NICE Guidance title: Tobacco: harm-reduction approaches to smoking

Short title: Tobacco: harm reduction

Review 4: Barriers and facilitators to implementing smoking cessation and tobacco harm reduction approaches; including user and provider perspectives

APPENDICES

Produced by Support Unit for Research Evidence (SURE), Cardiff University
http://www.cardiff.ac.uk/insrv/libraries/sure/index.html

Review Team
Ruth Turley, SURE, Cardiff University
Helen Morgan, SURE, Cardiff University
Jane Noyes, Centre for Health-Related Research, Bangor University
Alison Weightman, SURE, Cardiff University
Fiona Morgan, SURE, Cardiff University
Sarah Whitehead, CISHE, Cardiff University
Elizabeth Halstead, Centre for Health-Related Research, Bangor University

November 2021: NICE guidelines PH45 (June 2013) PH48 (November 2013) have been updated and replaced by NG209.
The recommendations labelled [2013] or [2013, amended 2021] in the updated guideline were based on these evidence reviews.
See www.nice.org.uk/guidance/NG209 for all the current recommendations and evidence reviews.

APPENDIX A - EVIDENCE TABLES

Study details	Research parameters	Population and sample selection	Outcomes and methods of analysis Results	Notes
Author and year: Abdullah 2011 **Study design:** Qualitative **Quality score:** **+** **External validity score: (surveys only)**	**What was/were the research questions:** Why/how much smokers: smoke around children; understand the hazards of smoking and second hand smoke (SHS); what they think about adopting a no smoking policy at home; how they can reduce children's exposure to SHS; how they can quit or reduce CPD. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Four focus groups (approx 90 mins) and 10 in-depth semi-structured interviews (approx 60 mins). • **By whom:** Experienced qualitative researchers [University based] • **What setting(s):** Community health centre • **When:** July 2009	**What population were the sample recruited from:** Chinese households in urban Shanghai, China Members included smokers, non-smokers and non-smoking wives of husbands who smoke at home. *Focus groups:* 95% male, av. age 54.3 (± 12.7, range 30-70), 14.3% junior high school or below & 28.6% college or above education. *In-depth interviews:* 100% female, av. age 30.5 (± 3.7, range 25-35), 20% junior high school or below & 40% college or above education. **How were they recruited:** Convenience sample from primary care givers of children aged ≤5 receiving health-care from a district community health centre. **How many participants were recruited:** 31 households **Were there specific exclusion criteria:** – **Were there specific inclusion criteria:** – **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** One researcher moderated and the other took notes. Audio recordings taken, transcribed and independently coded by two members of research team. Discrepancies resolved through consensus. Thematic analysis completed with notes from meetings taken into account. **Key themes (with illustrative quotes if available) relevant to this review:** Barriers: Smokers in social network "By smoking together we develop a connection of friendship and relationship ('guanxi'), which is important in the Chinese culture" Facilitators: Social pressure, expense of smoking, wish to protect children, worries of harm to own health Intervention beliefs: helpfulness of behavioural interventions "I am sure that counselling on how to protect children from other people's smoking would be very helpful…, as I do not know what should I do?" (a non-smoker mother)	**Limitations (author):** Risk of selection and social desirability bias. Limited to urban households with young child. Small study. **Limitations (review team):** Single location only; self report. **Evidence gaps and/or recommendations for future research:** Develop and test intervention messages around smoke free homes and reducing children's exposure to SHS. **Funding sources:** Flight Attendant Medical Research Institute **Applicable to UK?** (if appropriate):
Author/Year:	**What was/were the research**	**What population were the**	**Brief description of method and process of analysis:**	**Limitations (author):**

Amos 1995 **Study design:** Cross-sectional survey **Quality score:** – **External validity score: (surveys only)** +	**questions:** What is the value of providing a telephone helpline service to workplace smokers? Specifically: • Who phoned a free national smokers' helpline set up for BT employees and why? • What changes if any occurred in callers' smoking habits? • What was the callers' satisfaction with the services received? **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** - **How were the data collected:** • **What method(s):** Self-complete questionnaires. • **By whom:** Trained helpline operatives for the telephone component. Posted self-complete questionnaires for second stage. • **What setting(s):** Telephone/workplace, UK • **When:** 1 January to 31 March 1993	**sample recruited from:** British Telecom employees **How were they recruited:** Callers to the helpline were asked if they were willing to answer a small number of questions about themselves **How many participants were recruited:** 1249 called the helpline. Of these 959 (77%) agreed to take part initially. All 1249 callers were then sent a postal-questionnaire three months after their first call to the helpline. 700 questionnaires (56%) were returned of which 696 were completed. **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** Only that they must be BT employees calling the helpline.	Descriptive analysis of satisfaction with services, **Key themes (with illustrative quotes if available) relevant to this review:** • Intervention beliefs: helpfulness of behavioural interventions Not coded: Effectiveness data of the actual trial (e.g. changes in smoking habits – cessation and consumption)	None stated **Limitations (review team):** Questionnaire findings only reported. No contextual information. Self-report only. **Evidence gaps and/or recommendations for future research:** None stated **Funding sources:** None stated **Applicable to UK?** (if appropriate): Yes
Author/Year: Ashton 2010 **Study design:** Mixed methods **Quality score:** – / – **External validity**	**What was/were the research questions:** The aims of this study were: 1. To assess mental health workers' attitudes to addressing patients ' tobacco use, 2. To identify any perceived	**What population were the sample recruited from:** Mental health services employees **How were they recruited:** Survey package mailed to the 75 eligible mental health services in Adelaide, South	**Brief description of method and process of analysis:** Descriptive statistics for demographics and ratings computed using SPSS version 15.0. Qualitative data analysed using interpretive analysis, which involved two key stages of grounded theory, open coding and categorization. For this process, data coded by three independent researchers, two with extensive clinical mental health experience and expertise in tobacco research with these populations and one with extensive experience in tobacco control research and evaluation.	**Limitations (author):** Conducted in Adelaide metropolitan area. Mental Health workers in other locations and services may have had different experiences and attitudes. Study asked workers to

score: (surveys only) +	barriers that prevent people with mental illness from receiving the support they require to tackle tobacco use, 3. To determine the workers' recommendations for policy and practice change within mental health services in South Australia. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Self-complete questionnaire • **By whom:** Researchers • **What setting(s):** Mental health services, South Australia • **When:** August 2007	Australia (53 government, 22 non-government) in August 2007. Package comprised two questionnaires, one seeking organisation details to be completed by team leader, second to be distributed by team leader to all team members to assess their attitudes towards tobacco related issues. **How many participants were recruited:** 324 questionnaires returned from 45 organisations (60% response). Numbers of government vs non-government services not stated. **Were there specific exclusion criteria:** Mental health workers from private and child/adolescent mental health services not included as their needs were considered to differ from those surveyed. **Were there specific inclusion criteria:** Mental health workers from government and non-government adult mental health services in Adelaide, South Australia. Government mental health services included acute and extended care inpatient units, rehabilitation, community care, and assessment and crisis intervention services. Non-	Responses coded into categories identified by researchers, and where responses fitted into more than one category, multiple categories allowed. **Key themes (with illustrative quotes if available) relevant to this review:** Barriers: Professional perceptions of smokers barriers to THR Facilitators: THR advice to be part of their role	report feelings about tobacco use within mental health services; did not measure actual worker practices. 24% of responses received from organisations where team leader failed to describe the type of organization and number of staff, so comparisons between organisations and information about proportion of staff completing questionnaire unavailable. Since 2007 many mental health workers in South Australia have been involved in training about helping people with mental illness to address tobacco use and significant change to policies and practices have been discussed and are being implemented. **Limitations (review team):** No information on how questionnaires were developed. **Evidence gaps and/or recommendations for future research:** None stated **Funding sources:** South Australian Department of Health. No conflict of interest reported. **Applicable to UK?** (if appropriate):

		government mental health services included supported accommodation, respite, personal care, drop-in centres, supported employment and other support services.		
Author/Year: Beard 2011a **Study design:** Qualitative **Quality score:** +	**What was/were the research questions:** Study aimed to identify: (a) Factors that may account for the lack of reliable reductions in cigarette con-sumption among those spontaneously using NRT for SR and TA, and (b) Possible reasons for smokers' preference for the nicotine patch. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** A variant of framework analysis (Richie & Lewis 2003) **How were the data collected:** • **What method(s):** Interviews. • **By whom:** University researchers. • **What setting(s):** Community. • **When:** Not stated.	**What population were the sample recruited from:** General public in the UK. **How were they recruited:** Newspaper advertisement. **How many participants were recruited:** 36 (16 male and 20 female) **Were there specific exclusion criteria:** - **Were there specific inclusion criteria:** Smokers using NRT for smoking reduction and/or temporary abstinence who were not currently trying to quit or were unable to quit. Participants had to be aged 18+ and be fluent in English.	**Brief description of method and process of analysis:** Interviews transcribed and analyzed using a variant of framework analysis. Four key stages followed: familiarization, identification of thematic framework, indexing, and mapping/interpretation. Familiarization involved rereading interview transcripts to achieve data immersion. Following initial familiarization, thematic framework developed by identifying key themes and subthemes. Framework then systematically applied to all data and concurrently modified and refined. The final processes of mapping and interpretation involved exploring patterns by making comparisons and developing explanations that were grounded in the data. Internal validity was established through the "constant comparative method," and by "deviant case analysis." Two methods used to address external validity. First, sample of 18 randomly selected transcripts read by two additional coders who confirmed that transcripts were coded consistently and included data that supported key study findings. Secondly, respondent validation obtained by sending brief summary of main findings to participants to check overall interpretation was correct. **Key themes (with illustrative quotes if available) relevant to this review:** Barriers: • Smokers in social network, boredom, stress, Facilitators: • Perception that smoking reduction leads to cessation "well, I've managed to cut it down to 50% and hopefully I'm going to cut it out completely by the end of the year (PC, 40 year old Male) (Beard 2011a) • Self-management - structuring and scheduling of smoking, worries of harm to own health from smoking Intervention beliefs: whether NRT helps achieve THR goals, perceived	**Limitations (author):** Study could only describe smokers' reports of their behaviour and could not provide estimates of the prevalence of the phenomena observed. Interpreting interview data is potentially subject to bias and error; however, quality assurance methods were included to check on the accuracy of the interpretation. Study took place in England, which has one of the most liberal licensing arrangements for NRT in the world. Different findings may be obtained in different jurisdictions. Although sample size was typical for studies of this kind and saturation was reached with few new themes emerging from later participants, it is possible that different findings may emerge from a larger sample of smokers. **Limitations (review team):** Very limited information provided on methodology used. Significant potential for

			negative and positive features of NRT for THR, perceived cost of NRT , perceived side effects and safety concerns, misconceptions of how and when to use NRT for THR, perceptions NRT harms smokers health Not offered THR advice or assistance by healthcare providers :"Um, I mean I think she said it's a bad thing to do and I shouldn't do it, and if I do I should try and cut down as much as possible if I can" (61-year-old male). "But about three years ago I went to a smokers clinic and they told us not to try and cut down before a quit attempt as it would make it worse and just to smoke normally until the quit date" (29-year-old female).(Beard 2011a)	researcher bias. **Evidence gaps and/or recommendations for future research:** EB has received conference funding from Pfizer. RW undertakes research and consultancy and receives fees for speaking from companies that develop and manufacture smoking cessation medications. He also has a share of a patent for a novel nicotine delivery device **Funding sources:** Funded by Cancer Research UK (C1417/A7972).
Author/Year: Beard 2011b **Study design:** Cross-sectional survey **Quality score:** – **External validity score: (surveys only)** +	**What was/were the research questions:** What are the current beliefs of stop smoking practitioners and managers about using nicotine replacement therapy (NRT) for smoking reduction (SR) and what are the factors related to these beliefs? **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Online survey • **By whom:** University researchers • **What setting(s):** Online	**What population were the sample recruited from:** Stop smoking practitioners and managers working for the UK NHS **How were they recruited:** E-mail sent to all 164 SSS managers in UK on behalf of NHS Centre for Smoking Cessation and Training with a link to the survey website and a request to take part and to forward the link to all staff. Reminders sent 10 and 20 days later and 3 days preceding survey close. **How many participants were recruited:** 484 practitioners and 58 managers **Were there specific exclusion**	**Brief description of method and process of analysis:** Differences in beliefs about the effects of using NRT for harm reduction as a function of manager and practitioner personal and job characteristics were assessed using Chi-squared tests, *t* tests or analysis of variance as appropriate. Post-hoc comparisons between means were undertaken using Tukey Honestly Significant Difference. **Key themes (with illustrative quotes if available) relevant to this review:** Intervention beliefs: • Providers beliefs on whether NRT helps achieve THR goals • Provider-perceptions that NRT causes nicotine addiction, • Provider perceptions that THR weakens cessation message	**Limitations (author):** Low response rate among managers so sample may not be representative. May also be true for practitioners. No objective data available on respondents' clinical practice. Some important questions could not be answered. Although questions piloted, they may not have been interpreted as intended. **Limitations (review team):** Little information on process used to develop questionnaire other than brief mention of piloting questions. **Evidence gaps and/or recommendations for future research:**

	• **When:** November 26 to December 24, 2010	**criteria:** - **Were there specific inclusion criteria:** -		**Funding sources:**
Author and year: Beard 2012a (in press) **Study design:** Cross sectional survey **Quality score:** + **External validity score: (surveys only)** +	**What was/were the research questions:** The association of self reports of smoking reduction and use of NRT for smoking reduction with standard ratings of happiness and life satisfaction. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** - **How were the data collected:** • **What method(s):** Four months data from the Smoking Toolkit study • **By whom:** British Market Research Bureau (BMRB). Analysed by University researchers • **What setting(s):** Community • **When:** January-April 2009	**What population were the sample recruited from:** English adults. 52% male. Mean age 39.8 (SD 16.2) years; 13.2% in AB and 13.5% in E social-grade. 55.5% reported they were attempting to cut down with 15.4% using NRT for smoking reduction. 53.4% reported smoking a cigarette within 30 minutes of waking. **How were they recruited:** Smoking Toolkit Study. Monthly household computer- assisted interviews completed by BMRB using quota sampling. **How many participants were recruited:** 1,532 current smokers (from a population of 6,971). **Were there specific exclusion criteria:** – **Were there specific inclusion criteria:** Aged 16+ **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** Standard ratings (no reference) of happiness and life satisfaction measures. **Key themes (with illustrative quotes if available) relevant to this review:** • Smokers use of NRT for smoking reduction • Use of NRT for smoking reduction is not associated with benefits to life satisfaction or happiness	**Limitations (author):** Self reported reductions and outcome measures only. **Limitations (review team):** No data on percentage response rate*. No baseline data and cross sectional sample so, as noted by authors, cannot infer the potential causes to smoking reduction vs causes that might lead to attempts to reduce smoking (eg ill health); Pharmaceutical funding *Circa 34% response rate for completed questionnaires. (See doi: 10.1186/1471-2458-11-479) **Evidence gaps and/or recommendations for future research:** None stated **Funding sources:** English Department of Health, Cancer Research UK, Pfizer, Glaxo-SmithKline, Johnson and Johnson, UK Centre for Tobacco Control Studies **Applicable to UK?** (if appropriate): Yes

Author and year: Beard 2012b (in press) **Study design:** Cross sectional survey **Quality score:** + **External validity score: (surveys only)** +	**What was/were the research questions:** The prevalence of NRT use in various situations requiring periods of temporary abstinence, the helpfulness of NRT and associations with cigarette consumption and attempts to quit smoking. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Eight months data from the Smoking Toolkit study • **By whom:** British Market Research Bureau (BMRB). Analysed by University researchers • **What setting(s):** Community • **When:** Between July 2009 & April 2010	**What population were the sample recruited from:** English adults. 51% male. Mean age 40.6 (SD 16.08) years; 15.8% in AB and 13.7% in E social-grade. 68% reported having made a quit attempt in the previous 12 months. **How were they recruited:** Smoking Toolkit Study. Monthly household computer- assisted interviews completed by BMRB using quota sampling. **How many participants were recruited:** 21.2% (3,775/17,803) adults were current smokers & 13% (473) reported NRT use for temporary abstinence. **Were there specific exclusion criteria:** – **Were there specific inclusion criteria:** Aged 16+ **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** Questions on various measures including demographic characteristics, type of NRT used, situations when NRT used, helpfulness of NRT. ANOVA analysis to assess associations between helpfulness of NRT and type of NRT product. Linear regression analysis to determine associations between helpfulness of NRT, quit attempts & cigarette consumption. **Key themes (with illustrative quotes if available) relevant to this review:** Intervention beliefs: • NRT helps achieve THR goals	**Limitations (author):** Self reports of smoking status, quitting behaviour and NRT use. Not clear what meant when participants stated that NRT used in 'other situations'. Measure of NRT helpfulness was not multifaceted. **Limitations (review team):** None. **Evidence gaps and/or recommendations for future research:** None stated **Funding sources:** English Department of Health, Cancer Research UK, Pfizer, Glaxo-SmithKline, Johnson and Johnson, UK Centre for Tobacco Control Studies **Applicable to UK?** (if appropriate): Yes
Author and year: Black 2012 **Study design:** Cross sectional survey **Quality score:** + **External validity score: (surveys only)** +	**What was/were the research questions:** (1) What is the prevalence of concerns among smokers about the harmfulness of NRT? (2) What is the association with NRT use as an aid to cessation? (3) What is the association between concerns about	**What population were the sample recruited from:** English adults. 53% male. Average age 40.8 (SD 16.16) years. 16.4% AB and 11.8% E social grade. 51% reported smoking a cigarette within 30 minutes of waking. **How were they recruited:** Smoking Toolkit Study. Monthly household computer	**Brief description of method and process of analysis:** Percentage responses to questions. Chi-square tests to compare responses to questions versus previous use or not of NRT in a quit attempt. **Key themes (with illustrative quotes if available) relevant to this review:** • Providers beliefs on whether NRT helps achieve THR goals • Provider-perceptions that NRT causes nicotine addiction, provider perceptions that THR weakens cessation message	**Limitations (author):** Asked about long term NRT use only and did not separate use for reduction vs cessation purposes. **Limitations (review team):** No data on percentage response rate to survey; Pharmaceutical group funding.

	harmfulness of NRT and its use for smoking reduction? **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Four months data from the Smoking Toolkit Study • **By whom:** British Market Research Bureau (BMRB). Analysed by Department of Health and University researchers • **What setting(s):** Community • **When:** April-July 2009	assisted interviews completed by the BMRB using quota sampling. **How many participants were recruited:** 1,657 current smokers and recent ex-smokers from 7,074 adults surveyed. **Were there specific exclusion criteria:** – **Were there specific inclusion criteria:** Aged 16+ **Power calculation** (if applic.)**:**		**Evidence gaps and/or recommendations for future research:** Explore views on NRT use without giving a time-scale and for reduction and cessation purposes. **Funding sources:** English Department of Health, Cancer Research UK, Pfizer, Glaxo-SmithKline, Johnson and Johnson. **Applicable to UK?** (if appropriate): Yes
Authors: Blackburn 2003 **Study design:** Cross-sectional survey **Quality score:** – **External validity score: (surveys only)** +	**What was/were the research questions:** What are parents' knowledge and use of harm reduction strategies to protect their infants from exposure to tobacco smoke in the home? What is the relation between reported strategies and urinary cotinine to creatine ratios in the infants? **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):**	**What population were the sample recruited from:** General community in Coventry and Birmingham, UK **How were they recruited:** Subjects were invited to participate by their family health visitors. **How many participants were recruited:** 314 smoking households. Complete data for cotinine levels were available for 164 infants. **Were there specific exclusion criteria:** Infants with major perinatal	**Brief description of method and process of analysis:** No information provided. **Key themes (with illustrative quotes if available) relevant to this review:** Barrier: • Lack of knowledge of the harms of second-hand smoke on children Facilitator: • Smoke-free setting	**Limitations (author):** Several limitations were reported on measure of cotinine levels, but this aspect of the study is not relevant to this review **Limitations (review team):** No data on percentage response rate to survey; unclear whether questions were tested prior to administration of the survey **Evidence gaps and/or recommendations for future research:** Study requires verification with a larger sample

