

Improving access to smoking cessation services for disadvantaged groups: a systematic review

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ABSTRACT

Background Smoking is a main contributor to health inequalities. Identifying strategies to find and support smokers from disadvantaged groups is, therefore, of key importance.

Methods A systematic review was carried out of studies identifying and supporting smokers from disadvantaged groups for smoking cessation, and providing and improving their access to smoking-cessation services. A wide range of electronic databases were searched and unpublished reports were identified from the national research register and key experts.

Results Over 7500 studies were screened and 48 were included. Some papers were of poor quality, most were observational studies and many did not report findings for disadvantaged smokers. Nevertheless, several methods of recruiting smokers, including proactively targeting patients on General Physician's registers, routine screening or other hospital appointments, were identified. Barriers to service use for disadvantaged groups were identified and providing cessation services in different settings appeared to improve access. We found preliminary evidence of the effectiveness of some interventions in increasing quitting behaviour in disadvantaged groups.

Conclusions There is limited evidence on effective strategies to increase access to cessation services for disadvantaged smokers. While many studies collected socioeconomic data, very few analysed its contribution to the results. However, some potentially promising interventions were identified which merit further research.

Keywords access, disadvantage, inequalities, smoking cessation services

Introduction

As in most industrialized countries, smoking prevalence in the UK is considerably higher among less affluent groups. In 2007, smoking prevalence was 36% for men and 25% for women in routine and manual occupations, compared with 15% for men and 18% for women in managerial and professional groups.¹ Although smoking has declined considerably since the 1970s for all groups, there has been no significant narrowing of the gap between manual and non-manual rates.²

Smoking is one of the main contributors to health inequalities in industrial countries³ and a recent analysis of causes of death in England and Wales by the Office for National Statistics argued that smoking played a key role in the relationship between deprivation and mortality.⁴ Among men, smoking is responsible for over half of the excess risk of premature death between the highest and lowest socioeconomic groups.⁵ For these reasons, addressing

smoking-related inequalities in health has become a policy priority in the UK and targets have been established nationwide to reduce smoking rates among more deprived groups. In England, the key target concerning smoking is to 'reduce adult smoking prevalence in routine and manual groups to 26% or less by 2010'.

Significant health gains are likely to be achieved by reducing the proportion of current smokers and if more of these smokers are drawn from disadvantaged groups, then this could make a significant contribution to reducing inequalities in health.⁶ A number of government policies have therefore been implemented to encourage smokers to quit

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smoking, with considerable emphasis on those in lower socioeconomic groups.⁷

Delivering evidence-based smoking cessation services to less affluent communities was one of the key government strategies to help reduce smoking in disadvantaged groups. Following the publication of the 1998 White Paper, *Smoking Kills*,⁷ smoking cessation services, now known as National Health Service (NHS) stop-smoking services, were established in the UK. The services were initially set up in 26 deprived areas known as Health Action Zones in 1999 and rolled out to the rest of the country from 2000.⁸ NHS stop-smoking services now exist in all parts of the UK and provide free at the point of use access to behavioural support from a trained adviser (one-to-one or group) in a range of settings, plus access to appropriate pharmacotherapies which are available on prescription. This intensive specialist support has been demonstrated to increase the chances of quitting four-fold over the use of willpower alone.⁹ From their inception, disadvantaged smokers were one of the key target groups for the services, the others being pregnant women and young people.¹⁰

However, there are a number of barriers to reaching and supporting more disadvantaged smokers in their quit attempts. Health services in the UK are traditionally more accessible in the more affluent areas—a phenomenon known as the ‘inverse care law’,¹¹ and those living in disadvantaged communities may be less willing to seek help from statutory health services.¹² Hence, one of the challenges for these services and for other interventions that can help smokers to quit is improving access for disadvantaged groups.

Recent research in England suggests that, at the national level, <10% of smokers who make a quit attempt do so with the support of NHS stop-smoking services.^{1,13} Improving access and increasing reach is therefore essential but it is equally important to maintain smokers in programmes while successfully supporting them to quit. Findings from the Cochrane Library report that individual counselling results in an OR of 1.56 (95% CI 1.32–1.84) compared with minimal contact.¹⁴ Developing appropriate strategies to identify, contact, support and keep smokers in treatment is therefore of key importance for the NHS stop-smoking services, particularly in disadvantaged communities where smoking prevalence and tobacco addiction are often higher.¹⁵

The review was conducted to inform the development of guidance on ‘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’ for the National Institute for Health and

Clinical Excellence (NICE) and this article describes findings from this review. NICE is the statutory organization responsible for providing guidance on the promotion of good health and the prevention and treatment of ill health in England.

Methods

Inclusion criteria

Inclusion criteria were identified by NICE. Studies examining interventions with a range of disadvantaged groups were to be included. These groups included pregnant women, manual workers, individuals with mental health problems or a learning disability, individuals who were institutionalized, members of some black and minority ethnic groups, homeless people, people on a low income, lone parents, poor families and people on benefits and living in public housing. Identified studies were to examine interventions that aimed to find and support adult smokers, including approaches involving primary and secondary prevention, improving access to services and NHS interventions to help people stop smoking.

Search

The literature search was carried out in May 2007 by the SURE unit at the University of Cardiff. Articles were searched in the following bibliographic databases: Medline, EMBASE, HMIC, the British Nursing Index, PsycInfo, CINAHL, HEED, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effectiveness, the Cochrane Register of Controlled Trials, ASSIA, Sociological Abstracts, SIGLE, Social Policy and Practice, EPPI Centre Database and the NHS Economic Evaluation Database. Studies from 1995 to 2007 were included and a range of search terms were used, key terms included, for example, smoking, smoking cessation or tobacco and social class or single parent or lone parent, homeless, low income, socioeconomic, inequality, deprived, deprivation, disadvantaged and healthcare, treatment, clinic, health, services, health service. Further details of the full search strategy can be found in the NICE report online.¹⁶ All types of studies were included in the review. Because of the nature of the review, it was anticipated that some relevant material would be found in the grey literature. This literature was identified through a web-based search and included unpublished research reports, working papers, conference proceedings and briefing papers, all of this type of literature. In order not to exclude work in progress, we also sought recommendations from tobacco control experts and conducted a

Table 1 Evidence grading

++	All or most of the quality criteria have been fulfilled Where they have been fulfilled the conclusions of the study or review are thought 'very unlikely' to alter
+	Some of the criteria have been fulfilled Where they have been fulfilled the conclusions of the study or review are thought 'unlikely' to alter
-	Few or no criteria have been fulfilled The conclusions of the study are thought 'likely' or 'very likely' to alter

search of the UK National Research Register for ongoing or recently completed studies.

