labelled a direct service provision model. Under this model an existing staff member had the role of smoking care advisor integrated into their current role. This differed from a referral model where a new position was created to perform this function, and from a capacity building model where the clinic staff themselves provide the cessation support generally during regular appointments. . Figure 5 shows an overview of the direct service provision model.

Figure 5: Overview of care pathway under a Direct Service Provision model

In Western NSW each geographic area has a key local staff member performing the role of smoking care advisor.

"QFNL utilises what's already available for smoking cessation at different locations"

Under this model, midwives provide a brief intervention and offer Quitline referrals. They then refer interested clients to the local staff member to deliver follow-up care and provide NRT if appropriate. The staff in the smoking care advisor role include community nurses, drug and alcohol workers, health workers and Aboriginal Health Workers. This model utilises local resources and was developed so as not to overburden midwives but with a view to sustainability and working within budget in a large geographic area. However, gaps exist in some towns where no staff are available to fill the smoking care advisor role. In these instances, the QFNL coordinator fills the smoking care advisor role providing face-to-face or phone support to clients.

In Western Sydney QFNL has been implemented across a diverse range of services. Women attending the AMIHS and identified as smoking are referred to a smoking care advisor, located in Drug Health or an AMIHS staff member trained to provide follow-up care. Due to very low numbers of women attending AMIHS and engaging with QFNL, the model was taken to Aboriginal non-government organisations and a community health clinic to implement. These services have a staff member trained as a smoking care

advisor who can be referred to. Some services are setting up Quit clinics and Quit Groups as part of their direct service provision with clients. While this approach has increased the reach of QFNL within the LHD it does not target pregnant women.

"Our approach is to address Aboriginal smoking as a whole"

Benefits and Limitations of each QFNL Model

Based on our interviews with QFNL coordinators and other stakeholders, we identified several perceived benefits and limitations to each of the models implemented. These are summarised in Table 6.

Table 6: Summary of the perceived benefits and limitations of each QFNL model of care based on interviews with QFNL coordinators and key stakeholders.

	Benefits	Limitations
Capacity Building Model	• Sustainable beyond funding period • Large number of staff can deliver support	• Staff have limited time and skills to address smoking • System to train and update all staff needed
Referral System	• Less burden on clinic staff • More time available to address smoking • Skilled, confident smoking care advisor addresses smoking	• Relies on funding for smoking care advisor position • Affected by staff turnover and recruitment of staff • Accessing clients may be difficult in large LHDs.
Direct Service Provision	• Utilises local resources • Less burden on clinic staff • Skilled, confident staff address smoking	• Time burden on staff providing care • Affected by staffing and skill gaps

iv) Provision of QFNL interventions (Component 3)

KEY POINT: The provision of the QFNL interventions differs between LHDs in terms of who offers the intervention and the form of the intervention.

Across all LHDs the QFNL model of care incorporates common elements of screening, brief intervention, provision of NRT, Quitline referral, follow-up support, and support for cohabitants. The manner in which these interventions are delivered, however, varies across LHDs. Table 7 shows the models adopted in each LHD, how the three core QFNL interventions are provided and whether the sites across each LHD differ in the delivery of QFNL.

Table 7: QFNL model adopted in each LHD and method of providing core QFNL interventions.

LHD	Model adopted	NRT provision method (provided by)	Quitline referrals provided by	Follow-up support (provided by)	Delivery of QFNL across sites
CC	Referral system (1 smoking care advisor)	Voucher (smoking care advisor)	Clinic staff*	Face-to-face at clinic or home (smoking care advisor and clinic staff)	Same approach used at all sites
HNE	Capacity building	Direct (midwife or CFHN) and voucher (AHW)	Clinic staff	In appointment (clinic staff)	Sites differ
IS	Referral system (2 smoking care advisors)	Direct (midwife, CFHN or smoking care advisor)	Clinic staff	Face-to-face appointment (smoking care advisor)	Same approach used at all sites
MNC	Referral system (2 smoking care advisors)	Direct or voucher (smoking care advisor)	smoking care advisor	Face-to-face at clinic or home or via telephone (smoking care advisor)	2 networks
MUR	Referral system (2 smoking care advisors)	Voucher (smoking care advisor)	smoking care advisor	Face-to-face at home (smoking care advisor)	2 networks
NBM	Referral system (1 smoking care advisor)	Voucher (smoking care advisor)	Clinic staff or smoking care advisor	Face-to-face at clinic or home (smoking care advisor)	Sites differ
NNSW	Referral system (QFNL team)	Voucher (smoking care advisor)	Clinic staff	Telephone (smoking care advisor)	Same approach used at all sites

LHD	Model adopted	NRT provision method (provided by)	Quitline referrals provided by	Follow-up support (provided by)	Delivery of QFNL across sites
SES	Referral system (2 smoking care advisors)	Voucher (smoking care advisor)	Clinic staff	Face-to-face at clinic or home (smoking care advisor)	2 networks
SNSW	Referral system (1 smoking care advisor)	Voucher (smoking care advisor)	smoking care advisor	Face-to-face at home (smoking care advisor)	Sites differ
SWS	Referral system (1 smoking care advisor)	Direct (midwife) and voucher (midwife or smoking care advisor)	Clinic staff	Face-to-face at home or via telephone (smoking care advisor)	Same approach used at all sites
SYD	Referral system (1 smoking care advisor)	Direct (smoking care advisor) and voucher (smoking care advisor)	smoking care advisor	Face-to-face at clinic or home (smoking care advisor)	Same approach used at all sites
WNSW	Direct Service Provision	Voucher (smoking care advisor role)	Clinic staff	Face-to-face appointment or via telephone (smoking care advisor role)	Sites differ
WS	Direct Service Provision	Voucher (smoking care advisor role)	smoking care advisor	Face-to-face appointment (smoking care advisor role)	Sites differ

* Clinic staff may include midwives, CFHNs or AHWs.

a) Brief intervention

Across all LHDs the QFNL model adopted relies on clinic staff identifying pregnant or postnatal women that smoke and offering further support. Clinic staff who attend QFNL training learn to provide a brief smoking intervention to clients. The amount of brief intervention provided by clinic staff, however, varies depending on the LHD, the local QFNL model adopted, and the clinic setting.

"There are slightly different models implemented across acute and community care settings due to competing workloads and priorities"

b) NRT

The availability of free NRT to women was seen by most of those interviewed as a strength of QFNL.

"Removing barriers to accessing NRT is an important aspect of smoking cessation support"

As part of the development of the QFNL model, the Centre for Population Health developed a protocol for the appropriate provision of NRT. A NSW Ministry of Health representative reported that this protocol was needed in order to address concerns

about the safety of NRT in pregnancy, establish appropriate dosages, and recommend use in combination. One LHD also suggested the need for a state-wide policy of direct provision of NRT for pregnant women so that staff feel confident in dispensing it in a community setting.

"It would be good to have a state-wide policy or guidelines for the direct provision of NRT for pregnant women, so that staff feel confident in giving it out"

Across LHDs, NRT is provided to clients either directly or via a voucher to be redeemed at a pharmacy after an assessment that it is clinically appropriate. Seven LHDs (CC, MUR, NBM, NNSW, SES, SNSW, WNSW, WS) implement the voucher system only, one LHD (IS) uses only direct provision, and four LHDs (HNE, MNC, SWS, SYD) use a combination of vouchers and direct provision. Most adopted the provision methods due to funding concerns (LHDs fund direct provision while the NSW Ministry of Health funds the voucher scheme), LHD policy and how comfortable staff are in providing NRT directly to clients. Coordinators from seven LHDs reported that their LHD had existing policies or clinical guidelines surrounding the provision of NRT or that these were developed during the planning phase of QFNL. For some this policy limited the direct provision of NRT to clinical staff or did not allow this at all.

"There is a reluctance of some staff to administer NRT directly due to compliance with nursing/midwifery registration not to give out medications in a community setting without a doctor signing off within 24 hours"

Direct NRT provision was seen by most QFNL coordinators as the preferred method of providing clients with NRT.

"Direct provision of NRT allows women who make the decision to quit to walk out armed with tools to do so"

QFNL coordinators in three LHDs explicitly expressed concerns that the restriction of direct NRT provision was a barrier to women using NRT.

"NRT product being provided directly to the client overcomes financial and transport burdens for clients"

However the funded voucher scheme was seen as a good alternative for those unable to provide NRT directly as it still gave women access to free NRT. In order to establish the voucher scheme some LHDs reported working extensively with pharmacies to educate them about the scheme and secure their participation. For a couple of LHDs this came after incidents of vouchers not being honoured by pharmacies when taken in for redemption. LHDs came up with different strategies to overcome this, including:

- Contacting the NSW branch of the Pharmacy Guild of Australia (NBM, NNSW)
- Liaising with local pharmacies to educate them about the system (SNSW, CC, HNE)
- Providing training sessions with pharmacy representatives (NNSW)
- Accompanying clients to pharmacies when redeeming vouchers (MUR)
- Contacting pharmacies before a client would visit to inform pharmacy staff about the voucher and required process (WNSW).

Several LHDs also reported having samples of NRT available for women to assist them in choosing which NRT to collect from the pharmacy. SES developed an intensive assessment form to assess the appropriateness of different forms of NRT. In other cases clinical staff or the pharmacist makes this assessment. One QFNL coordinator highlighted the flexibility of being able to trial different types of NRT to find one that works to be a strength of the initiative.

c) Quitline

Quitline referrals were mostly offered to clients by clinic staff, or in several LHDs by the smoking care advisor (see Table 7). For those who agreed, a referral was faxed to Quitline via a standard referral form. In order to speed up this process, SES opted to prefill referral forms with the available required information (LHD, service name and QFNL information).

Around half of the coordinators responded that uptake of Quitline was poor. Several reasons were suggested for this, including:

- Clinic staff not perceiving a need for telephone-based support when face-to-face support was available
- Clients preferring not to talk with person they do not know over the phone
- Negative perceptions of Quitline by some Aboriginal people

"Low uptake of Quitline referrals is due to client choice, not lack of staff effort"

The low acceptance of Quitline referrals is particularly a problem for those LHDs with a capacity building model or less smoking care advisor time, as these LHDs rely on this service to provide additional follow-up support. In order to overcome some of these barriers, some staff reportedly visited the Quitline office to gain insights into how this service could be better utilised by clients. It was suggested by a stakeholder that having a short online video featuring an Indigenous female counsellor available may help women feel more comfortable using Quitline. Quitline itself has implemented a text message reminder system to encourage clients to take their calls. A representative from Quitline indicated a perceived increase in the number of calls as a result of implementation of QFNL.

d) Follow-up support

Follow-up support varies by LHD depending on the model adopted, the geographic area and resources available. Table 8 shows the type of follow-up support offered in each LHD as described by the coordinators interviewed. In most cases follow-up support was provided by the smoking care advisor either face-to- face with home or clinic visits, or over the phone. The follow-up support provided is behavioural support and may include looking at:

- a quit plan
- triggers to smoking
- ways to quit or reduce smoking
- benefits of quitting (such as money saved)
- relapse prevention
- further NRT provision
- carbon monoxide (CO) monitor readings
- assessing withdrawal symptoms

Interviews with staff implementing QFNL in the next phase of the evaluation will provide additional insight into the support provided.

The intensive level of support provided was seen as a strength of the initiative by many coordinators. The ability to see clients in a non-clinical setting was also highlighted as a strength by those who saw clients at home or in a community setting. Coordinators in several LHDs reported that smoking care advisors had encountered difficulty contacting clients due to clients not turning up for appointments or not being contactable by phone.

"Maintaining contact with women for follow-up support can be a challenge. Sometimes we can't get in contact or turn up for appointment but woman is not available"

In contrast, SYD LHD reported a high demand for follow-up support by clients. This LHD was considering setting up support groups where appropriate to accommodate multiple clients at once. It was felt that the need to provide intensive support may be a barrier to clinic staff initially

Some LHDs had resources available to help with follow-up support such as brochures, small incentives e.g. bibs and calculators (IS, SWS), promotional materials e.g. wheel chart showing health effects and money saved through quitting (SES), Quitplan and Healthy start bags (SNSW). At least 5 LHDs (HNE, IS, MNC, SWS, WNSW) used carbon monoxide monitors in follow-up appointments to show clients how smoking impacts on the baby and other children in the family.

Table 8: Description of the follow-up support provided in each LHD.

LHD	Model adopted	Follow-up care provided
CC	Referral system	By primary care provider after initial face-to-face meeting with smoking care advisor. Extra appointments with smoking care advisor available if needed.
HNE	Capacity building	By clinic staff at subsequent antenatal or postnatal visits, extra appointments to address smoking are available if needed.
IS	Referral system	Face-to-face appointment with smoking care advisor. Information sent to GP and client.
MNC	Referral system	Face-to-face with smoking care advisor at home or clinic or via phone if travel is a barrier.
MUR	Referral system	Face to face by AHEOs in smoking care advisor role. At times when AHEO is not available the smoking care advisor role is filled by AHLO.
NBM	Referral system	Face-to-face with smoking care advisor at clinic or home.
NNSW	Referral system	Telephone based quitting support from QFNL team
SES	Referral system	Face-to-face support with smoking care advisor at clinic, home, etc. at client's preference. Developed intensive assessment form to follow.

LHD	Model adopted	Follow-up care provided
SNSW	Referral system	Face-to-face home visits from smoking care advisor. Follow-up 2 weeks after initial contact for 3 months.
SWS	Referral system	Face-to-face home visits or over phone with smoking care advisor. Flexible number of visits provided.
SYD	Referral system	Face-to-face with smoking care advisor at home, clinic etc. as preferred by client. Aboriginal midwife provides most referrals.
WNSW	Direct Service Provision	Face-to-face with staff in smoking care advisor role or via phone with QFNL coordinator where gaps in smoking care advisor role in a town.
WS	Direct Service Provision	Face-to-face appointment with staff in smoking care advisor role. In community setting also have Quit clinics, quit groups for support.

e) Cohabitants

From our interviews with coordinators the level of interaction with cohabitants remains unclear. Indeed, two LHDs reported challenges in maintaining relationships with cohabitants or encouraging them to use the support offered. One LHD raised concerns that antenatal staff may not feel it is their responsibility to address smoking with cohabitants. Another LHD reported training an AHEO to provide smoking cessation support specifically to cohabitants to relieve the workload of the smoking care advisor. Despite these challenges, three LHDs reported positive examples of whole families quitting smoking, and suggested that the most successful quit attempts have been when cohabitants are involved.

"We had success with a whole family quitting and saving $110 a day"

f) Postnatal period

In most cases the model in place in BSF services is similar to that in AMIHS. For those with a referral system, this allows child and family health nurses visiting families to refer to the smoking care advisor. In a couple of LHDs opportunistic approaches to meet clients through playgroups (CC) and parent groups (SES) have also been utilised. It was reported that this helps build trust with women and also to connect with women who don't attend an AMIHS or BSF service. In HNE, where a capacity building model has been implemented, the BSF postnatal visits include both a child and family health nurse and an AHW with both roles able to address smoking depending on their relationship with the client and opportunity.

v) Changes to routine practice (Component 3)

KEY POINT: Embedding QFNL into routine care takes time but is aided by the provision of resources not otherwise available.

A primary objective of QFNL is to 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. This is to be achieved through the training of staff, development or modification of policies and procedures and implementation of the QFNL model of care.

Most coordinators suggested that the implementation of QFNL did have some impact on the care delivered to clients.

"We wouldn't be doing anything like this if we didn't have QFNL"

"QFNL allows smoking to be addressed when previously there wasn't time"

Several LHDs reported seeing an increase in the confidence and skills of clinic staff to address smoking with clients while others reported this was increasing as implementation progressed.

"AMIHS and BSF staff are more confident and skilled to talk about client smoking in a respectful and sensitive way "

Several others felt that while clinic staff had not necessarily changed their practice towards providing smoking cessation support, they now had someone (the smoking care advisor) to refer clients to.

"Now staff know that help is available for their clients and the referral pathway to get help"

A few coordinators acknowledged that QFNL support is not yet fully embedded in appointments due to time constraints and the need to address many other issues during appointments. It was observed that staff may not have the capacity to fully support women so are resistant to even offer. One LHD pointed out that while clinical change may be hard to see, under QFNL there is now training, resources, Aboriginal Quitline service referral pathway, follow-up support, NRT and support for household members which would not be available without QFNL. Indeed the availability of resources, and in particular NRT, was highlighted as a strength of the initiative by most coordinators.

"We have more to offer women interested in quitting now"

Barriers encountered

Most coordinators reported encountering some form of resistance to QFNL within practice settings. This resistance varied across LHDs and included:

- Lack of staff support in accepting process changes.
- Perceptions of staff that women will feel they are being hassled if smoking is addressed at every visit.
- In small communities where smoking is normalised it can be difficult for staff to challenge the social norm, especially when they are well known in the community.
- Staff that smoke themselves felt that it was inappropriate for them to raise the issue with clients.
- Reluctance to give out NRT.
- Reluctance to take on smoking support due to time constraints.
- Difficulties integrating smoking care advisors into the antenatal care team.
- Staff burdens associated with entering data into ObstetriX.
- Lack of dedication towards implementing an Aboriginal program among staff who don't work exclusively with Aboriginal women

A high turnover of staff in some LHDs made it difficult to keep up with education and training. Several coordinators noted that while clinic staff saw smoking cessation as important, they did not think that they had the time to address it. This was especially the case when staff and management were not supportive of the initiative.

"Different sites perform differently depending on enthusiasm and experience of staff and management support"

A suggestion was made that appointment times ought to be increased to allow smoking to be properly addressed amongst other problems.

A few coordinators also experienced broader organisational conflict over ownership of the initiative.

"There was some resistance to QFNL due to that program being based in Health Promotion"

vi) Planning and preparation for QFNL (Component 3)

KEY POINT: Extensive planning was undertaken prior to the implementation of QFNL.

LHD planning for QFNL implementation

Almost all LHDs undertook extensive planning in preparation for the implementation of QFNL.

"There was lots of background work needed before rolling QFNL out to services"

The main focus of the planning and preparation phase was to tailor the delivery model provided by the NSW Ministry of Health to the local context and develop an implementation plan. Other aspects of preparing for QFNL explicitly stated by coordinators included:

- Forming an implementation committee or working group
- Consultation with services providing care
- Consultation with local Aboriginal communities
- Forming relationships with relevant stakeholders e.g. pharmacies and agencies
- Developing protocols e.g. Provision of NRT directly or via voucher
- Developing referral pathways
- Recruiting staff
- Educating staff
- Setting up data reporting systems

Timing of planning phase

In most cases, the planning and preparation phase at LHDs was around 12-18 months. This timeframe was generally anticipated by coordinators from the outset.

"It was expected that (planning for QFNL) would be an extensive process given population working with, clinical setting and that it is a whole system change"

"Implementation began as planned once the team was satisfied effective strategies were in place"

Still, for several LHDs the planning phase took longer than the Coordinator expected.

"Planning required more effort than expected"

"It took far more effort than initially thought to get something happening"

LHDs took different approaches to planning. One LHD reported that QFNL was difficult to plan for due to the variation across sites in terms of capacity, resources and available staff. Consequently, this LHD engaged in a minimal planning phase. In contrast, another LHD with a long planning phase chose to wait until effective strategies such as the voucher system were in place to enable effective uptake.

Delays to LHDs commencing implementation

All but a few LHDs indicated that they experienced delays in starting the implementation of QFNL as expected. The main cause of delay was difficulty in recruiting staff. Eight LHDs explicitly stated that the process of creating a new position and then filling it was very slow especially when the position was in a regional location.

"Service delivery was delayed due to staff turnover and difficulty filling positions in regional locations"

"Once the smoking cessation advisor was recruited she pushed it to begin"

This included difficulties recruiting for a temporary position or one requiring a very specific skill set. Service delivery was often further delayed by staff turnover and the need to refill positions and retrain staff. This applied to both QFNL staff and AMIHS midwives.

"Midwife turnover is high and often there isn't one so AMIHS can't run at all"

In one area QFNL ceased for a period of 7 months while a new smoking care advisor was recruited.