	Cross sectional survey administered by interview at home • **By whom:** University researchers • **What setting(s):** Community • **When:** Not reported	illnesses **Were there specific inclusion criteria:** Smoking households defined as households with one or more resident tobacco smokers		**Funding sources:** Foundation for the Study of Infant Deaths
Authors: Bolliger 2000 **Study design:** Data from baseline questionnaire associated with two RCTs (Bolliger 2000 – review 3). **Quality score:** – **External validity score: (surveys only)** +	**What was/were the research questions:** What are the reasons and motivators for wanting to reduce smoking? How do those wanting to reduce differ from those wanting to quit immediately? **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Baseline questionnaire for participants enrolling in intervention study • **By whom:** University researchers • **What setting(s):** Community • **When:** Study commenced in February 1997	**What population were the sample recruited from:** General community in Switzerland **How were they recruited:** Participants for both studies (cessation study and reduction study) recruited using almost identical newspaper advertisements. Advertisements were placed in same newspaper and same area targeting to obtain same readership in both cases. **How many participants were recruited:** 400 for reduction study, 100 for cessation study **Were there specific exclusion criteria:** Those who wanted to quit smoking immediately (for the reduction study) **Were there specific inclusion criteria:** Smoked ≥15 CPD for ≥3 years and wanted to reduce cigarette consumption as	**Brief description of method and process of analysis:** No information provided. Information from baseline questionnaires for two intervention studies with data analysed in percentages. **Key themes (with illustrative quotes if available) relevant to this review:** Data reported from the smokers enrolled in the reduction study only. Barriers: • Social pressure Facilitators • smokers perception that smoking is expensive • smokers perception that smoking reduction leads to cessation • smokers displeasure with smoking • smokers worries of harm to own health	**Limitations (author):** None stated **Limitations (review team):** Information from baseline questionnaires. **Evidence gaps and/or recommendations for future research:** None stated **Funding sources:** Pharmacia and Upjohn Consumer Healthcare, Sweden. [From Bolliger et al BMJ 2000 (RCT)

		much as possible.		
Author: Borrelli 2007 **Study design:** Cross-sectional survey **Quality score:** – **External validity score: (surveys only)** +	**What was/were the research questions:** Nurse perceptions of the safety of harm reduction products and behaviours, as well as whether these perceptions differed among different subgroups of nurses (older vs. younger; smokers vs. non-smokers). **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Self-report questionnaires • **By whom:** University researchers • **What setting(s):** In-service training session for nurses, USA • **When:** 2003	**What population were the sample recruited from:** Nurses based either at a hospital or at a home health care agency in the USA. **How were they recruited:** Nurses were required to attend an in-service training session on smoking cessation counselling in 2003.At start of the session, nurses given self-report questionnaires to be completed. **How many participants were recruited:** 178 nurses **Were there specific exclusion criteria:** – **Were there specific inclusion criteria:** –	**Brief description of method and process of analysis:** Descriptive analyses (e.g., means, medians, and standard deviations) calculated for each outcome. Bivariate analyses performed to examine association between each item and age and smoking status of the nurses. Age was dichotomized at the sample median (younger than 41 versus 41 or older). Analyses replicated for age by dividing sample evenly into three groups (< 35, 35–46, ≥47) to examine stability of findings using different cutpoints. Binary variable created for smoking status to capture whether nurses had smoked any cigarettes, even a puff, in past month. Chi-square tests statistics were calculated based on a p value (alpha) of .05 or below, and a two-tailed test. **Key themes (with illustrative quotes if available) relevant to this review:** Intervention beliefs: • Provider-perceptions that NRT harms smokers health, • Provider-perceptions NRT causes nicotine addiction, • Providers understanding of NRT for THR use • Positive provider views of encouraging THR	**Limitations (author):** None stated **Limitations (review team):** Little or no information on how questionnaire was developed and tested. **Evidence gaps and/or recommendations for future research:** Studies should assess efficacy of training, and whether training is translated into the real world in an accurate manner, consistently over time. **Funding sources:** No information provided. **Applicable to UK?** (if appropriate): Unclear – US hospital setting.
Author/year: Bottorff 2009 **Study design:** Qualitative **Quality score:** ++	**What was/were the research questions:** To learn how new fathers narrate their experiences of tobacco reduction and cessation during their partners' pregnancy and postpartum period. To identify ways interventions might be tailored to address the tobacco reduction needs of fathers. **What theoretical approach (e.g. grounded theory, IPA)**	**What population were the sample recruited from:** New fathers in the postpartum units of a large hospital. **How were they recruited:** New fathers approached during their partner's hospital stay in first few days of postpartum period. **How many participants were recruited:** 29 (of 90 fathers approached)	**Brief description of method and process of analysis:** Transcript data were read and reread to increase familiarity with each narrative. Narratives recounting plans for and efforts to reduce or quit smoking were summarised, with particular attention given to the structure and turning points within each account. The way in which the father positioned himself within the account was identified, as were the linguistic and thematic techniques used to present the story. Similarities and variations between narratives were examined. Narrative summaries were reviewed, after which evolving themes were categorised, and a coding scheme developed. Data were coded according to these themes and re-checked for fit. Composite narratives were prepared, to reflect new fathers' experiences of smoking, reducing, lapsing, or becoming smoke-free. Research team met regularly to discuss themes, definitions, and coded examples within the data. Consensus among researchers was	**Limitations (author):** None stated **Limitations (review team):** **Evidence gaps and/or recommendations for future research:** None stated **Funding sources:** Canadian Institutes of Health Research, Michael Smith Foundation for Health Research.

	does the study take (if specified): Narrative methods to capture and understand meanings ascribed to participants' experiences. **How were the data collected:** • **What method(s):** Two in-depth semi-structured interviews with each participant. • **By whom:** Research assistants • **What setting(s):** A large, western Canadian city renowned for its smoke-free policies and legislation that restricts smoking in public environments. • **When:** 2006-2007	**Were there specific exclusion criteria:** - **Were there specific inclusion criteria:** Men aged >18 who had smoked prior to and/or during their partner's/ wife's pregnancy, lived in the same household as partner wife.	achieved before progressing to next phase of analysis. **Key themes (with illustrative quotes if available) relevant to this review:** Facilitators: • social pressure, perception that smoking is expensive perception that smoking reduction leads to cessation, *"If you say to yourself, I'm going to stop smoking in one year, okay, now we're in January, in January I'm smoking let's say, for example, 15 cigarettes; February I'm going to smoke 10 cigarettes, you know; March, I'll smoke eight, you know; April I'll smoke eight still, just keep at that level, you know, don't, don't drive it down that fast… it's going to work eventually because your body is going to get used to it, you know."* *"Father: As of right now I haven't made a mental decision to quit, I'm going to reduce for a little while. Interviewer: Okay, so what would you say your goal is then, do you have a goal for reduction? Father: Uh, well, yeah, to get, yeah, to get down to something like three or four a day for a month or two and then probably try to quit* • structuring and scheduling of smoking *"It used to be one cigarette per hour or less, now it's one cigarette every three hours."* • wish to protect children, worries of harm to own health Barriers: • smokers perceived dependence and nicotine addiction, NRT Intervention beliefs: • NRT helps achieve THR goals, *"The last week again I tried to get down . . . you know my normal habit is to get up, have a cup of coffee and a cigarette which is kind of a standing sort of thing. So last week I did a couple of days where I'd get up and have a Nicorette."* • smokers-perceived side effects and safety concerns*"I think you're not supposed to drink coffee with it [laughs] so I was drinking coffee with a Nicorette and I got pretty crazy a couple of times . .* • Smokers perceptions they are not offered THR advice or assistance by healthcare providers	**Applicable to UK?** (if appropriate):
Author and year: Brotons 2005	**What was/were the research questions:**	**What population were the sample recruited from:**	**Brief description of method and process of analysis:** Mean and standard deviation for continuous variables; Percentages for	**Limitations (author):** Did not include all European

Study design: Cross sectional survey **Quality score:** + **External validity score: (surveys only)** ++	To explore knowledge and attitudes of European GPs in implementing evidence-based health promotion and disease prevention recommendations in primary care. To describe GPs' perceived barriers to implementing recommendations, to assess how GPs' own health behaviours affect their work with patients. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Mailed questionnaire (pre-tested) – self report • **By whom:** Centralised data entry at Sardenya Primary Care Center, Barcelona • **What setting(s):** General practice • **When:** June - December 2000	GPs in Croatia, Estonia, Georgia, Greece, Ireland, Malta, Poland, Slovakia, Slovenia, Spain, Sweden. 60% female. Mean age 44 years (SD 9.5, 23-84). 14.8% smokers (range 3.7-48.5%). **How were they recruited:** Random sample listed from national colleges in each country (all GPs in Malta). **How many participants were recruited:** 2082 GPs. Mean response rate = 54% (range 50-65%). **Were there specific exclusion criteria:** - **Were there specific inclusion criteria:** - **Power calculation:** Yes – details provided.	categorical variables. Bivariate comparisons for categorical variables using chi-square at the 0.05 level of significance. **Key themes (with illustrative quotes if available) relevant to this review:** • GPs smoking status affected smoking advice behaviour	countries; self report; Possibility of response bias (more favourable attitude to health promotion likely in respondents) **Limitations (review team):** Questionnaire findings alone lack valuable contextual information **Evidence gaps and/or recommendations for future research:** None stated, **Funding sources:** Spanish Program of Prevention and Health Promotion; Public Health Division of the Catalan Department of Health **Applicable to UK?** (if appropriate): Yes. General practice setting and good range of European countries, although not UK.
Author and year: Cheong 2007 **Study design:** Correlation study [longitudinal survey] International Tobacco Control Policy Evaluation 4-Country Survey (ITC-4)	**What was/were the research questions:** To examine (a) proportion of smokers who quit on their own and who reported using each of two quitting methods (abrupt cessation vs. gradual reduction) and which smokers are most likely to use each method; (b) quit success rates,	**What population were the sample recruited from:** Adult smokers in the UK, USA, Canada and Australia **How were they recruited:** Random-digit-dialed telephone survey of >8,000 smokers; Three waves **How many participants were recruited:**	**Brief description of method and process of analysis:** Chi-square tests to examine differences in categorical variables. Multivariate logistic regression to examine association between quit method used at last attempt and outcomes such as quitting success and relapse. Interactions between country and independent variables. All analyses were weighted based on information available from other national benchmark surveys in each of the four ITC countries. **Key themes (with illustrative quotes if available) relevant to this review:** • Facilitators: Smokers perceived confidence in ability to achieve	**Limitations (author):** Cannot be confident of all factors that might be different in groups choosing each strategy (eg psychological issues), and potential effect on relapse; Self report **Limitations (review team):** Fairly low response rate but

Quality score: + **External validity score: (surveys only)** ++	short and longer term, associated with each method; (c) characteristics of smokers who used each method to quit successfully; (d) any effect of quit method used on a previous attempt on likelihood of choice of method and success on an attempt in period leading up to next wave of survey. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Structured telephone interviews • **By whom:** University and research institute researchers • **What setting(s):** Community • **When:** Wave 1: Oct-Dec 2002 Wave 2: May-Sept 2003 Wave 3: Aug-Dec 2004	2,248 meeting inclusion criteria from a potential 9,058 = 24.8%. 301 not smoking at Wave 2 were contacted at Wave 3 to assess longer-term quit success. **Were there specific exclusion criteria:** None stated. **Were there specific inclusion criteria:** In cohort for at least two waves; smoking 5+ CPD at previous wave; had made a quit attempt between focal and previous wave. **Power calculation:** Not reported	smoking goal, worries of harm to own health • Barriers: smokers perceived dependence and nicotine addiction	respondents had to meet all inclusion criteria to be eligible for analysis. **Evidence gaps and/or recommendations for future research:** RCT to find out if effects are a function of the chooser or the method chosen. **Funding sources:** Canadian Institutes for Health Research; Robert Wood Johnson Foundation; Cancer Research UK; Australian Commonwealth Department of Health and Ageing; National Health and Medical Research Council of Australia; Canadian Tobacco Control Research Initiative; Centre for Behavioural Research and Program Evaluation (Canada): National Institutes of Health. **Applicable to UK? (if appropriate):** Yes. Community based smokers some of whom came from UK
Author and year: Cunningham 2008 **Study design:** Cross sectional survey **Quality score:** + **External validity score: (surveys only)** ++	**What was/were the research questions:** Would participants be interested in NRT if offered free of charge? For what purpose would they use the NRT? For how long would they be willing to stay off cigarettes? How soon would they use it if sent to their	**What population were the sample recruited from:** Adult smokers in Canada **How were they recruited:** 15,958 households contacted by random dialling **How many participants were recruited:** Estimated that 1,372 contained at least one adult	**Brief description of method and process of analysis:** Weighted percentages and some p values for comparisons (eg answers from those who used NRT in the past vs never users). **Key themes (with illustrative quotes if available) relevant to this review:** *Key findings[Smokers and family]:* • Smokers beliefs on whether NRT helps achieve THR goals	**Limitations (author):** Self report (of intentions only) **Limitations (review team):** High potential for report bias. **Evidence gaps and/or recommendations for future research:** None stated.

	home? **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Random dialling telephone survey • **By whom:** Research centre researchers • **What setting(s):** Community • **When:** Not stated	daily smoker. Of 889 interviewed (64.8%) 825 met inclusion criteria. **Were there specific exclusion criteria:** **Were there specific inclusion criteria:** Daily smoker; Smoking at least 10 CPD at some point in their lives **Power calculation** (if applic.)**:**		**Funding sources:** Johnson and Johnson Consumer Group of Companies **Applicable to UK?** (if appropriate): Yes. Community based smokers.
Author and year: Estabrooks 2010 **Study design:** Mixed methods: correlation and qualitative data from secondary analysis of an RCT (Glasgow 2009, Review 3). **Quality score:** Correlation + Qualitative + **External validity score: (surveys only)** + (to populations awaiting medical treatment)	**What was/were the research questions:** To determine the pathways through success and failure of intervention participants; Does the intervention support participants who had treatment failures to succeed over the course of the intervention and study; Are there personal contextual differences that may explain why some participants were able to successfully reduce tobacco use while others were not. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** Social ecological **How were the data collected:** • **What method(s):**	**What population were the sample recruited from:** Adult smokers in Kaiser Permanente population, Colorado, USA. Mean age 54.8 (SD 10.4), mean CPD 21.2, mean years education 14.2 (SD 2.6), 73.2% women; 40% with depressive symptoms **How were they recruited:** Via health care organisation's electronic database of medical records. **How many participants were recruited:** 164 intervention group (320 overall). 37% attrition at 12 months but purposive sampling used. **Were there specific exclusion criteria:**	**Brief description of method and process of analysis:** Self report data and field notes of subjective data (including interviewer impressions) from informal discussions with participants. ANOVA to explore success/failure for each of the data collection points; Stratified purposive sampling for 5 participants in each category based on 3 and 12 month sample collections (1) Success/Success; (2) Success/Fail; (3) Fail/Success; (4) Fail/Fail. Qualitative field notes reduced using inductive approach to themes - triangulation used to compare interpretations from research (field note coders) and intervention delivery personnel. **Key themes (with illustrative quotes if available) relevant to this review:** • Barriers: smokers in social network, association of smoking and driving to THR, boredom, stress • Facilitators: social support, smokers structuring and scheduling of smoking, worries of harm to own health • Intervention beliefs: Smokers beliefs on whether NRT helps achieve THR goals	**Limitations (author):** Moderate sample size; one health care setting only; secondary data analysis and not *a priori* part of the intervention design. **Limitations (review team):** All awaiting treatment thus may not be generalisable. Error in abstract (says mean age =62) **Evidence gaps and/or recommendations for future research:** Qualitative research to assess how participants judged their level of success; Experimental study comparing easier and more challenging initial goals and to target barriers identified in this study; Further mixed methods research to

	During three telephone counselling calls, and at 3- and 12- month sample collections. • **By whom:** Research institute and university researchers • **What setting(s):** Community • **When:** Not stated	None stated **Were there specific inclusion criteria:** Current smokers, ≥18 yrs; scheduled for outpatient surgery or diagnostic procedure; Not interested in quitting. **Power calculation** (if applic.)**:** Not reported		enhance depth of understanding from research studies. **Funding sources:** National Cancer Institute **Applicable to UK?** (if appropriate): Probably. Community based smokers.
Author and year: Etter 2011 **Study design:** Cross sectional survey **Quality score:** + **External validity score: (surveys only)** –	**What was/were the research questions:** To assess how and why e-cigarette users used product, their satisfaction with it and its perceived effects. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** - **How were the data collected:** • **What method(s):** Internet survey in English and French • **By whom:** University researchers • **What setting(s):** Community. Survey posted in English and French on smoking cessation website StopTabac.ch • **When:** March-October 2010	**What population were the sample recruited from:** Internet site recruitment to a StopTabac.ch online survey 62% from USA, 6% UK and remainder from other countries including France, Switzerland and Canada **How were they recruited:** Volunteer responders to internet survey **How many participants were recruited:** 3,587 **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** >18 years and current, past or never users of e-cigarettes. **Power calculation** (if applic.)**:** Not reported although authors noted actual response was far higher than expected response (1,500).	**Brief description of method and process of analysis:** ANOVA to compare means. Mann-Whitney U tests to compare medians. Chi-square tests to compare proportions. Linear regression to test associations between continuous variables with 95% CI, and p values. Tested responses from users of e-cigarette advocacy sites vs those who learned of the survey from more neutral sites. **Key themes (with illustrative quotes if available) relevant to this review:** • Intervention beliefs: utilising e-cigarettes to help with THR, beliefs that e-cigarettes do not help with smoking craving, smokers perceptions e-cigarettes are cheaper than smoking, fear of addiction and safety of e-cigarettes *Notes:* 29.3% of sample were current smokers, of which 84.4% were attempting reduction, and 60.1% cessation. Some questions ask specifically about use of e-cigs for temporary abstinence. 83.5% were current users of e-cigs, 15.2% never users and 1.3% past users.	**Limitations (author):** Self-selected visitors to e-cigarette sites. Risk of over sampling satisfied users. Cannot assume generalisability. **Limitations (review team):** As above. Major concerns re generalisability. **Evidence gaps and/or recommendations for future research:** Further safety and efficacy studies **Funding sources:** Partial funding from New Zealand Health Research Council (HRC), NZ Heart Foundation. Etter has acted as a consultant for Pfizer. **Applicable to UK?** (if appropriate): Yes

Author and year: Foulds 2011 **Study design:** Cross sectional survey **Quality score:** **–** **External validity score: (surveys only)** ++ to the (very) specific population	**What was/were the research questions:** To identify the e-cigarette products used by experienced users, their pattern of use and the impact on tobacco use. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** - **How were the data collected:** • **What method(s):** Questionnaire handed out at a meeting of e-cigarette enthusiasts. • **By whom:** University researchers • **What setting(s):** Meeting (Philly Vapefest 2011) • **When:** 2011	**What population were the sample recruited from:** E-cigarette enthusiasts in the USA. 74% male, 88% white, 40% with college degree, mean age 34 (± 8.8), 77% employed full time, 88% ex-cigarette smokers **How were they recruited:** Attendees happy to complete a questionnaire handed out at the meeting **How many participants were recruited:** 104 responses from e-cigarette users from 110 questionnaires (94.5%) **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** E-cigarette users **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** % responses to each question plus statistical comparisons between short-term (<12 months) and long term (12+ months) users. Chi-square tests for categorical variables, independent t-test for normally distributed variables, Mann-Whitney U-test for skewed data. **Key themes (with illustrative quotes if available) relevant to this review:** • Significant proportion of e-cigarette users utilising e-cigarettes for THR • Smokers beliefs that e-cigarettes do not help with smoking craving	**Limitations (author):** - **Limitations (review team):** Group of highly motivated and enthusiastic e-cigarette users and may not be generalisable outside this group. 13% of respondents making > 10% of their income from e-cigarette business. **Evidence gaps and/or recommendations for future research:** Urgent need to establish a safety profile for e-cigarettes and, if acceptable, to assess efficacy in appropriately designed clinical trials. **Funding sources:** No information provided. Lead author has worked as paid consultant for manufacturers of smoking cessation aids. **Applicable to UK?** (if appropriate): Probably not. Highly selected group at US e-cigarette enthusiasts meeting.
Author and year: Gaglio 2010 **Study design:** Process evaluation of an RCT [Glasgow 2009, Review 3] **Quality score:** N/A	**What was/were the research questions:** Effectiveness over 3 and 12 months of a smoking reduction program relative to an enhanced usual care in patients identified in health care setting **What theoretical approach**	**What population were the sample recruited from:** Adult smokers in Colorado, USA outpatient surgery or diagnostic procedure Female: I = 73.2%, C = 71.8%; Mean age: I = 54.8, C = 56.0. Latino: I = 3.7%, C = 6.5%. **How were they recruited:**	**Brief description of method and process of analysis:** Repeated measures analyses. Multiple regression to identify moderator variables. **Key themes (with illustrative quotes if available) relevant to this review:** • Unanticipated time and cost resources needed to train intervention deliverers, expenses for materials, and expenses for unplanned changes.	**Limitations (author):** None stated **Limitations (review team):** Essentially just a description of how the intervention was evidence based. **Evidence gaps and/or recommendations for future research:**

