EVIDENCE SUMMARY

The Effectiveness of National Health Service Intensive Treatments for Smoking Cessation in England

Background

Cigarette smoking is the leading cause of preventable death in the United Kingdom today. Although the prevalence of smoking has declined over the twentieth century, the rates of smoking in the UK levelled out in the 1990s at around 27% (A. McNeill et al., 2005). In England between 1998-2002, smoking was estimated to be responsible for 86,500 deaths per year (L. Twigg et al., 2004) and currently costs the National Health Service (NHS) between approximately 1.4-1.5 billion pounds annually, from health care expenditure on smoking induced disease to sickness/invalidity benefits, widows’ pensions and other social security benefits for dependants (S. Parrot & C. Godfrey, 2004)

The National Health Service (NHS) smoking cessation services in England provide interventions to affect smoking cessation across the population. This rapid review examines the effectiveness of the NHS intensive smoking cessation treatments in England. The review contains assessments of available data, in a background reflecting other relevant literature. The available data has been assessed to answer nine preset questions examining in detail the effectiveness of the NHS cessation services and their mode of delivery, delivery settings and their effects on specific sub-groups.

The National Institute for Health and Clinical Excellence (NICE) has been asked to produce public health programme guidance on the optimal provision of smoking cessation services to all smokers, but in particular to specific population groups (manual working groups, pregnant smokers and hard to reach communities). The present review of the evidence of the effectiveness of NHS intensive treatments for smoking cessation is a part of this project.

Objective

- To assess the effectiveness of the NHS intensive smoking cessation treatments in England.

Methods

Selection Criteria

Searches for systematic reviews and Medline searches for reviews and RCTs and non-randomised studies identified 807, 664 and 3231 citations respectively, totalling 4702 citations. A further search of relevant websites which identified a further 100 published reports.

Titles were initially scanned by one reviewer who removed the clearly irrelevant studies. The remaining 275 abstracts were independently scrutinised in relation to the research questions by two reviewers and those that did not directly deal with the issues raised in the research questions were eliminated. Once this sifting process was complete, paper copies of the 57 selected studies, reports and reviews were acquired for assessment.
The key outcome of interest was changes in smoking status following the intervention (with biochemical validation where recorded).

**Data sources**
The following databases were searched for systematic reviews:

- Cochrane Database of Systematic Reviews
- Database of Abstracts of Reviews of Effects
- Health Technology Assessment Database
- National Research Register (including CRD ongoing reviews database)
- SIGN Guidelines
- National Guideline Clearinghouse
- HSTAT
- TRIP

Grey literature was accessed through four avenues:
1) National Research Register (NRR)
2) Five other unpublished reports, primarily on the Scottish services, provided by Dr Linda Bauld.
3) Andy McEwan, the head of the Smoking Cessation Services Research Network (SCSRN), put out a call to members of the network asking for relevant reports and evaluations on projects conducted through the services.
4) Background telephone interviews were conducted with 12 people working in the tobacco cessation area, many of whom provided access to unpublished reports and evaluations.

**Data extraction and quality assessment**

57 sources were assessed for inclusion. Full paper copies of 5 SRs, 12 RCTs, 20 UK studies and 11 published reports identified in the literature search and 9 unpublished reports were independently assessed for inclusion by two reviewers (one paper did not arrive in time, and has not been included in the review). Of the 57 appraised studies, 3 of the SRs, 8 of the RCTs, 6 of the published studies, 9 of the published reports and 6 of the unpublished reports met the inclusion criteria for the rapid review. These 32 were used as evidence, 12 were incorporated into the review as background and 13 were excluded.

**Data synthesis**

Due to heterogeneity of design among the studies, a narrative synthesis was conducted.

**Research questions**

The key question for the rapid review is: *What evidence is there of the effectiveness of intensive treatments for smoking within the NHS Stop Smoking Services?*

1) What is the short term (4 week) and longer term (one year) success of the NHS stop smoking services?
2) What internal factors may have influenced the effectiveness of the NHS stop smoking services?
3) What external factors may have influenced the effectiveness of the NHS stop smoking services?
4) How does the effectiveness of stop smoking interventions vary with factors such as age, sex, level of addiction, previous quit attempts and history of quitting?
5) How does the effectiveness of stop smoking interventions vary with factors such as ethnicity?
6) How effective have the NHS stop smoking services been in reaching pregnant smokers?
7) How does the effectiveness of stop smoking interventions vary for routine and manual groups?
8) How does the effectiveness of stop smoking interventions vary for institutionalised populations?
9) What are the facilitators and what are the barriers to implementing effective smoking cessation interventions?

