

# Promoting Smoking Cessation in Pregnancy:

## Evaluating babyClear in the North East

Dianne Woodall

Public Health Portfolio Lead

Durham County Council

# Overview of presentation



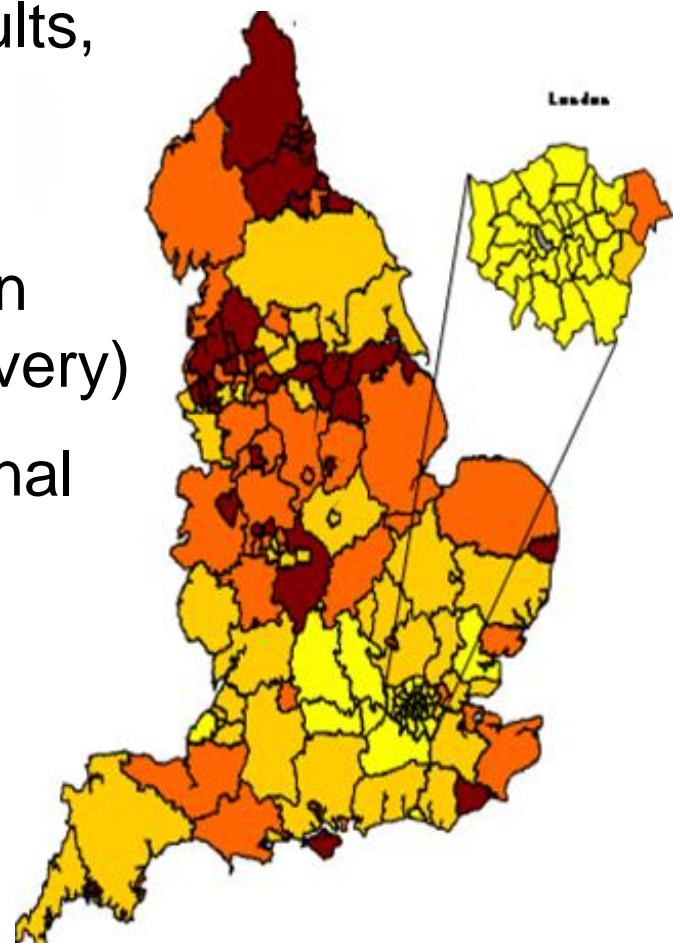
- **Background to the intervention:**
  - Understanding the issues
  - Implementing babyClear
- **The academic evaluation:**
  - Gathering the data
  - Quantitative findings
  - Qualitative findings
  - Summary



# Understanding the issue (2010)



- North East population of 2.1 million adults, covering 12 Local Authorities, 8 Acute Trusts and 6 SSS
- SATOD rates falling, but NE remains an outlier at 22.2% (6,500 smokers at delivery)
- NICE PH26 acts as a catalyst for regional discussions with strategic partners
- Newcastle University conducted insight work with 589 midwives on the barriers they face in discussing smoking during pregnancy



# babyClear: A regional approach



Based on insight work, Fresh commissioned the TCCC to embed babyClear across the region:

- Training community midwives in a systematic approach to CO monitoring and opt-out referral process at first booking appointment
- Standardising referral pathways into SSS
- Training a cohort of midwives to deliver a “Risk Perception” intervention at dating scan
- Skills training for SSS staff
- Resources to support all of the above



# Pre-Implementation



- Local meetings with a range of key partners:
  - Heads of Midwifery/Midwifery Supervisors
  - SSS commissioners and providers
  - Clinical Innovations Team for Maternity
- We committed to fund a phased roll-out of babyClear training & materials in year one. Then over to localities to sustain
- FT Chief Executives contacted, to seek their explicit, strategic support



# Booking appointment intervention



**Aim:** To enable staff to systematically identify smokers at first booking appointment by means of a carbon monoxide reading. To raise concern levels and automatically refer all smokers into Stop Smoking Services (Opt-out approach).