Screening

Articles relevant to the review on the basis of title and abstract were identified and copies of each of these were obtained and independently examined by two reviewers to decide on inclusion in the review. Where disagreement occurred regarding the relevance of any particular abstract, a third team member was consulted to reach a final agreement on inclusion/exclusion.

Critical appraisal

All studies meeting the inclusion criteria were rated by two reviewers in order to determine the strength of the evidence. Studies were assessed for their methodological rigour and quality based on the critical appraisal checklist of the NICE Public Health Guidance Methods Manual.¹⁷ Each study was graded using a code '++', '+', or '-' based on the extent to which the potential sources of bias had been minimized (Table 1). In the NICE guidance that was disseminated after our review,¹⁶ the '++', '+', and '-' ratings carry the following rider: 'This quality rating does not always apply to the way the studies actually identified, supported and improved individuals' access to services—the areas under investigation for this guidance'.

In the small number of cases where studies received a discrepant rating, the article was passed to a third reviewer for final evaluation. Unpublished data were subject to the same quality assessment as published data.

Data extraction and analysis

The studies included in the review were heterogeneous in their research designs and outcomes were highly variable and not always quantifiable. As a result, it was not possible to conduct data synthesis in the traditional way by, for example, pooling intervention effects between studies and

generating forest plots to illustrate effects. Instead a narrative synthesis is presented with the main results in Table 2.

Results

The initial search produced 7842 international articles from which 46 UK and 44 international articles appeared potentially relevant and were read in full. Of these, 23 UK and 25 international articles met the inclusion criteria for the review, with a further 15 papers being used to inform the context of the review.

Role of NHS stop-smoking services

Two observational studies [++]^{18,19} demonstrated that the NHS stop-smoking services have been effective in reaching smokers living in disadvantaged areas of England. One study [++]¹⁸ showed that services in 19 Primary Care Trust areas in England were accessed by a higher proportion of smokers from deprived postcode areas than more affluent areas, and a second study [++]¹⁹ employing similar methods produced the same finding when examining data from services in the north west region of England.

Role of incentives in primary care

Two observational studies from the UK examined the impact of the 'General Physician's (GP) contract' (in particular, the Quality and Outcomes Framework, QOF) which includes targets, relating to additional income for GPs, for determining smoking status and recording brief smoking cessation advice for patients with some illnesses. One study [++]²⁰ suggested that the QOF 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. The second study [++]²¹ suggested that the new 2004 GP contract had 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.

Proactive identification of smokers and recruitment into treatment

One cluster randomized controlled trial (RCT) in the UK [++]²² 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. One observational study [-],²³ one descriptive study [-],²⁴ one

Table 2 Evidence tables

<i>Citation</i>	<i>Study population</i>	<i>Research question</i>	<i>Intervention</i>	<i>Main results</i>
Bauld <i>et al.</i> ⁴³ Face-to-face interviews and observational study ++	<i>n</i> = 26 pharmacists providing cessation services Secondary analysis of routine pharmacy client data from 2004. 11 126 clients	To explore the delivery of pharmacy– based treatment, outcomes at 4 weeks and examine the relationship between client characteristics and outcomes	Behavioural support from a trained pharmacist or pharmacy assistant with weekly NRT for 12 weeks	60% of all clients lived in the most disadvantaged fifth of neighbourhoods in Scotland, suggesting that the service is effectively targeting deprived smokers. Clients from deprived areas were less likely to quit than those from affluent areas
Blenkinsopp <i>et al.</i> ⁴² Systematic review ++	Electronic databases from 1990 to 2001 plus hand-searching of some journals for same time period	To review the effectiveness of community pharmacy interventions in reduction of risk factors and risk behaviours for CHD	Systematic review of relevant identified trials	For smoking cessation, two RCTs and three non-randomized experimental studies were included Smoking cessation RCTs found evidence of effectiveness of community pharmacist interventions
Campbell <i>et al.</i> ³⁴ RCT ++	<i>n</i> = 1173 CHD patients attending nurse-run clinics in a random sample of 19 general practices in Scotland	Can nurse run clinics in general practice improve secondary prevention in patients with CHD?	Nurse-run clinics for 1 year offering an initial session and further follow-ups at intervals of 2–6 months	Nurse-led clinics increased secondary prevention such that within the 1 year of the study, most patients adopted at least one change, most often lipid, aspirin or blood pressure treatment No change reported in smoking
Chesterman <i>et al.</i> ¹⁸ Observational study ++	Recipients of smoking cessation services who set a quit date in 2001. <i>n</i> = 38 778 records from services in 19 former health authority areas	To assess effectiveness of smoking cessation services in enabling disadvantaged smokers living in disadvantaged areas to access services, and to assess area variations between areas	NHS stop-smoking services, one-to-one and group-based support. Details of intervention not discussed in the article	32.3% of all smokers in receipt of treatment services lived in the most disadvantaged quintile of areas compared with 9.6% resident in the most advantaged quintile
Coleman <i>et al.</i> ²¹ Observational study ++	GP THIN database records from 1990 to 2005 for recording of smoking status, cessation advice and prescription of smoking medications	Has the 2004 GP contract (with QOF targets) impacted on GPs behaviour in terms of recording smoking status, advice and smoking cessation medication prescribing patterns?	Analysis of THIN database for records of smoking status, advice, relevant prescriptions	Recording of smoking status and advice increased around the time of the 2004 contract (building on an increasing trend since 2000) No change in prescribing patterns observed over and above the increasing trend