Results

Overall, there is a limited body of available evidence on many of the research questions posed for this rapid review. In many cases the quality of the evidence is low and in other cases there are very few available studies on the issue under examination. There are also several general problems with the data that are routinely collected or embedded in intervention studies. These problems affect the comprehensiveness of the data, its generalisability and its utility in indicating intervention improvements and new research questions.

Overall success of the NHS stop smoking services

Overall, there is a body of 3- and 2++ evidence that NHS intensive interventions for smoking cessation can be effective in both the short term (4 weeks) and long term (52 weeks). However, given that long-term follow up has proved both difficult and labour intensive, with extremely high rates of loss to follow up, the use of 4 week quit rates as a proxy indicator of long-term effectiveness seems justified.

Evidence Statement 1

Six 3- reports and one 2++ study provide evidence that intensive interventions for smoking cessation through the NHS Stop Smoking Services appear to be effective in the short term; on average over half of the clients setting quit dates through the services self-report as quit at 4 weeks. However, these statistics should be treated with some caution as it appears that PCTs are using different baselines to measure success. As all seven studies took place within the English smoking cessation services, they are directly applicable to the target population.

DH2001a (3-), DH2001b (3-), DH2002 (3-), DH2003 (3-), DH2004 (3-), DH2005 (3-), Judge et al. 2005 (2++)

Evidence Statement 2

One 3- report, one 2- study, two 2+ studies and one 2++ study provide evidence that intensive interventions for smoking cessation through the NHS stop smoking services appear to be reasonably effective in the long term. On average between 13-23% of the clients who self-report as successful quitters at 4 weeks through the services self-report as abstinent at 52 weeks – a long term success rate that is broadly consistent with international findings.
As all studies took place within the English smoking cessation services, they are directly applicable to the target population.

DH2001a (3-), Ferguson et al. 2005 (2++), Smith 2006 (2+), Jones et al. 2005 (2+), Watt 2005 (2-)
Internal factors that have influenced the effectiveness of NHS stop smoking services

There are a variety of internal factors that may influence the effectiveness of intensive interventions for smoking cessation delivered through the NHS stop smoking services. Five factors were highlighted as potentially impacting the effectiveness of interventions: content, delivery, deliverer, setting and intensity and each will be considered in turn. Evidence statements have been provided for content, mode of delivery and setting.

**Evidence Statement 3**
Evidence from two 3- bulletins indicates that intermediate interventions delivered by community advisors achieve self-reported cessation rates of between 34-45% at 4 weeks – although these results do not necessarily reflect the outcomes currently being achieved these inventions given the substantial development of the services since 2001.

As these studies took place within English smoking cessation services, they are directly relevant to the target population.
DH2001a (3-); DH2001b (3-)

There is some evidence specifically on the effectiveness of pharmacy interventions. According to a 1++ structured review, pharmacy-delivered interventions may have a positive effect on smoking cessation rates. This finding is confirmed in a recent 2++ study which reports that pharmacy-delivered interventions in Glasgow produce 4 week CO-validated quit rates of approximately 20%. The study also indicates that pharmacy-delivered interventions have the potential to reach and treat large numbers of smokers – especially those from disadvantaged areas.

**Evidence Statement 4**
Evidence from a 1++ systematic review indicates that pharmacy-delivered interventions may have a positive effect on smoking cessation rates. This finding is confirmed in a recent 2++ study which reports that pharmacy-delivered interventions in Glasgow produce 4 week CO-validated quit rates of approximately 20%. The study also indicates that pharmacy-delivered interventions have the potential to reach and treat large numbers of smokers – especially those from disadvantaged areas.