Total number of maternity staff trained in Year One	399
Total number of CO monitors issued in Year One	332



# Risk Perception Intervention



**Aim:** To enable a small cohort of midwives to engage with smokers (at 12-week dating scan) and fully explain the risks of continued smoking in pregnancy



Number of midwives trained in Year One	
County Durham & Darlington	15
Sunderland	3
Gateshead	5
South Tyneside	1
Northumbria	8
Newcastle	2
North Tees	8
South Tees	2

# Stop Smoking Services



- As part of NE roll-out, we wanted to ensure that NE SSS pregnancy services are delivering highest quality support:
  - One day refresher training to existing advisors
  - Two-day full training to any new pregnancy advisors
  - One-day training for SSS admin teams on converting “leads” into appointments attended

Stop Smoking Advisors	117
Healthy Living Pharmacists	31
SSS Administrative staff	28





**fuse**

The Centre for Translational  
Research in Public Health

# The evaluation team

## Newcastle University

Vera Araujo-Soares

Ruth Bell (Principal Investigator)

Andrew Close

Svetlana Glinianaia

Eoin Maloney

Steve Rushton

Zelda Van der Waal

Luke Vale

Martin White (now University of  
Cambridge)

## Teesside University

Sue Jones

Sharon Hamilton

Janet Shucksmith

## Policy and practice

Eugene Milne  
(SHA/PHE)

Martyn Willmore  
(Fresh)



The work was undertaken by Fuse, a UKCRC Public Health Research: Centre of Excellence. Funding from the British Heart Foundation, Cancer Research UK, Economic and Social Research council, Medical Research Council, and the National Institute for Health Research, under the auspices of the UK Clinical Research Collaboration, is greatly acknowledged.

Opinions expressed in this presentation do not necessarily represent those of the funders.



**fuse**

The Centre for Translational  
Research in Public Health



**Durham**  
University



**Newcastle**  
University



Teesside  
University



**University of  
Sunderland**

**School for Public Health Research**

The National Institute for Health Research's School for Public Health Research (NIHR SPHR) is a partnership between the Universities of Sheffield, Bristol, Cambridge, UCL; The London School for Hygiene and Tropical Medicine; The Peninsula College of Medicine and Dentistry; the LiLaC collaboration between the Universities of Liverpool and Lancaster and Fuse. This is an outline of independent research funded by the NIHR SPHR. The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health.



