

## **NICE RAPID REVIEW**

**The effectiveness of smoking cessation interventions to reduce the rates of premature death in disadvantaged areas through proactive case finding, retention and access to services**

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## Executive Summary

This report outlines findings from a systematic review of the evidence concerning the effectiveness of smoking cessation interventions that reduce the rates of premature death in disadvantaged areas through proactive case finding, retention and access to services. This includes: assessing the evidence on interventions aimed at *finding* and then *supporting* adults living in disadvantaged areas who are at higher than average risk of premature death; and assessing the evidence on interventions aimed at *providing* – and *improving access* to – services for adults living in disadvantaged areas, with a higher than average risk of premature death. The review focuses not just on smokers living in disadvantaged areas but also disadvantaged and manual groups more broadly, including pregnant women.

**Methodology:** The review was conducted in four stages: search, screening, critical appraisal and synthesis. UK evidence was examined first, followed by international studies. A total of 7,842 titles and abstracts were screened. Full paper copies of 46 UK studies and 44 international studies were obtained. 24 UK studies and 24 international studies were data extracted and quality assessed in the final review.

**Results:** Limited evidence was identified to address the main research questions posed by the review. The quality of evidence was mixed and studies often included poorly specified outcomes.

### *Finding and supporting adults*

Evidence was identified that suggests a number of interventions may be effective in identifying smokers. Some of these may also be effective in supporting smokers to quit once they have been reached, although this evidence is more limited. Effective methods for identifying and/or supporting adults include: the Quality Outcomes Framework (QOF) element of the 2004 GP contract in the UK, the use of primary care records to contact smokers and provide access to cessation services, the use of health equity audit methods to determine whether NHS stop smoking services are reaching disadvantaged smokers, social marketing approaches, tailoring interventions to fit the needs of disadvantaged groups, and combining advice or treatment to stop smoking with other interventions such as cervical screening. However, a weakness of some of the studies identified was that although they identified promising approaches to finding and then supporting smokers, not all of them focussed specifically on disadvantaged groups.

### *Providing and improving access to services*

Disadvantaged smokers face a number of barriers to accessing services including fear of failure, fear of being judged and lack of knowledge. Pregnant women, particularly disadvantaged pregnant smokers, also experience a number of barriers to seeking support to quit. Evidence suggests that there are a number of effective ways of improving the accessibility of cessation interventions. Training pharmacists and dental professionals to deliver cessation can make effective treatment available to larger numbers of smokers. Workplace interventions can also be successful with manual groups. Some limited evidence also exists that including a drop in or rolling group element to smoking treatment may improve access and outcomes for some

smokers. Finally, evidence exists that a number of different forms of incentive schemes, including access to free NRT, can encourage smokers to make a quit attempt.

Review findings point to the need for further research in a number of areas, in particular the need to test promising approaches with disadvantaged groups rather than the wider population.

## Evidence Statements

No	Statements on strength and applicability of evidence	Evidence
	<b>Identifying and Reaching Smokers</b>	
1	<p>Evidence from one UK observational study [++]<sup>1</sup> suggests that the Quality and Outcomes Framework component of the 2004 GP contract may have continued, rather than reversed, differences in the quality of care delivered between primary care practices in deprived and less deprived areas.</p> <p>Evidence from another UK observational study [++]<sup>2</sup> suggests that the new GP contract has resulted in an improvement in the recording of smoking status and the recording of the delivery of brief cessation advice in primary care, but not the prescribing of smoking cessation medication.</p> <p>As these studies took place within UK primary care, they are directly relevant to the review.</p>	<p><sup>1</sup>McLean et al. 2006 (++)  <sup>2</sup>Coleman et al. 2007 (++)</p> <p>(Pp. 18-19 text)</p>
2	<p>One cluster RCT in the UK [++]<sup>1</sup> found that proactively identifying smokers through primary care records was feasible, and providing these smokers with brief advice and referral to NHS stop smoking services increased contact with services and quit attempts but did not increase rates of cessation.</p> <p>One observational study [-]<sup>2</sup>, one descriptive study [-]<sup>3</sup>, one cluster controlled trial [+]<sup>4</sup> and one RCT [+]<sup>5</sup> conducted in the USA demonstrate that proactively identifying smokers in a number of ways, for example, through primary care, using a screening tool, or through cold calling, is possible and that these provide an effective way of recruiting smokers to cessation interventions.</p> <p>One observational study in Sweden [+]<sup>6</sup> demonstrates that direct mailing to smoking mothers can be successful in increasing both participation in smoking cessation programmes and quit rates.</p> <p>One study took place within English primary care and it is directly applicable to the review. The remainder took place in</p>	<p><sup>1</sup>Murray et al. 2007 (++)  <sup>2</sup>Bentz et al. 2006 (-)  <sup>3</sup>Perry et al. 2005 (-)  <sup>4</sup>Milch et al. 2004 (+)  <sup>5</sup>Prochaska et al. 2001 (+)  <sup>6</sup>Tillgren et al. 2000 (+)</p> <p>(Pp. 20-22 text)</p>

