Evidence synthesis and public acceptability of financial incentives for smoking cessation in pregnancy

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Overview

• Background to the BIBS study (Benefits of Incentives for Breastfeeding and Smoking cessation in pregnancy)
• Evidence for incentives
• Acceptability
  – UK Public
  – Early years health professionals
• Conclusions
BIBS study

Benefits of Incentives for Breastfeeding and Smoking Cessation in Pregnancy

- Mixed methods and partnership approach – with mother and baby groups in disadvantaged areas as study co-applicants
- Systematic reviews
- Qualitative interviews
- Surveys: UK Public Health professionals
  Discrete Choice Experiment
Broad definition of incentive

Financial and non-financial tangible incentives or rewards to individuals, families or organisations
Systematic review evidence

- Financial incentives (with additional support) contingent on biochemical proof of quitting smoking in pregnancy can be effective

  **Risk Difference 0.23 (0.14 to 0.31);** 4 studies (232 participants)
  Morgan et al. *Health Technology Assessment* 2015: 19; 30

  **Odds Ratio 3.60 (2.39 to 5.43);** 8 studies (1295 participants)
  Cahill et al. *Cochrane Database of Systematic Reviews* 2015

- Quit maintained post-natally < 6 months

- Pay for performance improves doctor documentation of smoking status and advice
  - No trials identified of provider incentives where quit rates are the primary outcome. Morgan et al. *Health Technology Assessment* 2015: 19; 30
Survey of public and health professional acceptability

• A shortlist of 7 incentive strategies derived from evidence syntheses, qualitative data and public patient involvement
• 4 were for smoking cessation
• 3 were for breastfeeding
Incentives for smoking cessation

Monthly shopping vouchers for women:
• who prove that they have stopped smoking during pregnancy
• for two months after the birth of her baby if she proves that she is still not smoking
• for two months after the birth of her baby if she never lets anyone smoke in her home

Additional funding for local health services if they reach targets:
• for the number of women who prove that they have stopped smoking during pregnancy
Methods – UK public survey

- Ipsos MORI Capibus - home-administered computer-assisted questionnaires
  www.ipsos-mori.com/
- Area quota sampling (n=1144)
- Randomised question order
- Agreement measured on a 5 point scale
- Survey analysis used multivariable ordered logit models
Public agreement with incentive shortlist (n=1144)

- **Pregnant women SS - vouchers**
  - SD: 25.8%
  - D: 16.5%
  - N: 17.2%
  - A: 23.5%
  - SA: 17.0%

- **Women after birth SS - vouchers**
  - SD: 27.9%
  - D: 18.5%
  - N: 17.1%
  - A: 24.7%
  - SA: 11.8%

- **Smoke free home after birth - vouchers**
  - SD: 27.2%
  - D: 18.8%
  - N: 19.6%
  - A: 21.6%
  - SA: 12.8%

- **Health service payment for meeting SS targets**
  - SD: 20.5%
  - D: 16.8%
  - N: 23.3%
  - A: 26.7%
  - SA: 12.7%

- **BF women after birth - vouchers**
  - SD: 20.6%
  - D: 18.4%
  - N: 26.7%
  - A: 20.5%
  - SA: 13.6%

- **Health service payment for meeting BF targets**
  - SD: 20.6%
  - D: 17.9%
  - N: 25.1%
  - A: 24.3%
  - SA: 12.1%

- **Breast pump for women after birth**
  - SD: 14.4%
  - D: 12.8%
  - N: 26.9%
  - A: 27.6%
  - SA: 18.2%
Net agreement (n=1144)
Independent predictors of AGREEMENT

Age ≤ 44 (compared with age ≥ 65)

- all 7 incentives (OR >1.0)
- strongest for provider targets for smoking cessation in pregnancy (OR≥=2.0)
Independent predictors of AGREEMENT

Ethnic minority groups (compared with white British)

• **vouchers for stopping smoking in pregnancy** (OR 1.42; 95% CI 1.01, 1.99; p = 0.047)

• **vouchers for a smoke-free home** (OR 1.49; 95% CI 1.06, 2.08; p = 0.021)
Independent predictors of DISAGREEMENT

Women! (compared with men)