**National Institute for  
Health Research**



**fuse**

The Centre for Translational  
Research in Public Health

# Evaluation findings

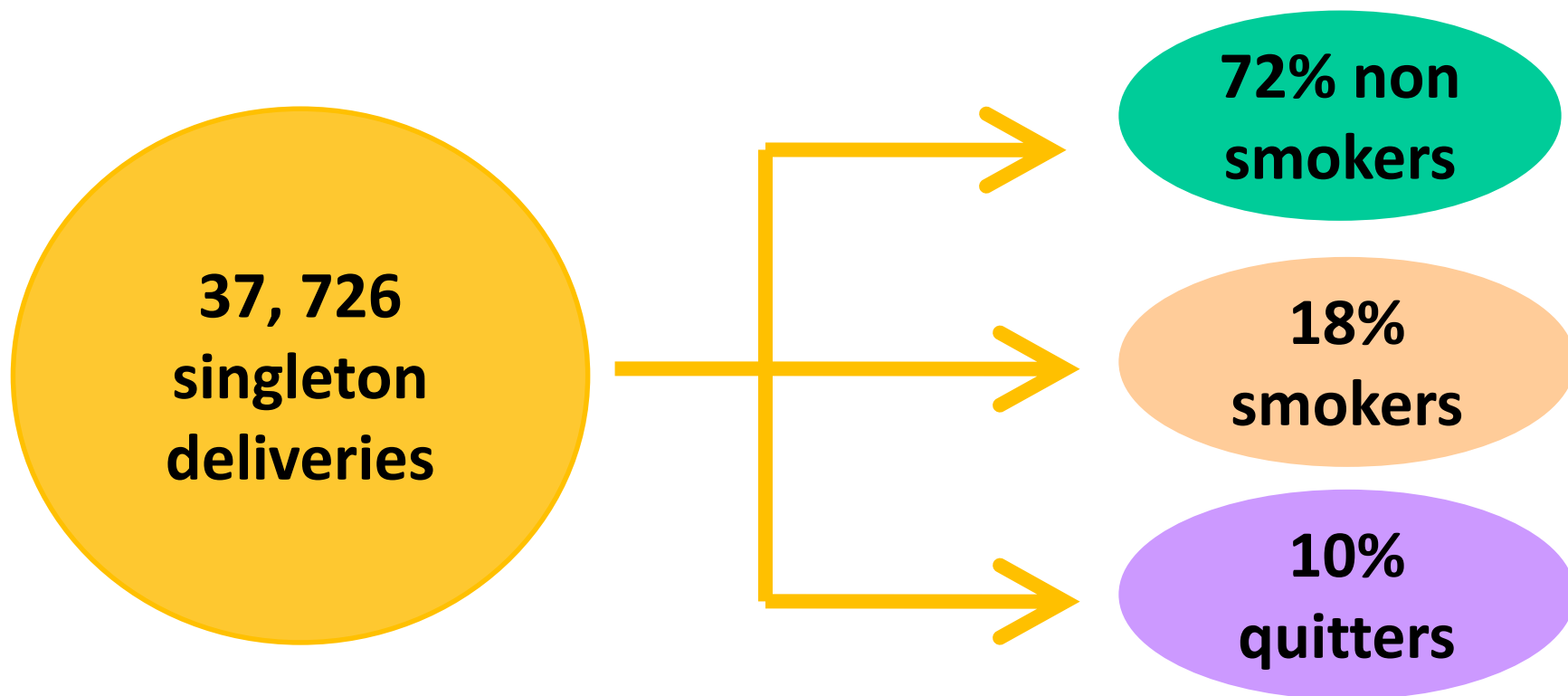


# Effectiveness of babyClear approach

- Impact on monthly referrals to smoking cessation services
- Impact on probability of quitting before delivery
  - before and after introduction of intervention
  - phased implementation: date of introduction defined separately for each Trust
  - risk perception element not included
- Impact of quitting on birthweight



## The cohort





## Results: referral rate

- Referral rates increased progressively in the first three months after the core intervention was introduced
- Referral rates were 2.5 times higher in month four vs. baseline
- Months with 'mop up' training were associated with increased referrals