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Table 2. *Continued*

<i>Citation</i>	<i>Study population</i>	<i>Research question</i>	<i>Intervention</i>	<i>Main results</i>
Copeland <i>et al.</i> ⁵³ Cohort study +	120 smokers recruited opportunistically at GP consultations and given NRT, in a high deprivation area in Edinburgh	Following-up the prescription of NRT by GPs in a deprived areas	Three-month follow-up of smokers prescribed NRT—assessment of baseline measures against outcome	20 of 101 stopped smoking, 46 cut down, 35 smoked same as before. Age, depression and length of time patient used NRT-affected outcome
Hall <i>et al.</i> ³⁶ RCT –	172 women aged 20–64 attending two general practices in UK agreed to participate, sent a questionnaire and, for those in experimental arms, had read the leaflet	The effectiveness of two leaflets emphasizing the links between smoking and cervical cancer and the importance of stopping	Randomized to a brief or extended leaflet (including information about how smoking affects cervix) or control. Both leaflets contained two threat and two efficacy messages	Providing women with brief written information about the link between smoking and cervical cancer increases readiness to stop smoking. Women sent brief leaflet were more likely to report that they were ready to stop smoking in next 6 months compared with those sent the extended leaflet (75 versus 46%, 95% CI = 11–48%) and those not sent leaflet (75 versus 40%, 95% CI = 19–52%)
Hall <i>et al.</i> ³⁵ Cluster RCT +	242 smokers invited for cervical screening in 2004 from eight general practices in SE England	To investigate the feasibility, acceptability and potential effectiveness of brief advice for smoking cessation as part of screening for cervical cancer	Women in intervention arm were given brief advice (3 minutes based on the 5 As) compared with no advice in the control weeks	Brief smoking-cessation advice given by practice nurses as part of cervical screening seems acceptable, feasible and potentially effective. Those in intervention group had higher intentions to stop smoking at 2 weeks (adjusted mean difference 0.51, 95% CI = 0.02–1.03) and 10 weeks (adjusted mean difference 0.80, 95% CI = 0.10–1.50)
Lowey <i>et al.</i> ¹⁹ Observational study ++	Data from seven former Health Authorities in the North–West of England—smokers accessing NHS SSS, making quit attempts and successful quit attempts	Are NHS SSS disproportionately attracting smokers from deprived areas, and having an effect on inequalities?	Retrospective analysis of NHS stop-smoking service data	50% of all smokers setting a quit date lived in the most deprived areas, while only 25% of people in the NW are living in deprived areas. Estimated 3.3% of smokers in NW set a quit date, 48.5% of them successfully quit (at 4 weeks). Smokers living in deprived areas do not achieve greater success rates compared with those in more advantaged areas ($P = 0.16$)
McLean <i>et al.</i> ²⁰ Observational study ++	1024 general practices in Scotland	Does the quality of primary care measured by the 2004 contract differ by socioeconomic deprivation?	Retrospective analysis of data available on QOF achievement at practice level. Comparing quality indicators for payment and delivery of care	Exclusion criteria for QOF appear to conceal continuing inequalities in provision of care. The contract therefore appears to be offering little incentive to the delivery of care for disadvantaged population

Murray <i>et al.</i> ²² Cluster RCT ++	24 primary care practices, either intervention ($n = 3051$) or usual care ($n = 3805$). Patients aged 18+ sent questionnaire to confirm smoking status and if happy to be contacted by stop smoking advisor	Cluster RCT to determine whether identifying all smokers in primary care population, followed by personal contact giving advice and information about local cessation service promotes independently validated cessation	Either phoned or postal—given brief advice, if wanted an appointment was made with NHS SSS, if they did not want to they were sent a pack about the service. Six months after, intervention were sent a follow-up questionnaire and quit status validated	Intervention increased the proportion of smokers reporting attendance at local NHS SSS and had a modest effect on the number of quit attempts made, but no significant impact on actual quit rates or reported cigarette consumption
Needleman <i>et al.</i> ⁴⁶ Review –	A review of studies examining smoking cessation in dentistry and barriers to providing smoking cessation advice	An evaluation of tobacco cessation advice in the dental setting, trials of effectiveness and barriers are reviewed	A review but no search terms were given for the effectiveness/efficacy trials although details are given for the barriers	Dentists could play an important role in promoting tobacco cessation and oral tobacco cessation for smokers, but the magnitude of the effect is unclear from the studies reviewed. Many barriers identified
Owens and Springett 2006 Observational study –	Clients accessing the Roy Castle Fag Ends Stop Smoking Service (RCFE) in Liverpool	To describe the methodology behind the RCFE, describe how the service works and report 4 and 52-week cessation outcomes between 2001 and 2005	A community-based stop smoking service. Clients can attend group or one-to-one sessions with a trained adviser for as long as they want and are able to return to the service immediately following relapse	CO validated quit rates at 4 weeks ranged from 34 to 45% between 2001 and 2005, rising to 57% overall when self-report cases were included Self-report 52-week quit rates (only 4% were CO validate) ranged from 16 to 22%
Ritchie <i>et al.</i> ⁵⁰ Interviews –	12 smoking cessation groups in a low-income community observed for 6 weeks in late 2003. 11 interviewees selected on basis that they had used the service at least three times in six consecutive months	To make explicit the assumptions shaping the practice of open smoking cessation groups that use narrative therapy and to assess smoker's perceptions of the value of these groups	'Smokey Joe', a group-based smoking cessation intervention run by the NHS in a low-income area of Scotland. Drop in, rolling group support using narrative therapy	Flexible services that offer support to range of smokers at different stages in their quit attempt are beneficial and valued as are programmes tailored to the individual's personal situation. Parallel outcome evaluation found 52-week quit rates of 16%, similar to English services, but evaluation not robust
Roddy <i>et al.</i> ⁴¹ Focus groups ++	39 smokers aged 21–75 from the most deprived areas of Nottingham who had made an unsuccessful attempt to quit in the last year without using smoking cessation services	To determine whether these disadvantaged smokers are aware of existing smoking cessation services, to explore how they view services and identify barriers and motivators to improve access	5000 households in the 5% most deprived enumeration districts in Nottingham were sent a postal questionnaire Responses were then used to purposively select smokers who responded and were willing to participate in focus group discussions	The research identified a number of barriers to accessing services. These included: fear of being judged, fear of failure, lack of knowledge about existing services, inaccurate perceptions about NRT and negative media publicity about bupropion