External validity score: (surveys only)	**(e.g. grounded theory, IPA) does the study take (if specified):** Social-ecological theoretical approach **How were the data collected:** • **What method(s):** Iterative changes to counselling calls and newsletters to tailor to the participant based on previous counselling call. • **By whom:** Institute for Health Research (Kaiser Permanente) and university researchers • **What setting(s):** Outpatients but intervention delivered within community • **When:** Not reported	Identified via Kaiser Permanente HMO electronic database of medical records. **How many participants were recruited:** 320 **Were there specific exclusion criteria:** Smoked < 10 CPD, could not read or understand English; cancelled/postponed medical procedure; unavailable for study duration. **Were there specific inclusion criteria:** ≥18 years. **Power calculation** (if applic.)**:**	• Need for a sufficient length pilot phase and proper anticipation of obstacles during the pilot phase as critical factors for the successful development of the intervention.	None stated **Funding sources:** National Cancer Institute **Applicable to UK?** (if appropriate): Community based
Author and year: Green 2005 **Study design:** Mixed methods **Quality score:** – qualitative – quantitative **External validity score: (surveys only)** +	**What was/were the research questions:** (1) If there was a relationship between demographic characteristics, medical history, or level of nicotine dependence, and quitting smoking (2) How people had first come to smoke and why they continued to do so (3) What they thought about the effects of their mental illnesses, the side effects of their illnesses, and their medication (4) People's attitudes about smoking or not smoking when hospitalised.	**What population were the sample recruited from:** Adult smokers with mental illness in Winnipeg, Canada Mean age 41 (range 21-73). 66% single men; 50% high school education or better; 75% unemployed. 66% with psychotic disorder; 50% with other physical health problems; 31% hospitalised during past year. Motivations varied from those who did or did not want to cut down or quit and those who had quit smoking for at least one year. **How were they recruited:**	**Brief description of method and process of analysis:** Demographic data and medical history, mental health and social functioning, nicotine dependence, reasons for quitting by questionnaire. Open ended questions for focus group. No information on analysis. **Key themes (with illustrative quotes if available) relevant to this review:** • Barriers: smokers in social network, social pressure to THR • Smokers perceptions they are not offered THR advice or assistance by healthcare providers	**Limitations (author):** Small, not generalisable study and payment may have caused selection bias. **Limitations (review team):** **Evidence gaps and/or recommendations for future research:** No information provided on qualitative analysis. **Funding sources:** Health Sciences Centre Foundation **Applicable to UK?** (if appropriate): Canadian system may vary.

	What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified): - **How were the data collected:** • **What method(s):** Demographic and social questionnaire; Focus groups (3) • **By whom:** Both authors (health care research practitioners) or one author and a research assistant • **What setting(s):** Outpatients department • **When:** October-November 2001	Invitations posted in the outpatients department of the Health Sciences Centre and circulated to clinicians who were not involved in the study. **How many participants were recruited:** 21 (three focus groups = 6, 7, 8 people) of 32 who completed demographic questionnaire (65.6%) Current smokers or had already quit for 1 year. Each paid $20 to participate. **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** Age 18+, treated in psychiatric department of health centre. Able to understand English and to give informed consent. **Power calculation** (if applic.)**:**		
Author and year: Haddock 1997 **Study design:** Process evaluation within a quasi-RCT **Quality score:** N/A **External validity score: (surveys only)**	**What was/were the research questions:** What were knowledge and beliefs about passive smoking and the no smoking policy? Were knowledge, intention to stop, smoking behaviour, and satisfaction with service provided, described more positively by individuals on admission to hospital who received a programme, compared to those who did	**What population were the sample recruited from:** Patients scheduled for surgery at a North Derbyshire NHS hospital, UK 31.7% male, 66% aged 40+, 71% considered themselves moderately or extremely addicted and had the intention of stopping or reducing smoking prior to hospital admission for	**Brief description of method and process of analysis:** Formative and summative evaluation and thematic analysis. Percentages for responses. Chi square and p values for comparison of categorical outcomes in intervention vs control group. **Key themes (with illustrative quotes if available) relevant to this review:** • Facilitators: perception that smoking is expensive, worries of harm to own health from smoking • Barriers: stress , perceived low ability in achieving smoking goal • Intervention beliefs: behavioural interventions help achieve THR • Smokers perceptions they are not offered THR advice or assistance	**Limitations (author):** Generalisable to pre-surgery patients only. Small sample size, self selected group. **Limitations (review team):** Very little methodological information on which to assess reliability of methods used. **Evidence gaps and/or recommendations for future research:**

	not? To evaluate the process of the programme **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** Health action model (treatment group only) **How were the data collected:** • **What method(s):** Face-to- face interview and questionnaire Intervention – Advice at pre-surgical admissions (7-14 days before operation) Control – Interview at hospital discharge • **By whom:** Nurse researcher • **What setting(s):** Surgical pre-admission clinic • **When:** Not stated.	surgery **How were they recruited:** Convenience sample of volunteers from pre-admissions clinics **How many participants were recruited:** 60 **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** Individuals who smoked any amount or type of tobacco. **Power calculation** (if applic.)**:** Not provided		More qualitative research in this area **Funding sources:** No information **Applicable to UK?** (if appropriate): Yes
Author and year: Hamilton 2000 **Study design:** Cross sectional survey **Quality score:** **+** **External validity score: (surveys only)** ++	**What was/were the research questions:** Students' attitudes, experiences and behavioural practices to explore the determinants of regular versus occasional smoking; Pre-testing of harm minimisation versus abstinence-based measures. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):**	**What population were the sample recruited from:** 12-15 year old students from four schools in Western Australia. 68% non smokers; 10% regular smokers **How were they recruited:** Quantitative survey: All Grade 8-10 students in the selected schools. Qualitative survey: Randomly selected sample of respondents to the previous	**Brief description of method and process of analysis:** Chi-square and p values for categorical variables in quantitative questions. Thematic analysis (independent coding and inter-rater reliability testing) from qualitative questions. **Key themes (with illustrative quotes if available) relevant to this review:** • Barriers: smokers in social network, • Facilitators: perception that smoking is expensive, smoking reduction leads to cessation, displeasure with smoking, worries of harm to own health from smoking • Intervention beliefs: whether NRT helps achieve THR goals	**Limitations (author):** None stated. **Limitations (review team):** No raw data (eg quotes) from qualitative questions but generally an excellent survey with good response rates. **Evidence gaps and/or recommendations for future research:** None stated. **Funding sources:** Western Australian Health

	Trans Theoretical Model (Prochaska) in discussion. **How were the data collected:** • **What method(s):** Cross sectional quantitative survey to assess smoking behaviours with stratified sub-sample completing open-ended qualitative survey. Pre-tested. • **By whom:** Trained research assistants • **What setting(s):** School • **When:** Not stated	questionnaire stratified into five strata based on smoking behaviours. **How many participants were recruited:** Quantitative survey: 1,662 (84% of all Grade 8-10 students) Qualitative survey: 256/417 (61%) **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** None stated **Power calculation** (if applic.)**:** Not provided		Promotion Foundation **Applicable to UK?** (if appropriate): Yes, similar school setting and smoking cessation services to UK.
Author and year: Herbert 2011 **Study design:** Qualitative interview data collected during an RCT. **Quality score:** + **External validity score: (surveys only)**	**What was/were the research questions:** What are the barriers and facilitators to smoke-free homes and vehicles? **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** Ecological model of health promotion, using inductive approach. **How were the data collected:** • **What method(s):** Interviews using open-ended questions. • **By whom:** Research associates • **What setting(s):** Respondent's homes	**What population were the sample recruited from:** 36 parents aged 18-42 (33 mothers and 3 fathers) in a predominantly rural Canadian province (Prince Edward Island). 11 (31%) had not completed high school; 16 (44%) had annual household incomes <$15,000. 20 (56%) separated, divorced, widowed, or single parents. 21 (58%) more than one child, and 21 (58%) had ≥1 child <2 years. Mothers in 28 families (78%) smoked during pregnancy, and were current smokers in 29 (80%). Father was current smokers in 18 families (50%). Smoking in all	**Brief description of method and process of analysis:** Intervention and control group were treated as a single sample. Participants' responses to interview questions read in their entirety. Transcribed responses to each question read, and codes assigned to words, phrases, or sentences that described a particular idea. After coding completed, all codes reviewed, and themes assigned to groups of codes with similar meaning. Themes defined as they emerged. Two members of research team completed initial coding. Coders compared their interpretations, discussed differences, and reached consensus through discussion. Due to extreme seasonal variations in weather conditions, data were analyzed according to collection date (November to April or May to October). **Key themes (with illustrative quotes if available) relevant to this review:** Barriers: • smokers in social network, *"When they (my parents) come over, they still express unhappiness about having to go out on the porch, but they do it. Going smokefree was really the first thing I've done independently against my parents' opinion." (21 year old single mother)*	**Limitations (author):** Data collected as part of an RCT and was only part of the interview. Audio-taping may have increased accuracy and richness of data. Adding a third reviewer to consider between-researcher differences might have been beneficial. **Limitations (review team):** As above. **Evidence gaps and/or recommendations for future research:** Future research targeting reduction of second-hand smoke exposure could benefit from consideration of the varied and complex barriers identified in this

	• **When:** February 2005-February 2007	homes at baseline and 25 homes at 6-month follow-up. **How were they recruited:** Via five public health nursing offices, five family resource centres, and eight child daycare centres/ kindergartens. **How many participants were recruited:** 36 parents. 33 mothers and three fathers. **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** Resided in a home where ≥1 adult smoked ≥1 CPD in the home and had a child ≤5 years residing in the home ≥50% of time. **Power calculation** (if applic.)**:** None reported	• association of smoking and driving *"He's made the connection in his head...when he drives, he smokes. On trips, it keeps him awake; he has nothing to do."* • stress, perceived dependence and nicotine addiction *Nicotine addiction was the most frequently identified barrier to smoke-free homes and vehicles: "I can't quit. It's the addiction part of it" (27 year old mother). "Quitting…the cravings, they really get to me" (20 year old single mother of two)* Facilitators: • social pressure, smokers wish to protect children *"Guilt. No, just guilt. Knowing it's not good for non-smokers and kids." (41 year old separated father of three).*	study. **Funding sources:** Not reported. **Applicable to UK?** (if appropriate):
Author and year: Johnson 2004 **Study design:** Qualitative **Quality score:** + **External validity score: (surveys only)**	**What was/were the research questions:** To examine youth accounts of smoking and their engagement in purposeful strategies to restrict their smoking; The process by which youth come to understand that their smoking is a problem and limit their tobacco use either by cutting down or quitting. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified)**	**What population were the sample recruited from:** Adolescent smokers in Canada. **How were they recruited:** Part of a larger study (no details) **How many participants were recruited:** 35 interviews initially. 12 follow up interviews with subjects from initial group **Were there specific exclusion criteria:**	**Brief description of method and process of analysis:** All interviews audio-taped, transcribed verbatim and coded with NVivo. Multidisciplinary team used a grounded theory approach to analyse youth experiences and recorded decisions by meeting minutes and researcher memos. Themes and concepts developed and further explored in interviews/focus groups with 11 additional participants to validate and expand findings. **Key themes (with illustrative quotes if available) relevant to this review:** Facilitators: • social support, perception smoking is expensive, perceived confidence in ability to achieve smoking goal, self-management - structuring and scheduling of smoking *"You just kinda resist the craving, just spread it out over the day, and try*	**Limitations (author):** None stated **Limitations (review team):** Almost no information on population and no information on recruitment method or researcher role. **Evidence gaps and/or recommendations for future research:** Further exploration of the distinction between quitting and controlling and to validate and expand the emergent theory.

	Grounded theory **How were the data collected:** • **What method(s):** Interview • **By whom:** Not stated • **What setting(s):** Not stated • **When:** 1999-2002	None stated **Were there specific inclusion criteria:** None stated **Power calculation** (if applic.)**:**	*not to really think about it too much. Sometimes, I'd take like a couple of drags of a cigarette and put it out and then later take a couple of drags . . . and y'know, make that cigarette kind of last". (17-year-old male participant, self-described occasional smoker) (Johnson 2004 Q+)* *"I try not to go any higher. Once I can start smelling it pretty bad on myself I've had enough." (18-year-old regular smoker) "I'm not going to smoke more than five cigarettes a day because then I'll get too addicted."(16-year-old regular smoker)(Johnson 2004)* *"I'll make a pact with my friend, "Whenever we smoke we can only smoke together. So if we're gonna smoke we have to find each other and have a cigarette together and share a cigarette." (17-yr old occasional smoker) (Johnson 2004 Q+)* Barriers: • stress, perceived low ability in achieving smoking goal	To examine whether tobacco interventions based on alcohol reduction models can lead to healthful outcomes for youth. **Funding sources:** National Cancer Institute of Canada. Canadian Cancer Society. **Applicable to UK?** (if appropriate):
Author and year: Jones 2011 **Study design:** Qualitative **Quality score:** ++ **External validity score: (surveys only)**	**What was/were the research questions:** To explore home smoking behaviours and the motivators and barriers to smoke-free homes among a group of disadvantaged caregivers for young children and to identify the positive levers that healthcare professionals can utilize when supporting smoking behaviour change **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** Grounded theory **How were the data collected:** • **What method(s):** Interview • **By whom:**	**What population were the sample recruited from:** Disadvantaged smoker caregivers recruited from Sure Start Children's Centres **How were they recruited:** Recruited from four (of 16) randomly selected Sure Start Children's Centres. Each participant was offered an inconvenience allowance in the form of a £15 retail voucher **How many participants were recruited:** 22 caregivers (16 mothers, one grandmother and five fathers) **Were there specific exclusion criteria:**	**Brief description of method and process of analysis:** All interviews audio-taped, transcribed verbatim and coded with NVivo. Transcripts were read independently in duplicate and themes and concepts generated using a six-phase open-coding framework process . . **Key themes (with illustrative quotes if available) relevant to this review:** Barriers: • social networks consisting of smokers, barriers to implementing smoke-free homes (conflict with caregiving role, stress "We just, just decided to but we wouldn't dare smoke in front of her, I don't know why. But that when she started crawling around and we're both outside, we didn't really want to leave her in, leave her by herself so . . . then we would smoke in the kitchen and then we just started smoking around her as well." [major theme] (single mother, 16–24 yrs) "Errrr stress really, bringing up four kids and one with, you know, disabilities as well and plus cos I'm like here there and everywhere lately" (single mother, 25–34 yrs) [major theme]	**Limitations (author):** It is possible that even in the one-to-one situation, caregivers may have felt inhibited in discussing their real feelings on some topics due to the moral issues surrounding second hand smoke **Limitations (review team):** No information on recruitment method or researcher role. **Evidence gaps and/or recommendations for future research:** None reported **Funding sources:** Core funding to the UK Centre for Tobacco Control Studies from the British

	Not stated • **What setting(s):** Community • **When:** Between July and September 2009	None stated **Were there specific inclusion criteria:** Aged over 16 years, a smoker, have at least one child under the age of 5 living with them the majority of the time and currently or have recently smoked inside the home **Power calculation** (if applic.)**:**	Facilitators: • smoking restrictions, dislike of homes smelling of smoke, wish to protect children "I think cos if I had to smoke outside and I hate going outside. So I just wanted to stop, and for my daughter as well. It's not very nice for her" (single mother, 16–24 yrs)"Possibly to do it in like a two-step phase, to do that one first and then after a while stop altogether . . . . Make the smoke-free house permanent, smoking outside but then, erm, after a while just give up totally" (Married mother, 25–34 yrs)	Heart Foundation, Cancer Research UK, Economic and Social Research Council, Medical Research Council and the Department of Health **Applicable to UK?** (if appropriate):
Author and year: Joseph 2004a [Community tobacco…] **Study design:** Qualitative **Quality score:** + **External validity score: (surveys only)** +	**What was/were the research questions:** To investigate community tobacco control leaders' attitudes toward harm reduction approaches to tobacco use, to assess benefits and risks associated with these strategies **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Nine structured focus groups (two hour sessions) • **By whom:** Trained investigators (university based) • **What setting(s):** Community [focus groups held at university] • **When:** Autumn 2001	**What population were the sample recruited from:** Community tobacco control leaders in Minnesota, USA 50% female. **How were they recruited:** 110 invited from the membership rosters of tobacco control organisations and recommendations from the Univ. of Minnesota Transdisiciplinary Tobacco Use Research Centre. Incentive of $50 gift certificate. **How many participants were recruited:** 47 (42.7%) **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** None stated **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** Sessions audio-taped, transcribed verbatim and compared to field notes. Same co-moderator and staff assisted at all groups and calibrated themselves in debriefings immediately after each group. Coding and thematic analysis (and selection of illustrative quotes) completed by full team with issues of disagreement resolved by re-examination of source materials. **Key themes (with illustrative quotes if available) relevant to this review:** • Positive and negative provider views about encouraging THR *''…it truly is the addiction that we have to address, and I would be afraid that we would lose sight or track of that.''* Intervention beliefs: • whether NRT helps achieve THR goals, provider-perceptions that NRT causes nicotine addiction	**Limitations (author):** Not generalisable - non-random self-selected sample. Researchers' interests in harm reduction and pressures from other participants may have affected discussion although attempts made to mitigate this and clarify all views were valued. Time constraints sometimes curtailed discussion. **Limitations (review team):** Observations not made in a variety of contexts so triangulation not possible. **Evidence gaps and/or recommendations for future research:** Further research needed before recommending long term nicotine. **Funding sources:** National Cancer Institute.; National Institute Drug Abuse; Robert Wood Johnson Foundation