As these studies took place within UK smoking cessation services, they are directly relevant to the target population.
Sinclair et al. 2004 (1++), Bauld et al. 2006 (2++)

Overall, two studies (A. McEwan et al., 2005; K. Judge et al., 2005) provide a body of 2++ evidence that group interventions may produce higher CO-validated quit rates at 4 weeks than one-on-one interventions. However, one-to-one interventions are also effective and many clients express a clear preference for one-to-one treatment. Moreover, in some contexts (particularly rural areas), group treatment is simply unfeasible. Therefore, one-to-one interventions are a crucial component of the NHS stop smoking services as smokers are given a choice of treatment options. According to a 1++ RCT, ‘buddy’ interventions do not add to the 4 week success rates of group interventions, although another 1++ RCT indicates that they do substantially increase the effectiveness of one-to-one interventions for smoking cessation.
Evidence Statement 5

Two studies provide a body of 2++ evidence that group interventions may produce higher CO-validated quit rates at 4 weeks than one-on-one interventions. However, one-to-one interventions are also effective and many clients express a clear preference for one-to-one treatment. Moreover, in some contexts (particularly rural areas), group treatment is simply unfeasible. Therefore, one-to-one interventions are a crucial component of the NHS stop smoking services as smokers need to be given a choice of treatment options.

As both studies all took place within the English smoking cessation services, they are directly applicable to the target population.

McEwan et al. 2005 (2++), Judge et al. 2005 (2++)

Evidence Statement 6

Evidence from one 1++ study suggests that buddy systems more than double the CO-validated 4 week effectiveness of one-to-one interventions; however, another 1++ study found that they do not substantially increase the effectiveness of group interventions for smoking cessation.

As both studies all took place within the English smoking cessation services, they are directly applicable to the target population.

May et al. 2006 (1++), West et al. 1998 (1++)

There is no conclusive evidence on whether the effectiveness of interventions depends on the job title or position of the deliverer, although anecdotal evidence indicates that the position of the deliverer does not generally influence the effectiveness of interventions. However, there is some evidence that setting of interventions may indirectly influence their effectiveness.

Evidence Statement 7

Information on the effect of the site/setting on service the effective of smoking cessation interventions is limited. Evidence from a 2++ study indicates that the location of treatment may indirectly influence the effectiveness of smoking cessation interventions.

As this study took place within the UK smoking cessation services, it is directly applicable to the target population.

Bauld et al. 2006 (2++)

One presently underutilised setting which may yield potentially rich results is hospitals. Although many of the stop smoking services do not conduct intensive smoking cessation interventions with inpatients, two 1++ structured reviews have found that intensive interventions (inpatient contact plus follow-up for at least one month) conducted by physicians in international settings are associated with a significantly higher quit rate compared to controls. One 1++ structured review of nurse delivered intensive interventions in hospitals has also found that these interventions are associated with a modest positive increase in smoking cessation.

Evidence Statement 8

Two 1++ systematic reviews provide strong evidence that smoking cessation interventions amongst inpatients can be effective in creating modest to substantial increases in CO-validated smoking cessation rates up to 12 months in this
population. Findings from four more recent 1++ studies and one 1+ study are mixed; however, on the whole they indicate that interventions with at least two months post-discharge telephone follow up are more likely to be successful than programmes of short duration.

The majority of the studies took place outside of the UK in a wide range of countries, including Australia, Canada, the USA and Norway. However, it is likely that their findings are applicable to the UK, given the broad similarities in these populations. Hand et al 2002 (1+), Chouinard et al. 2005 (1++); Nagle 2005 (1++), Froelicher 2004 (1++), Quist-Paulsen 2003 (1++), Rice 2004 (1++), Rigotti 2002 (1++)

Five recent randomised controlled trials (ratings between 1+ and 1++) have produced mixed results, although they do seem to confirm that more intensive interventions focusing on patients with smoking-related illnesses with telephone follow-up for at least two months post-discharge yield the highest results. Four of these studies were conducted outside the UK, although it seems likely that their findings are broadly relevant to the UK population. Although the goal of the UK-based study (Cannings 2002) was to determine whether NRT increased the effectiveness of inpatient interventions, the reported quit rate at one year (14%) is in line with the long term quit rates produced through the NHS stop smoking services and provides direct evidence of the effectiveness of intensive inpatient interventions in a UK setting.

A 2++ study suggests that more intensive one-to-one interventions achieve higher CO-validated success rates at 4 weeks than less intensive interventions. However, a 1++ RCT in a primary care setting suggests that intensity alone does not increase the effectiveness of one-to-one interventions in this setting. The findings of this study suggest that more intensive one-to-one interventions may be more effective if they are accompanied by external motivations or pressures to quit (such as ‘buddy’ support or smoking-related health problems).