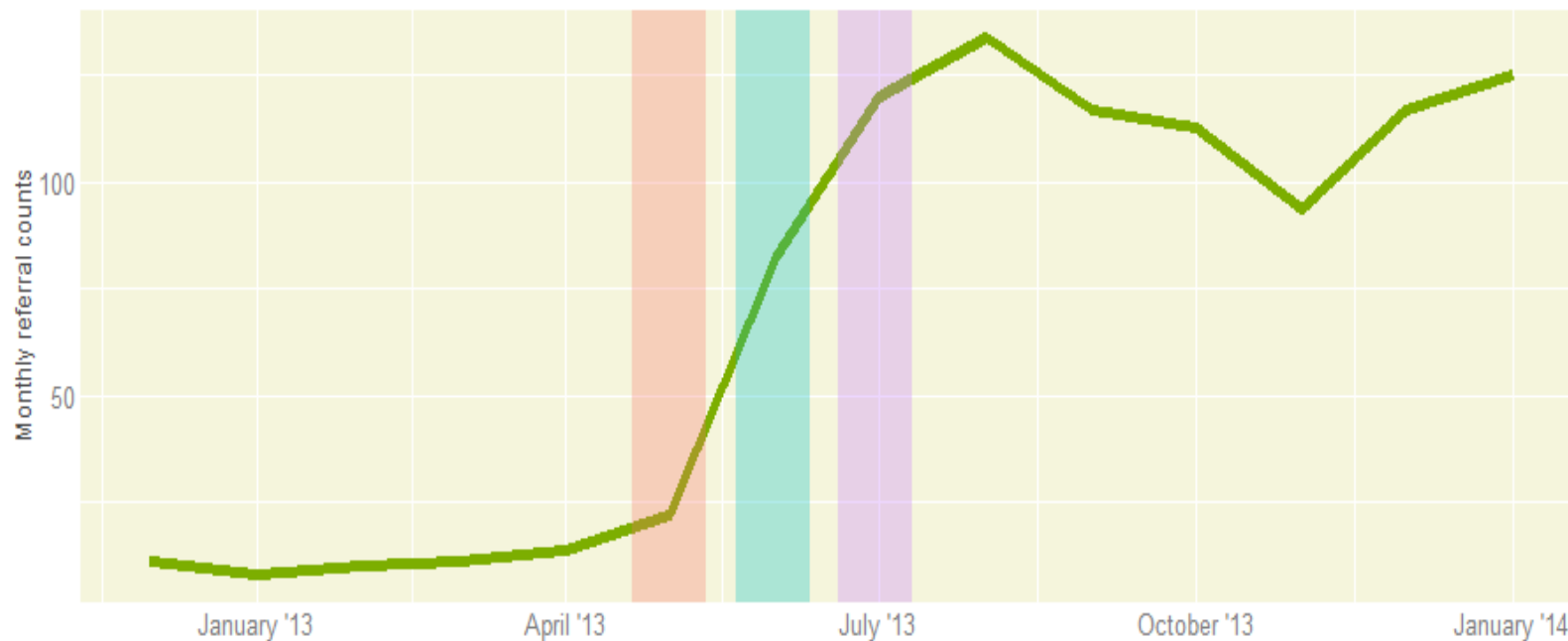


**fuse**

The Centre for Translational  
Research in Public Health

## Results: referral rate

Number of referrals/month



First, second and third months of intervention



## Results: probability of quitting

- Quit rates nearly twofold higher after introduction compared with before (aOR 1.8; CI 1.5-2.1)
- Quit rates were higher in pregnancies with a recorded referral to smoking cessation services (aOR 3.2) or with a record of setting a quit date (aOR 4.2)
- Quit rates were higher in non-white women, older women and women living in less deprived areas



