

Putting NICE guidance into practice

Resource impact report: Tobacco: preventing uptake, promoting quitting, and treating dependence (NG209)

Published: November 2021

Summary

This report focuses on the recommendations from NICE's [tobacco guideline](#) that we think will have the greatest resource impact (cost or saving) nationally (for England) and will need the most additional resources to implement or potentially generate the biggest savings.

The guideline brings together and updates all NICE's previous guidelines on using tobacco, including smokeless tobacco. Most of the recommendations have remained unchanged. However, the following new recommendations on offering voucher incentives in addition to behavioural support and nicotine replacement therapy to stop smoking during pregnancy may have potential resource implications regarding the cost of voucher incentives.

They are:

- Offering voucher incentives [[recommendation 1.20.12](#)]
- Consider providing voucher incentives jointly [[recommendation 1.20.13](#)]
- Ensuring staff training [[recommendation 1.20.14](#)].

It is anticipated that providing vouchers incentives could help promote and motivate pregnant women to continue engagement with stop smoking services in order to stop smoking in pregnancy. Based on the economic model results, voucher rewards totalling a maximum of around £400 have been shown to be cost effective. The committee included this amount as a guide¹. Therefore, organisations should consider the value of financial incentives based on local stop smoking strategies.

Reducing smoking in pregnancy may help reduce healthcare costs associated with baby related complications, hospital admissions, ultrasound, antenatal attendances, and maternal and in-pregnancy complications resulting from smoking in pregnancy.

¹ The resource impact report and template estimate the average voucher incentive paid is £300. This assumes incentive payments are staggered throughout the stop smoking process and not all women will successfully quit at the time of delivery and so will not receive the maximum amount.

Evidence suggests that with voucher incentives, out of every 1,000 pregnant women offered vouchers, an additional 18% (177 women) will stop smoking.

In 2019/20 around 5,900 pregnant women referred to stop smoking services set a quit date and received stop smoking support. Based on these 5,900 women receiving support, and potentially receiving staggered voucher incentives, the resource impact is estimated to be a net saving of £0.2 million for England. The cost of the vouchers is estimated to be £1.6 million, and this is expected to be offset by £1.8 million savings resulting from a reduction in complications associated with smoking in pregnancy (see table 1 for further details).

Table 1 Potential resource impact of providing voucher incentives for pregnant women for England population using NICE recommendations

Description	Number of people	Cost / (saving) £000
Pregnant women currently receiving vouchers	830	£166
Pregnant women to receive vouchers in future	5,900	£1,770
Additional costs	5,750	£1,604
In pregnancy and maternal complications avoided		(£320)
Community appointments		£72
Hospital appointments		(£889)
Antenatal attendances		(£370)
Hospital admission (overnight stay)		(£111)
Ultrasound scans		(£117)
Baby related complications avoided		(£49)
Total savings		(£1,785)
Net resource impact (£000s)		(£181)

The figures above assume no increase in referrals and that use of voucher incentives increases the proportion of women who have stopped smoking at the time of delivery. Any further investment to improve stop smoking services and referral pathways would help increase the number of women accessing services.

A local resource impact template accompanies this report to help with assessing the resource impact at a local level in England, Wales, or Northern Ireland. The template can also be used alongside the forthcoming [Office for Health Improvement & Disparities \(OHID\)](#) smoking in pregnancy return on investment tool (SiP ROI tool).

The treatment as usual package from the SiP ROI tool was used as the baseline in the template. The resource impact using the enhanced treatment as usual with incentives package is shown in the sensitivity analysis section 7.2.

The template can be used to model investment in additional services and the potential increased benefits and savings as a result of the investment. Net costs may be incurred if the proportion of women who quit smoking at the time of delivery is not increased in the template².

Services are commissioned by local authorities, integrated care systems and clinical commissioning groups. Providers are secondary care, primary care and community local stop smoking services.

² The net saving of around £181,000 for England modelled in this report is extremely sensitive to the proportion of women who quit smoking at the time of delivery. This is assumed to increase from 14% in current practice to 32% in future practice (with increased use of voucher incentive schemes). If the proportion of women who quit smoking at the time of delivery in future practice is 30% or below, assuming no other changes, the net resource impact will be a cost.

1 Introduction

- 1.1 This report discusses the resource impact of implementing NICE guideline on tobacco: preventing uptake, promoting quitting, and treating dependence in England. It aims to help organisations plan for the financial implications of implementing the NICE guideline.
- 1.2 A local resource impact template accompanies this report to help with assessing the resource impact at a local level in England, Wales, or Northern Ireland. Organisations can input estimates into the local resource impact template to reflect local practice and estimate the impact of implementing the recommendations.