Other delays explicitly stated by coordinators included:

- addressing resistance from some staff members
- deciding which area had responsibility for QFNL
- receiving QFNL funding
- restructuring of Local Health Districts which meant initial plans needed to be revised and approved before implementation could commence (WS and NBM; SYD and SWS).

vi) Funding (Component 3)

KEY POINT: Most QFNL funding was used to hire staff.

Each LHD is funded to implement QFNL for 5 years. The total funding over the 6 years of the initiative is $8,402,008. Table 9 shows the annual state-wide budget.

Table 9: Total funding provided each year for QFNL across all LHDs in NSW

	Year						Total funding over 6 years
	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	
TOTAL funding	$871,842	$1,927,695	$1,615,575	$1,615,747	$1,615,747	$755,445	$8,402,008

Source: NSW Ministry of Health. Current as of December 2015.

Funding algorithm

The funding algorithm for QFNL is based on expected reach for each LHD. This was worked out using several years of Health and Social Policy Branch data (prior to QFNL commencing) on the annual expected number of mothers of Aboriginal babies who i) report smoking at the time of booking-in, and ii) attend an AMIHS service for their antenatal care. LHDs were given an amount of QFNL funding per woman. Funding is not provided directly to AMIHS and BSF services. It was suggested by one LHD that the amount of work to set up QFNL was not necessarily related to client numbers and that a funding model which better reflects that would have been more suitable.

Use of QFNL Funding

All coordinators reported using QFNL finding to fund the smoking care advisor or support officer wages. Other uses of QFNL funding explicitly mentioned by coordinators during the semi-structured interviews included:

- Travel to services
- Home visits
- NRT
- NRT samples
- Carbon monoxide monitors
- Training accommodation and travel
- Additional training
- Marketing
- Incentives for clients e.g. bibs
- Resources e.g. brochures, healthy start bag
- Clinic hours
- Other goods and services e.g. laptop, mobile phone

The NSW Ministry of Health covers the cost of NRT redeemed via voucher at pharmacies, as well as additional resources including brochures, postcards and magnetic photo frames.

Level of Funding

Coordinators in four LHDs responded that the level of funding they received was adequate for implementing QFNL.

"We have been able to do everything needed to do with the funding provided"

The remaining nine LHDs reported that the funding was not enough to cover everything needed to implement their ideal model.

"There is 200% above funded level being put into project"

"[With the current funding] there is little room for flexibility and changes in staff"

For some LHDs, this meant that compromises were made, including:

- Hiring part-time rather than full-time staff

- Having staff travel between sites rather than stationing a smoking care advisor at each site
- Reducing the skill level required for the position of smoking care advisor
- Not being able to do as much as they would like to engage the community or mentor staff
- Not being able to provide NRT directly to clients
- Unable to sustain funded position for Aboriginal administration of QFNL role
- Sharing costs with other departments such as Health Promotion or Drug and Alcohol.

vii) Training (Component 2A and 3)

KEY POINT: QFNL training was well received and attended by a wide variety of staff

Development of training material (Component 3)
The state-wide training workshop was initially developed by an outside agency. Stakeholders reported that while the initial workshop contained useful information, it had not been piloted in the field prior to being introduced and needed to be improved. Based on feedback from participants, the training workshop was modified to include more explanation of how QFNL works, the local implementation model and motivational interviewing techniques. Over time the training has evolved to include new policies, protocols and new medications.

In addition to the state-wide QFNL training, a training package including an online training module, a DVD and train the trainer workshop has been developed by the Health and Social Policy Branch in collaboration with the Health Education and Training Institute (HETI) and Centre for Population Health. This package has focussed on 'yarning' with pregnant Aboriginal women about quitting. The aim is to present different scenarios to staff to learn ways to motivate women at different stages to move to action. The next phase is developing online top up modules to refresh staff knowledge about QFNL.

Staff perception of training (Component 3)
All coordinators reported that the state-wide training was sufficient. It was well received, motivational and beneficial to staff that attended. The trainer was described as personable, engaging, approachable and flexible in organising the sessions.

"Everyone who attended training was impressed, even if sceptical or unmotivated beforehand"

While the content was largely seen as relevant, clear and detailed, it was also suggested that there was a lot to cover in one day. Several LHDs suggested possible changes to the training content and format including:

- More training related to engaging clients.
- Training about what to do if clients resist the offer of QFNL interventions
- Hands-on training with the NRT products.
- Ensuring the training is appropriate for staff with literacy issues.

Staff attending training (Component 3)
Coordinators reported being mostly successful at getting relevant staff to attend the training. This was particularly the case for LHDs with staff accustomed to travelling for

workshops or with existing training networks. In some LHDs multiple sessions were held to accommodate all staff, others made use of midwifery educators to train staff who could not attend training. Barriers to attending training included limited staff numbers to cover maternity services, a lack of management support, and the need to travel and stay away to attend training.

"Most staff at the time attended training but issues with staff turnover mean that training should be repeated or shared with other LHDs"

Staff Training Data (Component 2A)

From January 2013 to April 2015, 28 training sessions were held around the state. The number of training sessions and number of staff attending workshops in each LHD is provided in Table 10. Overall, 24% of staff were identified as working for an AMIHS and 10% for BSF. This included four staff that worked for both AMIHS and BSF and were included in both counts. A further 44% worked for other services or organisations and in 24% of cases the place of work was not provided. A range of staff attended the training. Table 11 shows a summary of the job titles of those attending workshops in each LHD. Almost half (45%) of those who attended were midwives or child and family health nurses and 23% were in an Aboriginal health role. Other staff included five service managers in HNE, six pharmacists in NNSW and 15 health promotion staff across seven LHDs.

Additional training (Component 3)

QFNL staff in most LHDs had the opportunity to attend additional training and smoking cessation professional development courses. In at least 6 LHDs (HNE, IS, MNC, SWS, SYD, WS), staff had received training from Renee Bittoun of the "University of Sydney Brain and Mind Institute". Other opportunities included "Quitskills Training" (CC), yarning about quitting training, and top-up training sessions. HNE reported developing their own training modules to provide more detailed information, for example, on nicotine dependency and NRT provision.

Table 10: The number of training workshops held in each LHD and the number of staff attending training indicating those who were identified as AMIHS and BSF staff*.

LHD of service	Training sessions	Total number of staff trained	Identified as AMIHS Staff	Identified as BSF or New Directions Staff
CC	1	23	4 (17%)	2 (8.7%)
HNE	5	103	41 (40%)	10 (10%)
IS	1	23	9 (39%)	
MNC	1	19	7 (37%)	2 (11%)
MUR	1	17	9 (53%)	5 (29%)
NNSW	2	52	6 (12%)	
NBM	2	20	2 (10%)	5 (25%)
SNSW	1	11	3 (27%)	2 (18%)
SES	3	28	3 (11%)	7 (25%)
SWS	3	51		
Syd	1	9		

LHD of service	Training sessions	Total number of staff trained	Identified as AMIHS Staff	Identified as BSF or New Directions Staff
WNSW	3	50	18 (36%)	3 (6.0%)
WS	1	7		
WS/NBM‡	3	33†	3 (9.1%)	8 (24%)
NSW Total	**28**	**446**	105 (24%)	44 (10%)

Source: Component 2A: Staff Training records from January 2013 to April 2015.

* 4 staff worked for both AMIHS and BSF and were included in both counts

† One training sheet missing however, the number of staff trained was known and included

‡WS and NBM held their early training sessions together prior to the LHD splitting into two

Table 11: The job titles of staff attending training workshops in each LHD.

LHD	midwife	CFHN	Other clinical role	AHW	AHEO or AEO	Other Aboriginal health role	Tobacco or D&A worker	Health promotion role	QFNL staff	Other	Total Staff attending training
CC	4	8	2	2	0	3	2	0	1	1	23
HNE	21	18 (1)†	6	5	23	6	3	0	5	16	103
IS	3	7	4	0	7	0 (1)	2	0	0	0	23
MNC	5	1	0	3	0	2	3	3	1	1	19
MUR	4	2 (1)	1	2	3	3	0	0	0	2	17
NNSW	12	3	8	3	5	4	3	3	0	11	52
NBM	1	6	3	0	0	1	1	3	1	4	20
SNSW	6	1	0	2	0	1	0	0	0	1	11
SES	14	3	5	2	1	0	0	1	2	0	28
SWS	20	11 (1)	4	3	4	1	1	1	1	5	51
SYD	2	4	0	0	0	(1)	0	3	0	0	9
WNSW	12	19	2	6	9	0	1	0	1	0	50
WS	7	0	0	0	0	0	0	0	0	0	7
WS/NBM*	3	4	8	2	0	0	4	1	1	3	26
NSW Total	114	87	43	30	52	21	20	15	13	44	439
% of total staff trained	26%	20%	10%	6.8%	12%	4.8%	4.6%	3.4%	3.05	10%	

Source: Component 2A: Staff Training records from January 2013 to April 2015.

* One training sheet missing and not included

† Staff employed as a midwife as well as the role indicated in brackets.

viii) Data reporting (Component 3)

KEY POINT: ObstetriX is inadequate for measuring implementation of QFNL

All coordinators felt that the current data reporting systems for QFNL are sub-optimal, with interviewees expressing major concerns about the accuracy and content of the data collected.

"ObstetriX is totally inadequate for measuring implementation of QFNL"

- **Database:** ObstetriX is the main database used to collect smoking and QFNL data. Interviewees reported that, in a few LHDs, different versions of ObstetriX are run across services so the data entry needs are different and it is difficult to keep up with training staff to use the different systems.

  "Having two different versions of ObstetriX has caused issues such as two different ways to enter data"

  SWS and SYD LHDs use Cerner rather than ObstetriX and reported challenges in setting up data reporting and monitoring systems. ObstetriX and Cerner do not capture data for the postnatal period, for cohabitants or in the community health setting. Since it is required that data on postnatal and cohabitant clients be reported LHDs needed to develop a way to collect this data. Some LHDs have other systems to do this such as Ferret, CHIME or CHOC however, their use is inconsistent across services and several coordinators reported difficulty setting up the QFNL data entry.

  "For QFNL to be embedded as systematic clinical practice change, that drives best practice care, then best if incorporated into CHIME so staff have to complete mandatory fields"

- **Scope:** Several coordinators were concerned that ObstetriX does not capture offers of smoking cessation support when not accepted by clients. Coordinators in these LHDs expressed frustration that the data captured by ObstetriX does not reflect the extent of work that is being done by staff to address clients' smoking.

  "Data collected doesn't reflect all work done"

  Likewise for clients that do accept QFNL, data is not captured on quit attempts, quit periods and cutting down the number cigarettes smoked.

  "ObstetriX data does not capture the stories behind the numbers"

- **Access:** Usually the individuals responsible for providing the core QFNL interventions do not have access to the ObstetriX database for the purposes of data entry. Instead, LHDs typically rely on midwives to enter these data.

  "QFNL workers nominate a midwife each quarter to update records in ObstetriX. This can be a burden so would be much better if QFNL workers could enter data"

  Concerns were raised by some coordinators over whether this is done consistently, whether some cases are missed and if midwives may be overburdened when large amounts of data are to be entered. In IS a data manager enters the data with the added advantage that cases of smokers who have not been offered QFNL can be identified.

- **Data entry:** Another source of frustration with QFNL data entry is due to the need to enter information into a textbox.

  "Using a free text box is not a good way to capture data"

  A few coordinators responded that this is laborious, confusing, and restrictive due to a 21 character limit or challenging due to need to include other competing information. It was suggested that data is often not entered as it should be, which detracts from the ability to extract meaningful results.

- **Accuracy:** Concerns were raised by several coordinators about problems with data accuracy, especially immediately following birth and in relation to the number of cigarettes smoked.

  "Data at birth is not well recorded so is not very accurate especially on number of cigarettes smoked"

  Indeed an audit undertaken of midwives in one LHD revealed substantial inaccuracies, supporting concerns relating to the accuracy and use of ObstetriX.

- **Monitoring:** Due to the above issues and a lack of feedback being provided on progress HNE, IS, NNSW, MNC, MUR, SYD, WNSW and WS LHDs reported developing their own reporting systems to capture the QFNL data ().

  "Staff now enter data into the new system as well as ObstetriX"

  One stakeholder suggested that LHDs may not be aware of how the implementation is progressing due to the lack of feedback provided.

The way that QFNL data is entered in ObstetriX and extracted has been earmarked for change to a system that uses checkboxes. Given that these data are used to monitor the impact and uptake of QFNL and provide feedback to LHDs about the service measures, the interview findings suggest that severe limitations currently exist related to the data for describing the QFNL outcomes.

ix) Service measures (Component 3)

KEY POINT: Service measures were considered insufficient and with unrealistic targets

Initial targets were set at 80% of eligible clients accepting each of the core QFNL interventions (NRT, Quitline or follow-up support). These targets were later revised down. For 2014/2015 the targets attached to the QFNL service measures were reduced from 80% to 65% for LHDs in the phase 1 group (HNE, CC, NBM, WS and IS) and 50% for phase 2 (MNC, NNSW, SWS, SYD, WNSW) and 3 (MUR, SES, SNSW) groups for all three measures. In July 2015 these targets were set to 65% for all LHDs and for all three measures.

The service measures for QFNL relate to pregnancy only as cessation in pregnancy is the primary aim of QFNL and there are currently challenges in determining a feasible postnatal data collection and analysis method.

Opinion of service measures

LHDs overwhelmingly indicated that the targets were unrealistic and unachievable.

"Too high initially and still too big a challenge to meet them"

Only coordinators in two LHDs felt that the service measures were appropriate. The reduced target of 65% was seen as more achievable but still too high for uptake of each of the interventions. Several interviewees questioned the amount of consultation and research that went into arriving at the targets.

A couple of coordinators were concerned that provision of NRT was used as a service measure. Interviewees mentioned that NRT is not always clinically appropriate, and that guidelines do not recommend it as a first step in quitting. Although the definition of NRT as a monitoring measure specifies "if clinically appropriate", one coordinator pointed out that no adjustments to the denominator are made to exclude those not clinically appropriate. This would be difficult to do using the data currently collected.

Changes to service measures proposed

The service measures relate only to uptake of the QFNL components and therefore data are not recorded for clients who are offered an intervention but decline the offer. It was suggested that there should be a separate measure for when QFNL components were 'offered.' Coordinators in several LHDs remarked that many aspects of uptake of the interventions were outside their control and should therefore not be the sole measure used to assess performance (e.g. the tendency of women to decline the use of Quitline).

"Hard to reach (KPIs) as some factors out of their control"

It was therefore suggested that the KPIs do not reflect the effort staff go to. In order for service measures to include offers of core QFNL interventions, respondents proposed the need for system enhancements to capture these data..

As stated in the guide to QFNL and performance monitoring,[21] while LHDs do not have a target for quitting, as the primary aim of QFNL this measure is monitored. A few coordinators expressed concerns that only quitting is monitored and not other efforts by the women to reduce their smoking such as quit attempts, cutting down on the number of cigarettes smoked or making the car smoke free.

"Measures on changes in smoking rates doesn't sensitively capture women who engaged in quit periods during pregnancy"

x) Governance Arrangements (Component 3)

KEY POINT: Twelve LHDs had a committee or group to oversee implementation of QFNL

Nearly all LHDs (12 LHDs) have a steering committee or advisory group set up to oversee implementation of QFNL.

"QFNL is a multidisciplinary approach which requires that representatives from all services are involved in making decisions about service provision"

The remaining LHD, SNSW, is planning on establishing a steering committee. Committees were made up of a wide range of stakeholders across different disciplines and services. Most include a representative from Aboriginal health services. They generally meet

quarterly, although a few meet more frequently (monthly or bimonthly) and others meet irregularly. HNE, IS, NNSW and SES LHDs explicitly reported also having a working party.

Having a committee in place was seen as an effective strategy to help work through problems, monitor progress, provide accountability and executive support and ensure communication between relevant agencies. A few LHDs did not believe that the governance structure in place was effective for progressing the implementation, as they did not discuss specific strategies and everyday running of QFNL.

"Having a committee has helped to keep people on board and informed, but not a lot of discussion has taken place around specific strategies"

Stakeholders reported that at the state level there is no overreaching governance for QFNL. This was seen as a disadvantage by one stakeholder.

"There is a need for transparency and input from the Aboriginal community controlled sector"

xi) NSW Ministry of Health Support (Component 3)

KEY POINT: Support from NSW Ministry of Health was perceived positively

LHDs agreed that the NSW Ministry of Health provided very good support for QFNL.

"Ongoing support is good with online coordinators meetings and feedback"

Several coordinators noted an exception, however, in the early stages of implementation when they believe more could have been done to help develop procedures, answer questions and provide guidance. One LHD suggested that it would have been helpful for the NSW Ministry of Health to have had an initial meeting with coordinators to help set up the model. Some concerns were expressed that the roll out of the program occurred before there was clarity about program structure. Since the current state-wide QFNL coordinator came on board, there have been significant improvements in perceived support among LHDs. The state-wide coordinator is widely regarded as being available, generous with her time, quick to follow-up queries and good at problem solving. Most LHD representatives appreciate having the coordinators' network to share ideas and knowledge. However, it was noted that this network is limited in the amount of help available, given that each LHD has implemented a different delivery model tailored to their LHD. There is some frustration among QFNL coordinators around the lack of monitoring data being sent to the LHDs by the Ministry of Health to gauge progress.

xii) Community engagement (Component 3)

KEY POINT: Most LHDs participated in community events to raise awareness of QFNL

LHDs have engaged with their local communities in a variety of ways to promote QFNL. Most LHDs indicated that they participated in community events such as NAIDOC week to raise awareness of QFNL.

"QFNL has a presence at all community events"

"It is more about raising awareness of cessation than looking for clients"

Many LHDs had a carbon monoxide monitor, which measures the amount of carbon monoxide in exhaled breath, for people to try out or a tablet computer to show different apps to support cessation. One LHD indicated that this community-wide approach was not particularly useful in engaging the target audience of pregnant women. Instead, within this LHD QFNL staff attended local playgroups. Other ways that LHDs engaged the community was through postcards and posters, parenting and pregnancy support groups, information to GPs and utilising social media. IS did marketing for QFNL on TV and radio and NBM in the local newspaper.

xiii) Stakeholder consultation (Component 3)

KEY POINT: Some stakeholders had concerns about the amount of consultation that took place

In the interviews with key stakeholders it was widely recognised that as QFNL involves many different groups extensive consultation was required at all stages.

"QFNL involves multiple different areas so requires good engagement with a range of stakeholders and ongoing consultation"

"QFNL needs Aboriginal community input at all stages"

The stakeholder interviews revealed some differences of opinion regarding how much consultation had occurred. As the central agency, the AH&MRC was reportedly consulted by the NSW Ministry of Health in the development phase. However, representatives from the AH&MRC reported that their organisation hasn't had very much involvement and were not engaged in the development and implementation of QFNL.

"Questions about how Aboriginal communities were engaged during design of the program. Involvement of AMSs at local level and AH&MRC at state level would have been valuable for developmental processes in terms of design, implementation and governance"

At the local level, consultation with Aboriginal communities was the responsibility of LHDs. Several of those interviewed indicated that the level of local consultation depended on relationships and practices within LHDs and the different management arrangements in LHDs. One stakeholder felt that more engagement was needed with AMSs whether they were involved in QFNL or not.

Aim 2: Acceptability of QFNL

This section of the evaluation aims to assess whether QFNL was considered an acceptable and/or feasible model of smoking cessation care by implementation staff, as well as identifying the achievements and challenges faced during implementation.

i) Achievements in implementation (Component 3)

KEY POINT: A major achievement reported by stakeholders was the engagement of women with the support offered and attempts to quit smoking.

While getting QFNL running was often considered as an achievement in itself, the coordinators and stakeholders interviewed also highlighted achievements across five categories:

Quit rates and Referrals
A key achievement of QFNL, identified by many of the coordinators, was seeing positive changes in clients such as accepting referrals for support, quitting, making a quit attempt, cutting down on the amount smoked or making the car smoke free.

A couple of coordinators reported seeing clients return for subsequent pregnancies who have remained quit or are willing to try again.

"One client is now entering second pregnancy as a non-smoker"

"Women are coming back to QFNL to reduce smoking or try another quit attempt"

While a couple of others have seen good results working with whole families.

"We had success with a whole family quitting and saving $110 a day"

Staff implementing QFNL
Many of those interviewed identified that having experienced staff involved with QFNL is a key achievement of the implementation.