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Table 2. Continued

Citation	Study population	Research question	Intervention	Main results
Springett <i>et al.</i> ⁵¹ (in press) Interviews and focus groups –	Staff and service users of the Fag Ends service in Liverpool. Interviews with service staff and focus groups with clients (numbers unclear)	To ascertain the main characteristics of the Fag Ends smoking cessation service and how they contribute to its effectiveness from a user and service provider perspective	Group-based smoking cessation intervention staffed by lay advisers. Groups open to all on a drop in basis. One-to-one support also available, initially on a drop in basis and afterwards by appointment	A service that employs lay advisers, rather than health professionals can be successful in helping smokers to quit. A service which provides access to group and one-to-one support on a drop in basis in a wide range of venues is accessible and valued
Stevens <i>et al.</i> ²⁸ Observational study –	A panel of 303 Turkish speakers recruited through community centres and doorstep interviews	The cost-effectiveness of a Turkish campaign to promote non-smoking as the norm and reduce the prevalence of smoking in the Turkish community in Camden and Islington	A community-based intervention aiming to highlight the dangers of smoking, reduce the amount smoked and the number of smokers in the local Turkish and Kurdish community	At follow-up 51% of respondents recognized at least one of the Turkish language interventions. There was a higher awareness among the ABC1 group (64%) than those classified as being part of the C2DE group (48%). Smokers who quit showed a relatively high awareness of the material (61%), but 44% of those who took up smoking also noticed the materials
Wiltshire <i>et al.</i> ¹² Face-to-face interviews in client's home ++	100 smokers aged 25–40 years in two disadvantaged areas of Edinburgh interviewed between 1999 and 2000	To investigate disadvantaged smokers perceptions and experiences of quitting	Completion of adapted 'life grid' to collect smoking data for 1 day from each interviewee	Combating nicotine addiction in isolation is likely to be insufficient. A combination of measures are required in order to address the place of smoking in the daily lives of disadvantaged individuals
An <i>et al.</i> ⁵⁴ Cohort study +	Cohorts of callers to the Minnesota, USA, quit line QUITPLAN before and after the introduction of access to free NRT. Four cohorts were selected in the year before the introduction of NRT (2002, $n = 380$) and two cohorts in the 9 months (2003; $n = 373$) after the introduction	How does the addition of access to free NRT affect reach and effectiveness of a statewide tobacco quit line?	In 2002, callers who enrolled in QUITPLAN's multisession programme (which included four additional proactive calls) were offered NRT. Eligible callers were mailed an 8-week supply of patch or gum with starting dose determined by baseline level of tobacco use	The number registering or QUITPLAN services increased four-fold in the same 5-month period before and after the introduction of free NRT. Using an intention to treat analysis, 10.8% of callers were abstinent for 7 days pre-NRT compared with 21.7% post-NRT ($P < 0.001$). 10.0% of callers were abstinent for 30 days pre-NRT compared with 18.2% post-NRT ($P < 0.001$). The only significant predictor of abstinence was use of pharmacotherapy

Bains <i>et al.</i> ⁵² Review +	Participants in 17 studies of smoking cessation interventions worldwide that used incentives	To review the published literature between 1975 and 1997 on population-based smoking cessation interventions that involve incentives and to examine whether such interventions are effective in reducing the prevalence of smoking	17 smoking cessation interventions employing incentives. Incentives ranged from holiday competitions to cars and cash. Only five had a controlled element	No specific recruitment strategy was shown to be most effective. No evidence that particular types of incentives are able to influence participation or quit rates, but larger incentives are more effective both in improving recruitment and cessation. Some evidence that the costs of such programmes does compare favourably with cessation clinics
Barbeau <i>et al.</i> ⁴⁸ Cohort study +	337 apprentices aged 18+ in a union apprenticeship programme in Boston, USA completed both the baseline and final survey, 139 current smokers	What is the feasibility and effect size of a smoking cessation intervention (MassBUILT) among unionized apprentice iron workers?	Conducted over a 4-month period: (i) A 1-h toxics and tobacco educational module, (ii) A tobacco use cessation group of eight weekly sessions, (iii) NRT made available at no cost to study participants, (iv) Posters containing quitting information, (v) Relevant articles in the monthly union newsletter, (vi) A Do-it-yourself quit kit and (vii) Incentives to encourage ongoing participation in quit classes	Baseline smoking prevalence of 41%, 7-day point prevalence smoking abstinence rate of 19.4% (27/139). Statistically, significant positive changes in intention to quit within 6 months and 30 days. Participants in the intervention were three times more likely to quit than those who did not participate
Bauer <i>et al.</i> ⁵⁵ Cohort study (two studies) +	Adult smokers residing in a two-county region in Western New York State in 2003/2004. 2461 received free NRT vouchers, 732 followed up out of 1016 (72%)	To study the response to press advertisements giving away free NRT and to two newspaper advertisements, one offering a free stop smoking guide and the other offering the guide plus a free stop smoking aide called Better Quit [®] (BQ)—a plastic substitute cigarette	Study (1): a 4-week promotional press announcement urging smokers to call the quitline to get a voucher for free NRT, timed to coincide with the implementation of New York State's Clean Indoor Air Act (CIAA). 2461 received free voucher, 732 (randomly selected) completed phone interview of smoking habits. Study (2): two quit line newspaper ads, one offering a free stop smoking guide and the other also offering a free BQ stop smoking aide. Follow-up interview with 408 callers who received BQ and 324 who did not	(1): Calls to quitline increased from six calls per day, 2 weeks prior to the intervention, to 148 calls per day for the 4-week period that the programme ran—a 25-fold increase. In the 2-week period after the promotion was discontinued, call volume decreased to 26.5 per day. (2): Calls to the quit line increased from 7 per day in the 1 week prior to the control newspaper advertisement running to 14 per day in the 2-day period after the advertisement ran—a two-fold increase. In the 2-day period following the advertisement offering the free BQ, the number of calls to the quit line increased to 27.5 calls per day—a four-fold increase. 79% of those surveyed reported making a quit attempt, and 22% reported being abstinent from smoking in the last 7 days. The quit rate in the comparison group was 12%. Quit rates for those who were sent the BQ was 20%, compared with 24% among those who did not receive BQ