Evidence Statement 9
A 2++ study suggests that more intensive one-to-one interventions achieve higher CO-validated success rates at 4 weeks than less intensive interventions. However, a 1++ RCT in a primary care setting suggests that intensity alone does not increase the effectiveness of one-to-one interventions in this setting. The findings of this study suggest that more intensive one-to-one interventions may be more effective if they are accompanied by external motivations or pressures to quit (such as ‘buddy’ support or smoking-related health problems).

As these studies took place within the English smoking cessation services, their findings are directly applicable to the target population. Aveyard et al. in press (1++), Bauld et al. 2003 (2++)

External factors that have influenced the effectiveness of NHS stop smoking services

There are a number of external factors which appear to have also influenced the effectiveness of intensive smoking cessation interventions delivered through the NHS. While target setting has helped to ensure that smoking cessation services are prioritised, it has intensified the pressure on the services to meet quotas, leading to substantial differences in clinical practice and reporting processes which have made it difficult to compare the results of services across the network (N. Willis et al., 2006). Target setting also appears to have undermined the ability of the services to...
focus service delivery on priority groups, as it leads to a focus on quantity of throughput (A. Killoran et al., 2006).

**Background Evidence [Statement 10]**
Although target setting encouraged senior management to prioritise the services and ensured adequate funding in the early phase of service delivery, the pressure to meet targets has resulted in significant differences in reporting processes and there are concerns that different outcomes are actually being compared on a ‘like for like’ basis. It also appears that target setting has impeded the ability of the services to focus on the priority groups they are supposed to be targeting.

**Background Evidence [Statement 11]**
The smoking cessation services developed in line with the evidence base and government guidelines and it appears that guidance to service providers was adequate in the initial phase of service delivery.

**Background Evidence [Statement 12]**
Although guidance has been broadly adequate to date, structural changes within the NHS and important policy developments have created the need for further guidance. A standardised model of payment and training for primary care providers have been highlighted as particularly important.

**Variation in effectiveness of stop smoking interventions based on factors such as age, sex, level of addiction, previous quit attempts and history of quitting**

There appear to be important differences within the UK smoking population that affect quitting success. One 2- study and three 2++ studies indicate that age and sex are both correlated with setting a quit date and quitting success. While females set more quit dates than males, they are less likely to succeed in quitting than males. Older smokers (both male and female) are also more likely to quit successfully than younger smokers.

Evidence from two 2++ studies also shows that quitting success is affected by both level of addiction and previous quit attempts. It is clear that more heavily addicted smokers find it harder to quit; however, the evidence regarding the role played by previous quit attempts is inconclusive. One study indicated that previous attempts are positively correlated with quitting success (L. Bauld et al., 2006), while the other study found that previous attempts are negatively associated with quitting success (K. Judge et al., 2005).

**Evidence Statement 13**
One 3- bulletin demonstrates that age and sex are both correlated with setting a quit date. Females are more likely to set quit dates than males and smokers under the age of 18 are far less likely to set quit dates than other age groups, although smoking prevalence is this age set is high.

As this study took place within the English smoking cessation services, it is directly applicable to the target population. DH2004 (3-)
**Evidence Statement 14**
Two 2++ studies, one 2- study and one 3- study demonstrate that age and sex are both correlated with quitting success. Although females are more likely to set quit dates than males, they are less likely to be CO-validated as successful quitters at 4 weeks. Older smokers are more likely to quit successfully than younger smokers—although the high rates of loss to follow up among young smokers make it difficult to draw definitive conclusions on the relationship between age and quitting success.

As these studies took place within the UK smoking cessation services, they are directly applicable to the target population.
Judge et al. 2005 (2++), DH2004 (3-), Bauld et al. 2006 (2++), Watt et al. 2005 (2-)

**Evidence Statement 15**
Two 2++ studies demonstrate that level of addiction is inversely correlated with quitting success. Findings in relation to the connection between previous quit attempts and quitting success are less clear. One study reports a positive correlation between the two and another study reports a negative correlation between the two.