Disagreed with all 4 voucher incentives

- **stop smoking during pregnancy** OR 0.71 (95% CI 0.57, 0.88; p = 0.002)
- **stop smoking after birth** OR 0.68 (95% CI 0.55, 0.85; p=0.001)
- **smoke-free homes** OR 0.72 (95% CI 0.58, 0.90; p=0.003)
Independent predictors of DISAGREEMENT

Lower educational level (compared with degree level qualifications)

Odds ratio: $0.5 \leq OR < 1.0$

- vouchers to stop smoking during pregnancy
- vouchers to stop smoking after birth
- health services meeting smoking cessation targets
Independent predictors of AGREEMENT

Current smokers with quit attempts (compared with never smoked)

• **vouchers for stopping smoking in pregnancy** (OR 1.63; 95% CI 1.18, 2.26; p = 0.003)

• **a smoke-free home after birth** (OR 1.48; 95% CI 1.08, 2.04; p = 0.016)
Acceptable value

Where respondents did not disagree with providing shopping vouchers as an incentive, **up to £40 per month vouchers for behaviour change were acceptable (>85% respondents)** for both smoking cessation and breastfeeding.
Universal or targeted?

% Net Agreement

- **Stop smoking vouchers in pregnancy**
  - Universal: 60%
  - Targeted to low income: 40%

- **Breastfeeding vouchers**
  - Universal: 50%
  - Targeted to low income: 50%
Health Professionals Survey n=497
NW England and Scotland

- 87.2% Scotland
- 82.7% female
- 62.5% (35-44 & 45-54 age range)
- 89.3% White
- 80.7% had children

Job role:
- GP (26.6%)
- Midwife (24.4%)
- Health Visitor (9.5%)
Health professional agreement with incentive shortlist (n=497)

- Pregnant women SS - vouchers:
  - SD: 21.1%
  - D: 32.8%
  - N: 11.5%
  - A: 27.6%
  - SA: 7.0%

- Women after birth SS - vouchers:
  - SD: 19.9%
  - D: 32.0%
  - N: 7.2%
  - A: 29.6%
  - SA: 11.3%

- Smoke free home after birth - vouchers:
  - SD: 23.7%
  - D: 29.0%
  - N: 12.3%
  - A: 22.9%
  - SA: 12.1%

- Health service payment for meeting SS targets:
  - SD: 10.3%
  - D: 18.3%
  - N: 18.5%
  - A: 38.2%
  - SA: 14.7%

- BF women after birth - vouchers:
  - SD: 25.8%
  - D: 30.2%
  - N: 10.7%
  - A: 22.7%
  - SA: 10.7%

- Health service payment for meeting BF targets:
  - SD: 15.5%
  - D: 23.1%
  - N: 17.3%
  - A: 31.0%
  - SA: 13.1%

Independent predictor: Doctors less likely to agree
Comparing

UK Public

Health Professionals (NW England & Scotland)
Qualitative data: pregnant women who smoke

“Well done, there is a £10 voucher…” I think it’s a bit, a bit patronising as well, a bit child-like, like at school, so I think that is probably more for kids”

“A lot of people give me really dirty looks as if……, then I think to myself I could be doing a lot worse, I could be taking drugs, I could be drinking, I could be doing so much more than just having a fag”
Incentive ladder logic model for behaviour change

Health and Wellbeing

unintended consequences

behaviour, outcomes and maintenance

preparatory behaviour(s)

unintended consequences

Everyday Life Rungs

intrinsic influences
extrinsic influences
pregnancy and birth: routine care and opportunities
private-public interface

Incentive Programme Rungs

Content
incentive components
other programme components (includes BCTs)

Delivery
settings
providers
recipients
timing, communication modes and intensity
Conclusion

• Shopping voucher incentives in pregnancy are effective
• UK public: women and the less educated were more likely to disagree, but those of child-bearing age to agree, with incentives designed for their benefit
• Doctors were more likely to disagree with provider incentives
• Some women dislike feeling “pressurised”, “judged” and “told what to do”
• Mechanisms of action are complex and not linear
• Some concerns about health inequalities and the reach of incentive interventions
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Publications:
- **Morgan et al.** Full BIBS report. *Health Technology Assessment* 2015: 19; 30 http://www.nets.nihr.ac.uk/projects/hta/103102
- **Crossland et al.** Incentive Types and Meanings. *Social Science and Medicine*. 2015;128(3):10-17

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