2 Background

- 2.1 The guideline brings together and updates all NICE's previous guidelines on using tobacco, including smokeless tobacco.
- 2.2 Previous recommendations were to monitor all women's smoking status throughout pregnancy by routine carbon monoxide measurement, to provide encouragement and support to quit smoking throughout the pregnancy, in addition to offering smoking cessation advice and referral to specialist behavioural support offered by local stop smoking services.
- 2.3 Despite the well-established health risks, many women struggle to stop smoking during pregnancy. Providing voucher incentives in addition to behavioural support and nicotine replacement therapy could help promote, and motivate pregnant women to continue, engagement with stop smoking services in order to stop smoking in pregnancy.
- 2.4 Smoking during pregnancy increases the risk of poor birth outcomes, including stillbirth and neonatal deaths. The [Tobacco Control Plan: Delivery Plan 2017 - 2022](#) emphasises opportunities

to achieve and sustain smoke free pregnancies to reduce stillbirths, neonatal and maternal deaths.

3 Recommendation with potential resource impact

3.1 The following recommendations for providers of stop-smoking support taken together are likely to have a significant resource impact.

- Offering voucher incentives [[recommendation 1.20.12](#)].
- Providing voucher incentives jointly [[recommendation 1.20.13](#)].
- Ensuring staff training [[recommendation 1.20.14](#)].

Background

3.1.1 Evidence showed that offering financial incentives (given only if biochemical tests prove the woman has stopped) to help pregnant women stop smoking was both effective and cost effective. Evidence also showed that overall, out of every 1,000 pregnant women offered vouchers, an additional 177 (18%) would stop smoking.

3.1.2 Based on the evidence and their expertise, the committee agreed that incentive schemes that include both the pregnant woman and a friend or family member that she has chosen to support her during her quit attempt could have a better chance of success.

3.1.3 Based on the economic model results supporting the guideline recommendations, financial rewards totalling a maximum of around £400 have been shown to be cost effective. The committee included this amount as a guide. Therefore, organisations should consider the value of financial incentives based on local stop smoking strategies.

3.1.4 The committee noted that vouchers are already being used in some areas and were acceptable to many pregnant women and

healthcare providers. However, practice is variable, and the potential additional costs could be significant in some places.

- 3.1.5 Areas that do not already use voucher incentives may need to train midwives or maternity support workers to help promote and deliver the vouchers.
- 3.1.6 There may also be a need for further investment in services and referral pathway development to cater for a potential increase in uptake. The template allows for the additional investment costs to be estimated.
- 3.1.7 Around 32,800 pregnant women who were screened for carbon monoxide (CO) had CO reading of 4ppm+ at the time of booking an antenatal appointment in England (forthcoming [Office for Health Improvement & Disparities](#) smoking in pregnancy return on investment tool). See table 2 for further details.

Table 2: Estimated number of people affected for England for the recommendations

Description	%	Number of people
Population of women 18 years and over in England ¹	N/A	22,601,514
Number of pregnant women per year ¹	2.6	598,900
Number of pregnant women screened for carbon monoxide (CO) ²	60	359,400
Number of pregnant women CO screened who have CO reading 4ppm+ ²	9.1	32,790
Number referred to stop smoking services (who test positive for smoking at booking - CO confirmed) ²	60	19,670
Number referred to stop smoking services and accept ²	30	5,900
Number referred to stop smoking services and set a quit date ²	100	5,900
¹ Office for National Statistics . Clinical commissioning group population estimates. ² Forthcoming Office for Health Improvement & Disparities : Smoking in pregnancy return on investment tool.		

3.1.8 Based on 5,900 pregnant women receiving support, and potentially receiving staggered voucher incentives, the resource impact is estimated to be a net saving of £0.2 million for England. The cost of the vouchers is estimated be £1.6 million, and this is expected to be offset by £1.8 million savings resulting from a reduction in complications associated with smoking in pregnancy. See table 3.

Table 3 Potential resource impact of providing incentives for pregnant women for England population using NICE recommendations

Description	Number of people	Cost / (saving) £000
Pregnant women currently receiving vouchers	830	£166
Pregnant women to receive vouchers in future	5,900	£1,770
Additional costs	5,750	£1,604
In pregnancy and maternal complications avoided		(£320)
Community appointments		£72
Hospital appointments		(£889)
Antenatal attendances		(£370)
Hospital admission (overnight stay)		(£111)
Ultrasound scans		(£117)
Baby related complications avoided		(£49)
Total savings		(£1,785)
Net resource impact (£000s)		(£181)

4 Implications for commissioners and providers

4.1 Additional funding may be needed for new stop smoking services or to ensure services can manage any potential increase in access to services and to support delivery of incentive vouchers. Local organisations can amend the template in order to estimate the potential additional costs that may be needed and the associated savings that may result from the investment. Net costs may be incurred if the proportion of women who quit smoking at the time of delivery is not increased in the template.