				Applicable to UK? (if appropriate):
Author and year: Joseph 2004b [Recent quitters' interest…] **Study design:** Cross sectional survey **Quality score:** + **External validity score: (surveys only)** ++ (to older males with health problems)	**What was/were the research questions:** To describe smokers' interest in making another quit attempt, medication preferences for use in future quit attempts, and interest in harm reduction strategies, specifically concurrent smoking and NRT; the preferred interval to repeat quit attempts. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** Stages of change (Prochaska) **How were the data collected:** • **What method(s):** Structured telephone interview (pretested) at least three months after prescription for quit attempt. • **By whom:** University researchers • **What setting(s):** Medical centre • **When:** Not stated	**What population were the sample recruited from:** Smokers having made a recent quit attempt at a medical centre in Minneapolis, USA 90% male. Mean age 55.8 (range 25-86), av. duration of smoking 40 years, 46% with several medical problems. **How were they recruited:** Random sample of 391 from list of 2,340 potential participants who had received ≥1 prescription for nicotine patch/gum or bupropion. **How many participants were recruited:** 301/391 (77%) **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** None stated **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** Percentage responses to questions. **Key themes (with illustrative quotes if available) relevant to this review:** *Key findings[Smokers and family]:* • Intervention beliefs: whether NRT helps achieve THR goals • Perceptions that THR weakens cessation message	**Limitations (author):** Not generalisable beyond older males with health problems. Self reported information and potentially subject to social desirability bias; risk of recall bias; risk of bias re non-respondents. **Limitations (review team):** Unclear why so many males in a randomly selected population. Abstract says 75.8% response rate. **Evidence gaps and/or recommendations for future research:** None stated. **Funding sources:** Veterans' Administration Health Services Research and Development; National Cancer Institute; National Institute Drug Abuse. **Applicable to UK?** (if appropriate): Community based so likely for older male population with health problems.
Author and year: Joseph 2005 **Study design:** Cross sectional survey [Baseline data from RCT - Joseph 2008 Review 3]	**What was/were the research questions:** To assess self initiated reduction prior to enrolment (in a smoking reduction trial) and determine predictors of that behaviour.	**What population were the sample recruited from:** Adult smokers with heart disease in Minneapolis, USA. **How were they recruited:** Entire cohort recruited to the RCT by advertising in	**Brief description of method and process of analysis:** Re pre-enrolment reduction: logistic and linear regression to determine factors associated with (i) occurrence of spontaneous reduction and (ii) amount of reduction. Multivariate analysis to look at predictors. **Key themes (with illustrative quotes if available) relevant to this review:** *Key findings[Smokers and family]:*	**Limitations (author):** All patients had heart disease and this might lead them to exaggerate past smoking levels. Largely male population. **Limitations (review team):**

Quality score: **+** **External validity score: (surveys only)** +	**What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Demographic, medical, smoking history and biochemical markers • **By whom:** University researchers • **What setting(s):** Community • **When:** Not stated	newspapers, radio and posters at two medical centres. **How many participants were recruited:** 152 of 181 eligible (84%) **Were there specific exclusion criteria:** None stated. **Were there specific inclusion criteria:** Aged 18-80; smoke ≥15 CPD; One of 11 cardiovascular disorders; Uninterested or unwilling to set quit date in next 30 days. **Power calculation** (if applic.)**:**	Intervention beliefs: tobacco-reduction assisted by NRT improves health	Self report re history and major risk of reporting bias. **Evidence gaps and/or recommendations for future research:** Future analyses of treatment results. **Funding sources:** National Cancer Institute and National Institute Drug Abuse **Applicable to UK?** (if appropriate): Yes - community based study.
Author and year: Keizer 2009 **Study design:** Before and after cross-sectional surveys (different samples pre- and post) **Quality score:** **–** **External validity score: (surveys only)** +	**What was/were the research questions:** To study the effect of a partial smoking ban (smoking allowed in a single room only) on psychiatric patients and staff members **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** Trans-theoretical model of change **How were the data collected:** • **What method(s):** Questionnaire administered at interview **By whom:** University hospital (psychiatry) researcher and a psychologist • **What setting(s):**	**What population were the sample recruited from:** In-patients and staff at a university psychiatric hospital in Geneva, Switzerland. **How were they recruited:** Patients and staff on the wards during the study period. **How many participants were recruited:** Pre intervention - 91 inpatients and 110 staff members Post-intervention - 134 inpatients and 85 staff members. Response rate for patients = 134/262 eligible (51%) 77 interviewed at day 10 (29%) For staff 85/104	**Brief description of method and process of analysis:** Percentages and p values for socio-demographic variables, diagnoses, smoking prevalence, severity of nicotine dependence, stage of change, smoke-related perceptions, variations after admission plus motivations and factors leading to increase/decrease of smoking (2005 only). **Key themes (with illustrative quotes if available) relevant to this review:** Barriers: • boredom, stress, smokers perceived dependence and nicotine addiction *Note:* For the purposes of this review, only the results regarding motivations to increase or decrease smoking on psychiatric inpatients were extracted	**Limitations (author):** Not a longitudinal study and degree of overlap between patients and staff interviewed pre and post is unknown. One of the units excluded from analysis in 2005 due to different smoking regulations. Self report only. **Limitations (review team):** Before and after study design with different samples and fair amount of attrition. High risk of confounding. **Evidence gaps and/or recommendations for future research:** None stated. **Funding sources:** Not stated **Applicable to UK?** (if

	University psychiatric hospital • **When:** Pre measures in 2001, smoking restrictions introduced in 2002, post measures in 2005 (interviews on day 3 and 10).	questionnaires analysed (82%) **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** Consent from principal care giver (for patients). **Power calculation** (if applic.)**:**		appropriate): Some differences from UK hospital settings but likely to be similar issues relating to smoking bans.
Author and year: Kurko 2009 **Study design:** Cross sectional survey **Quality score:** **+** **External validity score: (surveys only)** ++	**What was/were the research questions:** Perceptions of NRT products' role and usage patterns approx one year after deregulation from pharmacy-only to general sales; Also motivation to serve and counsel customers purchasing NRT products. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Mailed pre-tested survey • **By whom:** University, pharmacy and pharmaceutical researchers • **What setting(s):** Community pharmacy • **When:** November 2006; Reminder January 2007	**What population were the sample recruited from:** Pharmacy owners and staff in Finland. Recruited population representative of all pharmacists in Finland. **How were they recruited:** By mail to 2,291 pharmacists from the registers of three national pharmacists' professional associations (covering 93% of all staff and 100% of all owners). **How many participants were recruited:** Response rate 1,190/2,291 = 54% **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** None stated **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** Percentage responses. **Key themes (with illustrative quotes if available) relevant to this review:** • Providers understanding of NRT for THR use	**Limitations (author):** Specialised pharmacists for asthma, diabetes and cardiovascular diseases responded more readily and may have increased positive response to cessation and its importance. Questionnaire was lengthy. Survey conducted during period of debate on the topic. Although pre-tested, some of the concepts may not have been understood. **Limitations (review team):** Self report only with no corroboration (eg observation) One author employed by Pfizer and funding from Pfizer. **Evidence gaps and/or recommendations for future research:** None stated **Funding sources:** Finnish Cultural Foundation and Pfizer Oy, Finland. **Applicable to UK?** (if

				appropriate): Yes, community pharmacists
Author and year: Martin 2004 **Study design:** Qualitative **Quality score:** + **External validity score: (surveys only)**	**What was/were the research questions:** To assess experts' opinions about the future of, and potential to improve individual and public health through tobacco harm reduction, the use of novel nicotine containing products purporting to reduce the health risks from cigarette smoking. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Pilot-tested semi-structured telephone interviews • **By whom:** All interviews by a single university researcher • **What setting(s):** Various (telephone interviews) • **When:** June-September 2002	**What population were the sample recruited from:** Professionals from a range of backgrounds with expertise related to tobacco from the USA (n=36) and from other countries (n=4, countries unstated). **How were they recruited:** Email request to list identified from publication authors, an Institute of Medicine THR committee and participants to its hearings, personal knowledge and snowball sampling. **How many participants were recruited:** 29/40 agreed (72.5%) including all four from outside the USA. **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** None stated **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** Three authors jointly transcribed audiotapes and coded themes. **Key themes (with illustrative quotes if available) relevant to this review:** Provider perceptions that THR weakens cessation message	**Limitations (author):** None stated **Limitations (review team):** Very little background re assumptions and role of researcher. Selected sample and researchers may have introduced bias although they claimed that all attempts were made to ensure a wide range of opinions. Study population included both tobacco (5) and pharmaceutical (3) industry employees. Used a very restrictive definition of THR – assuming substitution of nicotine-containing products for cigarettes. All but NRT were out of scope of this review. **Evidence gaps and/or recommendations for future research:** None stated **Funding sources:** Robert Wood Johnson Foundation of Princeton, New Jersey **Applicable to UK?** (if appropriate): Probably not. Majority from the USA where system quite different from the UK.
Author and year: McEwen 2001 **Study design:**	**What was/were the research questions:** To what extent do GPs and	**What population were the sample recruited from:** (1) Random sample of GPs in	**Brief description of method and process of analysis:** Percentage responses to questions. Chi-square and p values to compare GP and practice nurse responses.	**Limitations (author):** Self report **Limitations (review team):**

Cross sectional survey **Quality score:** + **External validity score: (surveys only)** ++	practice nurses: • see it as part of their role to monitor smoking in their patients and to advise and assist on stopping smoking; • recommend and/or prescribe NRT and which forms are most popular; • believe that NRT is effective and cost-effective and what are their views concerning improving its availability • provide assistance to patients in the form of counselling, referral, leaflets or other aids & beliefs about the effectiveness of their advice. To what extent is training in smoking cessation, smoking status, sex and age related to the above issues. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Two separate postal surveys - (1) GPs, (2) Practice Nurses. Both with pre-tested questionnaires • **By whom:** University researchers • **What setting(s):** General practice	the UK. 68% male. (2) Practice nurses from a random sample of GP practices in the UK **How were they recruited:** Department of Health GP database **How many participants were recruited:** (1) 303/495 = 61%; 75% based on those who received the questionnaire (2) 459/494 = 93%; 96% based on those who received the questionnaire **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** None stated **Power calculation** (if applic.)**:** None provided	**Key themes (with illustrative quotes if available) relevant to this review:**	Representative and large sample. Very well conducted survey; though by the nature of the design lacking contextual data as well as self report only. **Evidence gaps and/or recommendations for future research:** **Funding sources:** Health Education Authority **Applicable to UK?** (if appropriate): Yes

	• **When:** Jan-March 1999			
Author and year: Nguyen 2009 **Study design:** Cross sectional survey **Quality score:** **+** **External validity score: (surveys only)** ++	**What was/were the research questions:** Analysing situations in which intermittent smokers (former daily smokers and those who had never smoked daily) were likely to smoke. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Questionnaire interview. A supplementary survey within the California Tobacco Survey • **By whom:** University researchers • **What setting(s):** Community • **When:** 2002	**What population were the sample recruited from:** Subjects (18-29 years old) in the California Tobacco Survey. **How were they recruited:** Each contacted household (response rate 45.7%) was screened for young adults (aged 18-29) who were chosen for extensive interview. N=9,455 for this supplemental survey. **How many participants were recruited** 1,581 of the 9,455 interviewed who were current smokers (for at least 3 years) **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** Current smokers who had smoked for at least three years. **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** Weighted percentages and 95% CI. Some adjusted for age, ethnicity and educational level. **Key themes (with illustrative quotes if available) relevant to this review:** • Barriers: smokers in social network • Facilitators: self-management - smokers structuring and scheduling of smoking	**Limitations (author):** Longitudinal study design would be more appropriate to the question. Not generalisable beyond this age group. Potential recall bias. **Limitations (review team):** Very good cross sectional survey but, as with surveys, self report and subject to recall bias. **Evidence gaps and/or recommendations for future research:** Longitudinal study **Funding sources:** National Cancer Institute **Applicable to UK?** (if appropriate): Yes, community based.
Author and year: Nichter 2008 **Study design:** Qualitative **Quality score:** + **External validity score: (surveys only)**	**What was/were the research questions:** To explore contextual factors contributing to smoking abstinence, relapse and harm-reduction practices. **What theoretical approach (e.g. grounded theory, IPA)**	**What population were the sample recruited from:** Low-income post partum women in a large city, Southwestern USA 62% Anglo American, 25% Mexican American and others. Mean age = 24, 50%	**Brief description of method and process of analysis:** Interviews tape-recorded, transcribed verbatim and coded. Coders given extensive training, and inter-rater reliability tested. Interviewers also wrote up notes and observations within women's homes. Themes and problems with coding discussed at regular research team meetings. **Key themes (with illustrative quotes if available) relevant to this review:** • Barriers: smokers in social network, boredom, stress, lack of	**Limitations (author):** Small sample size. Extensive interviews might have biased womens' views and reports. **Limitations (review team):** Major risk of reporting bias, not least since the same women had been extensively

	does the study take (if specified): – **How were the data collected:** • **What method(s):** Semi-structured interview (1.5 to 2 hours) at 1, 3 and 6 months post-partum in English or Spanish Women paid $20 at end of each interview • **By whom:** University researchers • **What setting(s):** Community • **When:** 2000-2002	married. 34% had not graduated from high school; 27% some post high school education. **How were they recruited:** Participants had been recruited to a study of smoking in pregnancy. **How many participants were recruited:** 44 **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** Income of <$30,000 for a family of four or eligible for Medicaid; Smoker at time of pregnancy **Power calculation** (if applic.)**:**	knowledge about harms of second hand smoke *" Everybody's quick to tell me "don't smoke," but nobody's told me actually what it does. You know, it's just like, I think it's better off that I don't. But they just tell me, "Oh it's bad, and it's bad for your health and it's bad for his health," but they don't tell me why."* • Facilitators: smokers wish to protect children, THR perceived to improve health *, "People say that if you quit smoking, you're gonna gain weight. But I don't think so. I think if you quit smoking, you'll feel more healthy, you'll exercise and be more active, you'll have more energy."*	surveyed during pregnancy as well as post-partum. **Evidence gaps and/or recommendations for future research:** None stated **Funding sources:** Not stated. **Applicable to UK?** (if appropriate): Likely. Community based.
Author and year: Okuyemi 2002 **Study design:** Cross-sectional survey **Quality score:** **+** **External validity score: (surveys only)** +	**What was/were the research questions:** Do a significantly greater proportion of occasional and light smokers engage in smoking reduction strategies than moderate and heavy smokers? **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Interview plus CO measure	**What population were the sample recruited from:** Low income, African American smokers 104 (22%) occasional 176 (36%) light 69 (14%) moderate 135 (28% heavy smokers Occasional or light smokers more likely to be younger and female. **How were they recruited:** Clinical referrals and intercept interviews in the lobby, waiting areas, and designated smoking areas **How many participants were**	**Brief description of method and process of analysis:** Occasional smokers = those who smoked a cigarette on 25 of the last 30 days. Light = ≤10 CPD. Moderate = 11-19 CPD. Heavy smokers = ≥20 CPD. Categorical variables summarised with percentages and continuous variables by means. Chi-square test for categorical variables. ANOVA for global comparisons of the means across four groups. Two-sided p values less than .05 considered statistically significant. Pairwise comparisons with chi-square test for categorical variables and Fisher's least significant difference method for continuous variables. Bonferroni adjustments made for pairwise comparisons. Stepwise logistic regression analysis to predict probability of ≤10 CPD versus >10 CPD. Independent variables included age, gender, education (< high school vs.≥high school), and number of smoking reduction strategies. **Key themes (with illustrative quotes if available) relevant to this review:** Facilitators:	**Limitations (author):** Unclear whether strategies used to avoid escalating cigarette use or to come down from higher levels of cigarette use. Population restricted to African-Americans. **Limitations (review team):** As above. Some reduction strategies not in scope of review. **Evidence gaps and/or recommendations for future research:** What role do metabolic and genetic factors play in ability to maintain smoking

	• **By whom:** Research assistants • **What setting(s):** Inner-city health centre mainly serving a low-income African American population • **When:** Not stated	**recruited:** 484 **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** age ≥18 years, African American, smoked a cigarette in the last 30 days, and smoked ≥100 cigarettes in lifetime **Power calculation** (if applic.)**:** None provided.	• self-management -smokers structuring and scheduling of smoking	reduction? Does engaging in these strategies translates into reduced tobacco-related morbidity and mortality? **Funding sources:** National Cancer Institute (K07 CA90334), Cancer Research Foundation of America,Robert Wood Johnson Foundation (032586) **Applicable to UK?** (if appropriate): Possibly – community based
Author and year: Phillips 2007 **Study design:** Qualitative **Quality score:** **+** **External validity score: (surveys only)**	**What was/were the research questions:** What strategies do smokers and non-smokers use to regulate smoking in their homes and cars? What was the reported impact of smoke-free legislation in Scotland on smoking in the home? What are potential enablers and barriers to reducing children's exposure to secondhand smoke in the home? **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** A "modified" grounded theory approach **How were the data collected:**	**What population were the sample recruited from:** Participants were purposively recruited from Wave 10 of the health education population survey carried out in Scotland. Sampling was carried out based on three characteristics: composition of smokers in the household, socioeconomic group, and sex. **How were they recruited:** Potential participants were invited by the researchers to take part in the study. **How many participants were recruited:** 106 people were invited to take part, 54 respondents were eligible, and 50 of these were interviewed **Were there specific exclusion**	**Brief description of method and process of analysis:** The researchers developed interview topic guides for the three types of participant: smoker living alone or with another smoker, smoker living with a non-smoker, and non-smoker living with a smoker. Respondents used a day grid to describe a typical day in relation to smoking or exposure to smoke. Discussion topics included smoking restrictions, passive smoking, and the smoke-free legislation. Interviews were tape recorded and transcribed. Transcripts were analysed thematically using a modified grounded theory approach, whereby themes were revised iteratively as the fieldwork and analysis progressed. **Key themes (with illustrative quotes if available) relevant to this review:** Barriers: • social networks, lack of knowledge on harms of second hand smoke :"Well they say it does, but I don't believe that is true. It is just one of these things I don't believe, they say people die from passive smoking, I don't accept it" 69 year old man, former smoker Facilitators: • social pressure, smoking restrictions, dislike home smelling of smoke, wish to protect children	**Limitations (author):** Not possible to explore in depth the views and experiences of certain groups who may face particular challenges around addressing secondhand smoke in the home. Retrospective nature of the study, which may have made it difficult for respondents to assess the impact of the legislation on their knowledge, attitudes, and behaviour. It may be that such changes take longer to occur than the period covered in this study. **Limitations (review team):** As above **Evidence gaps and/or recommendations for future research:**

	• **What method(s):** Semi-structured interviews • **By whom:** University researchers • **What setting(s):** Community (respondents' homes) • **When:** June-September 2006	**criteria:** None stated. **Were there specific inclusion criteria:** None stated. **Power calculation** (if applic.)**:** N/A		Not discussed. **Funding sources:** NHS Health Scotland and the Scottish Executive **Applicable to UK?** (if appropriate): Yes – carried out in Scotland
Author and year: Poland 2009 **Study design:** Qualitative **Quality score:** **+** **External validity score: (surveys only)**	**What was/were the research questions:** To understand: (i) the nature and genesis of measures taken by household members to manage environmental tobacco smoke (ETS) in the home; (ii) How social arrangements made in the home re ETS are negotiated, modified, resisted and enforced, by whom and under what circumstances. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – [Power relations within the home] **How were the data collected:** • **What method(s):** Semi-structured interview (90 mins) • **By whom:** Trained interviewer accompanied by chaperone • **What setting(s):**	**What population were the sample recruited from:** Volunteers from a province-wide telephone survey of 1,493 respondents Canada looking at attitudes and behaviours relating to ETS in the home. (Ontario, Canada) – original study not available. **How were they recruited:** Those that agreed at the time of the survey to be re-contacted and who met the inclusion criteria. Paid $30 for participation. **How many participants were recruited:** Interviews at 15/33 eligible households (45.5%) **Were there specific exclusion criteria:** **Were there specific inclusion criteria:** Household contains at least one resident child (<18 years) and at least one resident smoker. Some measures at	**Brief description of method and process of analysis:** Interviews tape-recorded and transcribed within a detailed protocol. Observational data also collected within the home unless interview carried out elsewhere (4 cases). Themes identified by interviewer in collaboration with principal and co-investigators. **Key themes (with illustrative quotes if available) relevant to this review:** Facilitators: • smokers structuring and scheduling of smoking, *'so I find that a smoke free home is better for me..cause I have to get up..I have to postpone it* • smokers wish to protect children, worries of harm to own health from smoking	**Limitations (author):** None stated **Limitations (review team):** Small sample only of 'enthusiasts' – ie efforts had been made to reduce ETS. Only just under half of eligible households interviewed. Unclear but possible that coding and themes were carried out by a single researcher only. **Evidence gaps and/or recommendations for future research:** Interview smokers, non smokers and children in households to get wider perspectives. Study relapses as well as successes in ETS reduction and further exploration of influence of space in the home. **Funding sources:** Ontario Tobacco Research Unit **Applicable to UK?** (if appropriate):