"It is an achievement to have good, dedicated staff focusing on this area at the local level"

Several coordinators identified training and additional yarning training as increasing staff knowledge about how to talk to Aboriginal women about smoking and being comfortable to do this in a culturally sensitive way.

Building rapport with clients to be able to talk about issue of smoking.

Individual coordinators identified particular attributes of various individuals in QFNL roles as being important for the program's success. For example, recruiting highly qualified and trained staff who are highly sought after, emphasising the smoking care advisor role as a clinical role, integrating QFNL into existing staff roles, and having the same person in the smoking care advisor position since the beginning of the program. It was seen by several coordinators as particularly valuable where an AHW or AHEO took a leadership role in QFNL or worked closely with the QFNL workers.

"For us a key achievement of QFNL has been building the capacity of Aboriginal Health Workers in a culturally appropriate way to take on a leadership role for QFNL and provide an active role in the provision of care"

One LHD cited significant success of having a small team working on marketing and communication. Most QFNL coordinators identified certain staff who act as champions to help drive the initiative forward.

"Our Aboriginal midwife is a leader and encourages other staff to refer to the service"

Awareness

Several coordinators highlighted that QFNL has led to increased awareness about smoking cessation among pregnant women, Aboriginal community groups and families and health professionals.

"QFNL has increased awareness about the importance of smoking among staff and clients"

"QFNL has raised the profile of the issue of smoking cessation and cessation options for Aboriginal families"

At a management level some LHDs now see smoking cessation as more of a priority with KPIs and accountability ensuring it becomes part of routine care.

"making QFNL KPIs part of action plans so becomes part of routine care with accountability"

Partnerships

In order to support the implementation of QFNL, partnerships between different departments often needed to be established. For example between Health Promotion and Child and Family Health or Drug and Alcohol. For several coordinators, building these partnerships was seen as an achievement in the implementation of QFNL.

"the QFNL team have developed partnerships and respect"

"Acceptance of the program across child and family health is an achievement"

A couple of coordinators also highlighted the support gained through engaging with local communities.

"There is good local support for QFNL in the small towns"

"We spent a lot of time engaging with local services and local community through AMSs and land councils or other Aboriginal controlled organisations"

A few LHDs have also joined with local women's services or community health groups to run education and support groups around smoking cessation. Coordinators in one LHD spent time negotiating with a local Aboriginal NGO to run QFNL. They reported starting to see their efforts paying off with staff being trained in cessation support methods, and the emergence of quit clinics and quit groups and cessation support being incorporated into routinely provided services.

Resources to support implementation

The availability of resources, and in particular NRT and referral pathways, was highlighted as a strength of the initiative by most coordinators. Individuals identified the interventions

included in the model, the flexibility of delivery and the focus on working with the whole household as key components.

"QFNL was developed as an optimal program with everything in it"

Achievements to assist with the implementation were also identified. This included the coordinators network set up to enable communication with LHDs, advisory committees within the LHD and smoking cessation resources developed. A couple of those interviewed saw the development of the NRT policy as important in changing perceptions about its use in pregnancy. Developing an improved data reporting system, making it easier to collect and monitor data, was also highlighted as an achievement by one stakeholder. In the meantime, one LHD saw the development of their own monitoring system and training around its use as a big achievement.

ii) Challenges in implementation (Component 3)

KEY POINT: The biggest challenge was getting smoking prioritised by staff and services

All coordinators and stakeholders identified challenges faced in the implementation of QFNL.

Practice Change

Most coordinators identified several challenges faced with trying to embed QFNL into routine practice. For some this was around gaining management support to make smoking cessation a priority.

"Negotiating with managers to get the program embedded in services was a challenge"

"One obstacle was getting senior managers to advocate quitting"

Coordinators in a couple of LHDs identified an issue in the early stages of implementation with working out which department would have responsibility for QFNL. Liaising with all relevant groups was seen as an important but challenging aspect of QFNL by several of those interviewed.

"Through funding and engagement needs QFNL has become a 'project' rather than becoming an integrated part of services"

Within services, several coordinators felt that clinic staff did not feel they had time to prioritise smoking, especially as there were often other issues faced by the women.

"Behavioural support is not yet fully embedded in appointments as it is time consuming in an environment that is already stretched"

"There can be competing priorities at antenatal services where smoking is not necessarily considered a priority and QFNL elements (such as addressing smoking of household members) do not align with their core responsibilities"

Additionally, as one stakeholder stated, the women themselves often do not see smoking as a problem.

"QFNL addresses a health issue which women may not see as a problem"

In a couple of LHDs coordinators would like to see the midwives taking a bigger role in providing cessation care rather than just referring clients to the smoking care advisor.

"Some staff rely too much on smoking cessation advisor to do everything"

Recruiting and training staff

A few coordinators identified difficulties in recruiting staff, which led to delays or breaks in implementation

"The AMIHS site has had long periods without a midwife when QFNL couldn't run"

These difficulties were reported by coordinators to be due to local recruitment procedures as well as shortages in the workforce. High staff turnover in some LHDs means that there is a constant need to retrain people.

"We are constantly trying to keep up with changes in staff and organising training"

Several coordinators found it difficult to train all relevant staff. As one stakeholder noted there are practical issues in large geographic areas where staff need to travel to attend training.

"It is hard to get staff together at same time for training due to limited staff to cover maternity services"

"It has taken a good 12 months to get everyone trained up and confident to administer QFNL"

Engaging clients

Reaching eligible women in the target population was seen by some coordinators as a major challenge in the implementation of QFNL. For several LHDs, this meant taking the QFNL model outside AMIHS and BSF services

"We are not reaching all women as we should be, so need to better understand where antenatal care is being provided"

"One of the problems was not being able to see all Aboriginal women and families when funding was provided only for AMIHS and BSF"

Other challenges identified by individual coordinators included accessing women early in pregnancy, providing timely follow-up support, maintaining contact with women when they don't turn up for appointments or answer the phone and maintaining relationships with cohabitants. Coordinators in several larger LHDs felt that covering a large geographic area provided an additional challenge to maintaining contact with clients.

"It is difficult to follow-up with clients because of the rural area and poor mobile coverage"

"We have a large area to cover with limited FTE"

QFNL components

Some coordinators highlighted challenges overcoming the low uptake of the core QFNL interventions. In particular several found a low acceptance of Quitline support.

"Most of these women prefer face to face support"

One coordinator felt that the use of paper referrals rather than electronic took extra time. For a few LHDs it took time to develop policies surrounding the direct provision of NRT. For a few others there was a need to work extensively with pharmacies to set up the NRT voucher scheme.

"Working with pharmacies to educate them about the program so that they don't balk when client comes in with voucher has taken time"

As highlighted above, most coordinators reported challenges with data reporting requirements.

"Overcoming problems with ObstetriX for data reporting has been a major challenge"

QFNL expectations

Most LHDs experienced difficulties reaching the performance targets. One stakeholder pointed out the need to be careful in overstating outcomes and expecting more than the program can deliver.

"Change won't be seen until women who have remained quit return for subsequent births"

iii) Appropriateness of QFNL to support smoking cessation in the target group (Component 3)

KEY POINT: The QFNL model was considered appropriate to address smoking in the target group

Most coordinators and stakeholders felt that the QFNL model is an appropriate model to support smoking cessation in the target group and that addressing smoking in the antenatal period is ideal for delivery of care. However, they noted limitations in the expected outcomes and that some improvements could be made to the model. Suggested improvements have been incorporated into the relevant sections in Aim 1 above.

"Yes QFNL is appropriate but should have been opened up to all Aboriginal pregnant women."

A few of those interviewed felt that the appropriateness of the model depends on how it is set up at a local level, the local resources available and how antenatal care is delivered in the LHD.

"The model of letting LHDs develop their own model of care is appropriate as each LHD is very different"

Others thought that a capacity building model would have been more sustainable but not achievable given the burden on clinic staff. There was a suggestion that having a broader smoking cessation role within the LHD which antenatal services could access would help to overcome the time constraints of addressing smoking by clinic staff while still having an option for face-to-face support available to those who needed it.

iv) Adapting model for other maternal health issues (Component 3)

KEY POINT: Efforts to adapt the model to address other issues should ensure that staff are not overburdened

Responses to whether the QFNL model could be adopted to address other maternal health issues were mixed. The main arguments provided by interviewees against adapting the model are:

i) Need to be careful not to overburden antenatal care staff.
ii) For each issue added there is less time to address others.
iii) QFNL will lose impact if combined with other health issues.
iv) Not clear how much cooperation would get to report other more sensitive issues e.g. alcohol consumption.
v) Need an incentive like free NRT to offer.

Those who felt that the model could be adapted suggested that:

i) Lots of issues are linked so would be beneficial to address together holistically.
ii) Could become a healthy lifestyle program where issues are not looked at in isolation but are addressed together.
iii) Could target other groups such as low SES women, culturally and linguistically diverse (CALD) populations and young women.
iv) Would need to be well integrated so as not to overburden antenatal care staff
v) Success depends where priorities and resources are in LHD e.g. some LHDs already have referral pathways for a dietitian but not mental health services.
vi) Would need extensive consultation period to find out what would be acceptable and what issues are seen as needing to be addressed. A successful program needs to have community support so issue needs to be seen as a problem by the community.

Aim 3: Reach Of QFNL

i) Characteristics of mothers of Aboriginal babies in NSW (Component 1)

KEY POINT: The proportion of mothers of Aboriginal babies recorded in the AMDC who smoked during pregnancy in NSW dropped from 43% in 2012/13 to 40% in 2014/15

Between July 2012 and June 2015, there were 14,543 births in NSW for which the baby or the baby's mother was recorded as Aboriginal and whose data, was recorded in the AMDC. Overall, 46% of these women received antenatal care through an AMIHS and 41% smoked in the first half of pregnancy. The proportion of mothers of Aboriginal babies who smoked during pregnancy in NSW dropped from 43% in 2012/13 to 40% in 2014/15. Table 12 shows the prevalence of smoking in this group in the first half of pregnancy across the LHDs in NSW. During the study period, smoking rates ranged from 21% in NS to 57% in FW LHD.

Table 12: Number of mothers giving birth to an Aboriginal baby in NSW who smoked during the first half of pregnancy, as a proportion of all mothers giving birth to an Aboriginal baby, by year of baby's birth and LHD of residence.

LHD of residence	Year of baby's birth			Study period
	Jul12-June13	Jul13-Jun14	Jul14-Jun15	
	Number smoking (%)	Number smoking (%)	Number smoking (%)	Number smoking (%)
CC	95 (35%)	89 (33%)	99 (32%)	283 (34%)
FW	35 (61%)	25 (44%)	39 (65%)	99 (57%)
HNE	559 (45%)	510 (40%)	531 (39%)	1600 (41%)
IS	130 (40%)	142 (39%)	144 (36%)	416 (38%)
MNC	131 (41%)	131 (39%)	139 (39%)	401 (40%)
MUR	116 (46%)	118 (43%)	118 (43%)	352 (44%)
NBM	96 (34%)	132 (41%)	119 (36%)	347 (37%)
NNSW	146 (40%)	145 (40%)	129 (38%)	420 (39%)
NS	8 (20%)	10 (32%)	6 (15%)	24 (21%)
SES	34 (30%)	42 (31%)	33 (23%)	109 (28%)
SNSW	61 (52%)	61 (45%)	63 (46%)	185 (47%)
SWS*				14 (33%)
SYD*				16 (27%)
WNSW	381 (48%)	367 (44%)	394 (48%)	1142 (47%)
WS	154 (48%)	216 (49%)	190 (47%)	560 (48%)
Other†	12 (33%)	10 (22%)	18 (45%)	40 (33%)
Total	1969 (43%)	2007 (41%)	2032 (40%)	6008 (41%)

Source: AMDC July 2012 to June 2015 (n=14538).

*Data for those receiving care in SWS and SYD LHD was not included in the AMDC at the time of analysis. Therefore, only data on residents of these LHDs receiving care elsewhere is available. Due to small numbers only totals are provided for these LHDs.

†Includes those receiving care in NSW who reside outside NSW, have no fixed location or are missing residential data.

ii) Sample for analysis (Component 1)

KEY POINT: The sample for analysis included 5798 records.

After excluding:

- those women who did not receive antenatal care (n=138);
- those who did not smoke in the first half of pregnancy (n=8535);
- those receiving care in FW or NS LHD (n=288) and
- those attending an AMIHS in SWS or SYD LHDs, where ObstetriX was not used at the time of analysis, and birthing in a hospital elsewhere (n=4).

The sample for analysis contained 5798 records. The characteristics of eligible women in the sample are presented in Table 13.

Table 13: Characteristics of women giving birth to an Aboriginal baby in NSW between July 2012 and June 2015 who smoked in the first half of pregnancy.

Characteristic	Category	N (%)
Maternal age	mean (SD)	26 (6)
	median (min, max)	25 (14, 49)
Number of antenatal care visits	mean (SD)	9 (10)
	median (min, max)	10 (1, 99)
Indigenous status of mother	Aboriginal	3908 (67%)
	Torres Strait Islander	35 (0.6%)
	Aboriginal and Torres Strait Islander	70 (1.2%)
	Neither	1778 (31%)
	Missing	7 (0.1%)
Model of antenatal care received	private Obstetrician	272 (4.7%)
	general practitioner	2392 (41%)
	hospital based midwife	1688 (29%)
	hospital-based medical	2649 (46%)
	private practicing midwife	12 (0.2%)
	not given	4 (0.1%)
First antenatal care visit	Before 20wks gestation	4239 (73%)
	After 20wks gestation	1559 (27%)
Type of service attended	AMIHS	2982 (51%)
	Non-AMIHS QFNL service	520 (9.0%)
	Non AMIHS	2296 (40%)
LHD of residence	CC	280 (4.8%)
	FW	5 (0.1%)
	HNE	1574 (27%)
	IS	412 (7.1%)
	MNC	399 (6.9%)
	MUR	344 (5.9%)
	NBM	344 (5.9%)
	NNSW	414 (7.1%)
	NS	5 (0.1%)
	SES	109 (1.9%)
	SNSW	183 (3.2%)
	SWS	13 (0.2%)

Characteristic	Category	N (%)
	SYD	16 (0.3%)
	WNSW	1114 (19%)
	WS	547 (9.4%)
	Outside NSW	30 (0.5%)
	Missing or no fixed location	9 (0.2%)
SEIFA	1-5 (Most disadvantaged)	5130 (89%)
	6-10 (Least disadvantaged)	630 (11%)
	Missing	38 (0.7%)

Source: AMDC (n=5798). Exclusions: Women who did not receive antenatal care, did not smoke in the first half of pregnancy or received care in FW, NS, SWS or SYD LHDs.

AMIHS attendance

During the study period, the proportion of eligible women attending AMIHS for their antenatal care remained steady at around 51% each year. The number of women attending AMIHS varied across LHDs from 7.8% in NBM to 76% in SES. Seven LHDs (CC, IS, NBM, NNSW, SWS, SYD, WS) implemented QFNL in hospital-based antenatal care units. Over the study period 9% of eligible women attended these antenatal units.

iii) Number of mothers of Aboriginal babies receiving QFNL (Component 1)

KEY POINT: By 2015 53% of smoking mothers of Aboriginal babies were attending an antenatal care service implementing QFNL

Receiving QFNL

The proportion of eligible women attending a QFNL service post-QFNL implementation increased from 1.4% in 2012/2013 to 24% in 2013/2014 and 53% in 2014/2015. Overall, 27% (n = 1536) of women in the three year sample were deemed to have potentially received QFNL (Table 14). This calculation assumes that all mothers of Aboriginal babies who smoke during pregnancy and attend a QFNL service after QFNL began being implemented at the service, at any time in their pregnancy, can be offered QFNL. The reach of QFNL differed between LHDs depending on when the LHD commenced QFNL implementation, the number of QFNL services in the LHD and the number of eligible women attending QFNL services in that LHD. In 2014/2015 IS had the highest proportion of eligible women attending a service implementing QFNL (94%) while HNE had the greatest number (327).

Table 15 presents the modelling outcomes for characteristics associated with potentially receiving QFNL. After adjusting for LHD of service and year of baby's birth, there was no association between maternal age, number of antenatal care visits, or SEIFA of residence and a change in the odds of attending a QFNL service post-QFNL implementation. The only statistically significant predictor was Aboriginal status of mothers. Compared to non-Aboriginal mothers of Aboriginal babies, Aboriginal mothers have between a 35% and 91% increase in the odds of attending a service implementing QFNL ($P<0.0001$).

Table 14: 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						Study Period	
	Jul12-Jun13		Jul13-Jun14		Jul14-Jun15			
	Eligible women	Attend Post-QFNL (%)	Eligible women	Attend Post-QFNL (%)	Eligible women	Attend Post-QFNL (%)	Eligible women	Attend Post-QFNL (%)
CC	93		81	32 (40%)	98	63 (64%)	272	95 (35 %)
HNE	557		522	155 (30%)	543	327 (60%)	1622	482 (30%)
IS	129	27 (21%)	144	118 (82%)	143	134 (94%)	416	279 (67%)
MNC	132		127	28 (22%)	135	84 (62 %)	394	112 (28%)
MUR	115		120	11 (9.2%)	113	51 (45%)	348	62 (18%)
NBM	153		175	33 (19%)	184	81 (44%)	512	114 (22%)
NNSW	150		149	84 (56%)	135	118 (87%)	434	202 (47%)
SES	37		48		46	9 (20%)	131	9 (6.9%)
SNSW	59		59		62	39 (63%)	180	39 (22%)
WNSW	361		343		364	68 (19%)	1068	68 (6.4%)
WS	114		179	31 (17%)	128	56 (44%)	421	87 (21%)
NSW Total	1900	27 (1.4%)	1947	492 (25%)	1951	1030 (53%)	5798	1549 (27%)

Source: AMDC July 2012 to June 2015 (n=5798). Exclusions: women who did not receive antenatal care; did not smoke in the first half of pregnancy; or received care in FW, NS, SWS or SYD LHDs.

Table 15: Characteristics of eligible women and the odds of attending a service implementing QFNL.

		Attended post-QFNL implementation		Odds of attending QFNL service post-QFNL implementation	
Predictor	**Summary**	**No (n=4249)**	**Yes (n=1549)**	**Adjusted OR (95% CI) †**	**p-value‡**
Aboriginal status of mother	**Aboriginal**	2881 (72%)	1132 (28%)	1.61 (1.35, 1.91)	<0.0001
	Non-Aboriginal	1368 (77%)	417 (23%)	ref	
SEIFA	**1-5 (Most disadvantaged)**	3720 (73%)	1410 (27%)	1.28 (0.98, 1.67)	0.0665
	6-10 (Least disadvantaged)	501 (80%)	129 (20%)	ref	
Maternal age	**mean (SD)**	26 (6)	26 (6)	0.99 (0.98, 1.00)	0.1109
No of antenatal care visits	**mean (SD)**	9 (10)	9 (9)	1.00 (0.99, 1.01)	0.4815

Source: AMDC July 2012 to June 2015 (n=5798). Exclusions: women who did not receive antenatal care, did not smoke in the first half of pregnancy or received care in FW, NS, SWS or SYD LHDs.
†Adjusted for LHD of service, year of baby's birth, and all covariates presented in the table.
‡p<0.05 considered statistically significant

Aim 4: Uptake of QFNL Interventions

i) Uptake of core QFNL interventions recorded in the AMDC (Component 1)

KEY POINT: AMDC records indicate21% of eligible women attending a QFNL service post-QFNL implementation took up a core QFNL intervention between June 2012 and July 2015.

Among eligible women who attended a QFNL service post-QFNL implementation, 21% (320/1549) are recorded in the AMDC as taking up at least one core QFNL intervention (NRT/Quitline/follow-up support). This represents 5.5% of all mothers of Aboriginal babies in NSW who smoked during the first half of pregnancy and received antenatal care. In Table 16 we present the uptake of core QFNL interventions by eligible women attending services implementing QFNL. Table 17 presents the number recorded as taking up NRT, Quitline or follow-up support. Note that women could take up more than one intervention. From these data we calculated that over the three year study period among eligible women attending a QFNL service post-QFNL implementation:

i) 168 (11%) took up the offer of NRT
ii) 136 (8.8%) took up a referral to Quitline, and
iii) 190 (12%) took up follow-up support.