	the USA and may have limited applicability. Only one (American) study focused upon disadvantaged groups and therefore the applicability of this evidence to target populations for this review may be limited.	
3	<p>Two observational studies [++]<sup>1,2</sup> demonstrate that the NHS stop smoking services have been effective in reaching smokers living in disadvantaged areas of England.</p> <p>As both took place in England and are focused on disadvantaged groups, they are directly applicable to the review.</p>	<p><sup>1</sup>Lowey et al. 2003 (++)  <sup>2</sup>Chesterman et al. 2005 (++)</p> <p>(Pp. 22-23 text)</p>
	<b>Client Centred Approaches</b>	
4	<p>Two studies provide evidence to suggest that barriers such as fear of being judged, fear of failure and lack of knowledge need to be tackled in order to motivate smokers from lower socio-economic groups to access cessation services. Interventions need to be multidimensional in order to tackle social and psychological barriers to quitting as well as dealing with the physiological addiction. (Two UK based studies, one involving focus groups [++]<sup>1</sup> and one involving interviews [++]<sup>2</sup> ).</p> <p>As both these studies took place with disadvantaged smokers in the UK, they are directly relevant to this review.</p>	<p><sup>1</sup>Roddy et al. 2006 (++)  <sup>2</sup>Wiltshire et al. 2003 (++)</p> <p>(Pp. 23-24 text)</p>
5	<p>Evidence from four studies suggest that social marketing has a role to play in delivering client centred approaches to smoking cessation in disadvantaged groups. (One UK based observational study [-]<sup>1</sup>, one international RCT [+]<sup>2</sup>, one international population based study [+]<sup>3</sup> and one international controlled before and after study [-]<sup>4</sup>).</p> <p>One of these studies took place with disadvantaged smokers in the UK and is directly relevant to the review. Three took place in the USA and may have limited applicability to this review.</p>	<p><sup>1</sup>Stevens et al. 2002 (-)  <sup>2</sup>Boyd et al. 1998 (+)  <sup>3</sup>Schorling et al. 1997 (+)  <sup>4</sup>Turner et al. 2001 (-)</p> <p>(Pp. 25-26 text)</p>
6	<p>One UK based study suggests that including lay people or community members as advisers may form an important part of a successful smoking cessation intervention targeted at a specific group, in particular if the service is tailored to their specific needs and allows</p>	<p><sup>1</sup>Harding et al. 2004 (+)</p> <p>(p. 26-27 text)</p>

	<p>them to explore smoking in the context of relevant issues in their lives. (One UK based observational study [+1]).</p> <p>This study took place with smokers in the UK and is relevant to this review.</p>	
7	<p>Two American studies suggest the need to test existing cessation interventions to determine their suitability for the specific group, to receive feedback from that group and to make amendments to any aspects that are unsuitable. In order for the client group to benefit, the intervention must fit their level of need and understanding, and be suitably accessible. (One USA based RCT [++1], and one USA based cohort study [-]2).</p> <p>Both studies took place in the USA and may have limited applicability to this study.</p>	<p><sup>1</sup> Okuyemi et al. 2007  <sup>2</sup> McDaniel et al. 2005</p> <p>(Pp. 27 text)</p>
	<b>Improving Access</b>	
8	<p>There is evidence from a number of studies that training pharmacists to deliver smoking cessation interventions is important and preliminary evidence that pharmacies may be a valuable means of reaching and increasing smoking cessation rates in disadvantaged groups (one UK systematic review comprising 2 RCTs and 3 non-randomised experimental studies [++1], one UK observational study with interviews [++2] and one international pilot study [+3])</p> <p>Two studies took place within the UK and are directly applicable to the review. One took place in the USA and so may have limited applicability to this review</p>	<p><sup>1</sup> Blenkinsopp et al. 2003 (++)  <sup>2</sup> Bauld et al. 2006 (++)  <sup>3</sup> Doescher et al. 2002 (+)</p> <p>(Pp. 28-29 text)</p>
9	<p>There is evidence from three reviews that training dental professionals to deliver smoking cessation interventions is important, and this setting has the potential to reach large numbers of smokers and increase cessation rates (one international systematic review comprising 6 RCTs [-]1, one UK review of mixed study designs [-]2 and one international review of 7 RCTs [+3])</p> <p>One study took place within the UK and is directly applicable to the review. Two studies took place in the USA and so may have limited applicability to this review.  There is limited reference to</p>	<p><sup>1</sup> Carr &amp; Ebbert 2007 (-)  <sup>2</sup> Needleman et al. 2006 (-)  <sup>3</sup> Gordon et al. 2006 (+)</p> <p>(Pp. 29-30 text)</p>

