Financial Incentives for Smoking Cessation during Pregnancy: a randomised controlled trial (CPIT)

Linda Bauld

on behalf of the CPIT Research Team

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Acknowledgements

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Research Team members included:

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Outline

• Background & Context
• Methods
• Results
• Limitations
• Conclusions
Benefits of smoking cessation in pregnancy

- > 20% of pregnant women smoke in Scotland - < 1 in 20 quit

- Prevent 5000 miscarriages, 180 stillbirths, 110 infant deaths each year in UK as well as pre-term birth & low birth weight

- Lifelong benefits include reduced incidence asthma/adult CVD

- Children of smokers more likely to become smokers themselves

- Extra NHS pregnancy cost for smoker (£100-£700) & extra first year NHS cost for infant (£150 - £300)
Why financial incentives?

• Used in other areas of public health with some success

• Evidence that increase engagement, retention & cessation

• Best evidence of efficacy of incentives is for pregnancy: Cochrane Review - RR Smoking at end of pregnancy 0.74 (95% CI 0.65, 0.84)

• Growing evidence of ‘real world’ effectiveness from incentives schemes across UK

• NICE research recommendation for UK trial of incentives
Pregnant women bribed £400 to give up smoking

By Dean Herbert

PREGNANT women are being offered £400 to give up smoking under a controversial new taxpayer-funded scheme.

Hundreds have received vouchers as a reward for renouncing cigarettes under the new cash-to-quit scheme.

Piloted by NHS Greater Glasgow and Clyde, the £750,000 scheme saw 600 women paid the incentives. Now, the team behind the project has applied for more funding to test it in Lanarkshire and wants the Scottish Government to roll the programme out nationwide.

On urine, saliva and blood. At the end of the trial, more than a fifth had managed to stop smoking.

Professor Linda Bauld of Stirling University, who headed the pilot scheme, said: “Policy makers and the NHS may worry about the costs of the intervention but in the long run it would make massive healthcare savings if we can get women to stop smoking in their pregnancies. Even if you paid the women double, it would be cost effective.”

A Scottish Government spokesman said: “Action to reduce the harm caused by smoking continues to be a priority. Hundreds of women given taxpayer rewards by health bosses... for NOT harming their babies

PREGNANT SMOKERS GET £400 NHS ‘BRIBE’ TO QUIT

The Mail ON SUNDAY

Taxpayers’ cash going up in smoke

Cash for smokers sounds like a satire on extravagantly wasteful government spending – but is in fact the latest scheme devised by health officials, currently operating in Glasgow but being considered elsewhere across the country.
Greater Glasgow & Clyde Health Board Area

Greater Glasgow & Clyde

City of Glasgow
• All women offered CO monitoring at maternity booking
• Women with CO > 4ppm automatically referred to SPS
• Advisers contact - ask about smoking & cessation and make appointment - women can opt out at this point
• Continued phone / text support until 4-weeks post quit
• Routine follow-up monitoring at 12 and 52wks post quit
• Free prescription of NRT for pregnant smokers
All women in Greater Glasgow & Clyde HB area who smoked offered enrolment over 15 months.

612 pregnant smokers enrolled

306 normal care

Usual NHS support

306 incentives

Up to £400 contingent on setting quit date & abstinence @ 4, 12 & 34-38 weeks PLUS normal NHS support

Allocation

Primary O/C
Cessation in late pregnancy (saliva cotinine validated)

Intervention & control
All women in Greater Glasgow & Clyde HB area who smoked offered enrolment over 15 months

612 pregnant smokers enrolled

Usual NHS support

9% quitters

Incentives

Up to £400 contingent on setting quit date & abstinence @ 4, 12 & 34-38 weeks PLUS normal NHS support

23% quitters

Intervention & control

Primary O/C

Cessation in late pregnancy (saliva cotinine validated)

Screening

Allocation

Economic Evaluation

Qualitative Study

Usual NHS support

Trial Design

Phase II Individually randomised controlled trial
Economic Evaluation
Health Economist – Dr Kathleen Boyd

- Cost effectiveness of financial incentives plus usual care vs usual care
- Incremental cost-effectiveness ratio (ICER)
  \[
  \text{ICER} : \frac{\text{Cost}_A - \text{Cost}_B}{\text{Effect}_A - \text{Effect}_B} \leq £20,000\text{ per QALY}
  \]
- Within-trial analysis: Incremental cost per quitter
- Lifetime analysis: Incremental cost per QALY
- Sensitivity analyses to assess impact of changes & help increase confidence in model
Main Trial Results

- **14%** absolute reduction in quit rates late pregnancy (**9%** vs **23%**)

- Number Needed to Treat= **7**

- RR smoking at end of pregnancy **0.85** [95% CI 0.79-0.91, p<0.0001]

- Improved postnatal cessation at 6 months after birth (**4%** vs **15%**)

- **No difference** in birthweight, stillbirth, miscarriage, or premature births
Qualitative & Health Economic Results

- **Qualitative analysis**
  - incentives generally **acceptable** to women & HCPs
  - home based monitoring visits **acceptable**
  - Type, amount & staging of payments **positively received**

- **Health economic analysis**
  - within-trial incremental cost **£1127** per additional quitter
  - lifetime incremental cost **£482** per QALY gained
  - **uncertainty** around sustained quit rates post-natally & results sensitive to this
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Limitations

• **Phase II** exploratory trial

• **One** geographic centre

• **One model** of SSS for pregnant women

• **Uncertainty** about post-natal relapse rates
  
  - based on self-report only - important for longer term health economic evaluation (cost per QALY gained)

  - when use self-reported postnatal estimates at 3 months financial incentives are cost saving and improve QALYs!
Conclusions

• Financial incentives *may double* rates of abstinence from smoking at the end of pregnancy when added to existing cessation services.

• Financial Incentives are *likely to be highly cost-effective* & well below the NICE threshold of £20,000/QALY.

• **Uncertainty** remains regarding post-natal relapse.

• **Larger trial now required** to demonstrate if this can work in other areas of the UK.