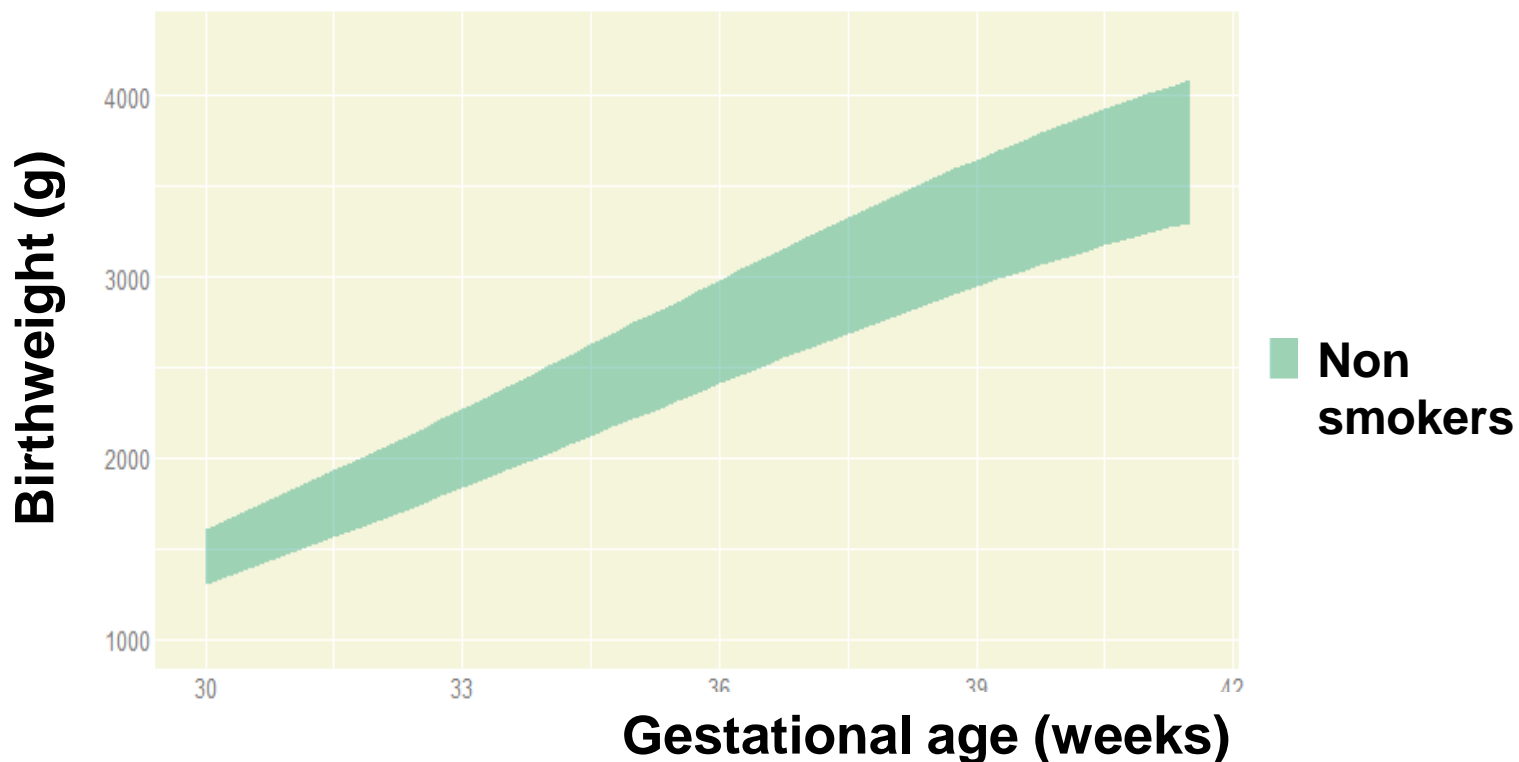
## Results: illustration of impact

In the sample cohort, 28% of women were smoking at time of booking. In a “typical” FT with 3,000 deliveries a year, this would equate to an estimated 840 women smoking at time of booking....

	% who quit	Number per year
Quitters <b>before</b> babyClear	14% (4.0% of all deliveries)	120
Quitters <b>after</b> babyClear	26% (7.2% of all deliveries)	216
Additional quitters	11% (3.2% of all deliveries)	96