As these studies were conducted on the smoking cessation services in the UK, their results are directly applicable to the population under study.
Judge et al. 2005 (2++), Bauld et al. 2006 (2++)

**Variations in the effectiveness of stop smoking interventions by ethnicity**

Clear evidence surrounding the effect of ethnicity on smoking cessation interventions is presently unavailable, and is hindered by the small numbers of people from BMEG who enrol in the services and the incompleteness of the data collected by the stop smoking services on ethnicity. Five 3- statistical bulletins appear to indicate that the reach of the stop smoking services for ethnic minorities is reasonably good, but indicative evidence from available surveys sheds some doubt on the validity of the statistical bulletins (which are plagued by substantial levels of missing data).

The evidence regarding the intersection between ethnicity, gender and class is also inconclusive. The smoking prevalence amongst females from BMEG is reported to be lower than the smoking prevalence than males, although it is likely that females underreport their smoking status given the stigma surrounding female smokers—especially in South Asian communities (J. Bush et al., 2003). Nevertheless, the DH statistical bulletins indicate that female smokers from BMEG are highly motivated to quit smoking. Overall it does not appear that smoking amongst BMEG is currently associated with social class, except in the South Asian community (J. Bush et al., 2003).

It is difficult to ascertain how successful members of BMEG are in quitting smoking. One available study (NEPHO, 2005) (2+) found that quitting success did not vary based on ethnicity, but the small numbers of BMEG who undertook interventions make it difficult to interpret these findings. All in all, it seems that the NHS services have focused largely on majority populations and provided non-differentiated services, either by gender or ethnicity or, ideally, both. However, there are indications that culturally appropriate interventions can achieve success rates well above the national average as a whole.
**Evidence Statement 16**
The evidence on how readily black and minority ethnic groups are accessing the stop smoking services is inconclusive. Five 2+ studies appear to demonstrate that black and minority groups on the whole are accessing stop smoking services in proportion with their representation within the total population; however, a high level of missing data undermines the conclusiveness of the available statistics. Moreover, indicative evidence raises some doubts about how readily BMEG are accessing NHS stop smoking services.

As these studies were conducted on the smoking cessation services in the UK, their results are directly applicable to the population under study.

DH2001b (3-), DH2002 (3-), DH2003 (3-), DH2004 (3-), DH2000 (3-)

**Evidence Statement 19**
The evidence on how successful black and minority ethnic groups are in quitting smoking through the stop smoking services is inconclusive. One 2+ study found that CO-validated quitting success at 4 weeks did not vary by ethnicity. However, because of the small numbers of people from BMEG in the study, interpretation of their results is difficult.

As this study was conducted on the smoking cessation services in the UK, its results are directly applicable to the population under study.

NEPHO 2005 (2+)

**Background Evidence [Statement 17]**
There is no direct evidence on how minority ethnic status intersects with gender in relation to smoking and quit status in the context of interventions delivered through the stop smoking services. Background evidence indicates that females from BMEG appear to be less likely (significantly less likely in South Asian communities) to smoke than males. However, given the stigma that attaches to female smoking in many minority ethnic groups (especially South Asians), it is probable that smoking rates amongst minority ethnic females are underreported. Amongst Bangladeshi women in particular, although self-reported smoking prevalence is low, use of tobacco itself is very high (over 25%).

**Background Evidence [Statement 18]**
There is no direct evidence on how minority ethnic status intersects with social class in relation to smoking and quit status in the context of interventions delivered through the stop smoking services. Overall, background evidence indicates that for the most part BMEG smoking does not appear to be connected with social class, expect in relation to Bangladeshi males – whose high smoking rates may be partly accounted for by the relative levels of social disadvantage in this ethnic group.

**Background Evidence [Statement 20]**
There is no direct evidence on how culturally appropriate the NHS stop smoking services are, although it seems to be the case that there are relatively few programmes overall that cater to ethnic minorities – in most cases people from these groups are incorporated into the broader NHS. However, it appears that smoking cessation interventions tailored for ethnic minorities can achieve high levels of success.
Effectiveness of NHS stop smoking services for pregnant smokers

The evidence on how effective NHS stop smoking interventions are for pregnant women allows firmer conclusions to be drawn. According to five 3- studies and one 2++ study, between 35-51% of pregnant women self-report as successful quitters at 4 weeks through the NHS stop smoking services, although the utility of 4 week quit rates as a measure of service effectiveness is questionable given the unique challenges that pregnant smokers face. As pregnant smokers are more likely to be from routine and manual groups, many experience more pressing problems that take precedence over smoking cessation, including housing issues, financial difficulties and relationship problems (C. Butler & A. Bryce, 2005).