	Community (homes of participants) • **When:** 2000	least had been taken to limit ETS in the home. Viable telephone number. **Power calculation** (if applic.)**:**		Likely - community based.
Author and year: Ratschen 2010 **Study design:** Qualitative **Quality score:** + **External validity score: (surveys only)**	**What was/were the research questions:** To explore inpatients' experience with a smoke-free policy, their smoking behaviour, dependence, withdrawal and related issues. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** Analysis undertaken with a special focus on environmental and cognitive and affective individual factors facilitating or impeding health behavioural change **How were the data collected:** • **What method(s):** Semi-structured interview (**By whom:** University researchers an assistant who took short hand notes to record interview discussions • **What setting(s):** Mental health acute ward • **When:** Between May and June 2008	**What population were the sample recruited from:** Two mental health acute inpatient wards **How were they recruited:** All eligible inpatients from two wards were invited to participate **How many participants were recruited:** 15 mental health inpatient smokers (11 female and 7 male). **Were there specific exclusion criteria:** - **Were there specific inclusion criteria:** Smokers capable of giving informed consent **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** Interviews were recorded by short-hand notes, incase tape recording impacted on patients condition. Notes were transcribed into verbatim text and analyzed in a framework approach. Themes were identified by two researchers and then coded into higher-order categories. **Key themes (with illustrative quotes if available) relevant to this review:** • Barriers: boredom, smokers perceptions they are not offered THR advice or assistance • Facilitators: desire to reduce smoking • Intervention beliefs: helpfulness of behavioural interventions, lack of knowledge NRT can be used for THR "Yes, I think I would go along [if a group on smoking cessation was offered]. It's on your mind anyway, but if it was there then it would probably make you think "Well I can't smoker, so…(female, acute ward)"	**Limitations (author):** Generalizability of the results is limited. Preliminary data on nicotine withdrawal need to be viewed with caution as none of the participants actually abstained from smoking. **Limitations (review team):** Whilst there is a clear rationale for taking short-hand notes rather than tape-recording interviews, it is not clear what measures the researchers made to maximise the accuracy of the notes taken. **Evidence gaps and/or recommendations for future research:** Further research in this area is needed to determine the applicability of nicotine withdrawal scales in this population **Funding sources:** University of Nottingham and by the Medical Research Council **Applicable to UK?** (if appropriate): Yes – England mental health trust

Author/Year: Ratschen 2009 **Study design:** Cross-sectional survey **Quality score:** + **External validity score: (surveys only)** ++	**What was/were the research questions:** The aims of this study were: 4. To investigate staff knowledge and attitudes relating to smoking prevalence, dependence, treatment and the relationship between smoking and mental illness **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Self-complete questionnaire • **By whom:** Researchers • **What setting(s):** Mental health services, UK • **When:** March 2007	**What population were the sample recruited from:** Mental health services employees from 25 inpatient units of a single NHS Trust city catchment area **How were they recruited:** Survey mailed to all clinical staff involved in patient care. Questionnaire completion was encouraged by advertising the survey in the internal Trust magazine and intranet and by offering a £5 gift voucher to all respondents. Two follow-up letters were sent to nonrespondents. **How many participants were recruited:** 459 questionnaires returned (68% response). **Were there specific exclusion criteria:** Two mental health service wards were excluded as previous exploratory work and piloting of the questionnaire used for the survey had been carried out on them. **Were there specific inclusion criteria:** Mental health workers involved in patient treatment and care, including registered nurses, healthcare assistants, occupational and other therapists, psychiatrists and psychologists.	**Brief description of method and process of analysis:** Questionnaires were coded, entered and analyzed in SPSS and descriptive statistics used to obtain means, standard deviations, medians and proportions. Univariate and multivariate analysese were performed. **Key themes (with illustrative quotes if available) relevant to this review:** Barriers: • Workplace administrative barriers (lack of time) • Provider perceptions that NRT harms smokers' health Facilitator: • Providers perceive THR advice to be part of their role	**Limitations (author):** **Limitations (review team):** Response rate from medical staff was lower (44.3%) than average, which may have introduced self-selection bias to a greater extent than nonmedical staff. **Evidence gaps and/or recommendations for future research:** Further research on the impact of smoking and smoke-free policy training on clinical care is needed. **Funding sources:** University of Nottingham and the Medical Research Council. No conflict of interest reported. **Applicable to UK?** (if appropriate): Yes – UK NHS-based study

Author and year: Richter 2002 **Study design:** Qualitative **Quality score:** + **External validity score: (surveys only)**	**What was/were the research questions:** To identify ways to tailor nicotine dependence treatment to patients; to assess whether smoking reduction and nicotine-maintenance are attractive and potentially harm-reducing options for people who do not consider quitting an option. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** - **How were the data collected:** • **What method(s):** Focus groups (2 hours) and interviews (1 hour); written survey and open-ended questions • **By whom:** University researchers • **What setting(s):** Clinic • **When:** Not stated	**What population were the sample recruited from:** Adults from five methadone maintenance treatment sites in Kansas, USA. Mean age 43.6, 57.7% female, 78.2% white, 5.2% 1-8 years education and 15.6% degree or higher education. Included 34 continuous smokers (never quit for >24 hours), 34 relapsers (previous quit for >24 hours) and 10 successful quitters. **How were they recruited:** Via screening at the clinics. Paid $40 and given a meal at focus groups. **How many participants were recruited:** 78 from 111 eligible (70.3%) and 149 screened. **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** ≥18 years; smoking ≥5CPD for ≥2 years; continuously enrolled in methadone maintenance treatment for at least 2 years. **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** Demographic data collected via survey. Interviews conducted, audio-taped and coded by two researchers. Inter-rater reliability tested for 24 key codes. **Key themes (with illustrative quotes if available) relevant to this review:** • Facilitators: social pressure, perception that smoking is expensive, perceived harm to health "I still want to smoke but I feel like if I don't smoke as many it won't hurt my breathing as bad, as fast, as quick. Methadone, you could be on 100mg or you could be on 10mg, you are still on it, but with methadone there is no real health hazard, it is not tearing your body apart like cigarettes." • perceived confidence in ability to achieve smoking goal, perception that smoking reduction leads to cessation • Intervention beliefs: smokers beliefs on whether NRT helps achieve THR goals "being able to take some sort of positive action by removing the fear and panic inherent in committing to quit completely" "avoid treating cigarettes like a 'forbidden fruit' so that they wouldn't think about smoking all the time"	**Limitations (author):** Self report. Non-random sample **Limitations (review team):** As above, plus clinic-based and participants paid and fed. **Evidence gaps and/or recommendations for future research:** Further exploration of views from staff and providers **Funding sources:** Center for Substance Abuse Prevention; National Institute on Drug Abuse; Robert Wood Johnson Foundation Generalist Physician Faculty Scholar Award. **Applicable to UK?** (if appropriate): Unclear - differences in drug treatment services.
Author and year: Robinson 2010 **Study design:** Secondary analysis of two qualitative studies	**What was/were the research questions:** Who, when and why people still expose other adults and children to second-hand	**What population were the sample recruited from:** 1) Four socially and economically contrasting areas in Scotland	**Brief description of method and process of analysis:** The longitudinal study used semi-structured in-depth interviews to explore participants' changing smoking behaviours, including their understanding of, and exposure to, second-hand smoke at four points prior to and after the smoking legislation. The research took place in four	**Limitations (author):** None given **Limitations (review team):** The analytical method wasn't very thoroughly described.

Quality score: **+** **External validity score: (surveys only)**	smoke in home environments, and how this intersects with changing public health policy **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** Gendered analysis **How were the data collected:** • **What method(s):** Two qualitative studies: 1) A longitudinal study using semi-structured interviews at four time points 2) Semi-structured interviews carried out at one time point • **By whom:** Both university researchers • **What setting(s):** Community • **When:** 1) October 2005-March 2007 2) June-September 2006	2) Purposive sampling from Wave 10 of the health education population survey carried out in Scotland. Sampling was carried out based on three characteristics: composition of smokers in the household, socioeconomic group, and sex. **How were they recruited:** Not reported in this paper **How many participants were recruited** 85 across both studies **Were there specific exclusion criteria:** None reported **Were there specific inclusion criteria:** None reported **Power calculation** (if applic.)**:**	socially and economically contrasting areas in Scotland. In the second study participants took part in semi-structured interviews in their homes post-legislation to discuss their daily patterns of smoking, attitudes towards smoking and second-hand smoke, and whether they had introduced any home smoking restrictions. The secondary analysis for the present study was undertaken with a reflexive team, where ideas and assumptions were discussed through face-to-face meetings and telephone conferences. The analysis aimed to identify gendered factors, differences and issues to explore how they relate to, and perhaps clarify, other findings from the research. Tentative themes were indentified through a constant questioning of the data using a gender lens and by comparing cases, and scrutinising any negative cases. To further explore the links between gender and home smoking the researchers focused on the 30 people across both studies, of working age, who lived with at least one non-smoker, including children, and who still smoked in their homes. **Key themes (with illustrative quotes if available) relevant to this review:** Barriers: • boredom, stress "If you're stressed, you know you come home from work and if you've been stressed, if you've had a stressful day it's nice to sit down with a cup of tea and a cigarette and that's it. " " I would say probably [smoking] more because I am doing nothing, so I am constantly. I don't know, I can't even think to every hour, I would say practically every half hour during the weekend, aye I am really bad at the weekend, where I'm like, where it would be constantly lighting up" Facilitators: • scheduling of smoking (delay) and smoking restrictions "RES: I sometimes find I do things to slow the smoking down, you know I will get up and go and maybe clean the bathroom for a bit, come back and then.INT: Why do you try and do that? RES: Just for something. if you are sitting in front of the television I would smoke more than I would normally smoke during the day, instead of having one an hour, it could be one every 45 minutes or something. So I try and stretch it out"	**Evidence gaps and/or recommendations for future research:** There needs to be a deeper understanding of how and why women and men still smoke in their homes, and clearer messages to all smoking adults, particularly the parents of children, as to how they could act to protect their children, which may involve co-operatively supporting their partner to smoke outside, rather than simply taking their own smoking outside. **Funding sources:** NHS Health Scotland **Applicable to UK?** (if appropriate): Yes – two original studies were both carried out in Scotland.
Author and year:	**What was/were the research**	**What population were the**	**Brief description of method and process of analysis:**	**Limitations (author):**

Schultz 2009 **Study design:** Cross sectional survey **Quality score:** + **External validity score:** (surveys only) +	**questions:** To conceptualize and test a theoretical model that depicts relationships among factors believed to influence nurses' engagement in tobacco reduction activities to address patients' tobacco use, which includes, but are not limited to, harm reduction studies. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** Organizational Behaviour Theory **How were the data collected:** • **What method(s):** Pre-tested survey • **By whom:** University researchers • **What setting(s):** Hospital • **When:** Not stated	**sample recruited from:** Registered nurses at two tertiary acute care hospitals with smoke free policies in British Columbia, Canada Median age 40 (SD 10.4, range 22-64); 95% female; 53% never smokers, 30% former smokers, 17% current smokers. **How were they recruited:** Flyers concerning the study in the hospital sites **How many participants were recruited:** 186 participants: 82 inpatients and 104 providers (support or ward staff, healthcare providers and policy makers) **Were there specific exclusion criteria:** None stated **Were there specific inclusion criteria:** Employed at the study hospital for at least 6 months; Worked at least one shift during the two-month data collection period on an adult in-patient ward covered by the study. **Power calculation** (if applic.)**:**	Conceptualised and tested theoretical model depicting relationships among factors believed to influence nurses' engagement in tobacco reduction activities. Survey data were used to test the model. Principal component factor analysis informed item inclusion decisions and was followed by a test of internal consistency. Descriptive statistics and Cronbach's alpha (where appropriate) for non-categorical variables. (Key variables = workplace behaviour, perceived barriers, role attitude, workplace climate, individual) **Key themes (with illustrative quotes if available) relevant to this review:** • Facilitators: providers perceive THR advice to be part of their role, confidence in ability to provide THR interventions, providers perceive workplace environment to be supportive of THR	Although psychometric testing was conducted for the scales used, the results suggest that further development is necessary. Low response rate in one site[i]; self report only **Limitations (review team):** Model used same dataset to develop and test fit; so results are likely to be an over-estimate. Although the sites were very different[ii] results were analysed together. **Evidence gaps and/or recommendations for future research:** To replicate the study and test the entire model under a more stringent structural model context **Funding sources:** Canadian Institute of Health Research; Heart & Stroke Foundation **Applicable to UK**? (if appropriate): Some differences in smoking advice services ---------- i. Comparisons suggested samples were representative other than a higher percentage of full time nurses in the Site A sample as compared to the hospital as a whole. ii. Site B nurses had access to NRT, an in-hospital referral

				programme and an established community programme. Site A nurses had no such access.
Author and year: Schultz 2011 **Study design:** Qualitative **Quality score:** ++ **External validity score: (surveys only)**	**What was/were the research questions:** To explore perspectives on and experiences with tobacco dependence and managing the use of tobacco. Impressions of the smoke-free policy. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Interviews, focus groups, observations and document review. • **By whom:** Principal investigator and research assistants; University and health authority-based authors • **What setting(s):** Teaching hospital • **When:** December 2008-May 2009 [including cold Canadian winter]	**What population were the sample recruited from:** Patients, staff and policy makers at two tertiary acute-care hospitals in Canada with smoke free policies. **How were they recruited:** Convenience, purposive and stratified quota sampling. Posters and pamphlets to recruit volunteers plus specific requests. **How many participants were recruited:** 186 including 82 in-patients from 8 wards, 9 key policy makers, 14 support staff; Also 81 health care providers and ward staff within focus groups. **Were there specific exclusion criteria:** – **Were there specific inclusion criteria:** Able to speak and understand English and to give informed consent. **Power calculation** (if applic.)**:**	**Brief description of method and process of analysis:** Audio-recordings transcribed verbatim; notes from observations. Also analysis of documents from study wards. Study team collaboration to generate themes from sample of transcripts. Project manager coded remaining transcripts. Final themes and sub-themes reviewed by project team. Blind recoding of one-third transcripts; >85% agreement. Perspectives from different stand-points kept separate. Responses to demographic questions given as frequencies. **Key themes (with illustrative quotes if available) relevant to this review:** • Barriers: smokers in social network, boredom, stress • Intervention beliefs: understanding of NRT for THR use • Smokers perceptions they are not offered THR advice or assistance by healthcare providers *"I know there are some people who are trying to quit, but if all the nurses ask if is you smoke, they don't ask you if you are trying to quit or that kind of question. So if they could ask that, then they would know that you want that and you could get help."* *Researcher: So they offered you the patch? Respondent: I kind of asked for it. Researcher: As far as you remember, nobody at the hospital offered you a patch or any other kind of NRT. Respondent: No. I got my mom to get me nicorette gum, but when they found out…they told me no. I had to get it approved.* *"I think that they should have support for patients in the hospital" (Provider) "When they do training for nurses, they should also make that something important they should learn about too and be educated on smoking because it does have to do with people's health … A lot of people die over smoking and second hand smoke, and they should have something … that educates them about smoking, so they can help patients who are admitted to asking those kinds of questions about smoking"*	**Limitations (author):** Only two study sites. Cross-sectional so can't explore how effects of policies change over time. **Limitations (review team):** As above. **Evidence gaps and/or recommendations for future research:** None stated **Funding sources:** Strategic Initiative Advancing the Science to Reduce Tobacco Use in partnership with the Canadian Institutes of Health Research, Canadian Cancer Society, National Cancer Institute of Canada, Heath Canada, Heart and Stroke Foundation, Canadian Lung Association **Applicable to UK?** (if appropriate): Hospital setting. Policies and cultures may differ.
Author and year: Shiffman 2007 **Study design:**	**What was/were the research questions:** What interest do smokers have	**What population were the sample recruited from:** Adult daily smokers in USA.	**Brief description of method and process of analysis:** Sample weighted to be representative of US population of smokers aged ≥18. Chi-square to compare groups. One-sample test of proportions to	**Limitations (author):** Reported intention rather than behaviour. Survey data

Cross-sectional survey **Quality score:** **+** **External validity for surveys)** +	in using an NRT product for reducing their smoking, either as a vehicle for moving toward cessation or as a means of reducing harm? **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** – **How were the data collected:** • **What method(s):** Telephone interview using questions developed for this survey and not previously tested. • **By whom:** Interviewers who announced themselves to be from a national public opinion research company. • **What setting(s):** Community • **When:** March and April 1998	50% male;78% white; 57% previously tried to reduce their smoking **How were they recruited:** Random digit dialling using numbers provided by Survey Sampling International. **How many participants were recruited:** 1000 **Were there specific exclusion criteria:** Working in advertising, market research, pharmaceuticals, doctor's office, hospital, clinic, or tobacco industry. **Were there specific inclusion criteria:** Smokers aged ≥18 years **Power calculation** (if applic.)**:**	determine if smokers thought cessation differed from reduction for improving health; and test for differences in preference for quitting versus reduction. Bowker's test of symmetry to determine if smokers differed on interest in products to aid smoking cessation. **Key themes (with illustrative quotes if available) relevant to this review:** • Facilitators: smoking reduction leads to cessation, worries of harm to own health from smoking • Intervention beliefs: whether NRT helps achieve THR goals	collected almost ten years before publication. No information on response rate, **Limitations (review team):** As above **Evidence gaps and/or recommendations for future research:** None stated. **Funding sources:** GlaxoSmithKline (GSK) and National Institute for Drug Abuse. Of the six authors, one is a GSK employee, four are consultants to GSK one has received funding from several companies. Two authors also have financial interests in developing new NRT medications. **Applicable to UK?** (if appropriate):
Author and year: Stewart 2011 **Study design:** Qualitative **Quality score:** + **External validity (surveys only)** +	**What was/were the research questions:** What are the support needs and intervention preferences of low income women who smoke? **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** Participatory research **How were the data collected:** • **What method(s):**	**What population were the sample recruited from:** Women living in one of three large Canadian cities. Average age 37; >75% never married/widowed/separated/ divorced; most were single parents with ≥2 children. >50% did not complete high school. Most were not in paid employment. All lived below low-income cut off level for family size. Most smoked 10-	**Brief description of method and process of analysis:** Interviews audio recorded, transcribed verbatim and subjected to thematic analysis. Preliminary framework for coding developed by investigators derived from themes and sub-themes in initial interviews and modified as interviews progressed. Research assistants achieved minimum 80% inter-rater reliability before moving to independent coding. Regular meetings to enhance consensus on framework revisions and reliability. **Key themes (with illustrative quotes if available) relevant to this review:** • Barriers: smokers in social network, stress, perceived low ability in achieving smoking goal *"Everyone that I know in my life still smokes. They've been smoking for a*	**Limitations (author):** None stated. **Limitations (review team):** Unclear when and where interviews conducted and no consideration of researcher role. **Evidence gaps and/or recommendations for future research:** Future intervention studies could build on vulnerable