Table 16: Number of eligible women attending a QFNL service post-QFNL implementation and taking up a core QFNL intervention as a proportion of all those attending a QFNL service post-QFNL implementation, by LHD of service and year of baby's birth.

LHD of service	Year of baby's birth						Study period	
	Jul12-June13		Jul13-Jun14		Jul14-Jun15			
	Attended post-QFNL	Uptake (%)	Attended post-QFNL	Uptake (%)	Attended post-QFNL	Uptake (%)	Attended post-QFNL	Uptake (%)
CC			32	10 (31%)	63	10 (16%)	95	20 (21%)
HNE			155	19 (12%)	327	70 (21%)	482	89 (18%)
IS	27	2 (7.4%)	118	31 (26%)	134	75 (56%)	279	108 (39%)
MNC			28	1 (3.6%)	84	18 (21%)	112	19 (17%)
MUR			11	1 (9.1%)	51	1 (2%)	62	2 (3.2%)
NBM			33	5 (15%)	81	18 (22%)	114	23 (20%)
NNSW			84	17 (20%)	118	26 (22%)	202	43 (21%)
SES					9	1 (11%)	9	1 (11%)
SNSW					39	6 (15%)	39	6 (15%)
WNSW					68	1 (1.5%)	68	1 (1.5%)
WS			31	1 (3.2%)	56	7 (13%)	87	8 (9.2%)
NSW Total	27	2 (7.4%)	492	85 (17%)	1030	233 (23%)	1549	320 (21%)

Source: AMDC July 2012 to June 2015 (n=1549). Exclusions: women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or did not attend a QFNL service post-QFNL implementation.

Table 17: Number of eligible women attending a QFNL service post-QFNL implementation and taking up NRT/Quitline/follow-up support, by LHD of service and year of baby's birth.

LHD of service	Year of baby's birth			Study period
	Jul12-June13	Jul13-Jun14	Jul14-Jun15	
	NRT/ Quitline/ follow-up	NRT/ Quitline/ follow-up	NRT/ Quitline/ follow-up	NRT/ Quitline/ follow-up
CC	-	5/6/5	7/2/7	12/8/12
HNE	-	12/14/10	41/23/33	53/37/43
IS	0/1/2	18/21/19	43/36/65	61/58/86
MNC	-	0/0/0	9/1/7	9/1/7
MUR	-	0/0/0	0/0/0	0/0/0
NBM	-	1/4/1	1/1/9	2/5/10
NNSW	-	13/10/13	16/11/16	29/21/29
SES	-	-	0/0/1	0/0/1
SNSW	-	-	1/4/0	1/4/0
WNSW	-	-	0/0/0	0/0/0
WS	-	0/0/0	1/2/2	1/2/2
All	0/1/2	49/55/48	119/80/140	168/136/190

Source: AMDC July 2012 to June 2015 (n=1549). Exclusions: women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or did not attend a QFNL service post-QFNL implementation.

The uptake of core QFNL interventions among eligible women who attended a QFNL service post-QFNL implementation varied across LHDs. The highest uptake was seen in IS with 39% taking up an intervention. Table 18 presents the modelling outcomes for characteristics associated with taking up a core intervention among those attending a QFNL service post-QFNL implementation. After adjusting for LHD of service and year of baby's birth, there was no association between maternal age, Aboriginal status of mother, number of antenatal care visits, SEIFA of residence and a change in the odds of taking up a core QFNL intervention.

Table 18: Characteristics of eligible women attending a QFNL service post-QFNL implementation and the odds of taking up a core QFNL intervention.

		Core QFNL intervention taken up		Odds of taking up a core QFNL intervention	
Predictor	**Summary**	**No (n=1217)**	**Yes (n=319)**	**Adjusted OR (95% CI)‡**	**p-value†**
Aboriginal status of mother	**Aboriginal**	897 (79%)	235 (21%)	1.16 (0.85, 1.56)	0.3462
	Non-Aboriginal	332 (80%)	85 (20%)	ref	
SEIFA	**1-5 (Most disadvantaged)**	1112 (79%)	298 (21%)	1.10 (0.65, 1.87)	0.7237
	6-10 (Least disadvantaged)	108 (84%)	21 (16%)	ref	
Maternal age	**mean (SD)**	26 (6)	25 (6)	0.98 (0.96, 1.01)	0.1402
No of antenatal care visits	**mean (SD)**	9 (8)	10 (11)	1.01 (1.00, 1.02)	0.1419

Source: AMDC July 2012 to June 2015 (n=1536). Exclusions: women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or did not attend a QFNL service post-QFNL implementation.
†p<0.05 considered statistically significant
‡Adjusted for LHD of service, year of baby's birth, and all covariates presented in the table

ii) Client numbers maintained by LHDs(Component 2B)

KEY POINT: LHD records indicate that 54% of eligible women took up a core QFNL intervention between January 2013 and March 2015 compared to 23% recorded in the AMDC.

LHDs record information on the implementation of QFNL in ObstetriX. Information on program implementation is also maintained separately, typically by smoking care advisors. Interrogation of these separate LHD records found a total of 1569 clients (pregnant, postnatal or cohabitant) took up at least one of the core QFNL interventions in the period since the initiative was rolled out in 2013 until the end of March 2015. Table 19 shows the number of clients in each quarter in each LHD by client type (pregnant, postnatal or cohabitant). More pregnant women use QFNL than the other client types reflecting the primary aim of the initiative.

When we compare these values to those in the AMDC presented above for numbers accepting a core QFNL intervention we see that the number of clients separately recorded by LHDs is much greater than that recorded in the AMDC. In the period Jan 2013-March 2015 there were 280 pregnant clients accepting at least one core QFNL intervention reported in the AMDC compared to 644 recorded separately within LHDs and excluding SWS and SYD who do not appear in the AMDC. Using the number of eligible women attending a QFNL service post-QFNL implementation recorded in the AMDC (n=1199) as the denominator this equates to 23% uptake recorded in the AMDC and 54% in the separately maintained LHD records.

Table 19: Quarterly data maintained by LHDs on the number of new pregnant, postnatal and cohabitant clients who took up one or more core intervention.

	Pregnant women						
LHD of service	Total 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Study period
CC	10	4	1	9	1	6	31
HNE	5	37	45	57	52	67	263
IS	26	9	15	39	45	39	173
MNC	-	6	3	14	7	8	38
MUR	-	-	-	3	0	3	6
NBM	11	0	4	6	5	3	29
NNSW	20	13	14	13	9	7	76
SES	-	-	-	-	4	4	8
SNSW	-	-	-	6*	5	5	10
SWS	-	1	14	13	14	6	48
SYD	-	-	-	-	4	8	12
WNSW	-	-	-	-	-	ND	ND
WS	1	3	0	1	3	2	10
NSW Total	73	73	96	155	149	158	704

Postnatal women							
LHD of service	Total 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Study period
CC	8	8	8	4	2	2	32
HNE	5	8	26	39	27	37	142
IS	42	10	6	12	4	2	76
MNC	-	2	4	4	3	3	16
MUR	-	-	-	0	3	0	3
NBM	7	0	3	0	1	3	14
NNSW	0	4	8	1	2	2	17
SES	-	-	-	-	0	0	0
SNSW	-	-	-	8*	1	4	5
SWS	-	1	2	4	1	5	13
SYD	-	-	-	-	2	2	4
WNSW	-	-	-	-	-	ND	0
WS	0	0	0*	0	1	4	5
NSW Total	62	33	57	64	47	64	327

Cohabitants							
LHD of service	Total 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Study period
CC	10	9	6	5	2	5	37
HNE	5	43	47	39	34	38	206
IS	27	6	1	4	5	12	55
MNC	-	5	3	9	3	7	27
MUR	-	-	-	1	3	1	5
NBM	11	0	7	2	8	1	29
NNSW	4	6	7	3	2	6	28
SES	-	-	-	-	0	2	2
SNSW	-	-	-	6*	6	5	11
SWS	-	5	8	6	13	7	39
SYD	-	-	-	-	7	10	17
WNSW	-	-	-	-	-	ND	0
WS	0	0	0*	0	24	33	57
NSW Total	57	74	79	69	107	127	513

Source: Component 2B: client numbers maintained by LHDs on the number of new clients taking up a core QFNL intervention (NRT/Quitline/follow-up) between January 2013 and March 2015.
- LHD had not commenced implementing QFNL at this time.
ND no data were provided.
* No data were provided so values were obtained from data on continuing clients reported in the following quarter.

iii) NRT Provision (Component 2C)

KEY POINT: Six LHDs supplied NRT to clients directly and ten used the voucher scheme.

Direct provision

NRT was provided directly to clients in six LHDs. A total of 718 instances of NRT being provided directly to QFNL clients and their cohabitants were recorded. This was reported as 956 weeks' worth of NRT to pregnant/postnatal clients and 274 weeks for cohabitants. For pregnant/ postnatal clients, 76% of NRT direct provision was in oral form compared to 49% for cohabitants. Table 20 details the provision of NRT directly to clients.

Table 20: Quarterly data on the number of instances NRT was provided directly to pregnant or postnatal QFNL clients and cohabitants by LHD.

Pregnant/Postnatal clients						
LHD of service	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Study Period
HNE	19	63	58	49	60	249
IS	ND	35	51	57	59	202
MNC	9	11	19	20	19	78
SES	-	-	-	-	1	1
SWS	1	4	2	7	8	22
SYD	-	-	-	ND	ND	
NSW Total	29	113	130	133	147	552

Cohabitants						
LHD of service	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Study Period
HNE	4	3	5	1	3	16
IS	ND	9	10	27	27	73
MNC	15	4	14	6	9	48
SES	-	-	-	-	0	0
SWS	3	12	1	8	5	29
SYD	-	-	-	ND	ND	0
NSW Total	22	28	30	42	44	166

Source: Component 2C LHD maintained records of direct NRT provision between January 2013 and March 2015

- LHD had not commenced implementing QFNL at this time

ND no data were provided

Provision by Voucher

Ten LHDs supplied NRT to clients via a voucher. The voucher could be redeemed at a pharmacy for the specified number of weeks' worth of NRT. Four LHDs (HNE, MNC, SWS, SYD) provided NRT to clients both directly and via voucher. Table 21 shows the instances of NRT being supplied via voucher across LHDs. Overall, 811 weeks' worth of NRT was supplied to pregnant/postnatal clients and 871 weeks to cohabitants at a total cost of $51,883.91 (Table 22). For pregnant/ postnatal clients 58% was in oral form compared with 52% for cohabitants.

Table 21: Quarterly data on the number of instances a voucher for NRT was redeemed at a pharmacy by a QFNL client, by LHD.

Pregnant/Postnatal clients							
LHD of service	Q4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Study Period
CC	6	7	14	8	7	15	**57**
HNE	0	0	2	3	3	11	**19**
MNC	-	1	0	2	0	0	**3**
MUR	-	-	-	0	1	0	**1**
NBM	6	2	5	3	23	12	**51**
NNSW	18	21	16	31	18	15	**119**
SNSW	-	-	-	1	5	4	**10**
SWS	-	0	8	9	17	8	**42**
SYD	-	-	-	-	0	2	**2**
WS	0	0	0	0	0	2	**2**
NSW Total	30	31	45	57	74	69	**306**

Cohabitants							
LHD of service	Q4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Study Period
CC	1	9	7	3	3	8	31
HNE	0	10	25	17	14	12	78
MNC	-	0	0	1	0	0	1
MUR	-	-	-	0	2	1	3
NBM	5	2	7	1	14	15	44
NNSW	4	10	3	4	2	5	28
SNSW	-	-	-	1	3	1	5
SWS	0	0	6	8	18	5	37
SYD	-	-	-	-	0	0	0
WS	0	0	0	0	0	29	29
NSW Total	10	31	48	35	56	76	256

Source: Component 2C NRT voucher redemption reported by the NSW Pharmacy Guild between January 2013 and March 2015

- LHD had not commenced implementing QFNL at this time

Table 22: Quarterly data on the cost of NRT redeemed by QFNL clients via voucher, by LHD of service.

LHD of service	Q4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Study Period
CC	$475.86	$675.83	$1,271.60	$645.06	$729.05	$1,385.38	$5,182.78
HNE		$1,805.20	$3,895.80	$2,282.38	$1,225.29	$3,174.94	$12,383.61
MNC		$27.95		$103.93			$131.88
MUR					$479.25	$39.90	$519.15
NBM	$1,149.24	$239.68	$579.98	$247.84	$2,303.70	$2,773.08	$7,293.52
NNSW	$2,984.44	$2,539.98	$2,732.19	$3,327.52	$2,196.03	$1,493.08	$15,273.24
SNSW				$305.25	$1,506.80	$431.05	$2,243.10
SWS			$939.35	$1,118.40	$3,726.56	$1,132.95	$6,917.26
SYD						$109.75	$109.75
WS						$1,829.62	$1,829.62
NSW Total	$4,609.54	$5,288.64	$9,418.92	$8,030.38	$12,166.68	$12,369.75	$51,883.91

Source: Component 2C NRT voucher redemption reported by the NSW Pharmacy Guild between January 2013 and March 2015

iv) Quitline referrals (Component 2D)

KEY POINT: Quitline cessation support was accepted by 43% of QFNL clients referred to Quitline.

From January 2013 to March 2015 Quitline received 350 referrals for clients through QFNL. Initial calls were successful in reaching the client in 59% of cases. The Quitline cessation support offered was accepted by 151 (43%) of the 350 clients initially referred. Figure 6 details the outcome of calls made. Table 23 shows the number of initial Quitline calls made and the proportion of clients who accepted the Quitline cessation support offered in each LHD.

A logistic regression on the factors associated with accepting cessation support from Quitline found that postnatal clients were statistically significantly more likely to accept cessation support than pregnant clients. Additionally, older clients were statistically significantly more likely to accept cessation support than younger clients. Sex and LHD of referring service were not associated with accepting cessation support from Quitline. Table 24 shows the regression results. Note that some LHDs were combined for this analysis due to low numbers. Living condition was not included as a factor due to missing data for those not accepting the Quitline calls.

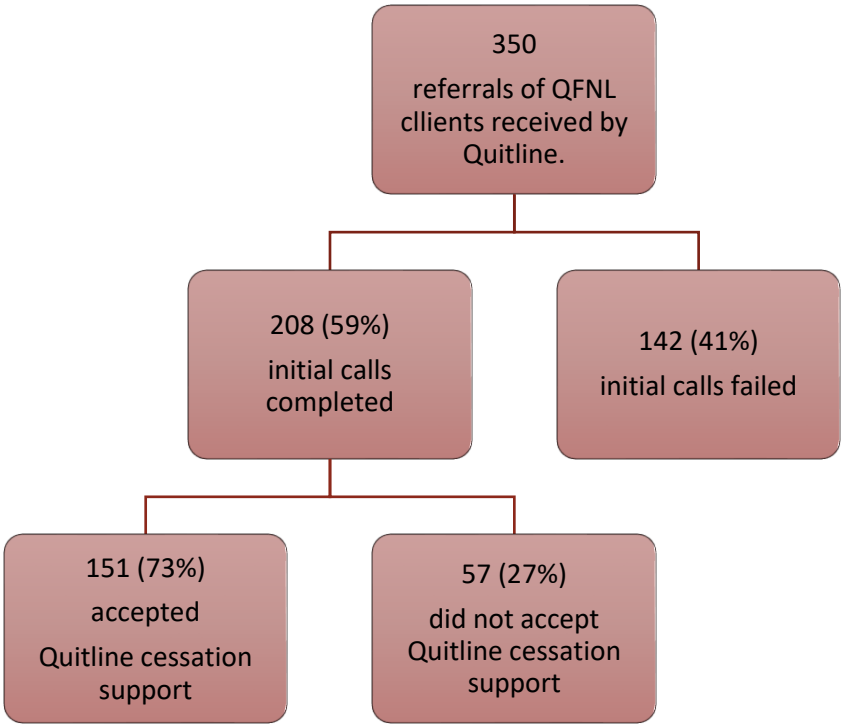

Figure 6: Flowchart of calls made by Quitline to QFNL clients. Source: Component 2D: Quitline usage between January 2013 and March 2015.

Table 23: Quarterly data on the number of initial Quitline calls made to clients referred through QFNL / Proportion of clients accepting Quitline cessation support, by LHD of service.

LHD of service	Q2 2013	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Total
CC	-	2/ 100%	9/ 44%	9/ 67%	6/ 33%	3/ 33%	0	1/ 100%	30/ 53%
HNE	-	1/ 100%	1/ 0%	22/ 68%	14/ 36%	23/ 39%	11/ 36%	25/ 20%	97/ 40%
IS	3/ 67%	2/ 100%	11/ 36%	8/ 38%	9/ 56%	9/ 22%	9/ 67%	16/ 31%	67/ 43%
MNC	-	-	-	0	0	0	0	1/ 0%	1/ 0%
MUR	-	-	-	-	-	0	4/ 25%	3/ 33%	7/ 29%
NBM	-	-	8/ 38%	7/ 29%	5/ 0%	2/ 100%	9/ 67%	16/ 56%	47/ 47%
NNSW	-	-	12/ 50%	6/ 67%	7/ 29%	5/ 60%	4/ 25%	11/ 55%	45/ 49%
SES	-	-	-	-	-	-	0	1/ 100%	1/ 100%
SNSW	-	-	-	-	-	1/ 100%	3/ 33%	0	4/ 50%
SWS	-	-	-	0	9/ 33%	2/ 0%	2/ 50%	4/ 25%	17/ 29%

LHD of service	Q2 2013	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Total
SYD	-	-	-	-	-	-	0	0	0
WNSW	-	-	-	-	-	-	-	0	0
WS	-	-	2/ 100%	1/ 0%	2/ 50%	0	3/ 100%	18/ 39%	26/ 50%
NSW Total	3/ 67%	5/ 100%	43/ 44%	53/ 57%	52/ 35%	45/ 40%	45/ 51%	96/ 38%	342*/ 44%

Source: Component 2D: Quitline usage between January 2013 and March 2015.
*8 cases, where LHD was not specified, where not included in the table.
- LHD had not commenced implementing QFNL at this time

Table 24: Characteristics of QFNL clients accepting Quitline cessation support.

Predictor	Summary	Accepted Quitline cessation support (N=147)	Did not accept Quitline cessation support or calls failed (N=157)	Adjusted Odds ratio (95% CI)	P value*
Age	**19 or younger**	19 (49%)	20 (51%)	ref	**0.0284**
	20-29	58 (41%)	83 (59%)	0.74 (0.34-1.64)	
	30-39	43 (52%)	39 (48%)	1.2 (0.52-3.0)	
	40-49	15 (60%)	10 (40%)	2.9 (0.86-9.7)	
	50 or older	11 (65%)	6 (35%)	3.6 (0.92-14.0)	
Sex	**Male**	29 (56%)	23 (44%)	ref	0.0986
	Female	118 (47%)	134 (53%)	0.48 (0.20-1.1)	
LHD	**CC**	16 (57%)	12 (43%)	ref	0.8061
	HNE	39 (45%)	48 (55%)	0.84 (0.33-2.1)	
	IS	28 (50%)	28 (50%)	1.1 (0.42-3.1)	
	NBM	22 (56%)	17 (44%)	1.3 (0.44-3.7)	
	NNSW (incl. 1 MNC)	21 (49%)	22 (51%)	0.87 (0.31-2.5)	
	SWS (incl. 1 SES)	6 (35%)	11 (65%)	0.42 (0.11-1.6)	
	SNSW (incl. 7 MUR)	3 (30%)	7 (70%)	0.85 (0.16-4.5)	
	WS	12 (50%)	12 (50%)	0.84 (0.24-2.9)	
Type	**Pregnant**	65 (51%)	62 (49%)	ref	**<0.001**
	Postnatal	22 (88%)	3 (12%)	7 (1.9-25.3)	
	Cohabitant	30 (59%)	21 (41%)	0.50 (0.18-1.6)	
	Missing	30 (30%)	71 (70%)	0.25 (0.13-0.49)	

Source: Component 2D: Quitline usage between January 2013 and March 2015 (n=304). Exclusions: Those with missing data.
*p<0.05 considered statistically significant

Aim 5: Impact of QFNL

Data in the AMDC (Component 1) were analysed to determine whether eligible women who received QFNL had a higher rate of smoking cessation than those who did not receive QFNL. Only those whose record in the AMDC indicated that they did not smoke at any time in the second half of pregnancy were considered to have ceased smoking. We also investigated the effect of QFNL on the amount smoked in the second half of pregnancy compared to the first half. As described in the methodology, the analysis of impact was restricted to those attending a QFNL service pre- QFNL implementation (did not receive QFNL) and post- QFNL implementation (received QFNL). The sample for analysis, therefore, contained 3502 eligible women (Table 25).

i) Smoking cessation and reduction in number of cigarettes smoked in eligible women attending a QFNL service post-QFNL implementation (Component 1)

KEY POINT: There was no evidence of an association between attending a QFNL service post-QFNL implementation and ceasing smoking or reducing the amount smoked per day using the measures analysed.