The smoking prevalence amongst routine and manual groups more generally is significantly higher than for the UK population as a whole. However, it is ironic that while reducing smoking amongst manual and routine groups has been a political priority since the publication of *Smoking Kills*, information on occupation is not part of the minimum data set required by the Department of Health. This makes it extremely difficult to routinely ascertain how successfully the services have been reaching people from deprived areas. However, four 2+ and 2++ studies on this topic have found that the services are located and available in the areas of deprivation and have been quite successful in reaching members of these groups (J. Chesterman et al., 2005; NEPHO, 2005; H. Lowey et al., 2002; A. Baker et al., 2006).

While these studies have uniformly found that the services appear to be reaching smokers from manual groups, they achieve lower cessation rates than more affluent groups. Background evidence shows that smokers from routine and manual groups face numerous social and economic barriers that may inhibit their ability to quit. In many areas of deprivation, smoking is perceived as the norm and there is no culture of quitting. Importantly, smokers from routine and manual groups are often more highly addicted, have been smoking since a young age, and smoke more cigarettes per week compared to professional workers; this appears to be a key factor in explaining the lower cessation rates achieved by the NHS stop smoking services in deprived areas.

### Evidence Statement 21

Five 3- bulletins and one 2++ study provide a body of evidence that between 35-51% of pregnant women self-report as successful quitters at 4 weeks through the NHS stop smoking services. However, given the unique challenges that pregnant smokers face, the utility of 4 week quit rates as a measure of service effectiveness is questionable.

As all six studies took place within the English smoking cessation services, they are directly applicable to the target population.

DH2001a (3-), DH2001b (3-), DH2002 (3-), DH2003 (3-), DH2004 (3-), Judge et al. 2005 (2++)

### Background Evidence [Statement 22]

Background evidence shows that pregnant smokers face numerous barriers when trying to quit. They are more likely to be from routine and manual groups and may experience more pressing issues such as financial and relationship difficulties, and may also fear being judged for their smoking behaviour.
Background Evidence [Statement 23]
Background evidence indicates that there are numerous barriers to recruiting pregnant women into smoking cessation programmes. One of the most fundamental barriers to recruitment is the problem of misreport amongst pregnant smokers – which indicates the importance of biochemically validating smoking status. Health care professionals are also often unwilling to address smoking with their pregnant clients in the fear that it will jeopardise their relationship with the clients.

Variations in the effectiveness of stop smoking interventions for routine and manual groups
The smoking prevalence amongst routine and manual groups more generally is significantly higher than for the UK population as a whole. However, it is ironic that while reducing smoking amongst manual and routine groups has been a political priority since the publication of Smoking Kills, information on occupation is not part of the minimum data set required by the Department of Health. This makes it extremely difficult to routinely ascertain how successfully the services have been reaching people from deprived areas. However, four 2+ and 2++ studies on this topic have found that the services are located and available in the areas of deprivation and have been quite successful in reaching members of these groups (J. Chesterman et al., 2005; NEPHO, 2005; H. Lowey et al., 2002; A. Baker et al., 2006).

While these studies have uniformly found that the services appear to be reaching smokers from manual groups, they achieve lower cessation rates than more affluent groups. Background evidence shows that smokers from routine and manual groups face numerous social and economic barriers that may inhibit their ability to quit. In many areas of deprivation, smoking is perceived as the norm and there is no culture of quitting. Importantly, smokers from routine and manual groups are often more highly addicted, have been smoking since a young age, and smoke more cigarettes per week compared to professional workers; this appears to be a key factor in explaining the lower cessation rates achieved by the NHS stop smoking services in deprived areas.

Evidence Statement No. 24
Three 2++ studies and one 2+ study provide a body of evidence that the NHS stop smoking services have been effective overall in reaching routine and manual groups. However, one of these studies reports that there is variation within regional services, and some SHAs have been less successful in deprived smokers than other authorities.

As all four studies took place within the English smoking cessation services, they are directly applicable to the target population.

Evidence Statement No. 25
Overall, six 3- bulletins, one 2- study, two 2+ studies and three 2++ studies provide a consistent body of evidence that people from routine and manual groups are less successful in quitting successfully (based on both self-report and CO validation) at 4 weeks than other smokers.