	Nine semi-structured group interviews in three sites using 29-item guide reviewed by National Advisory Committee and pilot tested with two women at each site. • **By whom:** Investigators were based in universities and women's health centres • **What setting(s):** Community • **When:** Not stated	20 CPD. **How were they recruited:** Purposive sampling via community agencies and provincial organisations to represent varied low-income and demographic characteristics **How many participants were recruited:** 64 (21 in Edmonton, 23 in Winnipeg and 20 in Vancouver) **Were there specific exclusion criteria:** None stated. **Were there specific inclusion criteria:** English speaking women smokers aged 20-70 years, living on low incomes in urban areas of Western Canada, not involved in other tobacco cessation interventions and not currently pregnant.	*long time and it makes it hard for me to quit. Because, you know as a child, you watch everything around you, you see women, everybody else smoking around you. And what you see is what you do."* *"Some ways of managing stress … the stress level seems to go way up higher than it would normally if you were just to go and have a cigarette. How are we going to deal with that feeling?* *"I think if we had our yoga three times a week, we probably might quit … cause when you do things like that, you start to care more about yourself … it makes you more aware of your body. When you're bending and everything, you get more relaxed. You're not as stressed."* • Facilitators: social pressure, social support, worries of harm to own health from smoking *"I'd like to be able to quit smoking because of my kids. They don't smoke and they don't like the cigarettes around; they think it's disgusting … I feel like I'm guilty smoking around them."* *"Probably my brother would be there (for me) 'cause he doesn't smoke. I could phone him up and talk to him about it, so he'd probably support me there."* • Intervention beliefs: perceived cost of NRT, helpfulness of behavioural interventions, assistance to attend support groups *"In group sessions there is interaction, commonality, familiarity, and people draw closer. There's like a bridge, you know, and there's not all those gaps and whatever, and there's understanding between each person. Support between persons, encouragement, and friendships can arise."* , *"Okay, I can't tell you what to do because I know it's hard to have somebody dictate to you what you need to do to stop, but these are the things that helped me … these are the steps that I took to get away from that situation."*	women's preferences. **Funding sources:** Not stated. **Applicable to UK?** (if appropriate): Yes
Author and year: Thomsen 2009 **Study design:** Qualitative **Quality score:** –	**What was/were the research questions:** How do women smokers with newly diagnosed breast cancer experience a brief preoperative smoking cessation intervention in relation to breast cancer surgery?	**What population were the sample recruited from:** Women smokers with breast cancer in capital region of Denmark Aged 40-72 years (median 50). **How were they recruited:** From intervention group	**Brief description of method and process of analysis:** Interviews tape recorded and transcribed verbatim. Analysis carried out using Ricoeur's theory of interpretation further developed by Lindseth and Norberg separately by three researchers who subsequently met to agree analyses. Themes then developed by one researcher before discussion and agreement with three researchers. **Key themes (with illustrative quotes if available) relevant to this review:** • Barriers: stress	**Limitations (author):** Lead author counselled 11/12 participants as well as recruiting and analysing data for this study. **Limitations (review team):** As above. Potential response bias. **Evidence gaps and/or**

	What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified): Descriptive study drawing on hermeneutical reflection **How were the data collected:** • **What method(s):** Interview • **By whom:** Nurse trained in smoking cessation counselling • **What setting(s):** Three breast surgical departments in the capital region of Denmark. • **When:** April-December 2007	patients in an RCT on effect of brief smoking cessation counselling before breast cancer surgery on postoperative complications and smoking cessation. **How many participants were recruited:** 11 **Were there specific exclusion criteria:** **Were there specific inclusion criteria:** Women smokers with newly diagnosed breast cancer; breast cancer surgery within the previous 3 month, who received smoking cessation counselling before breast cancer surgery, with sufficient language proficiency.	• Facilitators: perception smoking is expensive, displeasure with smoking, worries of harm to own health *"I want to be well again and live a healthy life. The most important thing is to be able to be here for my kids and not to pollute them with my smoking".*	**recommendations for future research:** Further study to examine the impact of gender on preoperative smoking cessation interventions and attempts to stop smoking **Funding sources:** Lundbeck Foundation NRT donated by McNeil Denmark **Applicable to UK?** (if appropriate): Yes
Author and year: Warner 2003 **Study design:** Cross-sectional survey **Quality score:** + **External validity (surveys only)** +	**What was/were the research questions:** To evaluate the grassroots tobacco control community's knowledge, opinions and beliefs about THR. **What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):** - **How were the data collected:** • **What method(s):** Web/mail survey and telephone survey of a sample of non-respondents	**What population were the sample recruited from:** US based registrants for the 2001 National Conference on Tobacco or Health (activists, educators, researchers, medical professionals, policy makers), **How were they recruited:** Email invitation with paper based survey sent to participants who had not accessed the web site after three weeks. **How many participants were recruited:** 2,051 of 2,833 registrants had	**Brief description of method and process of analysis:** Percentage response rates. Likert scales for some responses. Chi-square tests to evaluate differences in findings across respondent types (researcher/scientist or activist/advocate & national/international or state/local). **Key themes (with illustrative quotes if available) relevant to this review:** • Provider-perceptions that NRT harms smokers health	**Limitations (author):** May be some differences in conference attendees compared to the whole community **Limitations (review team):** As above. Uses US definition of THR – assuming substitution of nicotine-containing products for cigarettes. All but NRT were out of scope of this review. **Evidence gaps and/or recommendations for future research:**

	• **By whom:** University researchers • **What setting(s):** Tobacco control community • **When:** October-November 2002	email addresses (72.4%) Response rate = 1,473 (71.8%). Adjusted for non-eligible = 67% Random sample of 200 non-respondents telephoned in January 2003. **Were there specific exclusion criteria:** **Were there specific inclusion criteria:**		**Funding sources:** Robert Wood Johnson Foundation **Applicable to UK?** (if appropriate): USA tobacco control procedures may differ from UK

APPENDIX B: SUMMARY OF QUALITY APPRAISAL – INCLUDED CORRELATION STUDIES **Key to headings (brief summary from Appendix G, NICE 2009):** 1.1 Source population described; 1.2 Eligible population representative of source ; 1.3 Selected population representative of eligible; 2.1 selection bias minimised; 2.2 explanatory variables based on sound theoretical basis; 2.3 contamination acceptably low; 2.4 confounding factors identified and controlled; 2.5 setting applicable to the UK; 3.1 Reliable outcomes; 3.2 Complete outcomes; 3.3 Important outcomes assessed; 3.4 Relevant outcomes; 3.5 Similar follow up times; 3.6 Meaningful follow up; 4.1 Groups similar at baseline; 4.1 study sufficiently powered to detect an effect; multiple explanatory variables considered in the analyses; analytical methods appropriate; precision of association given or calculable; 5.1 Internally valid; 5.2 Externally valid. ++ Minimal bias; +Bias unclear; - Risk of bias; nr Not reported; na Not applicable

Author/ Year	Study design	Population			Method of selection of exposure/comparison group					Outcomes					Analyses				Summary	
		1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	3.4	3.5	4.1	4.2	4.3	4.4	5.1	5.2
Amos 1995	CSS																		–	+
Ashton 2010	MM																		–/–	+
Beard 2011b	CSS																		–	+
Beard 2012a	CSS																		+	+
Beard 2012b	CSS																		+	+
Black 2012	CSS																		+	+
Blackburn 2003	CSS																		–	+
Bolliger 2000	CSS																		+	+
Borrelli 2007	CSS																		–	+
Brotons 2005	CSS																		+	++
Cheong 2007	LS	++	++	+	na	–	++	–	++	–	+	++	++	++	nr	+	++	++	+	++
Cunningham 2008	CSS																		+	++
Estabrooks 2010	MM																		+/+	+
Etter 2011	CSS																		+	–
Foulds 2011	CSS																		–	++
Green 2005	MM																		–/–	+
Hamilton 2000	CSS																		+	++
Joseph 2004b	CSS																		+	++
Joseph 2005	CSS																		+	+

Keizer 2009	CSS																		–	+
Kurko 2009	CSS																		+	++
McEwen 2001	CSS																		+	++
Nguyen 2009	CSS																		+	++
Ratschen 2009	CSS																		+	++
Schultz 2009	CSS																		+	+
Shiffman 2007	CSS																		+	+
Warner 2003	CSS																		+	+

APPENDIX C SUMMARY OF QUALITY APPRAISAL – INCLUDED QUALITATIVE STUDIES

Key to headings (brief summary from Appendix H, NICE 2009): 1.1 qualitative approach appropriate; 1.2 study clear in what it seeks to do; 2.1 defensible/rigorous research design/methodology; 3.1 data collection well carried out; 4.1 role of the researcher clearly described; 4.2 context clearly described; 4.3 reliable methods; 5.1 data analysis sufficiently rigorous; 5.2 'rich' data; 5.3 reliable analysis reliable; 6.1 Convincing findings; 6.2 Relevant findings; 6.3 Conclusions. ++ Minimal bias; +Bias unclear; - Risk of bias; nr Not reported; na Not applicable

Author/ Year	Study design	Approach		Design	Data	Trustworthyness			Analysis			Summary		
		1.1	1.2	2.1	3.1	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3
Abdullah 2011 (+)	Qualitative	++	+	++	++	–	+	+	++	++	++	++	+	++
Ashton 2010 (–)	Mixed methods	++	++	–	+	nr	+	–	–	–	nr	+	++	+
Beard 2011a (+)	Qualitative	++	++	+	+	nr	+	–	++	+	+	+	++	+
Bottorff 2009 (++)	Qualitative	++	++	++	++	+	++	+	++	++	++	++	++	++
Estabrooks 2010 (+)	Mixed methods	++	+	+	+	+	+	+	+	–	+	–	++	+
Green 2005 (–)	Mixed methods	+	++	+	nr	nr	nr	–	nr	+	nr	+	+	+
Herbert 2011 (+)	Qualitative	++	+	+	+	+	+	+	++	+	++	+	++	+
Johnson 2004 (+)	Qualitative	++	++	++	++	–	+	++	+	–	+	+	++	+
Jones 2011 (Q++)	Qualitative	++	++	++	++	nr	++	+	++	++	++	++	++	++
Joseph 2004a (+)	Qualitative	++	++	++	++	+	+	+	+	+	+	++	++	++
Martin 2004 (+)	Qualitative	++	+	++	++	–	–	+	++	++	+	++	++	++
Nichter 2009 (+)	Qualitative	++	+	++	++	+	++	++	++	+	++	++	++	+
Phillips 2007 (+)	Qualitative	++	++	++	++	-	++	+	+	+	+	++	++	+
Poland 2009 (+)	Qualitative	++	++	++	++	–	+	++	++	–	–	++	++	+
Richter 2002 (+)	Qualitative	++	++	++	++	–	+	+	++	+	+	++	++	+
Ratschen 2010 (+)	Qualitative	++	++	++	+	+	++	+	+	++	+	++	++	+

Robinson 2010 (Q+)	Qualitative	++	++	++	+	+	++	+	+	++	+	++	++	+
Schultz 2011 (++)	Qualitative	++	+	++	++	++	++	+	++	++	+	++	++	++
Stewart 2011 (+)	Qualitative	++	++	+	++	–	++	+	++	++	+	+	++	+
Thomsen 2009 (+)	Qualitative	++	+	+	+	–	+	+	++	+	++	+	++	+

APPENDIX D: EXPERT ADVISORY GROUP

Dr Julie Bishop	Consultant in Public Health and currently Acting Director of Health Improvement for Public Health Wales.
Ms Elen de Lacy	Newly appointed Chief Executive of ASH Wales, following a role as Research and Policy Manger.
Dr Keir Lewis	Senior Lecturer at Swansea University and Honorary Respiratory Consultant to the Hywel Dda Health Board, Wales, UK.
Professor Laurence Moore	Professor of Public Health Improvement at Cardiff University, and Director of DECIPHer, a UKCRC Centre Public Health Research Excellence
Ms Helen Poole	Secondary care smoking cessation counsellor at the University Hospital of Wales.
Dr Marianne van den Bree	Reader at Cardiff University in the Department of Psychological Medicine and Neurology.

APPENDIX E: REVIEW TEAM

Staff/Resource Description	Role
Ms Elizabeth Halstead, Centre for Health-Related Research, Bangor University	Study selection, data extraction and coding
Ms Fiona Morgan, SURE, Cardiff University	Searching, study selection, quality assessment, data extraction, report writing.
Dr Helen Morgan, SURE, Cardiff University	Searching, study selection, data extraction and coding
Professor Jane Noyes, Centre for Health-Related Research, Bangor University	Methodological advice, study selection, thematic synthesis.
Ms Ruth Turley, SURE, Cardiff University	Project management, study selection, data extraction and coding, thematic synthesis and report writing
Dr Alison Weightman, SURE, Cardiff University	Project Director. Searching, study selection, quality assessment, data extraction and report writing.
Dr Sarah Whitehead, CISHE, Cardiff University	Study selection, quality assessment, data extraction and coding.

APPENDIX F: SEARCH STRATEGY

The search strategy below was used for effectiveness and barrier/facilitator reviews. It was designed for the Ovid MEDLINE(R) database 1966 to August Week 1 2011 and was adapted for use in the other databases listed in section 2.1.1.

1. Smoking Cessation/ or exp Smoking/ 112950
2. ((Nicotine adj4 (therapy or gum* or inhal* or replace* or lozenge* or tablet* or microtab* or nasal spray* or patch* or delivery device* or delivery system* or gel*)) or ((smok* or tobacco or nicotine or cigarette*) adj10 NRT)).ti,ab. 3472
3. 1 and 2 2800
4. (exp smoking/ or smoking cessation/) and harm reduction/ 156
5. nicotine/th 2
6. (Cigarette* adj2 substitut*).ti,ab. 40
7. ("electronic cigarette*" or e-cigarette* or ecigarette* or ecig* or e-cig* or Intellcig).ti,ab.27
8. (vaping or (personal adj4 vapori?er)).ti,ab. 3
9. (Nicotine adj4 (therapy or gum* or inhal* or replace* or lozenge* or tablet* or microtab* or nasal spray* or patch* or delivery device* or delivery system* or gel*)).ti,ab. 3465
10. (Pastille* and (smok* or tobacco or nicotine or cigarette*)).ti,ab. 0
11. (Nicorette or Nicotinell or Niconil or NiQuitin or Polacrilex or Habitrol or Nicabate or NicoDerm or Nicotex or Nicotrol or ProStep or Quickmist).ti,ab. 195
12. ((Stoppers or Commit or pharmacotherap*) adj3 (smok* or tobacco or nicotine or cigarette*)).ti,ab. 372
13. (Stubit or super-25).ti,ab. 0
14. (pharmacotherapy/ or drug therapy/) and (smok* or tobacco or nicotine or cigarette*).ti,ab. 198
15. (((pre-quit or prequit or "Stop/start" or abstain* or abstinence or reduc* or declin* or quit* or stop* or cess* or cease* or cut down or giv* up) adj4 (smok* or tobacco or cigarette*)) and nicotine).ti,ab. 5085
16. or/3-15 6746
17. *counseling/ or *directive counseling/ or behavior therapy/ or cognitive therapy/ or Self help groups/ 50185
18. (advis* or advic* or counsel* or help line* or helpline* or self help or selfhelp or ((behavio?r* or group or cognitive) adj (support or therap*))).ti,ab. 128768
19. (((mobile or cell*) adj (phone*1 or telephone*1)) or (SMS or short message service or text messag* or instant messag* or videomessag* or video messag* or multimedia messag* or web or internet or computer* or e-mail* or email* or electronic mail* or mailing list*)).ti,ab. 239196
20. *internet/ or *cellular phone/ or *User-computer interface/ or Therapy, Computer-assisted/mt 33263
21. or/17-20 408269
22. smoking cessation/ or ((pre-quit or prequit or "Stop/start" or abstain* or abstinence or reduc* or declin* or quit* or stop* or cess* or cease* or cut down or giv* up) adj4 (smok* or tobacco or cigarette*)).ti,ab. 29968
23. 21 and 22 5821
24. 16 or 23 10954
25. randomized controlled trial.pt. 313813
26. controlled clinical trial.pt. 83155
27. clinical trial.pt. 466468
28. trial.ti,ab. 272946
29. randomi?ed.ti,ab. 279552
30. Random allocation/ or ((randomly adj1 (allocat$ or assign$)) or placebo-controlled or placebo group).ti,ab. 185061
31. "controlled before and after".ti,ab. 331
32. (time adj series).ti,ab. 10470

33. quasi-experiment*.ti,ab. 3683
34. Control groups/ or Evaluation studies as topic/ or ((evaluation or intervention) adj3 (control group or controlled or study or program* or comparison or "before and after" or comparative)).ti,ab. 164284
35. (pre test or pretest or pre-intervention or post-intervention or posttest or post test).ti,ab. 14740
36. ((systematic* adj1 review) or meta analys*).ti,ab. or meta-analysis/ 60586
37. "mixed methods".ti,ab. 999
38. or/25-37 1034277
39. 24 and 38 3685
40. (interviews or interview or interviewed or qualitative or ethnograph* or thematic analysis or grounded theory).ti,ab. 233563
41. ((perception* or perceive* or attitude* or view*1 or viewpoint* or standpoint* or encounter* or experience* or story or stories or narrative*1 or description* or theme* or opinion* or need*1) adj3 (survey* or questionnaire*)).ti,ab. 12123
42. ((field or case) adj (stud* or research)).ti,ab. 46844
43. Focus groups/ or Qualitative research/ or Interviews as topic/ or Questionnaires/ or Interview, Psychological/ or ((focus or discussion) adj group*1).ti,ab. 293785
44. process evaluation/ or process evaluation.ti,ab. 871
45. or/40-44 509964
46. 24 and 45 2094
47. 39 or 46 5125
48. animal/ not (animal/ and human/) 3568174
49. 47 not 48 5112
50. (letter or editorial or historical article).pt. 1269683
51. 49 not 50 5082
52. limit 51 to (english language and yr="1990 - Current") 4468

APPENDIX G: LIST OF INCLUDED STUDIES

Abdullah et al. Second-hand smoke exposure and household smoking bans in Chinese families: a qualitative study. Health and Social Care in the Community 2011

Amos A, White DA, Elton RA, Amos A, White DA, Elton RA. Is a telephone helpline of value to the workplace smoker? *Occupational Medicine* 1995;45(5): 234-8

Ashton M, Lawn S, Hosking JR, Ashton M, Lawn S, Hosking JR. Mental health workers' views on addressing tobacco use. *Australian & New Zealand Journal of Psychiatry* 2010 44(9): 846-51

Beard E, Brown J, West R. Does smoking reduction make smokers happier? Evidence from a cross-sectional survey. *Nicotine Tobacco Research*. In press 2012a

Beard E, Vangeli E, Michie S, West R. The Use of Nicotine Replacement Therapy for Smoking Reduction and Temporary Abstinence: An Interview Study. *Nicotine & Tobacco Research* 2011a

Beard E. Beliefs of Stop Smoking Practitioners in the United Kingdom on the Use of Nicotine Replacement Therapy for Smoking Reduction. *Nicotine & Tobacco Research* 2011b

Beard 2012 *in press*. Use of nicotine replacement therapy in situations involving temporary abstinence from smoking: a national survey of English Smokers. *Nicotine & Tobacco Research* . In press 2012b

Black A, Beard E, Brown J, Fidler J, West R. Beliefs about the harms of long-term use of nicotine replacemnet therapy: perceptions of smokers in England. *Addiction* 2012 107(11):2037-42

Blackburn C, Spencer N, Bonas S, Coe C, Dolan A, Moy R. Effect of strategies to reduce exposure of infants to environmental tobacco smoke in the home: cross sectional survey. *BMJ* 2003; 327: 257-260

Bolliger CT, Bolliger CT. Practical experiences in smoking reduction and cessation. *Addiction* 2000; 95 Suppl 1:S19-S24.