Impact of QFNL on smoking cessation

Of those attending a QFNL service post-QFNL implementation (intervention group), 18% ceased smoking prior to the second half of pregnancy, compared to 19% of those who attended pre-QFNL implementation (control group). Table 25 shows the proportion of eligible women across LHDs who ceased smoking by whether they attended pre or post-QFNL implementation. The proportion of eligible women attending a QFNL service who ceased smoking varied across LHDs. Post-QFNL implementation this ranged from 7.1% in MNC to 67% in SES.

Table 25: Rates of smoking cessation in eligible women who attended a QFNL service post-QFNL implementation vs. those who attended a QFNL service pre-QFNL implementation, by LHD of service.

LHD of service	Pre-QFNL implementation (control group)		Post-QFNL implementation (intervention group)		Total	
	Total N	Ceased smoking* N (%)	Total N	Ceased smoking N (%)	Total N	Ceased smoking N (%)
CC	84	20 (24%)	95	21 (22%)	179	41 (23%)
HNE	535	86 (16%)	482	62 (13%)	1017	148 (15%)
IS	97	23 (24%)	279	69 (25%)	376	92 (25%)
MNC	160	30 (19%)	112	8 (7.1%)	272	38 (14%)
MUR	144	27 (19%)	62	7 (11%)	206	34 (17%)
NBM	90	21 (23%)	114	31 (27%)	204	52 (26%)
NNSW	156	28 (18%)	202	36 (18%)	358	64 (18%)
SES	97	36 (37%)	9	6 (67%)	106	42 (40%)

LHD of service	Pre-QFNL implementation (control group)		Post-QFNL implementation (intervention group)		Total	
	Total N	Ceased smoking* N (%)	Total N	Ceased smoking N (%)	Total N	Ceased smoking N (%)
SNSW	60	10 (17%)	39	5 (13%)	99	15 (15%)
WNSW	389	63 (16%)	68	14 (21%)	457	77 (17%)
WS	141	30 (21%)	87	17 (20%)	228	47 (21%)
NSW Total	1953	374 (19%)	1549	276 (18%)	3502	650 (19%)

Source: AMDC July 2012 to June 2015 (n=3502). Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or did not attend a QFNL service.
*Ceased smoking if reported not smoking at any time in the second half of pregnancy

Table 26 presents the modelling outcomes for characteristics associated with smoking in the second half of pregnancy. After adjusting for LHD of service, year of baby's birth, Aboriginal status of the mother, maternal age, number of antenatal care visits and SEIFA of residence, there was no evidence of a difference in the odds of smoking in the second half of pregnancy between eligible women who attended a QFNL service pre-QFNL implementation (control group) and post-QFNL implementation (intervention group).

Table 26: Characteristics of eligible women (including whether attended a QFNL service pre or post-QFNL implementation) and the odds of smoking in the second half of pregnancy.

		Smoking in the second half of pregnancy?		Odds of smoking in the second half	
Predictor	Summary	No (n=650)	Yes (n=2852)	Adjusted OR (95% CI) †	p-value*
QFNL service attended	**Pre-QFNL implementation (control group)**	374 (19%)	1579 (81%)	ref	
	Post-QFNL implementation (intervention group)	276 (18%)	1273 (82%)	1.28 (0.96, 1.70)	0.0905
Aboriginal status of mother	**Aboriginal**	466 (18%)	2159 (82%)	1.16 (0.96, 1.40)	0.1290
	Non-Aboriginal	184 (21%)	693 (79%)	ref	
SEIFA	**1-5 (Most disadvantaged)**	559 (18%)	2581 (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: AMDC July 2012 to June 2015 (n=3502). Exclusions: Women who did not receive antenatal care, did not smoke in the first half of pregnancy, received care in FW, NS, SWS or SYD LHDs or did not attend a QFNL service.
*p<0.05 considered statistically significant
†Adjusted for LHD, year of baby's birth, and all covariates presented in the table

The sample size of 3502 women was powered at 80% to detect at least a 5.1% increase in smoking cessation in those attending a QFNL service post-implementation, compared to those attending pre-QFNL implementation, at the 5% significance threshold. This calculation is based on the observed quit rate of 19% for women attending pre-QFNL implementation, 44% of women attending a QFNL service, 56 QFNL services included and an intra-cluster correlation (ICC) between women attending the same service of 0.01.

Impact of QFNL on amount smoked

Table 27 shows the change in the number of cigarettes smoked from the first to the second half of pregnancy across LHDs in eligible women attending a QFNL service. Overall, those attending post-QFNL implementation (intervention group) smoked 0.81 fewer cigarettes per day in the second half of pregnancy while those attending pre-QFNL implementation (control group) smoked 0.73 fewer per day in the second half of pregnancy. The biggest difference was seen in NBM where 1.89 fewer cigarettes were smoked per day in the second half of pregnancy compared to the first. After adjusting for LHD of service, year of baby's birth, Aboriginal status of the mother, maternal age, number of antenatal care visits and SEIFA of residence, there was no evidence of a difference in the change in number of cigarettes smoked between eligible women who attended a QFNL service post-QFNL implementation (intervention group) and those who attended pre-QFNL implementation (control group) (Table 28).

Table 27: Mean difference in the number of cigarettes smoked per day (CPD) from the first to the second half of pregnancy for those attending a QFNL service pre and post-QFNL implementation, by LHD of service.

	Pre-QFNL implementation (control group)			Post-QFNL implementation (intervention group)			Total		
LHD of service	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference * (SD)	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference (SD)	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference (SD)
CC	7.04 (5.45)	7.6 (6.9)	0.56 (6.14)	8.5 (6.61)	7.65 (6.55)	-0.84 (5.89)	7.81 (6.12)	7.63 (6.7)	-0.19 (6.03)
HNE	8.46 (6.15)	7.91 (6.18)	-0.55 (6.09)	8.96 (6.13)	8.6 (7.26)	-0.36 (7.05)	8.7 (6.14)	8.24 (6.72)	-0.46 (6.56)
IS	8.05 (5.5)	6.95 (6.22)	-1.1 (4.86)	8.34 (5.88)	6.74 (6.52)	-1.6 (6.13)	8.26 (5.78)	6.79 (6.44)	-1.47 (5.83)
MNC	8.07 (5.8)	7.63 (6.34)	-0.44 (5.91)	10.26 (5.94)	10.26 (6.75)	0 (5.07)	8.97 (5.95)	8.71 (6.63)	-0.26 (5.58)
MUR	8.77 (5.82)	8.3 (5.95)	-0.47 (5.93)	8.81 (5.11)	8.5 (5.64)	-0.31 (4.61)	8.78 (5.6)	8.36 (5.85)	-0.42 (5.56)
NBM	9.45 (6.39)	8.09 (7.7)	-1.36 (6.42)	8.5 (5.55)	6.19 (6.43)	-2.31 (6.01)	8.92 (5.94)	7.03 (7.07)	-1.89 (6.2)
NNSW	8.93 (5.35)	8.03 (6.66)	-0.9 (6.82)	7.41 (5.68)	6.41 (5.35)	-1.0 (5.37)	8.07 (5.58)	7.11 (6.0)	-0.96 (6.03)
SES	6.67 (5.33)	5.15 (6.02)	-1.52 (5.69)	4.47 (5.6)	4.0 (7.0)	-0.47 (3.74)	6.48 (5.36)	5.05 (6.08)	-1.43 (5.55)
SNSW	8.44 (5.01)	8.68 (5.89)	0.25 (5.79)	9.13 (5.85)	9.05 (7.17)	-0.08 (7.54)	8.71 (5.34)	8.83 (6.39)	0.12 (6.5)

LHD of service	Pre-QFNL implementation (control group)			Post-QFNL implementation (intervention group)			Total		
	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference * (SD)	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference (SD)	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference (SD)
WNSW	8.95 (6.24)	7.94 (6.55)	-1.01 (7.21)	8.08 (7.23)	7.28 (7.46)	-0.8 (7.01)	8.82 (6.4)	7.84 (6.69)	-0.98 (7.18)
WS	8.39 (5.61)	7.36 (6.94)	-1.04 (5.62)	7.76 (5.93)	7.62 (6.57)	-0.14 (6.15)	8.15 (5.73)	7.46 (6.79)	-0.69 (5.83)
NSW Total	8.45 (5.91)	7.72 (6.46)	-0.73 (6.27)	8.54 (6.03)	7.73 (6.75)	-0.81 (6.28)	8.49 (5.97)	7.73 (6.59)	-0.77 (6.27)

Source: AMDC July 2012 to June 2015 (n=3502). Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or did not attend a QFNL service.

* Mean difference calculated as CPD in the second half of pregnancy minus CPD in the first half of pregnancy averaged over eligible women

Table 28: Characteristics of eligible women (including whether attended a QFNL service pre or post-QFNL implementation) and the change in the number of cigarettes smoked from first to second half of pregnancy.

Predictor	Summary	Adjusted Estimate (95% CI) †	p-value
QFNL service attended	**Pre-QFNL implementation (control group)**	ref	
	Post-QFNL implementation (intervention group)	0.31 (-0.35, 0.96)	0.3482
Aboriginal status of mother	**Aboriginal**	0.35 (-0.11, 0.81)	0.1347
	Non-Aboriginal	ref	
SEIFA	**1-5 (Most disadvantaged)**	-0.38 (-1.13, 0.38)	0.3121
	6-10 (Least disadvantaged)	ref	
Maternal age	**unit increase**	-0.02 (-0.05, 0.02)	0.2718
No of antenatal care visits	**unit increase**	-0.01 (-0.04, 0.02)	0.4553

Source: AMDC July 2012 to June 2015 (n=3502). Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or did not attend a QFNL service.

*p<0.05 considered statistically significant;

†Adjusted for LHD of service, year of baby's birth, and all covariates presented in the table

ii) Smoking cessation and reduction in number of cigarettes smoked among women who took up a core QFNL intervention (Component 1)

KEY POINT: There was no evidence of an association between taking up one of the core QFNL interventions and ceasing smoking or reducing the number of cigarettes smoked per day using the measures analysed.

Impact on smoking cessation in women taking up a core QFNL intervention

Eligible women attending a QFNL service post-QFNL implementation who took up a core QFNL intervention quit smoking at the same rate (19%) as eligible women attending a QFNL

service post-QFNL implementation who did not take up a core QFNL intervention (18%). Table 29 shows the proportion ceasing smoking in each LHD. The proportion of eligible women attending a QFNL service post-QFNL implementation and taking up at least one core QFNL intervention varied across LHDs from 9% in MNC to 75% in SES.

Table 29: Rates of smoking cessation in eligible women attending a QFNL service post-QFNL implementation who took up a core QFNL intervention vs. those who did not take up an intervention, by LHD of service.

LHD of service	Did not take up core QFNL intervention		Took up core QFNL intervention		All	
	Total N	Ceased smoking*	Total N	Ceased smoking	Total N	Ceased smoking
CC	75	17 (23%)	20	4 (20%)	95	21 (22%)
HNE	393	49 (13%)	89	13 (15%)	482	62 (13%)
IS	171	42 (25%)	108	27 (25%)	279	69 (25%)
MNC	93	8 (9%)	19	0 (0%)	112	8 (7%)
MUR	60	7 (12%)	2	0 (0%)	62	7 (11%)
NBM	91	26 (29%)	23	5 (22%)	114	31 (27%)
NNSW	159	26 (16%)	43	10 (23%)	202	36 (18%)
SES	8	6 (75%)	1	0 (0%)	9	6 (67%)
SNSW	33	5 (15%)	6	0 (0%)	39	5 (13%)
WNSW	67	14 (21%)	1	0 (0%)	68	14 (21%)
WS	79	16 (20%)	8	1 (13%)	87	17 (20%)
NSW Total	1229	216 (18%)	320	60 (19%)	1549	276 (18%)

Source: AMDC July 2012 to June 2015 (n=1549). Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; did not attend a QFNL service post-QFNL implementation.
*Ceased smoking if reported not smoking at any time in the second half of pregnancy

Table 30 presents the modelling outcomes for characteristics associated with smoking in the second half of pregnancy including whether a core QFNL intervention was taken up. After adjusting for LHD of service, year of baby's birth, Aboriginal status of the mother, maternal age, number of antenatal care visits and SEIFA of residence, there was no evidence of a difference in the odds of smoking in the second half of pregnancy between eligible women attending a QFNL service post-QFNL implementation, who took up a core QFNL intervention and those who did not take up a core QFNL intervention.

The sample size of 1549 women had 80% power at the 5% significance threshold to detect at least a 6.3% increase in smoking cessation rates among eligible women attending a QFNL service post-QFNL implementation who took up a core QFNL intervention compared to those who did not. This assumes a quit rate of 19% for women not taking up a core QFNL intervention, that 26% take up a core QFNL intervention, 56 services and an intra-cluster correlation (ICC) between women attending the same service of 0.01.

Table 30: Characteristics of eligible women attending a QFNL service post-QFNL implementation (including whether a core QFNL intervention was taken up) and the odds of smoking in the second half of pregnancy).

Predictor	Summary	Smoking in the second half of pregnancy? No (n=276)	Yes (n=1273)	Odds of smoking in the second half of pregnancy Adjusted OR (95% CI)†	p-value*
Core QFNL intervention taken up	**No**	216 (18%)	1013 (82%)	ref	
	Yes	60 (19%)	260 (81%)	1.09 (0.84, 1.42)	0.4895
Aboriginal status of mother	**Aboriginal**	181 (16%)	951 (84%)	1.38 (0.99, 1.91)	0.0536
	Non-Aboriginal	95 (23%)	322 (77%)	ref	
SEIFA	**1-5 (Most disadvantaged)**	243 (17%)	1167 (83%)	1.26 (0.80, 1.99)	0.2999
	6-10 (Least disadvantaged)	31 (24%)	98 (76%)	ref	
Maternal age	**mean (SD)**	26 (6)	26 (6)	1.01 (0.99, 1.03)	0.4774
No of antenatal care visits	**mean (SD)**	10 (10)	9 (8)	0.99 (0.99, 1.00)	0.0526

Source: AMDC July 2012 to June 2015 (n=1549). Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or did not attend a QFNL service.
*p<0.05 considered statistically significant
†Adjusted for LHD of service, year of baby's birth, and all covariates presented in the table

Impact on amount smoked for women taking up a core QFNL intervention

Table 31 shows the change in the number of cigarettes smoked from the first to second half of pregnancy among eligible women attending a QFNL service post-QFNL implementation, by LHD. Those accepting a core QFNL intervention smoked 1.20 fewer cigarettes per day in the second half of pregnancy compared to 0.71 fewer for those not accepting a core QFNL intervention. However, this difference was not significant after adjusting for LHD of service, year of baby's birth, Aboriginal status of the mother, maternal age, number of antenatal care visits and SEIFA of residence (Table 32). The biggest reduction in the number smoked in the second half of pregnancy compared to the first amongst those taking up a core QFNL intervention was in SES with a reduction of five cigarettes per day.

Table 31: Mean difference in the number of cigarettes smoked per day (CPD) from the first to the second half of pregnancy for those attending a QFNL service post-QFNL implementation and taking up a core QFNL intervention and not, by LHD of service.

LHD of service	Did not take up core QFNL intervention			Took up core QFNL intervention			Total		
	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference (SD)	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference (SD)	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference (SD)
CC	7.91 (6.19)	7.43 (6.43)	-0.48 (4.76)	10.7 (7.79)	8.5 (7.1)	-2.2 (8.99)	8.5 (6.61)	7.65 (6.55)	-0.84 (5.89)
HNE	9.13 (6.34)	8.6 (7.5)	-0.53 (7.36)	8.23 (5.06)	8.6 (6.12)	0.37 (5.41)	8.96 (6.13)	8.6 (7.26)	-0.36 (7.05)

LHD of service	Did not take up core QFNL intervention			Took up core QFNL intervention			Total		
	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference (SD)	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference (SD)	1st half Mean CPD (SD)	2nd half Mean CPD (SD)	Mean Difference (SD)
IS	8.17 (6.27)	6.91 (6.84)	-1.26 (6.68)	8.59 (5.22)	6.47 (6.0)	-2.12 (5.12)	8.34 (5.88)	6.74 (6.52)	-1.6 (6.13)
MNC	10.28 (6.02)	9.99 (6.89)	-0.29 (4.83)	10.16 (5.68)	11.58 (6.01)	1.42 (6.07)	10.26 (5.94)	10.26 (6.75)	0 (5.07)
MUR	8.77 (5.19)	8.37 (5.66)	-0.4 (4.64)	10 (0.0)	12.5 (3.54)	2.5 (3.54)	8.81 (5.11)	8.5 (5.64)	-0.31 (4.61)
NBM	8.47 (5.29)	5.88 (6.03)	-2.59 (6.46)	8.61 (6.6)	7.39 (7.86)	-1.22 (3.64)	8.5 (5.55)	6.19 (6.43)	-2.31 (6.01)
NNSW	6.8 (5.2)	6.35 (5.3)	-0.44 (4.58)	9.67 (6.79)	6.61 (5.58)	-3.07 (7.32)	7.41 (5.68)	6.41 (5.35)	-1 (5.37)
SES	3.15 (4.24)	3.25 (7.09)	0.1 (3.56)	15 (-)	10 (-)	-5 (-)	4.47 (5.6)	4 (7.0)	-0.47 (3.74)
SNSW	8.7 (5.7)	9.33 (7.62)	0.63 (7.87)	11.5 (6.66)	7.5 (3.99)	-4 (3.74)	9.13 (5.85)	9.05 (7.17)	-0.08 (7.54)
WNSW	7.75 (6.76)	6.94 (6.97)	-0.81 (7.06)	30 (-)	30 (-)	0 (-)	8.08 (7.23)	7.28 (7.46)	-0.8 (7.01)
WS	7.5 (5.57)	7.18 (6.26)	-0.32 (6.28)	10.38 (8.82)	12 (8.32)	1.62 (4.5)	7.76 (5.93)	7.62 (6.57)	-0.14 (6.15)
NSW Total	8.41 (6.05)	7.7 (6.83)	-0.71 (6.38)	9.06 (5.94)	7.86 (6.45)	-1.2 (5.9)	8.54 (6.03)	7.73 (6.75)	-0.81 (6.28)

Source: AMDC July 2012 to June 2015 (n=1549). Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or did not attend a QFNL service.

Table 32: Characteristics of eligible women attending a QFNL service (including whether a core QFNL intervention was taken up) and the change in the number of cigarettes smoked from first to second half of pregnancy.

		Difference in smoking from first to second half of pregnancy	
Predictor	**Summary**	**Adjusted Estimate (95% CI)†**	**p-value***
Core QFNL intervention taken up	**No**	ref	
	Yes	-0.16 (-0.98, 0.65)	0.6863
Aboriginal status of mother	**Aboriginal**	0.26 (-0.53, 1.05)	0.5062
	Non Aboriginal	ref	
SEIFA	**1-5 (Most disadvantaged)**	-0.25 (-2.08, 1.58)	0.7762
	6-10 (Least disadvantaged)	ref	
Maternal age	**unit increase**	-0.02 (-0.08, 0.04)	0.5673
No of antenatal care visits	**unit increase**	-0.02 (-0.05, 0.01)	0.1609

Source: AMDC July 2012 to June 2015 (n=1549). Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or did not attend a QFNL service.

*p<0.05 considered statistically significant;

†Adjusted for LHD of service, year of baby's birth, and all covariates presented in the table

iii) Sensitivity analysis (Component 1)

KEY POINT: Removing those who did not receive antenatal care prior to 20 weeks and those who commenced receiving QFNL part way through their pregnancy did not change the impact results.