As all twelve studies took place within the English smoking cessation services, they are directly applicable to the target population.
Evidence Statement No. 28

According to a 2- study, more flexible modes of delivery help to make smoking cessation interventions more accessible for people from deprived groups and produce 12 month self-reported quit rates of 16% - which is comparable with the long-term effectiveness of the NHS stop smoking services more broadly.

As this study took place within the UK smoking cessation services, it is directly applicable to the target population.

Schultz & Richie 2005 (2-)

Background Evidence [Statement 26]
Background evidence shows that smokers from routine and manual groups face numerous social and economic barriers that may inhibit their ability to quit. In many areas of deprivation, smoking is perceived as the norm and there is no culture of quitting. Moreover, those deprived smokers who are willing to quit may have little knowledge about the effectiveness of smoking cessation interventions and may also find it difficult to attend sessions.

Background Evidence [Statement 27]
Background evidence shows that smokers from routine and manual groups are often more highly addicted, have been smoking since a young age, and smoke more cigarettes per week compared to professional workers, which is a key factor in explaining the lower cessation rates achieved by the NHS stop smoking services in deprived areas.

Variations in the effectiveness of stop smoking interventions for institutionalised populations

Another sub-population with a particularly high rate of smoking is people in institutional settings, such as prisoners and patients with mental illnesses. Although the NHS stop smoking services have increasingly moved into both of these settings, definitive evidence on the effectiveness of cessation support amongst institutionalised populations is limited (especially in relation to services in mental health settings – which are still in their infancy).

Available evidence indicates that up to 80% of prisoners in UK correctional facilities smoke, although according to a 2++ report, a relatively small proportion of smokers (less than 10%) in prison access support through the NHS stop smoking services. However, it seems that prisoners can achieve CO-validated 4 week quit rates of over 40%, despite the significant barriers they face in quitting smoking – such as the centrality of smoking to prison life, the relief from boredom and the stresses of the prison environment, etc.

Far less is known about how effective smoking cessation programmes are in mental health institutions – although it also appears that rates of smoking are particularly
high in this setting. Nevertheless, it is clear that people with mental illnesses face a variety of barriers in accessing services and quitting smoking. Smoking cessation in this setting can be complicated by factors such as physiological vulnerability to nicotine addiction, the fact that nicotine may reduce the side effects of some medications, the positive effects of nicotine on the brain, and the use of cigarettes as a behavioural reward.

**Evidence Statement 29**

Although up to 80% of prisoners in UK correctional facilities smoke, according to a recent 2++ report, overall a relatively small proportion of smokers (less than 10%) access smoking cessation support whilst in prison. However, prisoners can achieve CO-validated 4 week quit rates of over 40%, although there appear to be substantial differences in the success rates of different prisons.

As this study took looks at the effectiveness of the smoking cessation services in UK prisons, it is directly applicable to the target population.

MacAskill 2005 (2++)

**Background Evidence [Statement 30]**

Smoking is a central feature of prison life and provides relief from boredom, the stressful environment as well as facilitating group membership. Therefore, prisoners face unique problems when making a quit attempt because of the endemic levels of smoking, the lack of opportunities for distraction from cravings and negative attitudes to cessation amongst staff and fellow prisoners. Despite these barriers, a number of prisoners recognise the negative aspects of smoking, including its health and financial costs and available evidence indicates that up to 50% of smokers in prison want help in quitting smoking.

**Background Evidence [Statement 31]**

Although it appears that rates of smoking are particularly high amongst people in mental health institutions in the UK, there is no available information on how effective smoking cessation support is in this setting.

**Background Evidence [Statement 32]**

People with mental illnesses in institutional settings face a variety of barriers in accessing services and quitting smoking. Smoking cessation in this setting can be complicated by factors such as physiological vulnerability to nicotine addiction, the fact that nicotine may reduce the side effects of some medications, the positive effects of nicotine on the brain, and the use of cigarettes as a behavioural reward and lack of access to cessation support.

**Barriers and facilitators to implementing successful interventions**

It appears that one type of smoking cessation intervention will not ‘fit’ all smokers and it is essential that a variety of options be made available (L. Bauld & V. Williams, 2006). Treatment must be accessible to smokers and flexible to the needs of different client groups (L. Bauld et al., 2005). However, to determine exactly how to tailor and measure smoking cessation interventions in England, more rigorous, precise and comprehensive data collection is needed.