Borrelli B, Novak SP. Nurses' knowledge about the risk of light cigarettes and other tobacco "harm reduction" strategies. *Nicotine & Tobacco Research* 2007; 9(6):653-61

Bottorff JL, Radsma J, Kelly M, Oliffe JL. Fathers' narratives of reducing and quitting smoking. *Sociology of Health & Illness* 2009; 31(2): 185-200

Brotons C, Bjorkelund C, Bulc M, Ciurana R, Godycki-Cwirko M, Jurgova E, et al. Prevention and health promotion in clinical practice: the views of general practitioners in Europe. *Preventive Medicine* 2005; 40(5): 595-601

Cheong Y, Yong HH, Borland R. Does how you quit affect success? A comparison between abrupt and gradual methods using data from the International Tobacco Control Policy Evaluation Study. *Nicotine & Tobacco Research* 2007;9(8):801-10

Cunningham JA, Selby PL, Cunningham JA, Selby PL. Intentions of smokers to use free nicotine replacement therapy. *CMAJ Canadian Medical Association Journal* 2008 15;179(2):145-6

Estabrooks PA, Gaglio B, Morse EF, Smith T, Edwards A, Glasgow RE, et al. Defining and understanding success at smoking reduction: a mixed-methods study. *Addictive Behaviors* 2010 35(12):1113-9

Etter JF, Bullen C. Electronic cigarette: users profile, utilization, satisfaction and perceived efficacy. *Addiction* 2011; 106(11):2017-28

Foulds J, Veldheer S, Berg A. Electronic cigarettes (e-cigs): views of aficionados and clinical/public health perspectives. *International Journal of Clinical Practice* 2011; (e-text ahead of print)

Gaglio B, Smith TL, Estabrooks PA, Ritzwoller DP, Ferro EF, Glasgow RE. Using theory and technology to design a practical and generalizable smoking reduction intervention. Health Promotion Practice. 2010; 11(5): 675-84

Green MA, Clarke DE, Green MA, Clarke DE. Smoking reduction & cessation: a hospital based survey of outpatients' attitudes. *Journal of Psychosocial Nursing & Mental Health Services* 2005 43(5): 18-25

Haddock J, Burrows C. The role of the nurse in health promotion: an evaluation of a smoking cessation programme in surgical pre-admission clinics. *Journal of Advanced Nursing* 1997; 26: 1098-110

Hamilton G, Cross D, Resnicow K. Occasional cigarette smokers: Cue for harm reduction smoking education. *Addiction Research* 2000; 8(5):419-37

Herbert RJ, Gagnon AJ, Rennick JE, O'Loughlin JL, Herbert RJ, Gagnon AJ, et al. 'Do it for the kids': barriers and facilitators to smoke-free homes and vehicles. *Pediatric Nursing* 2011; 37(1): 23-7

Johnson JL, Kalaw C, Lovato CY, Baillie L, Chambers NA, Johnson JL, et al. Crossing the line: adolescents' experiences of controlling their tobacco use. *Qualitative Health Research* 2004; 14(9): 1276-91

Jones LL, Atkinson O, Longman J, Coleman T, McNeill A, Lewis SA. The motivators and barriers to a smoke free home among disadvantaged caregivers: identifying the positive levers for change. *Nicotine & Tobacco Research* 2011; 13(6): 479-486

Joseph AM, Bliss RL, Zhao F, Lando H, Joseph AM, Bliss RL, et al. Predictors of smoking reduction without formal intervention. *Nicotine & Tobacco Research* 2005; 7(2): 277-82

Joseph AM, Hennrikus D, Thoele MJ, Krueger R, Hatsukami D, Joseph AM, et al. Community tobacco control leaders' perceptions of harm reduction. *Tobacco Control* 2004; 13(2):108-13

Joseph AM, Rice K, An LC, Mohiuddin A, Lando H, Joseph AM, et al. Recent quitters' interest in recycling and harm reduction. *Nicotine & Tobacco Research* 2004; 6(6):1075-7

Keizer I, Descloux V, Eytan A. Variations in Smoking After Admission To Psychiatric Inpatient Units and Impact of a Partial Smoking Ban On Smoking and On Smoking-Related Perceptions. *International Journal of Social Psychiatry* 2009; (0020-7640):109-23

Kurko T, Linden K, Vasama M, Pietilae K, Airaksinen M. Nicotine replacement therapy practices in Finland one year after deregulation of the product sales - Has anything changed from the community pharmacy perspective? Health Policy 2009**;**91(3):277-85.

Martin EG, Warner KE, Lantz PM, Martin EG, Warner KE, Lantz PM. Tobacco harm reduction: what do the experts think? *Tobacco Control* 2004; 13(2):123-8

McEwen A, West R, McEwen A, West R. Smoking cessation activities by general practitioners and practice nurses. *Tobacco Control* 2001; 10(1): 27-32

Nguyen QB, Zhu S-H. Intermittent smokers who used to smoke daily: A preliminary study on smoking situations. *Nicotine and Tobacco Research* 2009; 11(2):164-70

Nichter M, Adrian S, Goldade K, Tesler L, Muramoto M. Smoking and harm-reduction efforts among postpartum women. *Qualitative Health Research* 2008; 18(9):1184-94

Phillips R, Amos A, Ritchie D, Cunningham-Burley S, Martin C. Smoking in the home after the smoke-free legislation in Scotland: qualitative study. *BMJ* 2007; 335-553

Poland B, Gastaldo D, Pancham A, Ferrence R. The interpersonal management of environmental tobacco smoke in the home - a qualitative study. *Critical Public Health* 2009; 19(2):203-21

Ratschen E, Britton J, Doody GA, McNeill A. Smoking attitudes, behaviour and nicotine dependence among mental health acute inpatients: an exploratory study. *International Journal of Psychiatry* 2010; 56: 107

Ratschen E, Britton J, Doody GA, Leonardi-Bee J, McNeill A. Tobacco dependence, treatment and smoke-free policies: a survey of mental health professionals' knowledge and attitudes. *General Hospital Psychiatry* 2009; 31: 576-582

Richter KP, McCool RM, Okuyemi KS, Mayo MS, Ahluwalia JS, Richter KP, et al. Patients' views on smoking cessation and tobacco harm reduction during drug treatment. *Nicotine & Tobacco Research* 2002; 4 Suppl 2: S175-S182

Robinson J, Ritchie D, Amos A, Cunningham-Burley S, Greaves L, Martin C. 'Waiting until they got home': Gender, smoking and tobacco exposure in households in Scotland. *Social Science and Medicine* 2010; 71: 884-890

Schultz AS, Hossain S, Johnson JL. Modeling influences on acute care nurses' engagement in tobacco use reduction. *Res Nurs Health* 2009; 32(6): 621-33

Schultz et al. A qualitative investigation of smoke-free policies on hospital property. *CMAJ* 2011; 183(18)

Shiffman S, Hughes JR, Ferguson SG, Pillitteri JL, Gitchell JG, Burton SL. Smokers' interest in using nicotine replacement to aid smoking reduction. *Nicotine & Tobacco Research* 2007; 9(11):1177-82

Stewart MJ, Greaves L, Kushner KE, Letourneau NL, Spitzer DL, Boscoe M, et al. Where there is smoke, there is stress: low-income women identify support needs and preferences for smoking reduction. *Health Care for Women Internationa*l 2011; 32(5):359-83

Thomsen T, Esbensen BA, Samuelsen S, Tønnesen H, Møller AM. Brief preoperative smoking cessation counselling in relation to breast cancer surgery: a qualitative study. *European Journal of Oncology Nursing* 2009; 13(5): 344-9

Warner KE, Martin EG. The US tobacco control community's view of the future of tobacco harm reduction. *Tobacco Control* 2003; 12(4): 383-90

APPENDIX H: EXCLUDED STUDIES WITH REASONS FOR EXCLUSION

Agomo C, Rowlands G, Ashworth M, Reid F. An investigation of nicotine replacement therapy provision by community pharmacists in Wandsworth Primary Care Trust, London. Pharmaceutical Journal 2006;277(7427):609-11.	No discussion of NRT THR purposes
Al-Kattan TW. University students' perspectives on community pharmacy public health services: A qualitative study. *International Journal of Pharmacy Practice* 2011	Conference proceeding & not identified if full paper written
Alberg AJ, Patnaik JL, May JW, Hoffman SC, Gitchelle J, Comstock GW, et al. Nicotine replacement therapy use among a cohort of smokers. Journal of Addictive Diseases 2005;24(1):101-13.	Does not report attitudes
Aldinger C, Zhang XW, Liu LQ, Pan XD, Yu SH, Jones J, et al. Changes in attitudes, knowledge and behavior associated with implementing a comprehensive school health program in a province of China. Health Education Research 2008 **;**23(6):1049-67.	Intervention study and not THR
Asfar T, Ebbert JO, Klesges RC, Klosky JL. Use of smoking reduction strategies among U.S. tobacco quitlines. Addictive Behaviors 2012**;**37(4):583-6.	Does not report attitudes – only prevalence of offering advice to reduce, to limit smoking.
Ashley MJ, Victor JC, Brewster J, Ashley MJ, Victor JC, Brewster J. Pharmacists' attitudes, role perceptions and interventions regarding smoking cessation: findings from four Canadian provinces. Chronic Diseases in Canada 2007;28(1-2):20-8.	Attitudes and opinions regarding smoking cessation advice. Whilst the study did report that one of the interventions offered in the past year was advice regarding cutting down or reducing, the reported attitudes all related to smoking cessation.
Ashley MJ, Ferrence R. Reducing children's exposure to environmental tobacco smoke in homes: issues and strategies. *Tobacco Control* 1998;**7**:61–65	Discussion paper - not qualitative/survey study
Barrett SP, Barrett SP. The effects of nicotine, denicotinized tobacco, and nicotine-containing tobacco on cigarette craving, withdrawal, and self-administration in male and female smokers. Behavioural Pharmacology 2010 **;**21(2):144-52.	Does not examine attitudes towards THR – lab study exploring effect of nicotine on responses and motivation to quit.
Bauer JE, Hyland A, Li Q, Steger C, Cummings KM, Bauer JE, et al. A longitudinal assessment of the impact of smoke-free worksite policies on tobacco use. American Journal of Public Health 2005**;**95(6):1024-9.	Does not examine attitudes. Only reports predictors of different levels of worksite smoking bans on association with reducing or quitting smoking.
Baxter S, Blank L, Everson-Hock E, Burrows J, Messina J, GuillaUme L and Goyder E. The effectiveness of interventions to establish SF homes in pregnancy and in the neonatal period: a systematic review. Health Education Research. 2011; 2: 265-282	Pregnancy and neonatal period not relevant. Effectiveness review rather than views and opinions
Beard E, McNeill A, Aveyard P, Fidler J, Michie S, West R. Use of nicotine replacement therapy for smoking reduction and during enforced temporary abstinence: a national survey of English smokers. Addiction 2011;106(1):197-204.	Does not examine attitudes – consider for appendix of predictors
Beard E, et al. Association between use of nicotine replacement therapy for harm reduction and smoking cessation . Tobacco	Does not examine attitudes – consider for appendix of predictors

Control 2011;Online first.	
Beniart S, Anderson B, Lee S, Utting D. A national survey of problem behaviour and associated risk and protective factors among young people. 2002 Apr 7.	Does not examine views or attitudes regarding THR
Berg CJ, Cox LS, Nazir N, Mussulman LM, Ahluwalia JS, Ellerbeck EF. Correlates of home smoking restrictions among rural smokers. Nicotine & Tobacco Research 2006;8(3):353-60.	Does not examine views or attitudes regarding THR. Consider for appendix of predictors.
Berg CJ, Thomas JL, Guo H, An LC, Okuyemi KS, Collins TC, et al. Predictors of smoking reduction among Blacks. Nicotine & Tobacco Research 2010;12(4):423-31.	Smoking cessation trial. Does not examine views or attitudes regarding THR.
Bolin LJ. A study of two regimens of transdermal nicotine replacement therapy in smoking cessation. Dissertation Abstracts International: Section B: The Sciences and Engineering 1996;(11-B):May.	Smoking cessation not THR
Bonevski B, Bryant J, Paul C. Encouraging smoking cessation among disadvantaged groups: A qualitative study of the financial aspects of cessation. Drug and Alcohol Review 2011;30(4):411-8.	Smoking cessation not THR
Borland R, Owen N, Borland R, Owen N. Need to smoke in the context of workplace smoking bans. Preventive Medicine 1995;24(1):56-60.	Not relevant. Assesses Need to smoke and its association with overall reduction in smoking following worksite ban.
Borland R, Cappiello M, Owen N, Borland R, Cappiello M, Owen N. Leaving work to smoke. Addiction 1997;92(10):1361-8.	No clear intention to reduce smokers consumption. Only provides information that some people are not coping with the ban – without describing specific barriers / facilitators to complying with it.
Bottorff JL, Johnson JL, Carey J, Hutchinson P, Sullivan D, Mowatt R, et al. A Family Affair: Aboriginal Women's Efforts to Limit Second-hand Smoke Exposure at Home. Canadian Journal of Public Health 2010;101(1):32-5.	Only describes mothers efforts to protect children from cigarette smoke. Not reporting smokers views on how they avoid smoking in the home and no indication of effect on smokers cigarette consumption.
Bottorff JL. Oliffe MT, Kelly L, Greaves JL, Johnson P, Ponic, and Chan A. Men's business, women's work: gender influences and fathers' smoking. *Sociol.Health Illn.* 32 (4):583-596, 2010.	Smoking cessation - Women's views about their partners attempts to quit smoking during their pregnancy and the postpartum period.
Bottorff JL, Oliffe JL, Kalaw C, Carey J, Mroz L Men's constructions of smoking in the context of women's tobacco reduction during pregnancy and postpartum. *Social Science & Medicine.* 62: 3096-3108, 2006.	Provides men's views about their smoking habits in relation to their partners pregnancy and postpartum. Smoking behaviour is related to smoking cessation and quitting attempts rather than THR.
Bottorff JL, Kalaw C, Johnson JL, Stewart M, Greaves L, Carey J. Couple dynamics during women's tobacco reduction in pregnancy and postpartum. *Social Science & Medicine.* 62: 3096-3108, 2006.	Views and perspectives of tobacco reduction during the pregnancy period
Bottorff JL, Kelly MT, Oliffe JL, Johnson JL, Greaves L, Chan A. Tobacco use patterns in traditional and shared parenting families: a gender perspective. *BMC.Public.Health* 10:239, 2010.	Discusses smoking reduction achieved during the pregnancy period
Branstetter SA, Horn K, Dino G, Zhang J. Beyond quitting: predictors of teen smoking cessation, reduction and acceleration following a school-based intervention. Drug Alcohol Depend 2009; 99 (1-3):160-8.	Modelled on smoking cessation trial
Bredie SJH, Fouwels AJ, Wollersheim H, Schippers GM.	Does not examine views or attitudes

Effectiveness of Nurse Based Motivational Interviewing for smoking cessation in high risk cardiovascular outpatients: A randomized trial. European Journal of Cardiovascular Nursing 2011;10(3):174-9.	
Brewster JM, Ashley MJ, Laurier C, et al. On the front line of smoking cessation: pharmacists' practices and self-perception . Canadian Pharmaceutical Journal 2005;138(3):32-8.	Predominantly discussing smoking cessation intervention. Cannot identify whether a significant proportion of the sample practice THR as the question is asked together ''advise to cut down or quit'.
Brown AK, Moodie C, Hastings G, Mackintosh AM, Hassan L, Thrasher J. The association of normative perceptions with adolescent smoking intentions. J Adolesc 2010**;** 33(5):603-14.	Not THR –just smoking prevalence and intentions to start smoking.
Bruner K, Chand D, Patel H, Stolfi A, Omoloja A, Bruner K, et al. Chronic kidney disease, pediatric nephrologists, and tobacco counseling: perceptions and practice patterns. A study from the Midwest Pediatric Nephrology Consortium. Journal of Pediatrics 2011**;**159(1):155-7.	Not THR
Campbell S, Pieters K, Mullen KA, Reece R, Reid RD. Examining sustainability in a hospital setting: Case of smoking cessation. Implementation Science 2011;6.	Not THR – opportunistic smoking cessation delivered in a hospital setting – not temporary abstinence for hospital stay or surgery.
Cho JHS. Electronic-cigarette smoking experience among adolescents. Journal of Adolescent Health 2011;49(5):542-6.	Does not consider use for THR purposes
Clark A, Loheac Y. 'It wasn't me, it was them #exclamation#' Social influence in risky behaviour by adolescents . 2003.	Does not examine views or attitudes regarding THR
Coleman T, Murphy E, Cheater F. Factors influencing discussion of smoking between general practitioners and patients who smoke: a qualitative study. Br J Gen Pract 2000 **;**50(452):207-10.	Smoking cessation – not THR
Coleman T, Cheater F, Murphy E. Qualitative study investigating the process of giving anti-smoking advice in general practice. Patient Educ Couns 2004**;**52(2):159-63.	Smoking cessation only advice
Collins RL, D'Angelo S, Stearns SD, Campbell LR, Collins RL, D'Angelo S, et al. Training pediatric residents to provide smoking cessation counseling to parents. The scientific world journal 2005; 5:410-9.	Smoking cessation study. Answers to question shows they were not providing THR advice.
Cooper H, Ginn J, Arber S. Health-related behaviour and attitudes of older people A secondary analysis of national datasets . 1999.	No THR or attitudinal variables discussed
Cooper J, Borland R, Yong HH, McNeill A, Murray RL, O'Connor RJ, et al. To what extent do smokers make spontaneous quit attempts and what are the implications for smoking cessation maintenance? Findings from the International Tobacco Control Four country survey. Nicotine Tob Res 2010**;**12 Suppl:S51-S57.	Does not measure attitudes – only whether CdtQ is a predictor of successful quitting.
Corbett K, Thompson B, White N, Taylor M, Corbett K, Thompson B, et al. Process Evaluation in the Community	Smoking cessation trial

Intervention Trial for Smoking Cessation (COMMIT). International Quarterly of Community Health Education 1990;11(3):291-309.	
Dijkstra A, De VH, Dijkstra A, De Vries H. Subtypes of precontemplating smokers defined by different long-term plans to change their smoking behavior. Health Education Research 2000;15(4):423-34.	Smoking cessation trial
Donkin L, Christensen H, Naismith SL, Neal B, Hickie IB, Glozier N. A Systematic Review of the Impact of Adherence on the Effectiveness of e-Therapies. Journal of Medical Internet Research 2011;13(3).	Notes: Out- FT - SC - checked rel included papers
Emdad R, Belkic K, Theorell T, Cizinsky S, Emdad R, Belkic K, et al. What prevents professional drivers from following physicians' cardiologic advice? Psychotherapy & Psychosomatics 1998;67(4-5):226-40.	Smoking cessation
Etter JF. Electronic cigarettes: a survey of users. *BMC Public Health* 10:231, 2010.	Use of e-cigarettes for smoking cessation - Less than 20% of the sample were using for THR purposes
Etter JF, Houezec J, Landfeldt B. Impact of messages on concomitant use of nicotine replacement therapy and cigarettes: a randomized trial on the Internet. *Addiction* 98 (7):941-950, 2003.	Effectiveness intervention study – not attitudinal survey or qualitative study
Falba T, Jofre-Bonet M, Susan Busch, Duchovny N, Sindelar J. Reduction of quantity smoked predicts future cessation among older smokers. Addiction 2004;99(1):93-102.	Does not measure attitudes – consider for appendix of predictors.
Fillis I. Creativity and the nonprofit marketing organization. Int J Nonprofit Volunt Sect Mark 2005;10(4):199-201.	Editorial
Fiore MC, Thompson SA, Lawrence DL, Welsch S, Andrews K, Ziarnik M, et al. Helping Wisconsin women quit smoking: a successful collaboration. WMJ 2000;99(2):68-72.	Smoking cessation study
Forchuk C, Norman R, Malla A, Martin ML, McLean T, Cheng S, et al. Schizophrenia and the motivation for smoking. Perspectives in Psychiatric Care 2002;38(2):41-9.	Only reports prevalence of proportion who would like to reduce – not barriers and facilitators to doing so.
Garcia M, Fernandez E, Schiaffino A, Peris M, Borras JM. Smoking reduction in a population-based cohort. Preventive Medicine 2005;40(6):679-84.	Does not measure attitudes – consider for appendix of predictors.
Geertsema K, Phillips CV, Heavner KK. University student smokers perceptions of risks and barriers to harm reduction. Tobacco Harm Reducation Year book 2010 2010.	Harm reduction is in terms of using smokeless tobacco products
Glasgow RE, Gaglio B, France EK, Marcus A, Riley KM, Levinson A, et al. Do behavioral smoking reduction approaches reach more or different smokers? Two studies; similar answers. Addictive Behaviors 2006 ;31(3):509-18.	Does not measure attitudes – consider for appendix of predictors.
Greaves L, Oliffe JL, Ponic P, Kelly M, and Bottorff JL. Unclean Fathers, Responsible Men: Smoking, Stigma and Fatherhood. *Health Sociology Review: The Journal of the Health Section of the Australian Sociological Association* 19 (4):522-533, 2010.	Discusses stigma of smoking and its effect on Mens wellbeing and smoking behaviour. However this is not specific to THR.
Greenberg MR, Weinstock M, Fenimore DG, Sierzega GM. Emergency department tobacco cessation program: staff participation and intervention success among patients. Journal of the American Osteopathic Association 2008;108(8):391-6.	Smoking cessation study