Out of the 3502 eligible women attending a QFNL service 957 attended their first antenatal care visit during the second half of pregnancy. For a further 405 women QFNL was first implemented at the service after their first antenatal care appointment but prior to the birth of their baby. These women were excluded for the sensitivity analysis, as they are unlikely to have received QFNL as it is intended to be delivered and in time for an impact to be observed using the evaluation outcome measures. These exclusions yielded 2183 women for the sensitivity analysis.

Table 33 presents the modelling outcomes for the sensitivity analysis. Similarly to the results presented above, after adjusting for LHD of service, year of baby's birth, Aboriginal status of the mother, maternal age, number of antenatal care visits and SEIFA of residence, there was no significant association between attending a QFNL service pre-QFNL implementation (control group) or post-QFNL implementation (intervention group) and ceasing smoking.

Table 33: Characteristics of eligible women in the sensitivity analysis sample (including whether attended a QFNL service pre or post-QFNL implementation) and the odds of smoking in the second half of pregnancy.

		Smoking in the second half of pregnancy?		Odds of smoking in the second half	
Predictor	Summary	No (n=428)	Yes (n=1755)	Adjusted OR (95% CI)	p-value
QFNL service attended	**Pre-QFNL implementation (control group)**	282 (20%)	1111 (80%)	ref	
	Post-QFNL implementation (intervention group)	146 (18%)	644 (82%)	1.41 (0.89, 2.24)	0.1354
Aboriginal status of mother	**Aboriginal**	311 (19%)	1335 (81%)	1.15 (0.90, 1.48)	0.2616
	Non Aboriginal	117 (22%)	420 (78%)	ref	
SEIFA	**1-5 (Most disadvantaged)**	363 (19%)	1597 (81%)	1.35 (0.97, 1.89)	0.0738
	6-10 (Least disadvantaged)	61 (29%)	149 (71%)	ref	
Maternal age	**mean (SD)**	25 (6)	25 (6)	1.01 (0.99, 1.03)	0.2092
No of antenatal care visits	**mean (SD)**	9 (5)	10 (10)	1.01 (1.00, 1.02)	0.2273

Source: AMDC July 2012 to June 2015 (n=2198). Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; did not attend a QFNL service; commenced antenatal care in the second half of pregnancy; QFNL was first implemented at the service after their first antenatal care appointment but prior to the birth of their baby.

*p<0.05 considered statistically significant

†Adjusted for LHD of service, year of baby's birth, and all covariates presented in the table

iv) Smoking cessation over time (Component 1)

KEY POINT: Time series analysis showed no evidence of an effect post QFNL implementation on the proportion of eligible women who ceased smoking

Segmented logistic regression was used to investigate the trend in smoking cessation over time (as a proportion) among eligible women attending QFNL services. LHD was adjusted for in the model as a fixed effect. Restricting observation time to two years either side of the intervention date yielded 3278 eligible women. There was no evidence of an effect post-QFNL implementation of QFNL on cessation rates. The odds ratio for smoking cessation in the pre-implementation period for a 6 month increase was not significant (OR=0.89, 95%CI 0.76 to 1.04, p=0.11). Similarly, the odds ratio for smoking cessation in the post-implementation period for a 6 month increase was not significant (OR=0.98, 95%CI 0.81 to 1.19, p=0.79). The immediate effect (change in intercept) of the post-implementation period from that of the pre-implementation period was also non-significant (OR=1.42, 95%CI 0.89 to 2.27, p=0.10). Figure 7 plots the raw proportions of women smoking in the second half of pregnancy for each LHD in each 6 month time period based on the date of birth of the baby. Predicted proportions and trend lines from the time series analysis are displayed.

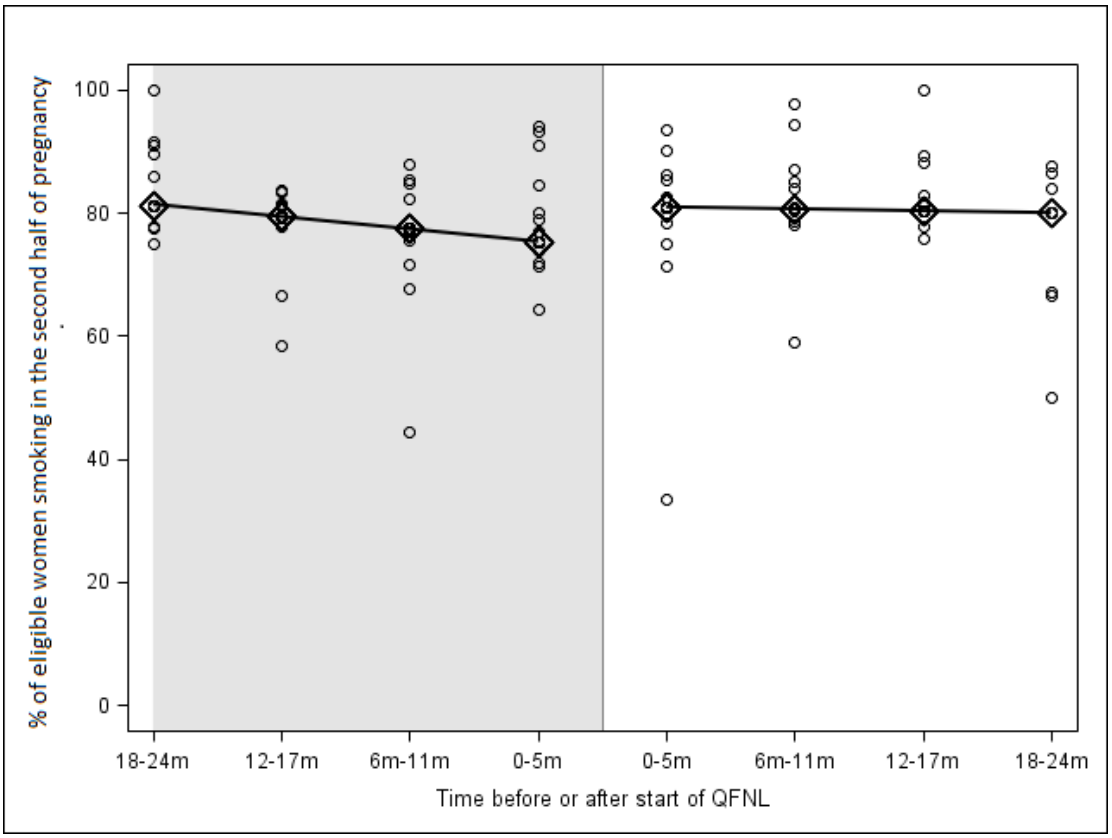

Figure 7: Proportion of eligible women smoking in the second half of pregnancy by time across all LHDs. The predicted line comes from the time series analysis (n=3278).
Source: AMDC July 2012 to June 2015 Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; did not attend a QFNL service; attended QFNL service outside 2 years either side of the QFNL implementation date.

Furthermore, there was a lack of evidence of an effect post-QFNL implementation when a sensitivity analysis was performed by removing women from the analysis cohort if they attended their first antenatal care visit during the second half of pregnancy, or if QFNL was first implemented at the service after their first antenatal care appointment but prior to the birth of their baby. Restricting the observations to 2 years either side of the implementation date yielded 2025 eligible women for inclusion in the sensitivity analysis. Results were similar to those in the full analysis. The odds ratio for smoking cessation in the pre-implementation period for a 6 month increase was not significant (OR=0.96, 95%CI 0.83 to 1.12, p=0.53). Similarly, the odds ratio for smoking cessation in the post-implementation period for a 6 month increase was not significant (OR=1.01, 95%CI 0.74 to 1.37, p=0.92). The immediate effect (change in intercept) of the post-implementation period from that of the pre-implementation period was also non-significant (OR=1.23, 95%CI 0.56 to 2.69, p=0.51). The raw proportions of women included in the sensitivity analysis, smoking in the second half of pregnancy for each LHD in each 6 month time period, with predicted proportions and trend lines from the time series analysis are displayed in Figure 8.

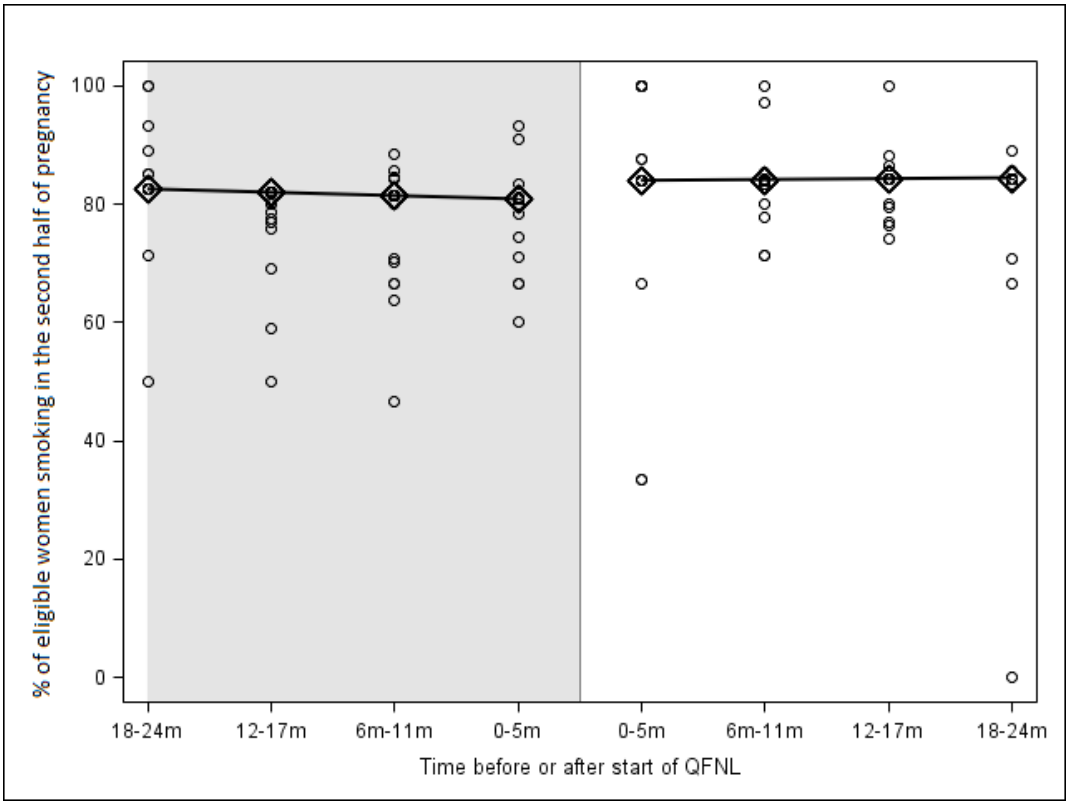

Figure 8: Proportion of eligible women smoking in the second half of pregnancy by time across all LHDs in the sensitivity analysis. The predicted line comes from the time series analysis (n=2025).

Source: AMDC July 2012 to June 2015 Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; did not attend a QFNL service; attended QFNL service outside 2 years either side of the QFNL implementation date; commenced antenatal care in the second half of pregnancy; QFNL was first implemented at the service after their first antenatal care appointment but prior to the birth of their baby.

v) Smoking cessation in non-QFNL services (Component 1)

KEY POINT: Between July 2012 and June 2015 20% of mothers of Aboriginal babies attending antenatal care services not implementing QFNL ceased smoking.

A total of 2296 mothers of Aboriginal babies are recorded in the AMDC between July 2012 and June 2015 as smoking in the first half of pregnancy and not attending a QFNL service for antenatal care. Due to potential confounding biases the smoking cessation rates in this group were not compared directly to those attending QFNL services. However, we present here the cessation rate to allow an understanding of population level cessation and how cessation rates have changed over the study period for a group not affected by the QFNL interventions.

The smoking cessation rate for mothers of Aboriginal babies attending non-QFNL services is given in Table 34. Overall 20% ceased smoking prior to the second half of pregnancy. Figure 9 presents the trend in smoking cessation over time among mothers of Aboriginal babies attending non-QFNL services across NSW.

Table 34: Rates of smoking cessation in eligible women who attended a non-QFNL service during the study period, by LHD of service.

Service LHD	Total N	Ceased smoking* N (%)
CC	93	20 (22%)
HNE	605	106 (18%)
IS	40	6 (15%)
MNC	122	20 (16%)
MUR	142	29 (20%)
NBM	308	67 (22%)
NNSW	76	13 (17%)
SES	25	13 (52%)
SNSW	81	9 (11%)
WNSW	611	137 (22%)
WS	193	43 (22%)
NSW Total	2296	463 (20%)

Source: AMDC July 2012 to June 2015 (n=2296). Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or attended a QFNL service.
*Ceased smoking if reported not smoking at any time in the second half of pregnancy

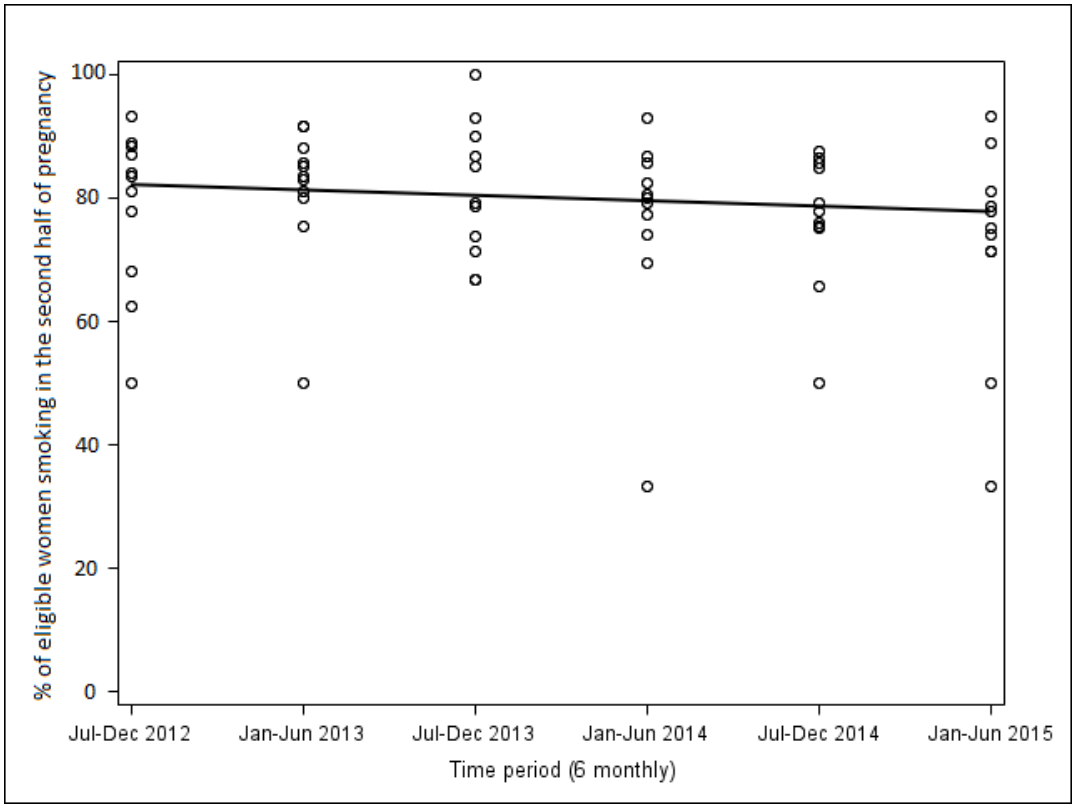

Figure 9: Proportion of eligible women attending a non-QFNL service and smoking in the second half of pregnancy over time, with line of best fit presented (n=2296).
Source: AMDC July 2012 to June 2015 Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or attended a QFNL service.

Limitations of the Evaluation

The evaluation findings should be considered with regard to various challenges and limitations which emerged during the study:

Limitations in addressing objectives

The specific objectives of QFNL include 1) building the capacity of services to provide evidence-based smoking cessation care; 2) providing smoking cessation care to eligible women; 3) reducing the rate of environmental tobacco smoke in households of eligible women and 4) reducing the risk of smoking relapse in the postnatal period. While data was provided for the evaluation to address the first 2 of these objectives the analysis did not consider the impact of QFNL in the postnatal period, or the impact of QFNL on cohabitants who smoke. Inclusion of these clients may have provided a more complete picture of program reach and impact.

Component 1) Aboriginal Maternal and Infant Health Service Data Collection Analysis Limitations

Data source

The AMDC contains data linked from various sources to provide a population level understanding of antenatal care and smoking cessation. Some mothers who gave birth on multiple occasions in the three year study period appear in the sample on multiple occasions and could not be identified and accounted for in the analysis. The AMDC data provided for the evaluation did not allow all eligible women attending an antenatal care service implementing QFNL to be included in the analysis. Most LHDs use the patient information management system ObstetriX to monitor QFNL implementation locally. Two LHDs however use a different system, Cerner. During the study period, Cerner did not contribute birth records to the AMDC. As such, these two LHDs were not included in the AMDC analysis of reach, uptake and impact.

Study Design limitations

Exposure of eligible women to QFNL was not randomised and was dependent on the reach of participating services, implementation across the LHD and delivery of QFNL to clients. Therefore a non-randomised cohort design was used to analyse the data. Non-randomised studies have greater potential for selection bias than randomised studies. In order to limit the effect of any potential confounding biases between women attending different service types the analysis of impact was conducted with services implementing QFNL as a pre post analysis. While this approach reduced the sample size the analysis was still powered at 80% to detect a difference of at least 5.1% in cessation rates. This approach also limited the effect of exposure to QFNL through community events as women attending services pre-QFNL implementation were unlikely to be exposed.

Limitations of analysis of reach

For women attending non-AMIHS antenatal care services, the service attended was not provided in the AMDC for the evaluation. For those whose record indicated they received hospital based antenatal care, an assumption was made that they received this care at the hospital at which the baby was born and therefore those attending a hospital implementing QFNL were included in the analysis. Eligible women attending non-AMIHS, non-hospital based services implementing QFNL could not be identified. This led to a small underestimate of the overall reach of QFNL.

Receiving QFNL

For the analysis of reach, uptake and impact all women attending a service implementing QFNL after the date QFNL began at the service were considered to have received QFNL. In the absence of data on offers of support through QFNL this assumption provided the only way to classify those exposed to QFNL. However it does not consider that there may have been breaks in offering QFNL at services due to staff turnover, that not all clients may have been deemed appropriate to receive QFNL support, and that the level of integration of QFNL into routine care varied across services and over time.

Limitations of analysis of uptake

The quality of QFNL data depends on midwives accurately recording relevant information about the delivery of the three core QFNL interventions in ObstetriX. Often it is a QFNL

worker who provides the intervention but in most cases they do not have access to ObstetriX to enter this data. Instead they must provide the information to a midwife to be entered, yet it is not clear to what extent this is undertaken. Additionally, the QFNL service measures were entered into a free textbox with a set number of characters. Most staff were provided with a guide on how to enter these data and received training in the correct process. However, much of the extracted data were not in the correct format, making it hard to interpret whether QFNL was taken up by the client. Further, upon extraction the data in this field was cut off at a certain number of characters or when a paragraph mark was encountered, leading to some missing text which made interpretation difficult. We therefore took a very broad definition of accepting a core QFNL intervention. Any mention of QFNL, the core QFNL interventions (NRT, Quitline and follow-up support), smoking cessation or quit program which did not also say 'declined' were coded as taking up QFNL.

In some cases a woman was classified as taking up a core QFNL intervention but not attending a QFNL service post-QFNL implementation. Appendix B shows the cases where this occurred. This could have occurred for a few reasons: The service attended for antenatal care was not identified as a QFNL service in the AMDC; the information in the textbox was misinterpreted; or the date information provided for services commencing QFNL was not exact. For the calculations of uptake and impact these women were recoded as not accepting QFNL.

Limitations of analysis of Impact

Rates of smoking cessation during pregnancy are derived from analysis of the smoking during pregnancy items in the AMDC. Using the available data, the definition of smoking cessation used was smoking during the first half of pregnancy but not in the second half. Women who report smoking at any time in the second half of pregnancy are recorded as smoking, regardless of if they later stopped smoking during this period. Hence, smoking cessation occurring during the second half of pregnancy is not captured. This will result in the rate of smoking cessation during pregnancy being underestimated. Further, the quality of this data depends on accurate recording of the smoking during pregnancy items in the AMDC according to established indicator definitions and guidelines.