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Table 2. Continued

Citation	Study population	Research question	Intervention	Main results
Bentz <i>et al.</i> ²³ Observational study –	15 662 smokers were identified by 175 care providers in 17 primary care clinics and two teaching clinics, of whom 745 patients were referred to the Oregon Tobacco quit line between October 2002 and October 2003 and/or 1342 were given a brochure advertising the quit line number which the patients then had to contact themselves	Evaluation of the feasibility of connecting physician offices to a state level tobacco quit line, which offers proactive and reactive counselling	The primary care provider delivers advice to quit, assesses readiness to quit, and refers interested tobacco user to the quit line by direct fax referral (quit line counsellor proactively calls the tobacco user) or brochure (patient must initiate contact themselves)	103 597 patients were seen, 745 patient referrals to quit line (4.8%). Of those receiving fax referrals ($n = 496$), 59% were successfully contacted. Of these, 90% accepted a one-time tobacco cessation intervention from a quit line counsellor. All those who received fax referrals were mailed tailored self-help materials whether they had been successfully contacted or not. Of the 1342 smokers documented as being given a quit line brochure, 19% ($n = 249$) called the quit line of whom, 94% accepted a one-time tobacco cessation intervention from a quit line counsellor. Informal post-study interviews revealed that the fax referral process was well accepted and providers appreciated the additional resources for their patients
Boyd <i>et al.</i> ²⁹ Cluster RCT +	Fourteen communities (seven matched pairs) served by four Cancer Information Service (CIS) regional offices in North Carolina, Pennsylvania, Texas and Alabama in August/September 1994 (wave 1) and April/May 1995 (wave 2)	Does a targeted communications campaign (Quit Today) utilizing strategically placed radio and television advertisements in combination with community outreach lead to more African–American smokers calling the CIS for smoking cessation information and materials?	Six radio adverts encouraging African–American smokers to call the CIS were produced for three different radio programming formats—2 each for black contemporary, gospel and jazz. One TV spot conveying a similar message to that of the radio ads was also produced. Plus an outreach component with African–American community based organizations. Focus groups explored barriers to and facilitators for calling the CIS. Experimental areas received 10 weeks of advertising over two waves	A total of 709 calls were received by the four participating CIS offices from smokers seeking smoking cessation information living in either the experimental or control communities, of which 565 were from African–Americans. Calls from African–Americans in the experimental communities were approximately 80 times higher than in control communities ($P < 0.008$) Smoking related calls to CIS offices increased from and average of 1.9 per week before intervention to an average of 86 calls per week during wave 1 and 40 calls per week during wave 2. Call levels remained significantly increased for 8 weeks following wave 1 and 4 weeks following wave 2

Carr and Ebbert ⁴⁵ Systematic review –	Studies of the effectiveness of interventions for tobacco cessation in the dental setting	To provide a critical and comprehensive review of evidence relating to dental office or community-based activities for tobacco cessation in cigarette smokers and smokeless tobacco users	Six studies (three conducted in dental office settings, three involving oral health professionals providing interventions to athletes within high school or college community settings). All interventions involved behavioural support and an oral examination from trained oral health professionals. Only one study included NRT	A statistically significant increase in the odds of tobacco abstinence at 12 months was found when the six trials were pooled in smokers (OR 1.44, 95% CI 1.16–1.78). Findings demonstrate a 3% difference in cessation rates between groups receiving behavioural intervention and those who do not. Interventions for smokeless tobacco users may increase the odds of quitting tobacco, but insufficient evidence exists to make conclusions about the effectiveness of these interventions for cigarette smokers. Dental interventions conducted in a dental office and school community setting are more effective than usual care for promoting tobacco use cessation
Curry <i>et al.</i> ³⁷ RCT +	Self-identified female smokers (<i>n</i> = 303) accompanying children to paediatric visits in four clinics in Seattle, Washington, which serve an ethnically diverse population of low-income families	One-year follow-up of a randomized trial of a smoking cessation intervention for women bringing their children to paediatric clinics that serve low-income families	Brief motivational message from child's clinician, a self-help guide to quitting smoking, in person motivational interview with clinic nurse, three outreach counselling telephone calls from nurse who conducted motivational interview. Follow-up surveys 3 and 12 months after enrolment visit and breath test. Also received payment	Overall, 89% of women completed either survey. 68% of women in the intervention group reported that their child's physician discussed their smoking during the index visit, compared with 31% in the control group, of which 83 and 71%, respectively, reported the discussions as being somewhat or very encouraging of trying to quit. At 3 months, quit rates were 8 and 3% in the intervention and control group, respectively (adjusted OR 2.40, 95% CI 0.85–7.80). At 12 months, quit rates were 14 and 7%, respectively (adjusted OR 2.77, 95% CI 1.24–6.60) using an intention to treat analysis

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Table 2. Continued

Citation	Study population	Research question	Intervention	Main results
Doescher <i>et al.</i> ⁴⁴ Pilot study +	32 low-income smokers in the USA who received health insurance coverage via a Medicaid and basic health plan insurer (CHPW) and were referred to receive free NRT and bi-weekly counselling sessions from a community pharmacist	To assess the feasibility and acceptability of pharmacy-based cessation + free NRT for low-income smokers	Free nicotine patches + gum and a \$15 dispensing fee for four trained pharmacists, who provided short counselling sessions. Initial session was up to 30 minutes, followed by sessions of around 15 minutes every 2 weeks for up to 10 weeks	5% of eligible smokers (32 patients) were referred for NRT and counselling. 26 patients went on to receive NRT and at least one counselling session. Only three smokers completed the 10-week course. Smokers were satisfied with the intervention and pharmacists indicated they would continue with it if they continued to be reimbursed and the sessions lasted no more than 5–10 minutes
Glasgow <i>et al.</i> ⁴⁰ Cohort study (two studies) +	Study 1: 160 smokers scheduled for outpatient surgery. Study 2: 531 smokers about to undergo outpatient surgery or procedures. All research participants were members of the Kaiser Permanente HMO	To evaluate the appeal of a low-intensity phone counselling and printed material smoking reduction programme that offered the option of cessation to smokers about to undergo outpatient surgery or other invasive out-patient procedures	Study 1: an 'Options' programme. Self-help materials sent by post in combination with telephone support. Study 2: a 'Smoking Less Living More' programme. Also self-help materials plus telephone support. For those choosing cessation, referral to state programmes (behavioural support + NRT)	Comprehensive programmes that include a smoking reduction component (rather than just cessation) could substantially increase their reach. Study 1: 39% of patients chose smoking reduction and 38% cessation. Study 2: 22% began participating in the smoking reduction programme, 12% chose cessation and 65% declined. No significant demographic differences across the groups
Gordon <i>et al.</i> ⁴⁷ Review +	Patients participating in seven RCTs of smoking cessation interventions in a dental setting	To review the literature on the effectiveness of tobacco cessation interventions delivered within the context of dental office visits	Review limited to clinical trials of dental office-based cessation programmes	Follow-up in the trials ranged from 15 weeks to 12 months. All showed a positive effect for interventions in the dental setting either on quit attempts or on cessation One of the trials took place in a public health dental clinic in the USA service low-income patients. The difference in self-reported quitting was significant at 6 months for the intervention group