	disadvantaged groups in any review and therefore the applicability of this evidence to target populations for this review may be limited.	
10	<p>Three studies provide some evidence of the potential benefit of drop in or rolling community based sessions for smoking cessation to reach smokers and increase cessation rates (two UK based studies involving face to face interviews [-]1,2 and one UK based observational study [-]3).</p> <p>All studies took place within the UK and are directly applicable to the review.</p>	<p><sup>1</sup> Ritchie et al. 2007 (-)  <sup>2</sup> Springett et al. 2007 (-)  <sup>3</sup> Owens &amp; Springett 2007 (-)</p> <p>(Pp. 30-31 text)</p>
11	<p>One cohort study [+]1 provides evidence of the potential benefit of basing smoking cessation services in the workplace of manual groups to increase cessation rates.</p> <p>This study took place in the USA and so may have limited applicability to this review but does have potential implications for the UK population.</p>	<p><sup>1</sup>Barbeau et al. 2006 (+)</p> <p>(Pp. 31 text)</p>
	<b>Incentive Schemes</b>	
12	<p>An international review [+]1 of 17 studies of population based smoking cessation interventions that used a range of incentives found that larger incentives were more effective both in improving recruitment and cessation. The review included studies of mixed designs, and did not discuss the socio-economic characteristics of participants. A UK cohort study [+]2 found some evidence for proactive targeting of patients by GPs in a deprived area for prescriptions of NRT on quit rates and reduction in cigarette consumption. Two US cohort studies [+]3,4 of free NRT for helpline callers provided evidence for an impact on calls, and some evidence in one study of greater quit rates. One US RCT [+]5 of workplace smoking cessation programmes and incentives found that the latter increased participation but not cessation.</p> <p>One study took place within the UK and is directly applicable to the review. Three studies took place in the USA and one review was based on studies conducted worldwide and so may have limited applicability to this review.</p>	<p><sup>1</sup>Bains et al, 1998 (+)  <sup>2</sup>Copeland et al, 2005 (+)  <sup>3</sup>An et al, 2006 (+)  <sup>4</sup>Bauer et al, 2006 (+)  <sup>5</sup>Hennrikus et al, 2002 (+)</p> <p>(Pp. 32-33 text)</p>
	<b>Combined Approaches</b>	

<p><b>13</b></p>	<p>One RCT in the UK [++]<sup>1</sup> with CHD patients randomised to nurse run clinics or controls found little evidence for a change in smoking behaviour. Two RCTs in the UK [ +]<sup>2</sup> and [ -]<sup>3</sup> exploring smoking cessation interventions at routine cervical screening appointments found some evidence for brief interventions to change the motivation or intentions to quit smoking. One international RCT [ +]<sup>4</sup> examined the recruitment of women smokers attending a child's paediatric appointment, into a smoking cessation intervention and found some evidence for an impact on quitting smoking. One international RCT [ +]<sup>5</sup> and one observational study using face to face interviews [ +]<sup>6</sup> investigated the use of cellular phones for smoking cessation in HIV+ patients and showed a potential benefit for using this method of support. One US cohort study [ +]<sup>7</sup> provided preliminary evidence that offering a reduction programme could reach and influence more smokers than a programme just offering cessation.</p> <p>Three studies were carried out in the UK and are directly applicable to the target population, but they did not examine disadvantaged groups separately. Four studies were carried out in the US and so may have limited applicability to this review</p>	<p><sup>1</sup>Campbell et al, 1998 (++)  <sup>2</sup>Hall et al, 2007 (+)  <sup>3</sup>Hall et al, 2003 (-)  <sup>4</sup>Vidrine et al, 2006 (+)  <sup>5</sup>Curry et al, 2003 (+)  <sup>6</sup>Lazev et al, 2004 (+)  <sup>7</sup>Glasgow et al, 2006 (+)</p> <p>(Pp. 33-35 text)</p>
<b>Pregnancy</b>		
<p><b>14</b></p>	<p>Two UK surveys (one telephone [ +]<sup>1</sup> and one internet [ +]<sup>2</sup>) and one descriptive and audit survey [ -]<sup>3</sup> carried out in the UK provide evidence of pregnant smokers' perceptions of barriers to using smoking cessation support. Barriers include, among others: unsatisfactory information, lack of integration of cessation into routine antenatal care, lack of enthusiasm or empathy from health professionals and short-term support. One RCT in the UK [ +]<sup>4</sup> of motivational interviewing with pregnant smokers and two international RCTs, one of a brief versus more intensive intervention [ ++]<sup>5</sup> and one of proactive telephone support [ -]<sup>6</sup> provide little evidence of the effectiveness of these interventions. One US descriptive study [ -]<sup>7</sup> described the reach of a multifaceted pregnancy campaign but reported no</p>	<p><sup>1</sup>Ussher et al, 2004 (+)  <sup>2</sup>Ussher et al, 2006 (+)  <sup>3</sup>Lowry et al, 2004 (-)  <sup>4</sup>Tappin et al, 2000 (+)  <sup>5</sup>Dornelas et al, 2006 (++)  <sup>6</sup>Solomon 2000 (-)  <sup>7</sup>Haviland et al, 2004 (-)</p> <p>(Pp. 36-38 text)</p>

	<p>outcomes.</p> <p>The UK studies are directly applicable to the target population, although only one of these focused on pregnant smokers in disadvantaged areas.</p>	
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