Presentation of Results

The results of the analysis of the AMDC data were presented by LHD of service to provide an indication of LHD performance. For women attending non-AMIHS antenatal care services the service attended was not provided in the AMDC. Therefore, it was not possible to accurately assign a LHD of service. In these cases, the LHD of the hospital of birth was used, however 5% of AMIHS clients attended an AMIHS service in a different LHD to the hospital of birth.

Component 2) Program Monitoring Data Limitations

2A: Staff Training Records

There was no way to compare the number of staff trained with the number of relevant staff in the LHD who should have received training. There were also some details missing from the sign in sheets including the organisation, therefore the number of AMIHS and BSF staff attending training was underestimated.

2B: Client Numbers Maintained by LHDs

The data on client numbers is collected in different, unspecified, ways in different LHDs (e.g. reviewing paper files, filling in an electronic record, etc.) leading to a lack of consistency in the information provided. The information does not include details of where the clients received QFNL, the type of intervention they took up and whether they transitioned from pregnancy to postnatal support.

2C: NRT Provision Data

The data on the provision of NRT relies on data records rather than client or provider recall on NRT usage. For the vouchers, pharmacies fax a copy of the voucher to the Pharmacy Guild in order to receive payment. It is therefore unlikely that a voucher will not be faxed. Clients could however receive a voucher and then fail to redeem it. This is recorded in the LHDs monitoring system as a client accepting NRT (Component 1) but will not be recorded in the NRT voucher uptake tables (component 2). While the NRT reporting system records all instances of NRT provision it is not possible to identify when NRT is provided to the same client on multiple occasions. Clients vary in the rate at which they use NRT so the designation of a week's worth is arbitrary and may not accurately reflect usage.

2D: Quitline usage

Routinely collected Quitline delivery data does not rely on recall by the participant or clinic staff and will be an accurate representation of Quitline usage. There was some missing data due to it not being included on the initial referral e.g. client type or being withheld e.g. age of client.

Component 3) Stakeholder Interviews Limitations

Most (17/21) of the interviews with stakeholders took place by telephone. Telephone interviews were used due to decreased travel and time burdens for interviewers, increased access to interviewees and flexibility in scheduling interviews. Face-to-face interviews are often seen as the preferred method for qualitative interviews as they allow visual clues such as body language and contextual data to be included and a rapport to be built with the interviewer. However, research has shown that telephone interviews offer a viable and valid method of collecting qualitative data.[22] Telephone interviews may be less intrusive than face-to-face interviews and can allow the interviewer and interviewee to be comfortable in their own environment. Several strategies were implemented to increase the likelihood of collecting rich, accurate data during the interviews:

- Contact was made with interviewees prior to the interview.
- Semi structured interview guides were used and were sent to interviewees prior to their interview.
- Interviewees were given the option of a face to face interview if preferred.
- The interviewers were introduced at the beginning of the phone call and the purpose of the interviews was explained.

The qualitative data collected by interview relied on the knowledge and recall of interviewees. In 3 cases the interviewee was not involved with QFNL during the planning phase in the LHD and had limited knowledge of how this occurred.

Chapter 5:
Discussion and Implications

Key Findings

Summary of Results

Table 35 displays a summary of findings as they relate to the Evaluation aims.

Table 35: Summary of findings informing Evaluation aims.

Aim	Findings
Implementation of QFNL	QFNL was implemented at 70 services across 13 LHDs under 3 general models of care: i) Capacity building model, implemented by 1 LHD; ii) Referral system, implemented by 10 LHDs; iii) Direct service provision, implemented by 2 LHDs.
Acceptability of QFNL	Stakeholders considered the QFNL model to be appropriate to address smoking in the target group but noted several implementation challenges including engaging clients, overcoming staff resistance, gaining management support, data reporting and reaching target measures. Achievements in the implementation included seeing positive changes in clients, increased staff knowledge and awareness of need to address smoking, building partnerships and having NRT and referral pathways available.
Reach of QFNL	Between July 2012 and June 2015, 27% of smoking mothers of Aboriginal babies in NSW attended an antenatal care service implementing QFNL. This figure increased from 1.4% in 2012/2013 to 24% in 2013/2014 and 53% in 2014/2015. Aboriginal women were significantly more likely to receive QFNL than non-Aboriginal women.
Uptake of QFNL	Over the three year study period, 21% of smoking pregnant women attending a QFNL service post-QFNL implementation took up offers of at least one core QFNL intervention. More women took up follow-up support (12%) and NRT (11%) than Quitline (8.8%). LHD maintained records suggested closer to 54% had taken up a core QFNL intervention.
Impact of QFNL	There was no evidence of a difference in the odds of quitting smoking or the odds of reducing the amount smoked due to QFNL. Similarly, there was no association between uptake of one or more core QFNL intervention and quitting or reducing the amount smoked.

Evaluation findings in context

The NSW government takes a comprehensive and coordinated approach to tobacco control with reducing rates of smoking among pregnant Aboriginal women a key priority. At the population level in NSW, there has been a demonstrable reduction in smoking during pregnancy among Aboriginal women in recent years. In 2011, 52.2% smoked reducing steadily to 45.2% in 2014[4]. QFNL was developed as part of the National Partnership Agreement on 'Closing the Gap in Indigenous Health Outcomes' to specifically develop and implement an initiative to reduce smoking rates amongst pregnant Aboriginal women.

The results presented in this report suggest that QFNL is not having an impact on smoking cessation rates among mothers of Aboriginal babies. This finding aligns with other research which has found no impact of interventions on smoking among pregnant Aboriginal women[19]. We propose several broad reasons why this may be the case:

i) QFNL is not being implemented in a way conducive to success
ii) QFNL is not accepted by clients
iii) The measure of impact is not appropriate
iv) Poor monitoring processes

The data available for the evaluation was comprehensive and included population level data linked from various sources as well as interviews with coordinators in all LHDs implementing QFNL. However, it was not sufficient to pinpoint reasons for the measured lack of impact. The pathway to QFNL having an impact in reducing smoking cessation rates is presented in Figure 10. Each of the crucial steps in this pathway have either limited or incomplete data (i.e. Implementation, Reach, Uptake, and Impact) or are missing from the analysis (Offers of support and Use of interventions). These data are critical if we are to understand where along the pathway QFNL could be improved to support women to quit smoking. In particular, it is critical that we understand whether the core QFNL interventions are not being used because staff are not offering them to women, or because women find them unacceptable and do not take up offers of support.

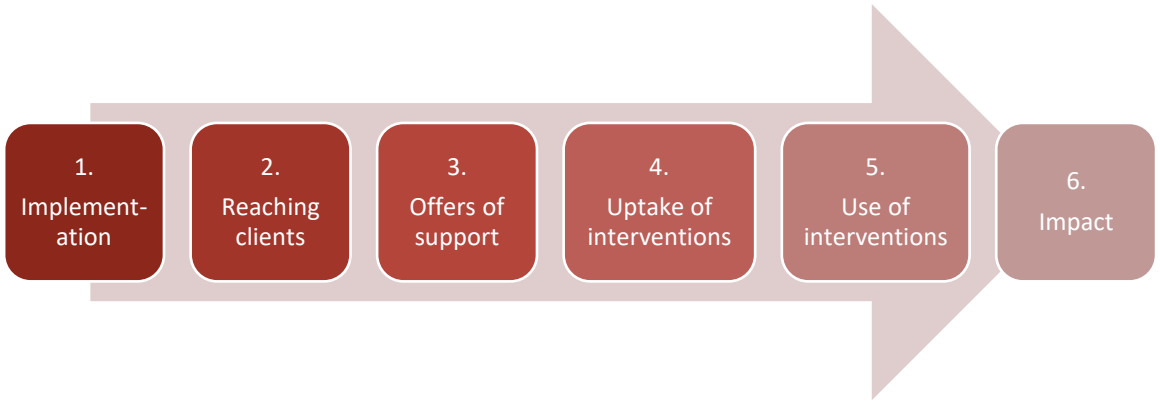

Figure 10: Steps to see an impact on smoking behaviour in clients

1) Implementation

QFNL was originally designed to embed smoking cessation into routine antenatal and postnatal care over time. However, most LHDs are yet to fully achieve this outcome. The QFNL model was adapted to fit the geography and population in each LHD, and the skills and resources available. The involvement of midwives and other clinic staff in offering QFNL and addressing smoking varies widely depending on the QFNL model adopted, the LHD and the clinic setting. This affects the extent to which QFNL is embedded into routine care and the sustainability of QFNL beyond the funding period. Funding for QFNL has been extended from 3 to 5 years to allow a focus on sustainability. It is clear that for QFNL to be implemented well, all relevant parties need to be consulted and included in decision making. There were reportedly fewer challenges in the implementation of QFNL at services where there was management support and appropriate governance structures in place to implement the program from the outset.

Most LHDs underwent an extensive planning phase prior to implementation. This included training staff in the QFNL model of care and to increase their knowledge and confidence in addressing smoking. This training was well received but it is not clear the proportion of clinic staff attending and whether this was adequate to support the implementation of QFNL to all women attending each service. While fully embedding QFNL into routine practice will take time, coordinators reported that they had seen some changes in the care provided to women through increased awareness of the need to address smoking and having NRT and intensive support available. It was reported by coordinators that staff and clients often consider other issues of higher priority than smoking. Yarning and engaging women who are not interested in quitting is difficult. It will take time and experience for staff to feel confident in their ability to do this. There is a need to interview staff to get better information about how confident they feel in offering QFNL in a culturally sensitive manner. Objective data about the exact components of QFNL that are implemented, and with what proportion of women attending a service, would provide invaluable information about program execution.

2) Reach

QFNL was originally intended to be delivered through AMIHS and BSF. Approximately 50% of smoking mothers of Aboriginal babies in NSW received antenatal care through AMIHS in the three year data period (July 2012-June 2015). Some LHDs have expanded QFNL to incorporate other services such as Hospital based antenatal care and community health centres. From the evaluation data it was not possible to identify all eligible women receiving QFNL through non-AMIHS services. Thus the reach of QFNL was underestimated. It was calculated that 53% of eligible women in NSW in 2014/2015 attended a service implementing QFNL, which is close to the 56% reach estimated during the development of the initiative. Some LHDs are taking novel approaches to increase the reach of QFNL such as attending playgroups, using social media such as Facebook, airing local television commercials and taking the model to Aboriginal NGOs, although this approach does not target pregnant women.

3) Offers of QFNL support

Data on QFNL offers to eligible women are not collected. This leaves a gap in the QFNL data for understanding how well the initiative is being incorporated into routine care. For the analysis, all eligible women attending a service implementing QFNL are considered to

have received QFNL, but in practice this may not be the case. If offers of support were captured, it would enable a greater understanding of the extent to which smoking is addressed and whether the provision of support by staff is an area which requires improvement. It could also help to understand whether eligible women who initially decline offers are again offered QFNL at subsequent visits and which interventions are being offered.

4) Uptake

From AMDC records over the three year study period, it was calculated that just 21% of eligible women attending a QFNL service (and assumed to be offered an intervention) took up one or more of the core QFNL interventions, well below the current target of 65%. The reasons why this value is low are unknown. Comparing the number of women recorded as taking up a core QFNL intervention in the AMDC with separately maintained LHD records strongly suggests that there are data missing in the AMDC. From January 2013 to March 2015 uptake in the AMDC was 23% compared to 59% in the separately held LHD records. It was reported that data on uptake of core QFNL interventions was not well entered or extracted from ObstetriX, the main patient information system used to record implementation of QFNL. A recently released upgrade to this system will help alleviate this problem. However there may still be cases where the data is simply not entered. While feedback to services can help to identify cases of poor data entry or offering of supports, the build/establishment of the AMDC produced challenges and delays in Ministry of Health staff accessing monitoring data for feeding back to LHDs.

It is not possible with the data provided within this report to distinguish between staff not offering QFNL and client refusal. Stakeholders reported that clients were not interested in using Quitline and this is reflected in the AMDC data with slightly lower numbers reported accepting Quitline (136 clients compared to 168 accepting NRT and 190 accepting follow-up support).

5) Use of core QFNL interventions

It is likely that many women taking up a core QFNL intervention did not use it. Indeed the current data demonstrated that only 43% of clients (pregnant, postnatal and cohabitant) who agreed to a referral being sent to Quitline subsequently accepted cessation support from Quitline. Forty one percent of Quitline calls were not answered by clients and a further 27% of calls resulted in the client not accepting the cessation support offered. The actual use of core QFNL interventions and reasons why they are not used can only be ascertained through interviews with clients.

6) Impact

The impact measure used to assess the success of QFNL was whether women who smoked in the first half of pregnancy reported not smoking at any time in the second half of their pregnancy. Since antenatal care generally commences only a short time prior to the second half of pregnancy, it is perhaps not surprising that no effect was seen using this definition. No data were collected about eligible women who may have quit later in pregnancy, made a quit attempt or had a smoke free period. For any impact to be detected using the current data, eligible women would have to successfully quit smoking within a relative short time period (i.e. before the second half of pregnancy). This does not align with established evidence that suggests individuals typically require multiple

efforts to quit over time,[23] and therefore sets an unrealistic threshold for measuring impact. Given the sample size of 3502 women the analysis of impact had sufficient power to detect a difference of at least 5.1%. We were also able to analyse data for the change in the number of cigarettes smoked in the first and second half of pregnancy. These data also failed to demonstrate an impact. However, these data are entered at different times and by different staff and is anecdotally known to be poorly recorded.

As recommended below, adding some additional measures would greatly strengthen the evaluation of QFNL.

Potential Success factors

Variable levels of performance were demonstrated across LHDs in relation to the measured outcomes. Table 36 summarises the evaluation findings for each LHD which was implementing QFNL prior to July 2014 and for which AMDC data is available. The table includes the start date for implementation, model being implemented, number of services implementing QFNL, the number of staff who received QFNL training as well as the AMDC data from 2014/2015 on the number of eligible women, proportion of eligible women attending a QFNL service post-QFNL implementation, the proportion of eligible women attending post-QFNL implementation who took up a core QFNL intervention and the proportion of eligible women attending post-QFNL implementation who ceased smoking prior to the second half of pregnancy.

Table 36: Summary of evaluation findings by LHD.

					2014/2015			
						Attended QFNL service post-QFNL implementation		
LHD of service	Start date	Model implemented	No. Services	No. Staff trained	No. eligible women	%	% taking up a core QFNL intervention	% ceasing smoking†
CC	Sep-13	referral system	3	23	98	64%	16%	22%
HNE	Aug-13	capacity building	12	103	543	60%	21%	13%
IS	Jan-13	referral system	4	23	143	94%	56%	30%
MNC	Jan-14	referral system	5	19	135	62%	21%	7%
MUR	Jun-14	referral system	4	17	113	45%	2%	12%
NBM	Oct-13	referral system	3	20†	184	44%	22%	22%
NNSW	Oct-13	referral system	16	52	135	87%	22%	18%
WS	Nov-13	direct service provision	4	7‡	128	44%	13%	20%

Source: Centre for Population Health, NSW Ministry of Health Data; Component 3: Interviews with stakeholders; Component 2A: Staff Training records from January 2013 to April 2015; AMDC July 2014 to June 2015 (n=1479). Exclusions: Women who did not receive antenatal care; did not smoke in the first half of pregnancy; received care in FW, NS, SWS or SYD LHDs; or received care in an LHD which had not commenced implementing QFNL prior to July 2014 (SES, WNSW).
† Ceased smoking if reported not smoking at any time in the second half of pregnancy.
‡33 staff were trained in NBM/WS prior to the LHD splitting and are not included in these counts.

Many factors likely contributed to the variation observed, including the amount that QFNL is embedded into routine practice, the capacity of staff to address smoking and the willingness of women in the local community to accept the offered support. Additional factors were highlighted by coordinators as helping to contribute to success. These included:

- Having management support and appropriate governance structures
- Having experienced staff delivering intensive cessation support
- Working closely with services delivering care
- Working with cohabitants to support quit attempts and the broad definition of cohabitants
- Providing NRT directly or engaging with pharmacies so that vouchers are accepted
- Trialling different types of NRT to find one that works
- Feedback to services so can gauge progress

One LHD stood out as achieving the highest rates of reach, uptake and cessation. IS is a small contained LHD with 4 services, including 2 AMIHS, implementing QFNL. This LHD was the first to commence implementation and the first to receive training. This LHD implements QFNL with a referral system. The smoking care advisors work very closely with, and are well known to, the clinic staff including an Aboriginal midwife. Incentives are offered to women for participation and cessation. This LHD has also promoted QFNL through TV advertising and community events.

The data obtained for phase 2 of the evaluation will offer further insights into potential success factors.

Implications

Numerous insights have been attained from this evaluation that may support ongoing improvements in QFNL delivery and monitoring. The following implications are based on the evaluation findings including suggestions made by participants on how to improve the program.

Enhancing the QFNL model of care

1: Consider additional interventions to enhance the QFNL model

Given the limited impact of QFNL smoking cessation rates it is worthwhile considering other interventions which could be added to enhance the initiative. The use of incentives to support cessation is a potentially promising strategy to pursue. Recent reviews have found that the provision of financial incentives to pregnant smokers improved cessation rates [24]. While there has

been limited research on the impact of incentives among Indigenous population groups, descriptive research suggests that pregnant Indigenous women and healthcare providers consider rewards likely to be helpful.

Improving the way QFNL is embedded into routine care

2: Consider increasing support to midwives and Aboriginal Health Workers for addressing client smoking

The crucial first step in implementing QFNL relies on AMIHS midwives and Aboriginal health workers raising smoking with their clients. However, based on interviews with stakeholders it seems that variation exists in staff willingness, knowledge and confidence to initiate these discussions. Antenatal services could consider mechanisms to better support staff to routinely engage with clients on the issue of smoking, including: ensuring clinic managers support and drive the QFNL initiative; ensuring staff receive sufficient and ongoing training; providing opportunities for staff to troubleshoot with colleagues and mentors; and providing appropriate feedback about staff and clinic performance.

3: Consider developing additional online training modules to assist with QFNL implementation

Turnover of staff and the need to train new staff were found to be implementation barriers in some QFNL services. In some instances, the implementation of QFNL was put on hold for several months until new staff could be trained. And whilst the training workshops were generally well received, they were reported to be restrictive by some (i.e. requiring a full day attendance, and only being run when sufficient numbers of individuals within an LHD required training). An additional online training module might be considered. This would provide greater flexibility and access to information for training staff and would benefit implementation of QFNL by: enabling ongoing staff to refresh their skills as necessary; allow those who miss training to receive some training; and avoid delays in training new staff.

4: Consider exploring the possibility of increasing the amount of time available for antenatal care visits

One barrier to the provision of QFNL is lack of time available to midwives to address the issue of smoking. The length of time for an appointment is set by the NSW Ministry of Health and is used across NSW (90mins for booking in appointment and 30mins for subsequent appointments). In some LHDs with a high volume of women, the time available for appointments is reduced despite having a large number of issues to address. Some participants in this evaluation felt that in order to fully integrate smoking cessation into routine care, an increase in the amount of time allocated to the appointment is needed. An investigation into the workload and length of time for appointments at AMIHS (and other maternity care services) and the feasibility of increasing this time is warranted.

Improving the reach of QFNL

5: Consider ways to reach non-Aboriginal mothers of Aboriginal babies

Aboriginal mothers were 61% (35-91%) more likely to be reach by QFNL than non-Aboriginal mothers of Aboriginal babies. This group may be missed as they do not attend AMIHS services or are not recognised as being eligible to receive the QFNL interventions. Approaches to target this group should be considered and include making sure clinic staff are aware of the eligibility criteria and identify mothers having an Aboriginal baby and expanding QFNL to other services.

Improving QFNL uptake of interventions

6: Consider further consultation with Aboriginal community groups to better understand reluctance to use core QFNL interventions

It is important that initiatives involving the Aboriginal community have extensive consultation at all stages. At this point in the implementation, consultation with Aboriginal communities may provide insights into why core QFNL interventions are not being taken up as planned. It is possible that this would yield suggestions for making QFNL more appealing to the target population and increase the uptake of interventions.