<p>Hennrikus <i>et al.</i>⁵⁶ RCT +</p>	<p>2402 employed smokers in 24 different workplaces in the USA between 1995 and 1999</p>	<p>To examine the effect of programme format and incentives on participation and cessation in workplace smoking cessation programmes</p>	<p>A 2 × 3 factorial design in which four worksites were randomized to each of the six interventions. Two levels of incentives for participation in smoking cessation programmes (incentives versus no incentives) were crossed with three types of programme interventions (group programmes, phone counselling programmes and a choice of group programmes or phone counselling programmes). Group programme comprised 13 group sessions held at worksite over a period of 2 months. Phone comprised mailed print materials and 3–6 phone Incentives were of two types: for participation and quitting</p>	<p>Incentives increase participation in workplace smoking cessation programmes, although they do not appear to increase cessation rates. 16.9% of eligible workers chose to participate. Registration was almost double in sites that used incentives versus those that did not (22.4 versus 11.9%). Incentives did not affect cessation rate (7-day point prevalence abstinence), but this was related to programme type. Phone counselling programme was associated with highest cessation rate and group programme lowest. Cessation rates at 12-month follow-up were significantly higher in phone and choice than group and at 2 years, phone was higher than group with choice not significantly different from either of the other conditions (1) a range of were identified, including lack of access to a working telephone, a high number of household moves and lack of transportation. Participants were more interested in receiving telephone support via a free mobile phone than other forms of intervention (i.e. a home visit). In (2), 64.5% ($n = 20$) of eligible patients took part. 19 of the 20 patients completed the 2-week programme, all made a quit attempt and point prevalence quit rate at 2 weeks was 75%</p>
<p>Lazev <i>et al.</i>³⁹ Face-to-face interviews + observational study +</p>	<p>Smokers attending a health care clinic for HIV positive residents in Harris County, Texas. 49 smokers took part in the first part of the study and 20 in the second part</p>	<p>To (1) explore barriers to participating in smoking cessation programmes among low-income HIV positive smokers and to (2) pilot a cessation intervention using mobile phone support with the same population</p>	<p>For part (1), participants took part in a short structured interview to explore their views on smoking cessation. For part (2), participants were asked to set a quit date within the next week, carry a mobile phone and participate in six telephone counselling sessions within 2 weeks</p>	<p>(1) a range of were identified, including lack of access to a working telephone, a high number of household moves and lack of transportation. Participants were more interested in receiving telephone support via a free mobile phone than other forms of intervention (i.e. a home visit). In (2), 64.5% ($n = 20$) of eligible patients took part. 19 of the 20 patients completed the 2-week programme, all made a quit attempt and point prevalence quit rate at 2 weeks was 75%</p>

Continued

Table 2. Continued

Citation	Study population	Research question	Intervention	Main results
McDaniel <i>et al.</i> ³³ Cohort study –	A non-probability sample of 110 female smokers aged 18–71 recruited from 228 eligible women approached in a neighbourhood community health centre	To design and test a computer-mediated smoking cessation programme for inner-city women aimed at motivating readiness to quit	A computer-based programme designed to deliver tailored-smoking cessation messages navigated by a touch screen monitor. The programme adapted to data entered by user and guided them through first three steps in stages of change model, and provided health and motivational messages. Women were observed using the programme, women then completed a usability survey. Feedback and development of programme were ongoing	All subjects completed the programme. Patient satisfaction with the usability of the programme was high. After programme, participants reported significant decrease in favourable attitudes towards smoking, but no significant difference in negative perceptions of smoking. Overall, 15% of participants progressed at least one stage of change after completing the programme ($P < 0.001$). Information technology has potential for delivering brief smoking cessation intervention for low-income women in primary care
Milch <i>et al.</i> ²⁵ Cluster-controlled trial (not randomized) +	644 smokers attending a primary care practice based in an urban teaching hospital in the USA	To assess the effectiveness of two brief interventions on screening for smoking, physician service advice and patient smoking cessation outcomes	Prospective, group allocation controlled trial examining two interventions to identify smoking status. The ‘minimal’ intervention was the vital sign stamp developed by Fiore. The ‘enhanced’ was a smoking assessment questionnaire consisting of six questions	Smoking status was documented in 86, 91 and 49% ($P < 0.001$) of the minimal, enhanced and control teams, respectively. Cessation advice was provided in 38, 47 and 30% ($P < 0.014$) of cases. Self-reported cessation was higher for the enhanced team (12%) compared with the minimal (2%) and control (4%) teams ($P < 0.001$)
Okuyemi <i>et al.</i> ³² Double blind, placebo controlled RCT ++	The study was conducted in an urban community-based clinic serving predominantly low-income African–American patients in 2003–04. 1933 individuals were screened, 1012 (52%) were considered eligible, of which 755 (75%) were enrolled	The study evaluates the effectiveness of Kick it at Swope II (KIS-II), a smoking cessation clinical trial testing the efficacy of nicotine gum and counselling among African–American light smokers	Four treatment groups, all 8-week duration: T1: placebo gum + six health education (HE) sessions, T2: placebo gum + six motivational interviews (MI), T3: nicotine gum + six HE sessions, T4: nicotine gum + six MI session. All participants also received a culturally-sensitive smoking cessation guide	When given the opportunity African–American light smokers will enrol in interventions to help them quit smoking