**Background Evidence [Statement 33]**
Overall, it seems evident that the key barrier to implementing successful interventions is a general lack of awareness of the services and their potential effectiveness in helping smokers to quit. The key facilitators to implementing successful interventions appears to be providing flexibility and choice, assessing the individual need of the smoker, while recognising that local conditions will to some extent determine the most appropriate models of delivery.

Conclusions

There is a dearth of good quality evidence in relation to many of the research questions and the available evidence is indicative rather than definitive.

NHS services affect cessation rates. NHS intensive interventions for smoking cessation are effective in the short-term (4 weeks) and they are reasonably effective in the long term, with between 13-23% of the successful short-term quitters remaining abstinent (based on self-report) at 52 weeks.

The content of the interventions may influence their effectiveness. ‘Intermediate interventions’ appear to be effective in facilitating smoking cessation at 4 weeks and pharmacy-delivered interventions achieve CO-validated cessation rates at 4 weeks of approximately 20%.

There is also evidence that the mode of delivery influences effectiveness. Group interventions may be more effective than those delivered one-on-one, although both types of intervention are essential for the continuation of the services. While ‘buddy’ systems do not increase the effectiveness of group interventions, they do increase the effectiveness of one-to-one interventions.

The settings may have an effect. There is some indirect evidence that the setting may influence effectiveness, but this evidence is not conclusive. However, there is strong evidence that inpatient interventions in hospital settings are effective in facilitating smoking cessation.

External factors may affect the effectiveness of NHS services. A number of external factors, such as target setting and timeliness of national guidance, appear to have influenced the effectiveness of intensive smoking cessation interventions delivered through the NHS, although this qualitative evidence has not been evaluated.

The characteristics of certain sub-groups also have an effect on the effectiveness of the NHS services. Age, sex, level of addictedness and previous quit attempts are all correlated with quitting success. While females set more quit dates than males, they are less likely to succeed in quitting than males. Older smokers (both male and female) are also more likely to quit successfully than younger smokers. While heavily addicted smokers find it harder to quit, the evidence regarding the role played by previous quit attempts is inconclusive.

Several sub-populations face unique barriers in attempting to quit smoking. Pregnant women, smokers from routine and manual groups and institutionalised populations all face substantial barriers that impede smoking cessation attempts, although further research is needed to provide a fuller picture of the effectiveness of NHS stop smoking services for these sub-populations.

All of these assessments reflect the quality of the data available and therefore do not provide a comprehensive picture. In particular, the consistent collection and reporting of specific data reflecting on sex, gender, age, occupation and diversity criteria would allow for finer analyses and more tailored assessments to take place.

References:


Bickerstaffe G. Smoking cessation strategies for hospital inpatients. 2006. UK National Smoking Cessation Conference.


Chesterman J, Judge K, Bauld L et al. (2005) How effective are the English smoking treatment services in reaching disadvantaged smokers? Addiction 100: 36-45.


Cornish M (2006) Local enhanced service for smoking cessation. St Albans & Harpenden PCT.

Croucher R. Barriers to accessing stop smoking services in Bangladeshi men. 2003. London, Queen Mary University of London.

Department of Health (2003) Acquitted: Best practice guidance for developing smoking cessation services in prisons London: DH.


Jones A, Mooney S, Gate L et al. (2005) *Kingston and Richmond Stop Smoking Service Audit 2004.* Kingston: Richmond and Twickenham PCT; Kinston PCT.

Jones E, Molyneux A, Antoniak M et al. (2002) 'If someone could wave a magic wand I'd never smoke again...' - barriers and motivators to accessing smoking cessation services amongst smokers in deprived areas of Nottingham. Thorax 57, iii3-iili47.


Marr B. Helping pregnant women and their families stop smoking. 2005. UK National Smoking Cessation Conference.


North Derbyshire Stop Smoking Service (2005) 52 Week follow up of Specialist Service 4 week quitters from Quarter 2, 2003/04. Chesterfield PCT.


Watt A, Morris J, Bennett S et al. (2005) Making a difference: the stop smoking services in Cornwall & the Isles of Scilly - Assessment of the service and effect on behaviour and smoking habits Cornwall: Cornwall Health Research Unit.


Ziedonis DM, Williams JM, Smelson D (2003) Serious mental illness and
tobacco addiction: A model program to address this common but neglected issue.
American Journal of Medical Sciences 326: 223-230.