- 4.2 The forthcoming [Office for Health Improvement & Disparities](#): SiP ROI tool developed is also available to help in making local investment decisions. The tool enables commissioners and providers to explore the costs and benefits of different packages of support to help pregnant women to quit smoking.
- 4.3 The costs for commissioning tobacco harm-reduction fall under programme budgeting category 21X (Health individuals – other).

5 Assumptions made

- 5.1 The resource impact template makes the following assumptions which can all be amended to reflect local practice:
- Pregnant women setting a quit date would receive stop smoking support, that is, behavioural support (group or one-to one) with nicotine replacement therapy (NRT).
 - Where services need further investment, the local organisations can amend the resource impact template and estimate the potential investment needed.
 - The model assumes that all women receive both behavioural support and NRT. The resource impact template provides a range of support options that can be selected and costed at a local level. Where additional investment is estimated, the costs of providing support are included in the calculations and will show in separate rows in the resource impact template.
 - Vouchers are only awarded to women who successfully quit smoking and with abstinence confirmed using a biochemical method based on the local service protocols. However, the incentive payments are staggered throughout the quit process. Therefore, someone can receive payments for the duration they are abstinent and if they relapse and they would not receive further payments or the full voucher amount.
 - Where financial incentives are awarded to both the pregnant woman and a friend or family member that she has chosen to

support her during the quit attempt, the overall total value of the incentive remains unchanged, and payments would be in line with the above bullet point.

- The value of voucher incentive per pregnant woman used in the model is £200 for current practice. This is based on data from several local authorities offering incentives. Evidence from the UK showed that schemes in which a maximum of around £400 was used were cost effective. However, based on the forthcoming [Office for Health Improvement & Disparities](#): SiP ROI tool, the actual average payment per woman was £300 and this has been used in the resource impact template for future practice. This is based on analysis of schemes with a maximum potential payment of £400 but takes into account relapse rates and adherence to the schemes.
- The cost of behavioural support is £379 per person and is taken from the [NHS non-mandatory prices 2020/21](#) for the maternity pathway. These can be amended at a local level.
- Cases of maternal, in-pregnancy and baby complications avoided were based on the forthcoming [Office for Health Improvement & Disparities](#): SiP ROI tool. See the [resource impact template](#) for further details.
- The current quit rate at the time of delivery is 14% (forthcoming [Office for Health Improvement & Disparities](#): SiP ROI tool).
- Based on evidence supporting the guideline recommendations, an additional 18% would quit smoking as a result of using financial incentives. Therefore, the future quit rate at the time of delivery is estimated at 32%. This proportion may increase with additional investment in services.
- The template includes savings resulting from a reduction in service use costs (community appointments, hospital admissions and ultrasound scans) and baby related complications. See the resource impact template for more details. Estimation of these

outcomes were based on the forthcoming [Office for Health Improvement & Disparities](#): SiP ROI tool.

6 Other considerations

- 6.1 The costs of training midwives or maternity support workers to help promote and deliver the vouchers, and for any additional staff/time to handle referrals, and to deal with potential increases activity is not accounted for in the resource impact template but should be considered at a local level.
- 6.2 Although the guideline recommends that vouchers should be provided only to those with an abstinence validated by a biochemical method, the committee acknowledged that during the COVID-19 pandemic carbon monoxide validation may not be being used. While this is the case, vouchers are recommended even if biochemical validation is not possible. Therefore, overall costs may increase as a result.

7 Sensitivity analysis

- 7.1 The net saving of around £181,000 for England modelled in this report is extremely sensitive to the proportion of women who quit smoking at the time of delivery. Based on the forthcoming [Office for Health Improvement & Disparities](#): SiP ROI tool and the evidence supporting the recommendations on voucher incentives , this is assumed to increase from 14% in current practice to 32% in future practice (with increased use of voucher incentive schemes). If the proportion of women who quit smoking at the time of delivery in future practice is 30% or below, assuming no other changes, the net resource impact will be a cost.
- 7.2 Based on the forthcoming [Office for Health Improvement & Disparities](#): SiP ROI tool and the evidence supporting the recommendations on voucher incentives, and assuming the enhanced treatment as usual with incentives package being used,

the net saving is estimated at £0.7 million. The package assumes that more pregnant women (95%) will be screened for carbon monoxide with 95% of those testing positive being offered a referral to stop smoking services and of those referred, 45% setting a quit date and receiving stop smoking interventions. The package also assumes an increase in the proportion of women who quit at the time of delivery from 42% in current practice to 60% in future practice.

About this resource impact report

This resource impact report accompanies the NICE guideline on [tobacco: preventing uptake, promoting quitting, and treating dependence](#) and should be read in conjunction with it. Please visit the NICE website to view the [terms and conditions](#).

© NICE [2021]. All rights reserved. See [Notice of rights](#).