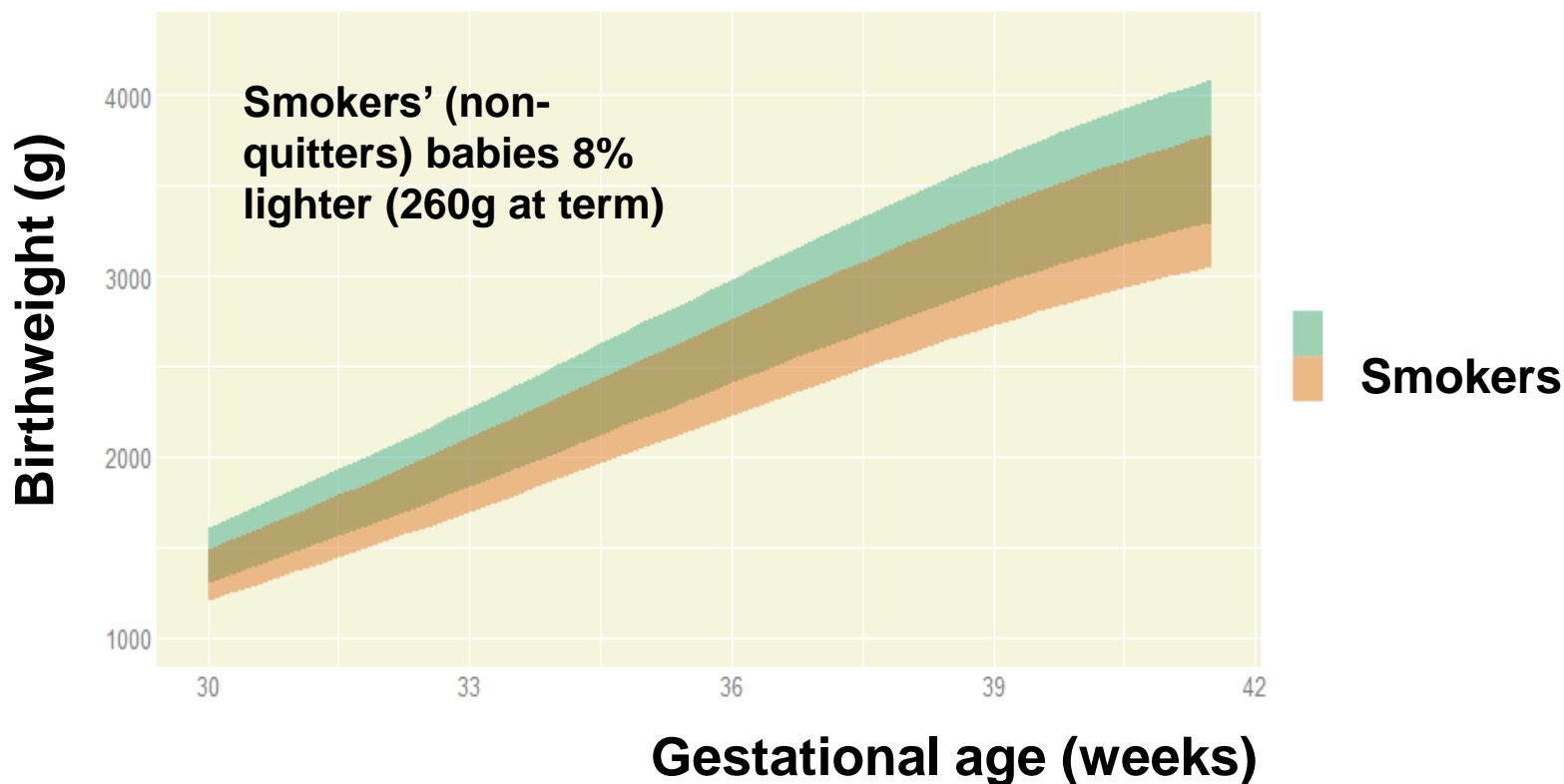


# Smoking and birthweight



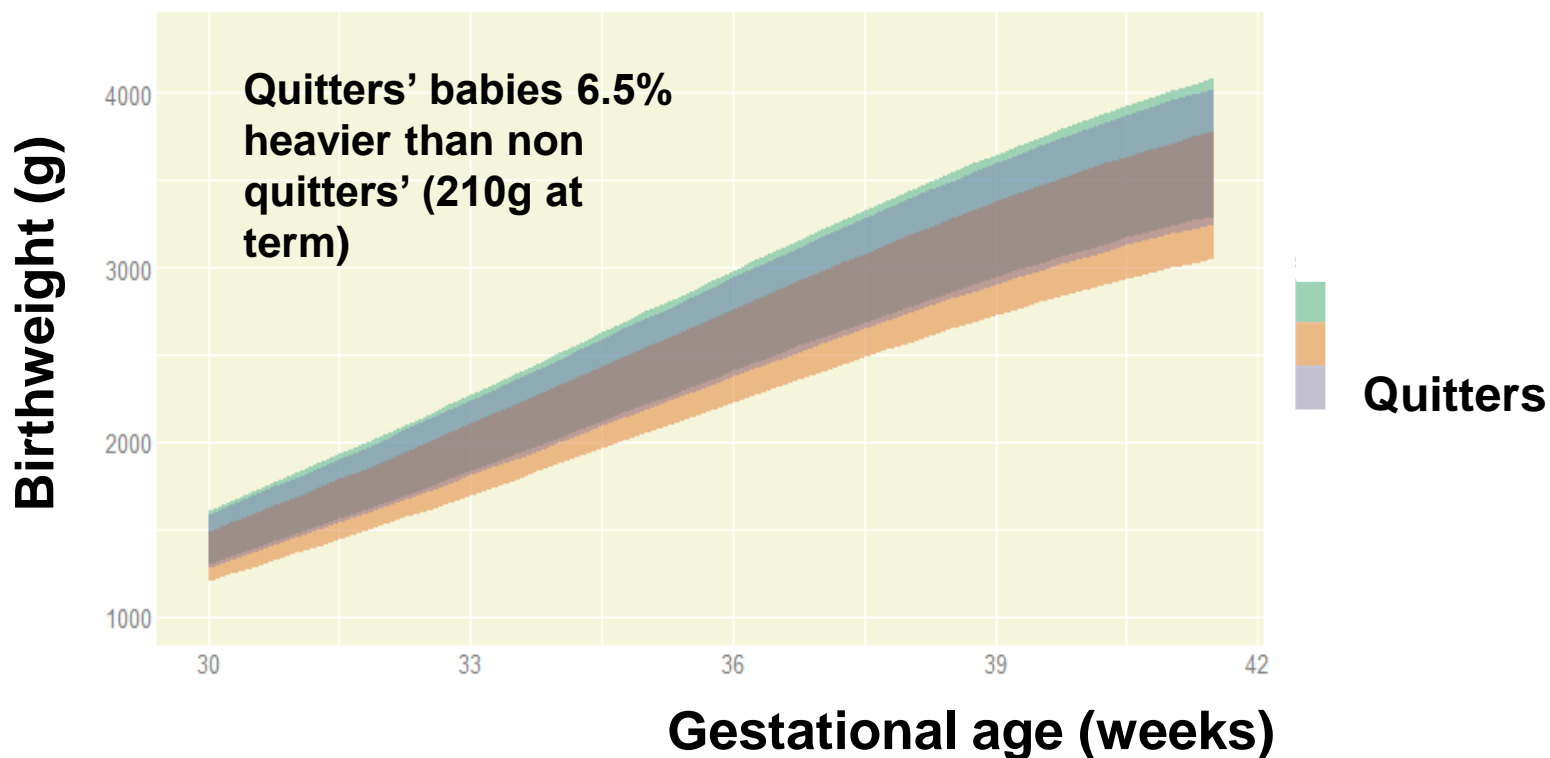


# Smoking and birthweight





# Smoking and birthweight





## Process evaluation....

Recognition that change requires:

- **Individual behaviour change** on the part of the smoker (which is usually the focus of public health efforts)
- **System change** on the part of services working with pregnant women

The qualitative evaluation looked at both these issues.....





## Who we talked to

### **Pregnant smokers:**

17 women undergoing babyClear<sup>®</sup> treatment route interviewed; 11 twice (28 interviews)

### **Health service and stop smoking service staff:**

SSS staff (n=32); including 9 managers

Midwives (n=42)

Care assistants (n=13)

Senior trust maternity managers (n=8)

Pharmacy staff (n=3)

Trainers (n=3)

Fresh NE manager (n=1)





# What helped women change?

**Acceptability and perceptions of the reconfigured service among pregnant women who are offered services on the pathway**



## Routine CO screening

- Initial results “scary”. Women unprepared to be checked; however they soon came to expect this intervention at all visits
- Variation in frequency of monitoring
- Women overwhelmingly supported CO screening. Method of personal goal-setting. Individual scores remembered and gave them something to aim for





## Opt-out referral to SSS

- “Opened door to SSS” - no evidence of damage to relationship with midwives
- Most women positive about setting up first appointments with SSS
- NRT availability at short notice was valued. Panic at thought of running out of NRT, especially during early stages of quit
- Many women felt need for extra contact between weekly appointments. Personal contact available in some areas and valued



## Other key findings...

- In some localities women did not think a **feedback loop** existed between SSS and midwifery, and used this to “play the system”