7: Consider exploring ways to improve acceptance of Quitline

Quitline has not been widely utilised as part of QFNL. Yet this phone-based service has the potential to play a valuable role in the provision of smoking cessation support, and reduce the burden on LHD staff to provide follow-up support. Nevertheless, interviews with stakeholders revealed a general perception that Quitline was not well regarded by some Aboriginal communities. According to the 2012 report on the Aboriginal Quitline Enhancement Project, [25] various improvements have been made to the service including the availability of an Aboriginal Quitline service, text messaging and that a new provider is undertaking work to improve the service. QFNL itself removed the cost barrier to accessing Quitline by requesting Quitline call consenting clients. Additional improvements to consider were reported during stakeholder interviews to improve acceptance by both staff and clients including: introducing Quitline via a short video featuring an Aboriginal Quitline counsellor; providing specific information about the Aboriginal Quitline service; staff visits to Quitline; and emphasising the role that Quitline can play in complementing the work of smoking care advisors.

Improving QFNL data collection and monitoring

8: Consider exploring ways to improve the data reporting system

The QFNL data reporting system has failed to capture data in a consistent and accurate manner and there have been lengthy delays in data reporting back to LHDs. Many LHDs have developed their own QFNL data recording and internal reporting systems to counter the poor quality of data recorded through ObstetriX. While this allowed better data to be captured it is inefficient to enter data in dual reporting systems and is not consistent across NSW.

A new version of ObstetriX (eMaternity) recently commenced state -wide rollout. This system provides new opportunities to enhance the type and quality of QFNL related data collected. Consideration should be given to ways that QFNL data reporting could be strengthened such as:

- Increasing access to data entry to allow staff involved in QFNL to directly enter data
- Adding more response options to each QFNL intervention measure to capture offers made and declined and not just offers accepted
- Collecting additional impact measures at each antenatal visit such as smoking status (so cessation later in pregnancy is captured), quit attempts, smoke-free periods, CO readings and other relevant data.

If all additional data can be collected in eMaternity, this will negate the need for separate LHD quarterly data to be recorded and reported to the Ministry.
Efforts are also needed to ensure that QFNL coordinators are provided with feedback data in a timely manner

Phase 2 of the evaluation of QFNL

9: Consider adjusting evaluation plan to account for changes from original model

Originally QFNL was intended to be run solely through AMIHS and BSF. However this was not how implementation has occurred. Other services are now also running QFNL but data about QFNL from many of these services and BSF is not available in the AMDC records for evaluation. Much of the evaluation focus is also geared towards a capacity building model rather than a referral system as most LHDs have implemented. We suggest that the data held by LHDs and smoking care advisors be explored to get a more complete picture of how QFNL is implemented in LHDs.

10: Consider exploring additional themes in interviews with staff and coordinators

Phase 2 interviews with stakeholders may include interviews with staff implementing QFNL, service managers as well as additional questions for QFNL coordinators. These interviews will give a more complete picture of how QFNL has been integrated into routine care and the sustainability of the initiative. We suggest that information is collected on the confidence of staff providing care; the amount of brief intervention provided by clinic staff; how postnatal women and cohabitants are engaged; how smoking is addressed with women who decline initial offers of support; what follow-up support is provided; perception of data reporting; the impact of LHD policy on the provision of NRT; and any changes to policy, practice and systems which took place to support the implementation.

Adjusting QFNL funding model

11: Consider changes to the funding model

The funding model was developed to provide funds based on the number of potential clients at each LHD. However, it was pointed out by interviewed stakeholders that the amount of work to set up the implementation of QFNL was similar irrespective of the number of clients expected to be offered support. Future funding of new programs should consider the specific costs associated with program set-up separately to the costs associated with care provision and ongoing maintenance.

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Appendices

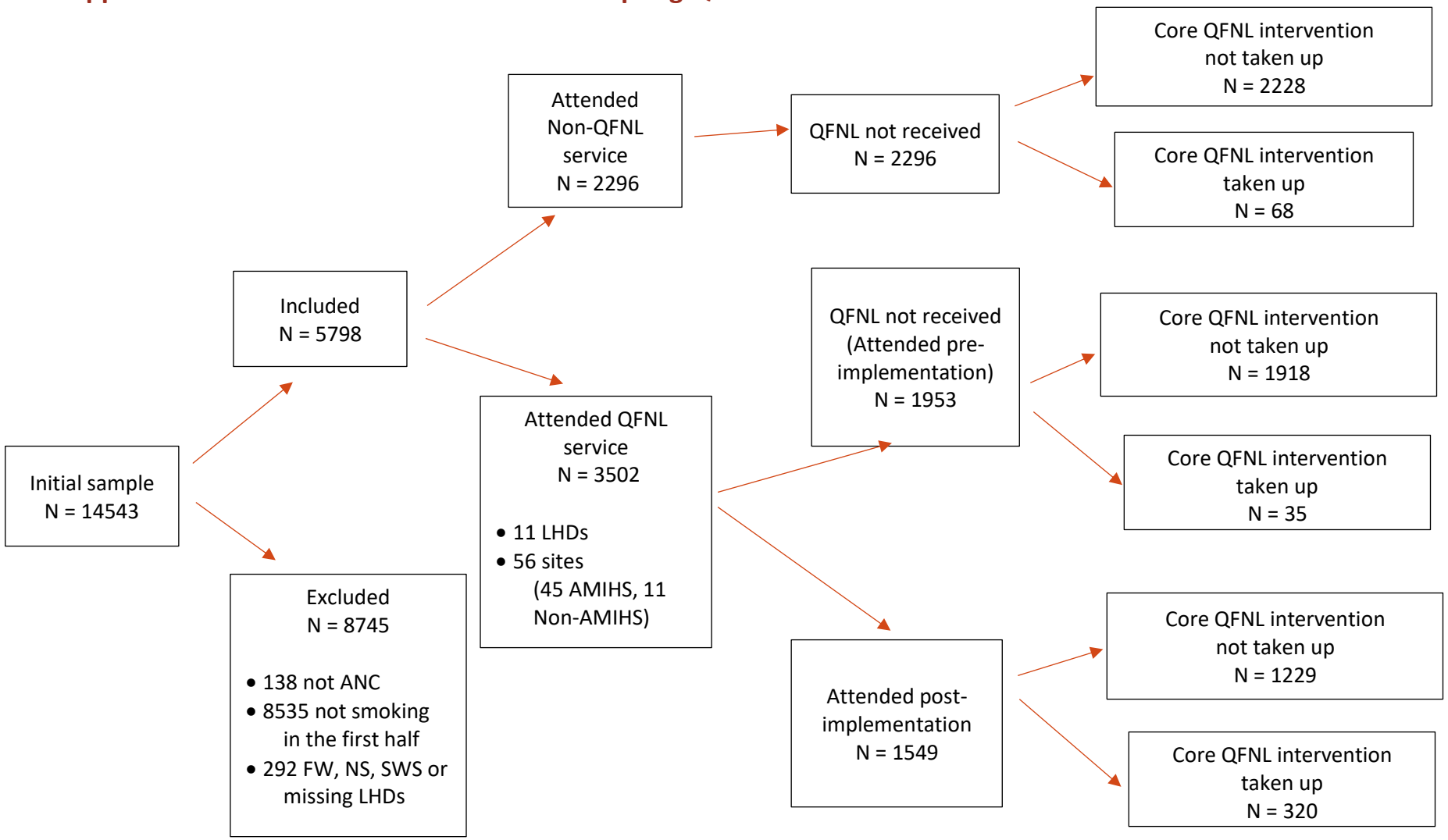
Appendix A: List of services implementing QFNL and the date QFNL commenced implementation at the service.

LHD	Service Name	Service Type	Date
CC	Gosford (Ngiyang)	AMIHS & BSF	2013 Sep 1st
CC	Gosford hospital	Antenatal Unit	2013 Dec 1st
CC	Wyong Hospital	Antenatal Unit	2013 Dec 1st
HNE	Moree	AMIHS & New Directions	2013 Aug 20th
HNE	Narrabri	AMIHS & New Directions	2013 Aug 20th
HNE	Gunnedah	AMIHS	2013 Dec 18th
HNE	Quirindi	AMIHS	2013 Dec 18th
HNE	Singleton /Muswellbrook	AMIHS	2013 Dec 18th
HNE	Tamworth	AMIHS & BSF	2013 Dec 18th
HNE	Armidale	AMIHS & New Directions	2013 Nov 13th
HNE	Inverell	AMIHS	2013 Nov 13th
HNE	Taree	AMIHS & BSF	2014 Feb 12th
HNE	Greater Newcastle (Birra Li)	AMIHS & New Directions & BSF	2014 Feb 20th
HNE	Maitland	AMIHS	2014 Feb 20th
HNE	Cessnock / Kurri Kurri	New Directions	2014 Feb 20th
IS	Shoalhaven	AMIHS	2013 Aug 19th
IS	Shellharbour	AMIHS	2013 Jan 1st
IS	Shoalhaven Hospital	Antenatal Unit	2013 Jan 1st
IS	Wollongong Hospital	Antenatal Unit	2013 Jan 1st
MNC	Kempsey - Durri AMS	AMS with AMIHS midwife	2014 Jan 6th
MNC	Macksville	AMIHS	2014 Jan 6th
MNC	Port Macquarie	AMIHS	2014 Jan 6th
MNC	Coffs Harbour	AMIHS	2014 Nov 1st
MNC	Kempsey	BSF	2014 Jan 6th
MUR	Narrandera	AMIHS & BSF	2014 April 30
MUR	Wagga	AMIHS	2014 April 30
MUR	Griffith	AMIHS	2014 Oct 1st
MUR	Lake Cargelligo	AMIHS & BSF	2014 Oct 1st
NBM	Wel-leng-al-lie (Penrith-Cranebrook CHC)	AMIHS	2014 Aug 1st
NBM	Nepean Hospital	Antenatal Unit	2013 Oct 1st
NBM	Mudang Mudjin - Cranebrook Community Health Centre	BSF	2013 Oct 1st
NNSW	Ballina	AMIHS	2013 Oct 21st
NNSW	Casino	AMIHS	2013 Oct 21st

LHD	Service Name	Service Type	Date
NNSW	Grafton	AMIHS	2013 Oct 21st
NNSW	Kyogle	AMIHS	2013 Oct 21st
NNSW	Lismore	AMIHS	2013 Oct 21st
NNSW	Tweed	AMIHS	2013 Oct 21st
NNSW	Grafton Hospital	Antenatal Unit	2013 Oct 21
NNSW	Mullumbimby Hospital	Antenatal Unit	2013 Oct 21
NNSW	Murwillumbah Hospital	Antenatal Unit	2013 Oct 21
NNSW	Lismore Base Hospital	Antenatal Unit	2013 Oct 21st
NNSW	Tweed Hospital	Antenatal Unit	2013 Oct 21st
NNSW	Bugalwena	Postnatal Health Service	2013 Oct 21st
NNSW	Child and Family Health services	Postnatal services	2013 Oct 21st
NNSW	Gurgun high risk Clinic (Lismore)	high risk clinic	2013 Oct 21st
NNSW	Maclean	Community Health	2013 Oct 21st
NNSW	Tweed Health for Everyone	Super clinic	2013 Oct 21st
SESLHD	Malabar Community Midwifery Link Service	AMIHS	2015 March 26
SESLHD	Narrangy- Booris Maternal, Child and Family Health Service Menai	BSF & New Directions	2014 July 1
Southern	Moruya	AMIHS & BSF	2014 August 1
Southern	Queanbeyan	AMIHS	2014 August 1
Southern	Bega	AMIHS	not started
SWS	Macarthur (Campbelltown Hospital)	AMIHS	2014 Mar 3rd
SWS	Liverpool Hospital	Antenatal Unit	2014 April 30
SWS	Campbelltown Hospital	Antenatal Unit	2014 March 3
SWS	Bulundidi Gadaga HV	CHC (postnatal)	2014 April 30
SWS	Hoxton Park HV	CHC (postnatal)	2014 April 30
Sydney	Royal Prince Alfred Hospital	Antenatal Unit and postnatal clinic	2014 Oct 6
WNSW	Bathurst/Orange	AMIHS & BSF	2015 Jan 28th
WNSW	Bourke/ Brewarrina	AMIHS	2015 Jan 28th
WNSW	Condobolin	AMIHS & C&FH	2015 Jan 28th
WNSW	Cowra	AMIHS & C&FH	2015 Jan 28th
WNSW	Dubbo	AMIHS & C&FH	2015 Jan 28th
WNSW	Gilgandra/ Gulargambone	AMIHS & C&FH	2015 Jan 28th
WNSW	Narromine	AMIHS	2015 Jan 28th
WNSW	Parkes/Forbes/Peak Hill	AMIHS & C&FH	2015 Jan 28th
WNSW	Warren	AMIHS	2015 Jan 28th
WS	Bulbwul Werowe (Mt Druitt)	AMIHS	2013 Nov 25th
WS	Mt Druitt Community Health Centre	Primary Care	2014 Dec 1
WS	Blacktown Hospital	Antenatal Unit	2013 Nov 25
WS	Marrin Weejali Aboriginal Corporation, Blackett	D&A NGO	2014 Dec 1

Source: Centre for Population Health, NSW Ministry of Health Data and QFNL coordinators. Current as of December 2015

Appendix B: Flowchart of those coded as accepting QFNL



Appendix C: Stakeholder Interview guides

INTERVIEWS WITH QFNL COORDINATORS (Phase 1)

1. Could you outline when Quit for new life was first implemented within your LHD? Which antenatal and postnatal sites began at that time?
2. When did you commence in your role as a Quit for new life Coordinator in your LHD?
3. Could you describe your role in the establishment and ongoing implementation of Quit for new life within your LHD?
4. Are you the only QFNL Coordinator in your LHD? If more than one, do you have specific areas of responsibility?
5. How much planning and preparation was undertaken in your LHD prior to commencing implementation of QFNL? Did it require more or less time and effort than was expected?
6. Did you experience delays in getting the program started? If so, what were the reasons for the delays?
7. Was the state-wide QFNL training adequate? Was the content appropriate?
8. Did you manage to get all/most of your relevant staff to attend the training? If not, what do you think were the barriers to them attending training?
9. Did you receive adequate support and direction from the Ministry of Health in the early stages of the program?
10. Have you received ongoing support and direction from the QFNL Program Coordinator at the Ministry?
11. Is the same model adopted across all participating sites in your LHD, or does it differ between sites?
    a. If it is the same: Describe the way the model works in your LHD.
    b. If it differs: Describe the common elements and those that differ across sites.
12. If not addressed above please answer the following questions for each site:
    a. Which staff provide Quit for new life?
    b. How are the core interventions (provision of Nicotine Replacement Therapy, referral to Quitline, and referral for follow-up support) delivered?
13. Do you know what factors drove the decision to adopt this model(s)?
14. Are sites performing differently (i.e. some getting more women to cut down to quit or accept interventions than others?) If so do you know why this is?
15. What systems are in place in your LHD to support staff to implement Quit for new life? E.g. local training, policies and procedures, manuals, referral pathways.
16. Are there enough staff at each site to implement the program as expected?
17. How has QFNL changed the type or intensity of smoking cessation support provided through participating services within your LHD?
18. Has QFNL changed clinical practices within participating services in your LHD?
    a. If so in what ways? If not, why not?
19. What are the roles and responsibilities for QFNL within your LHD?
20. What are the governance structures for QFNL in your LHD? If you have a QFNL governance Group, who is on that group? How often does the group meet? Has it been helpful to progress the implementation of QFNL? Are these structures effective?
21. What components of QFNL have worked well? What components haven't worked well?
22. Have you met with resistance to the program from any staff/colleagues/stakeholders? If so, in what way?
23. To date, what have been the **key achievements** in implementation of QFNL in your LHD?

24. What have been the **key challenges** in implementation of QFNL in your LHD?
25. Do you think that QFNL has increased staff awareness, knowledge and/or confidence in providing smoking cessation care? What makes you think this?
26. Have you been able to identify champions who have helped to promote and advance the program?
27. Do you think the QFNL model is an appropriate model to support smoking cessation in this target group and in these settings? How could the model be improved?
28. Do you think the QFNL model could be adapted to address other maternal health issues, such as gestational weight gain or alcohol consumption? How might this work?
29. How has QFNL funding been utilised in your LHD?
30. Has the funding provided been adequate to facilitate the implementation of the program?
31. Have you experienced difficulties in relation to the data requirements for reporting on QFNL? (E.g. monitoring data entered into ObstetriX, quarterly data for the Ministry, NRT direct data). If so, please explain.
32. What are your thoughts about the service measures and targets for QFNL within the Service Agreement?

INTERVIEWS WITH LHD HEALTH PROMOTION MANAGERS (Phase 1)

1. Briefly describe how QFNL is implemented and managed across your LHD.
    a. How has the implementation of the program gone overall?
    b. How much planning and preparation was undertaken in your LHD prior to commencing implementation of QFNL? Did it require more or less time and effort than was expected?
    c. What role has health promotion played in the implementation of QFNL?
    d. How has the funding for QFNL been utilised?
    e. What are the key roles/positions responsible for implementation of QFNL in your LHD?
    f. Is the same model adopted across the Local Health District, or does it differ between sites?
    g. What factors drove the decision to adopt this model?
2. Do you think the QFNL model is an appropriate model to support smoking cessation? How could the model be improved?
3. Do you think the QFNL model could be adapted to address other maternal health issues, such as gestational weight gain or alcohol consumption? How might this work?
4. What are the governance structures for QFNL within your LHD? Are these structures effective?
5. Did your LHD receive adequate support and direction from the Ministry of Health in the early stages of the program?
6. Have you experienced difficulties in relation to the data requirements for reporting on QFNL? (E.g. monitoring data entered into ObstetriX, quarterly data for the Ministry, NRT direct data). If so, please explain.
7. What have been the key achievements in implementation of QFNL in your LHD?
8. What have been the key challenges in implementation of QFNL in your LHD?
9. How has QFNL funding been distributed and utilised within your LHD? What factors drove decision-making about distribution of funding?

10. Do you have staff members in your LHD whose positions have been funded (in full or part) by QFNL funding?
11. If so, how will you manage when the funding ceases? Is there a sustainability plan in place?
12. Are there other LHD Health Promotion Managers that you have regular consulted with during the QFNL implementation period?

INTERVIEWS WITH OTHER* STAKEHOLDERS (Phase *1 and 2)

1. What was your role in the development of the QFNL model?
2. What has been your role in the implementation of QFNL?
3. What difference do you think QFNL has made to the provision of smoking cessation support for mothers of Aboriginal babies?
4. What have been the key achievements in implementation of QFNL?
5. What have been the key challenges in implementation of QFNL?
6. What components of QFNL have worked well? What components haven't worked well?
7. Do you think the QFNL model is an appropriate model to support smoking cessation? How could the model be improved?
8. Do you think the QFNL model could be adapted to address other maternal health issues, such as gestational weight gain or alcohol consumption? How might this work?
9. What was the model for allocation of funding to LHDs? What factors drove decision making about the funding model?
10. Do you feel that the following aspects of the QFNL program have been effective? How could these aspects be improved?
    a. Community engagement and stakeholder consultation
    b. Resources provided to support implementation
    c. Governance arrangements
    d. Funding arrangements
11. Do you have any other feedback or comments?

Appendix D: Summary Table used to thematically code stakeholder interviews.

Interview Details	**Name:**
	LHD:
	Date:
	Type:
Roles and responsibilities	**Role:**
	Responsibilities:
	Commenced role:
Development and Implementation	**When QFNL began at sites:**
	Planning and preparation for implementation:
	Delays in implementation:
	Key achievements:
	Key challenges:
QFNL model	**Run same at each site?**
	Model/s adopted:
	Provision of QFNL interventions:
	Impact on staff, clinical practice and support provided:
	Components that work well:
	Components that don't work well:
	Appropriateness for smoking cessation:
	Suggested Improvements:
	Adapting for other maternal health issues:
Staff	**Type and role:**
	Champions:
	Adequate number:
	Training attendance
	Supports
Training	
Ministry support	
Governance arrangements	
Resistance	
Funding	
Data reporting	
Service measures	
Community engagement	
Sustainability	

Appendix E: Hunter New England Model of Care