Perry <i>et al.</i> ²⁴ Descriptive study –	Smokers in Wisconsin, USA, accessing the Wisconsin Tobacco Quit Line between 2003 and 2004 who were referred via 'Fax to Quit'	To examine the extent to which a fax referral system to the state telephone quit line has been adopted by health-care providers in the state	A referral by fax for a smoker interested in quitting presenting to any health-care professional, to the quit line. Contact is then made proactively by the quit line, who phone the smoker within 48 hours	More than 470 sites have joined Fax to Quit. Starting in 2004, approximately 30% of 12 000 calls received each year by the quit line came via Fax to Quit. Authors argue that fax intervention is more cost-effective and sustainable than paid media. The programme was embraced by health-care professionals
Prochaska <i>et al.</i> ²⁶ RCT +	A random digit-dialling procedure was used to identify a representative sample of smokers in three distinct geographic areas in Rhode Island. 4144 smokers agreed to participate in the study (80% of smokers)	Is a population based recruitment approach combined with a stage-based expert system for smoking cessation effective?	Subjects were randomly assigned to an Expert System (ES) intervention or an Assessment Only (AS) condition. Those in ES were mailed intervention materials, including the baseline feedback report and stage matched self-help manuals	25% abstinence was seen at 24-months follow-up. There was significant differences between intervention and control point prevalence at every follow-up. A stage effect was seen—where those who started further along in the stages of change model moved further through the model in both groups than those initially at an earlier stage
Schorling <i>et al.</i> ³⁰ Ecological (population) study +	648 smokers from 535 households were personally interviewed, identified from two demographically similar communities in Virginia USA Buckingham County—intervention community, 39% African-American, Louisa County—control community, 26% African-American	To describe the philosophy and initial organizational efforts used to develop the smoking control project, the development and implementation of the interventions, the results of the baseline survey and the initial results after the programmes have been in place for 18 months	Up to two smoking cessation counsellors were trained from participating churches Smoking cessation devotional booklets were distributed through the churches, county wide Gospel Quit nights were held every 6 months and a county wide smoking cessation contest is held annually	Smoking cessation rate in the intervention community was 9.6% compared with 6.2% in the control community. Among those followed up who attended church once a month or more, rates were 1.5 and 5.8%, respectively and 8.8 and 6.4%, respectively for those who attended less frequently Using an intention to treat basis, quit rates were 6.7% in the intervention community and 4.3% in the control community
Tillgren <i>et al.</i> ²⁷ Observational study +	238 women with at least one child aged 0–6 years living in the South-West Medical Care District in Stockholm County, Sweden in 1995–96	What is the impact of direct mail as a method to recruit smoking mothers into a 'Quit and Win' contest?	A brief motivational letter was sent out, to encourage women to remain smoke-free. First invited to a get together 6 weeks after quitting. Additional support on two other occasions when given opportunity to contact a hotline employing trained cessation counsellors	At 12-month follow-up, 14.3% ($n = 34$) were still smoke free. Among women recruited by direct mail ($n = 28$) 15.1% were smoke-free compared with 11.5% of those recruited through the other two strategies (personal communication and local newspapers) ($n = 6$)

Continued

Table 2. Continued

Citation	Study population	Research question	Intervention	Main results
Turner <i>et al.</i> ³¹ Controlled before and after study –	Female smokers (high school education or less) in Chicago metropolitan area in autumn 1993	What are the effectiveness of a reading manual and a series of televised programmes in increasing women's readiness for smoking cessation?	Three stages to intervention: (i) Motivational component—televised commercial advertisements, (ii) Registration component—promotional spots aired on local TV, inviting women to call a toll-free no. to receive free information about quitting. A random sample of eligible women were called and asked to complete a brief baseline telephone survey and (iii) Cessation intervention—10 televised segments featuring four women who had quit during the registration period. Great American Smokeout occurred on day 6 of series and was designated as quit date for those ready to quit	1026 registrants reported receiving the manual, of 64.5% reported that the manual led to a quit attempt, although only 10.5% said the manual helped them to actually quit. 58% of registrants reported having seen none of the television segments. 68.4% of these indicated it led to a quit attempt, 10% reported helped them quit
Vidrine <i>et al.</i> ³⁸ RCT +	684 consecutive HIV+ patients screened, 206 self-reported eligible HIV-positive patients, of which 137 consented and 95 enrolled in the study (48 intervention, 47 usual care) in 2004 in Texas, USA	What is the efficacy of an innovative smoking cessation intervention using a cellular phone with a multiethnic disadvantaged HIV positive population?	For recommended standard of care (RSOC), advice to quit, assistance in setting quit date, 10-week supply of NRT, personalized quit plan, self-help leaflet and tip sheet tailored to HIV + smokers. The cell phone intervention (CPI) group received RSOC plus a prepaid phone, eight proactive tailored counselling calls and a hotline number	Three-month follow-up—79% for CPI and 83% for RSOC (ns). 81% of the CPI group completed six or more the eight scheduled counselling sessions. Using an intent to treat analysis, point prevalence abstinence (not smoking during 24 hour prior to assessment) at 3 months was 29.2% in the CPI group compared with 8.5% in the RSOC group ($P = 0.040$). Sustained abstinence (not smoking during the 7 days prior to assessment) at 3 months was 16.7% in the CPI group compared with 6.4% in the RSOC group ($P = 0.283$)

NRT, nicotine replacement therapy; RCT, randomized controlled trial; CHD, coronary heart disease; NHS, National Health Service; GP, general physician; QOF, Quality and Outcomes Framework; NHS SSS, NHS stop-smoking services.

cluster-controlled trial [+]²⁵ and one RCT [+]²⁶ (all conducted in the USA) demonstrated 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. One observational study in Sweden [+]²⁷ demonstrated that direct mail to smoking mothers can be successful in increasing both participation in smoking-cessation programmes and quit rates. The evidence for these methods affecting quit rates was, however, mixed and only one of the studies specifically focused on disadvantaged smokers.

Utilization of social marketing techniques

Evidence from four studies suggested that social marketing has a role to play in delivering client-centred approaches to smoking cessation in disadvantaged groups (one UK-based observational study [-],²⁸ one US RCT [+],²⁹ one US population-based study [+]³⁰ and one US controlled before and after study [-]³¹). A variety of approaches were employed including media campaigns, community outreach, cessation materials, quiz nights and the outcomes varied from calls to quit lines, changes in readiness to stop smoking or quit rates.

Tailoring interventions to populations

Two US 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 RCT [+ +],³² and one cohort study [-]³³).

Combining cessation interventions with other approaches

Seven studies were identified which illustrated the value of recruiting smokers who are attending non-smoking-related appointments in a variety of health-care settings, into cessation interventions. All these studies included other health-care interventions (such as screening appointments)—the review did not identify any studies that explored the effectiveness of combining smoking cessation interventions with other services in non-health care settings. One RCT in the UK [+ +]³⁴ found little evidence for a change in smoking behaviour. However, two RCTs in the UK [+]³⁵ and [-],³⁶ two US RCTs [+],^{37,38} one observational US study [+]³⁹ and one US cohort study [+]⁴⁰ found some evidence for a

potential benefit of combining smoking cessation interventions with other health-care services.