- But in other cases, the lack of a joined-up approach was **frustrating**, if women had to repeatedly explain smoking status
- The detail about **how smoking affects body and baby** was what struck women most. Seen as new news, and really challenged them to change their behaviour
- **Consistency of message still varied** across settings and HCPs, but significantly improved
- Women **expected to be asked** about their smoking at each encounter

# Risk perception intervention

- Seen as an acceptable and necessary, if unpleasant, motivator
- Many welcomed it - final push to underlying thoughts of quitting
- Broke down barriers women had erected for themselves, which allowed them to continue to smoke
- Critical that hard-hitting facts are delivered by a trusted professional (e.g. midwife) in an environment of caring and concern
- When delivered without sufficient focus (i.e. doll dropped, midwife left room mid-session), acceptability reduced





# Organisational culture - integral to success

- **Leaders**, including senior and middle managers, are motivational and enabling where treatment pathway is concerned
- Pathway **championed on ground** by opinion-leader or problem solver who is passionate about project and drives implementation forward
- Positive **attitude/readiness to embrace change within organisation**

Oh, and **stable organisational structures** also help...



## Summary

- Implementation of a system wide intervention to identify and routinely refer pregnant smokers into SSS nearly doubled probability of quitting by delivery
- Babies born to women who quit were heavier (210g at term) than smokers' babies
- The intervention was acceptable to both pregnant women and staff
- NE SATOD rates are falling faster than England (down 4.7% since 2011/12)
- Latest figure for 2016-17 is 16%