Exploring barriers to services

The review identified a number of studies that explored smokers' views about accessing support to quit. Two UK qualitative studies [+ +]^{12,41} provided 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 socioeconomic 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.

Basing smoking cessation services in pharmacies

Evidence from one UK systematic review and two other studies indicated that smoking cessation interventions can be successfully delivered in a pharmacy setting. These studies also provide preliminary evidence that pharmacy-based support has the potential to reach a large number of smokers, including those in disadvantaged areas due to the accessibility of pharmacy venues (one UK systematic review comprising two RCTs and three non-randomized experimental studies [+ +],⁴² one UK observational study [+ +]⁴³ and one US pilot study [+]⁴⁴).

Basing smoking cessation services in dental settings

Three reviews found evidence 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 six RCTs from the USA [-],⁴⁵ one UK review of mixed study designs [-]⁴⁶ and one international review of seven RCTs in the US [+]⁴⁷).

Work-based cessation activities

One USA cohort study [+]⁴⁸ provided evidence of the potential benefit of basing smoking-cessation services in the workplace of manual groups to increase cessation rates.

Adapting interventions to facilitate access

Three UK studies [-]⁴⁹⁻⁵¹ provided limited evidence of the potential benefits of adapting smoking cessation interventions to increase access. Two studies found some evidence that a service which uses lay advisors and a drop-in system, so that clients do not need to pre-book appointments, was

valued, acceptable to clients and in some cases increased recruitment and quit rates.

Other incentive schemes

An review [+]⁵² of 17 studies (conducted worldwide) 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 socioeconomic characteristics of participants.

A UK cohort study [+]⁵³ which proactively identified smokers from deprived areas and offered subsidized nicotine replacement therapy (NRT) found some evidence for an increase in quit rates, as well as a reduction in consumption. Two US cohort studies [+]^{54,55} of free NRT for help-line callers provided evidence for an increase in the number of calls, and some evidence in one study of greater quit rates. One US RCT [+]⁵⁶ of workplace smoking-cessation programmes and incentives found that the latter increased participation but not cessation.

Discussion

Main findings of this study

This review examined a diverse range of studies and found some evidence of effective means of proactively identifying and recruiting disadvantaged smokers into smoking cessation services, and of improving access to these services.

There is evidence to suggest that NHS stop-smoking services have been successful in reaching smokers living in more disadvantaged areas of the UK and supporting them to set a quit date. This is an important finding and since these studies were published services have begun to use similar approaches, such as 'health equity audits' to examine their own client data in order to identify the extent to which they are making contact with disadvantaged groups.⁵⁷ There is limited, mixed evidence concerning the role of incentives in primary care to provide smoking cessation support and what evidence exists suggests that the QOF has not led to an improvement in standardizing care delivered between general practices in deprived and less deprived areas or the prescribing of smoking cessation medication. Aside from incentives, however, primary care does offer an opportunity for smokers to be proactively identified and targeted for smoking-cessation interventions. There seems to be a potential benefit of this approach, although the evidence for the effect on disadvantaged smokers and overall quit rates is limited and needs further investigation.

The utilization of social marketing techniques and tailoring interventions to populations to make the approach more 'client-centred' have both been suggested to play a role in making smoking cessation interventions more relevant to the needs of the individual smoker and thus more effective, although the evidence is again limited. Likewise, combining smoking cessation interventions with other interventions shows promise for improving effectiveness, although evidence is limited to other health-care interventions and has not examined the effect of combining smoking-cessation interventions with other non-healthcare services.

Although limited, there is evidence to suggest that barriers to accessing services are an important factor for smokers attempting to quit, particularly in lower socioeconomic groups and an intervention which addresses social and psychological barriers to quitting is important in this group. Pharmacies and dental settings are potentially a useful way to reach a wide variety of smokers as they provide access to trained health professionals without a pre-booked appointment. Only one study was identified which looked at work-based cessation activities, it provided evidence of a potential benefit of this approach in manual groups. Studies looking at adapting interventions to increase access found that this approach was valued and acceptable to clients and may have a positive effect on quit rates. A variety of incentive schemes designed to motivate smokers to make a quit attempt or engage with smoking cessation support were shown to have a potential benefit in both increasing recruitment to smoking-cessation services and improving quit rates.

Limitations of this study

The evidence that was identified in this review was mixed. Studies employed a range of research designs which often had poorly specified outcomes. Whereas, conclusions from a systematic review will usually rely on evidence from research employing a controlled design, much of the evidence included in this review was drawn from observational studies and thus clear comparisons could not be made between interventions. The quality of the evidence was often poor and/or not presented in a way that allowed clear statements to be made about its applicability to the UK context and the NHS. Many studies did not examine disadvantaged smokers in particular, frequently failing to analyse socioeconomic data, although they were often collected and reported at baseline. In addition, there were not enough studies looking at specific sub-groups within 'disadvantaged groups' such as different minority ethnic groups. These omissions

made it exceedingly difficult to state with any confidence how different interventions affect different groups. A large number of papers were therefore included that did not directly address the research questions with disadvantaged smokers but rather with smokers in general, in order to try to identify strategies which could be tested with disadvantaged smokers in the future. Consequently, much of the evidence may only be seen as examples of promising practice rather than proof of the effectiveness of an intervention.

What is already known on this topic?

Smoking prevalence is higher among disadvantaged smokers. NHS stop-smoking services have been successful in reaching smokers living in disadvantaged areas⁵⁸ but quit attempts are less likely to be successful in this group than more affluent groups.^{59,60}

What this study adds?

This is the first review of evidence relating to the effectiveness of finding and supporting adults and providing and improving access to smoking-cessation services in disadvantaged groups. The results from this review suggest that there is a limited body of evidence on the effectiveness of interventions to reduce the rates of premature death in disadvantaged areas through proactive case finding, retention and access to services. However, some interventions are promising and merit further research. The review found a lack of reporting of socioeconomic data both at baseline and in the reporting of results. This made it difficult to draw firm conclusions for subgroups of smokers, rather than smokers in general, in this review. However, it is clearly an important priority for future research that there should be greater attention to disaggregated data collection, reporting and analysis. This is essential in order to learn more in the future about how smoking cessation interventions can help to reduce death rates in those communities where tobacco has taken its highest toll.

Funding

The review was funded by the National Institute for Health and Clinical Excellence.

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