Grogan S, Flett K, Clark-Carter D, Gough B, Davey R, Richardson D, et al. Women smokers' experiences of an age-appearance anti-smoking intervention: A qualitative study. British Journal of Health Psychology 2011;16(4):675-89.	Population recruited from a smoking cessation service
Grogan S, Flett K, Clark-Carter D, Conner M, Davey R, Richardson D, et al. A randomized controlled trial of an appearance-related smoking intervention. Health Psychology 2011;30(6):805-9.	Effectiveness intervention trial only.
Hammond D, Reid JL, Driezen P, Cummings KM, Borland R, Fong GT, et al. Smokers' use of nicotine replacement therapy for reasons other than stopping smoking: findings from the ITC Four Country Survey [corrected] [published erratum appears in ADDICTION 2008 ;103(12):2075]. Addiction 2008;103(10):1696-703.	Does not measure attitudes – consider for appendix of predictors.
Hasford J, Fagerstrom KO, Haustein KO. A naturalistic cohort study on effectiveness, safety and usage pattern of an over-the-counter nicotine patch. Cohort study on smoking cessation. European Journal of Clinical Pharmacology 2003;59(5-6):443-7.	Effectiveness of NRT. No information on barriers and facilitators for THR.
Haxby D, Sinclair A, Eiff P, McQueen MH, Toffler WL. Characteristics and perceptions of nicotine patch users. Journal of Family Practice 1994;38(5):459-64.	Smoking cessation only
Hayes C, Collins C, O'Carroll H, Wyse E, Gunning M, Rhatigan A, et al. Effectiveness of Training in Motivational Interviewing in Quitting Or Reducing Smoking Intensity in Pregnancy and Post-Partum. Journal of Epidemiology and Community Health 2011;65:A74.	Poster only and not THR
Heavner KK, Dunworth J, Bergen PL, Nissen CM, Phillips CV. Electronic cigarettes (e-cigarettes) as potential tobacco harm reduction products: Results of an online survey of e-cigarette users. Tobacco Harm Reducation Year book 2010.	Not possible to determine that a significant proportion are using product for THR purposes
Heavner KK, Rosenberg Z, Phillips CV. Survey of smokers' reasons for not switching to safer sources of nicotine and their willingness to do so in the future. Harm Reduction Journal 2009;6 , 2009. Article Number:14.	Doesn't identify THR purpose
Hoeppner BB, Goodwin MS, Velicer WF, Mooney ME, Hatsukami DK. Detecting longitudinal patterns of daily smoking following drastic cigarette reduction. Addictive Behaviors 2008;33(5):623-39.	Does not measure attitudes regarding THR
Holdsworth C, Robinson JE. I've never ever let anyone hold the kids while they've got ciggies: moral tales of maternal smoking practices. *Sociology of Health & Illness 2008; 7(3):* 1086-1100	Reduction of second hand smoke exposure but no mention of smokers overall tobacco consumption
Hopper JA, Craig KA, Hopper JA, Craig KA. Environmental tobacco smoke exposure among urban children. Pediatrics 2000;106(4):E47.	This is about identifying children at risk of ETS. Not smokers views about not smoking in the home.

Hosking W, Borland R, Yong HH, Fong G, Zanna M, Laux F, et al. The effects of smoking norms and attitudes on quitting intentions in Malaysia, Thailand and four Western nations: a cross-cultural comparison. Psychol Health 2009;24(1):95-107.	Does not measure attitudes regarding THR – looks at association between attitudes and intentions to quit smoking.
Hughes JR, Pillitteri JL, Callas PW, Callahan R, Kenny M, Hughes JR, et al. Misuse of and dependence on over-the-counter nicotine gum in a volunteer sample. Nicotine & Tobacco Research 2004;6(1):79-84.	Does not measure attitudes regarding THR
Hughes JR, Adams EH, Franzon MA, Maguire MK, Guary J, Hughes JR, et al. A prospective study of off-label use of, abuse of, and dependence on nicotine inhaler. Tobacco Control 2005;14(1):49-54.	Does not measure attitudes regarding THR
Hughes JR, Callas PW, Peters EN, Hughes JR, Callas PW, Peters EN. Interest in gradual cessation. Nicotine & Tobacco Research 2007;9(6):671-5.	Prevalence paper just marking interest in gradual reduction
Hung WT, Dunlop SM, Perez D, Cotter T. Use and perceived helpfulness of smoking cessation methods: results from a population survey of recent quitters. BMC Public Health 2011;11:592.	Does not measure attitudes regarding THR – only prevelance of using CdtQ vs abrupt cessation. Consider for appendix.
Hyland A, Levy DT, Rezaishiraz H, Hughes JR, Bauer JE, Giovino GA, et al. Reduction in amount smoked predicts future cessation. Psychology of Addictive Behaviors 2005;19(2):221-5.	Does not measure attitudes – consider for appendix of predictors.
Hyland A, Higbee C, Travers MJ, Van DA, Bansal-Travers M, King B, et al. Smoke-free homes and smoking cessation and relapse in a longitudinal population of adults. Nicotine and Tobacco Research 2009;11(6):614-8.	Does not measure attitudes – consider for appendix of predictors.
Jannone LT. Process of smoking cessation in adolescents attending Quit 2 Win, a teen smoking cessation program Teachers College, Columbia University; 2006.	Not THR – just adolescents coping strategies for avoiding urge to smoke – recruited from a smoking cessation trial. No mention of THR.
Knoke JD, Anderson CM, Burns DM. Does a failed quit attempt reduce cigarette consumption following resumption of smoking? The effects of time and quit attempts on the longitudinal analysis of self-reported cigarette smoking intensity. Nicotine and Tobacco Research 2006;8(3):415-23.	Does not measure attitudes – consider for appendix of predictors.
Kularatne PM. Use of focus group in the development of a tailored self-help smoking cessation resource for dental clinic smokers. Dissertation Abstracts International Section A: Humanities and Social Sciences 2009;(8-A):3049.	Smoking cessation
Lane NE, Leatherdale ST, Ahmed R. Use of nicotine replacement therapy among Canadian youth: data from the 2006-2007 National Youth Smoking Survey. Nicotine Tob Res 2011;13(10):1009-14.	Does not measure attitudes – prevalence information only
Lee J, Lim Y, Graham SJ, Kim G, Wiederhold BK, Wiederhold MD, et al. Nicotine craving and cue exposure therapy by using virtual	Intervention effectiveness study

environments. Cyberpsychology & Behavior 2004 ;7(6):705-13.	
Leeman RF, O'Malley SS, White MA, McKee SA, Leeman RF, O'Malley SS, et al. Nicotine and food deprivation decrease the ability to resist smoking. Psychopharmacology 2010;212(1):25-32.	Not THR
Levy DE, Thorndike AN, Biener L, Rigotti NA, Levy DE, Thorndike AN, et al. Use of nicotine replacement therapy to reduce or delay smoking but not to quit: prevalence and association with subsequent cessation efforts. Tobacco Control 2007 ;16(6):384-9.	Does not measure attitudes – prevalence information only
Levy DE, Biener L, Rigotti NA, Levy DE, Biener L, Rigotti NA. The natural history of light smokers: a population-based cohort study. Nicotine & Tobacco Research 2009;11(2):156-63.	Does not measure attitudes – prevalence information only
Ling ACE. A retrospective cohort study of the long term effectiveness of smoking cessation counselling. Thorax 2011 ;Conference(var.pagings):December.	Poster only - not THR and no obvious follow-up paper
Local Government Group. A social marketing approach to tobacco control: a practical guide for local authorities. Local Government Improvement and Development; 2010.	Not a research study – discussion paper with practical guidance
Lucero CA, Moss DR, Davies ED, Colborn K, Barnhart WC, Bogen DL, et al. An examination of attitudes, knowledge, and clinical practices among Pennsylvania pediatricians regarding breastfeeding and smoking. Breastfeeding Medicine: The Official Journal of the Academy of Breastfeeding Medicine 2009;4(2):83-9.	Not THR
MacPherson L, Strong DR, Kahler CW, Abrantes AM, Ramsey SE, Brown RA, et al. Association of post-treatment smoking change with future smoking and cessation efforts among adolescents with psychiatric comorbidity. Nicotine & Tobacco Research 2007 ;9(12):1297-307.	Does not measure attitudes – consider for appendix
McAvoy BR, Kaner EF, Lock CA, Heather N, Gilvarry E. Our Healthier Nation: are general practitioners willing and able to deliver? A survey of attitudes to and involvement in health promotion and lifestyle counselling. British Journal of General Practice 1999 ;49(440):187-90.	Cannot identify whether advice includes THR support
McEwen A, West R, McRobbie H, McEwen A, West McRobbie H. Motives for smoking and their correlates in clients attending Stop Smoking treatment services. Nicotine & Tobacco Research 2008 May;10(5):843-50. .	Smoking motives in general - not about THR.
McQueen A, Tower S, Sumner W, McQueen A, Tower S, Sumner W. Interviews With "Vapers": Implications for Future Research With Electronic Cigarettes. Nicotine & Tobacco Research 2011;13(9):860-7.	Cannot identify use for THR
Meyer C, Rumpf H, Schumann A, Hapke U, John U. Intentionally	Does not measure attitudes – consider for

reduced smoking among untreated general population smokers: prevalence, stability, prediction of smoking behaviour change and differences between subjects choosing either reduction or abstinence. Addiction 2003;98(8):1101-10.	appendix
Moffatt S, White M, Stacy R, Downey D, Hudson E. The impact of welfare advice in primary care: A qualitative study. Critical Public Health 2004;14(3):295-309.	Not THR
Moore GFH. Socioeconomic patterning in changes in child exposure to secondhand smoke after implementation of smoke-free legislation in Wales. Nicotine and Tobacco Research 2011;13(10):903-10.	Does not measure attitudes
Morris J. A. Waxmonsky, M. G. May, and A. A. Giese. What do persons with mental illnesses need to quit smoking? Mental health consumer and provider perspectives. *Psychiatric Rehabilitation Journal 2009 Spring;32(4):276-84*, 2009.	Smoking cessation only
Moshammer H, Neuberger M, Moshammer H, Neuberger M. Long term success of short smoking cessation seminars supported by occupational health care. Addictive Behaviors 2007;32(7):1486-93.	Smoking cessation
Mullins R, Borland R. Doctors' advice to their patients about smoking. Australian Family Physician 1993;22(7):1146-2.	Does not measure attitudes – prevalence information only
Naylor PJ, Adams JS, McNeil D, Naylor PJ, Adams JS, McNeil D. Facilitating changes in perinatal smoking. The impact of a stage-based workshop for care-providers in British Columbia. Canadian Journal of Public Health 2002; Revue Canadienne de Sante Publique. 93(4):285-90.	Smoking cessation workshop
Nguyen QB. Two groups of occasional smokers: Different pathways with the same outcome. Dissertation Abstracts International: Section B: The Sciences and Engineering 2010; Dissertation Abstract: 2010-99220-415(5-B):3364.	Dissertation not available - full text of associated paper obtained
Oettingen G,Mayer D, Thorpe J. Self-regulation of commitment to reduce cigarette consumption: Mental contrasting of future with reality. *Psychology & Health* 25 (8):961-977, 2010.	Effectiveness Intervention study – was grey
Oliffe JL, Bottorff JL, Johnson M T. Fathers: locating smoking and masculinity in the postpartum. *Qualitative Health Research* 20 (3):330-339, 2010.	Not discussing barriers or facilitators to THR or implementing smokefree settings. Only describes that having to smoke outside at work made the men reduce.
Peters EN, Hughes JR, Callas PW, Solomon LJ. Goals indicate motivation to quit smoking. Addiction 2007;102(7):1158-63.	Does not measure attitudes – consider for appendix
Priest N, Roseby R,Waters E, Polnay A, Campbell R, Spencer N,Webster P, Ferguson-Thorne G. Family and carer smoking control programmes for reducing children's exposure to environmental tobacco smoke. *Cochrane Database of Systematic Reviews* 2008,Issue 4.	Systematic review of effectiveness studies - not opinions / attitudes from qualitative / survey studies.
Prochaska JM, Mauriello L, Dyment S, Gokbayrak S. Designing a Health Behavior Change Program for Dissemination to	Not THR

Underserved Pregnant Women. Public Health Nursing 2011;28(6):548-55.	
Raisamo SU, Doku DT, Rimpela AH. Adolescents' self-reported reasons for using nicotine replacement therapy products: a population-based study. Addictive Behaviors 2011;36(9):945-7.	Prevalence information only on numbers using NRT for temporary abstinence
Rechtine GR, Frawley W, Castellvi A, Gowski A, Chrin AM. Effect of the spine practitioner on patient smoking status. Spine 2000;25(17):2229-33.	Intervention study only – no attitudes or opinions
Riemsma RP, Pattenden J, Bridle C, Sowden AJ, Mather L, Watt IS, et al. A systematic review of the effectiveness of interventions based on a stages-of-change approach to promote individual behaviour change. Health Technol Assess 2002;6(24):1-231.	Systematic review that is not relevant so has not been unpicked.
Rikard-Bell G, Ward J, Rikard-Bell G, Ward J. Australian dentists' educational needs for smoking cessation counseling. Journal of Cancer Education 2001;16(2):80-4.	Very small percentage providing cutting down advice - (11%) - all comments are in the view of smoking cessation.
Robinson CA, Bottorff JL, Smith ML, Sullivan KM. "Just because you've got lung cancer doesn't mean I will": lung cancer, smoking, and family dynamics. J Fam Nurs 2010;16(3):282-301.	Smoking cessation not reduction, in relation to a cancer diagnosis
Robinson J, Kirkcaldy AJ. 'Imagine all that smoke in their lungs': parents' perceptions of young children's tolerance of tobacco smoke. Health Educ Res 2009;24(1):11-21.	THR is only discussed during pregnancy
Robinson J, Ritchie D, Amos A, Greaves L, Cunningham-Burley S. Volunteered, negotiated, enforced: family politics and the regulation of home smoking. Sociol Health Illn 2011;33(1):66-80.	Focus is on not smoking around children, no mention of smokers own smoking levels
Robinson J. "Trying my Hardest": The Hidden Social Costs of Protecting Children from Environmental Tobacco Smoke. International Review of Qualitative Research 2008 Aug 1;1(2):173-94.	Not available
Robinson J, Kirkcaldy AJ. You think that I'm smoking and they're not: Why mothers still smoke in the home. Social Science & Medicine 65 (2007) 641–652	Beliefs about smoking, passive smoking and health of smokers' children. Not about B&Fs to implementing SF homes or reduction / CDTQ in smoking adults.
Robinson J, Kirkcaldy AJ. Disadvantaged mothers, young children and smoking in the home: Mothers' use of space within their homes. Health & Place 13 (2007) 894–903	No mention of mothers' level of smoking (e.g. reduced) or interventions (such as NRT) used to cut smoking at home. Focus is about not smoking around children and whey they smoke instead.
Rodgers RC. An exploration of the public acceptability of signposting by community pharmacies. International Journal of Pharmacy Practice 2011; Conference(var.pagings):October.	Not THR
Rosseel JPJ. Experienced barriers and facilitators for integrating smoking cessation advice and support into daily dental practice.	Smoking cessation intervention only

A short report. British Dental Journal 2011;210(7):E10.	
Scharf DL, Zahn E, Reddon JR, Els C. Staff and patient attitudes and issues related to the implementaion of a comprehensive smoking ban in a psychiatic facility. European Psychiatry 2009;Conference(var.pagings):2009.	Conference abstract only
Schultz AS, Johnson JL, Bottorff JL. Registered nurses' perspectives on tobacco reduction: views from Western Canada. Can J Nurs Res 2006 ;38(4):192-211.	Uses terms 'smoking reduction' to mean smoking cessation.
Seo DC, Macy JT, Torabi MR, Middlestadt SE. The effect of a smoke-free campus policy on college students' smoking behaviors and attitudes. Preventive Medicine 2011;(e-pub ahead of print).	Attitudes towards ban not barriers / facilitators to complying with the ban.
Siegel MB, Tanwar KL, Wood KS. Electronic Cigarettes As a Smoking-Cessation Tool Results from an Online Survey. American Journal of Preventive Medicine 2011;40(4):472-5.	Does not measure attitudes – prevalence information only
Stead M, Angus K, Holme I, Cohen D, Tait G. Factors influencing European GPs' engagement in smoking cessation: a multi-country literature review. Br J Gen Pract 2009;59(566):682-90.	Not THR
Steinberg MB, Alvarez MS, Delnevo CD, Kaufman I, Cantor JC. Disparity of physicians' utilization of tobacco treatment services. Am J Health Behav 2006;30(4):375-86.	Doesn't state that quitline is used for THR purposes.
Tevyaw TO, Gwaltney C, Tidey JW, Colby SM, Kahler CW, Miranda R, et al. Contingency management for adolescent smokers: An exploratory study. Journal of Child & Adolescent Substance Abuse 2007;16(4):23-44.	Only qualitative data relates to acceptability of the study protocol, not views regarding intervention.
Thomas R, Vamplew C. Stopping smoking The experiences of smokers and ex-smokers on trying to quit (Mistakenly had Cleveland County Council, Middlesbrough (United Kingdom). Research and Intelligence Unit as title). Cleveland County Council, Middlesbrough (United Kingdom). Research and Intelligence Unit; 1995.	Smoking cessation only
Tong E.Paterniti. Exploring perspectives about the acceptability of a proposed smoke-free counseling intervention. Clinical and Translational Science 2011;Conference(var.pagings):109.	Conference proceeding only - not evident that THR approach
Vangeli E, Stapleton J, Smit ES, Borland R, West R. Predictors of attempts to stop smoking and their success in adult general population samples: a systematic review. Addiction 2011 Jul 13.	Does not measure attitudes – prevalence information only
West R, McEwen A, Bolling K, Owen L. Smoking cessation and smoking patterns in the general population: a 1-year follow-up. Addiction 2001;96(6):891-902.	Does not measure attitudes – prevalence information only
Whyte RE, Watson HE, McIntosh J. Nurses' opportunistic interventions with patients in relation to smoking. J Adv Nurs	NOT THR approach - just smoking education in general, and in wider context of health

2006;55(5):568-77.	education.
Wilson JSE. 'It's not worth stopping now': Why do smokers with chronic obstructive pulmonary disease continue to smoke? A qualitative study. Journal of Clinical Nursing 2010;20(5-6):819-27.	Not THR – attitudes to smoking cessation following illness diagnosis
Wilson IS, Semple SE, Mills LM, Ritchie D, Shaw A, O'Donnell R, Bonella P, Turner SW and Amos A. REFRESH: reducing families exposure to secondhand smoke in the home - a feasibility study. Tobacco Control 2011 In press.	Intervention not aimed at reducing adult smokers smoking, and barriers and facilitators faced in not smoking in the home are not discussed.
Wilson N, Borland R, Weerasekera D, Edwards R, Russell M. Smoker interest in lower harm alternatives to cigarettes: national survey data. Nicotine Tob Res 2009 ;11(12):1467-73.	Smokeless tobacco products

APPENDIX I: ADDITIONAL STUDIES – Predictors of THR outcomes, or association between THR and subsequent cessation

The following studies were identified during study selection. They have data that are of potential interest and are included at the request of NICE. However, they are studies of predictors of reduction or reduction leading to cessation, rather than 'views' studies and therefore do not meet the review's inclusion criteria. As these studies are not part of the review, they have not been formally quality assessed, but data have been extracted.

Study details	Research parameters	Population and sample selection	Outcomes and methods of analysis Results	Notes
Citation: Beard 2011c. Association between use of nicotine replacement therapy for harm reduction and smoking cessation. Tobacco Control 2011; Online first. **Study design:** Cross-sectional monthly surveys with longitudinal (6 months) follow up.	**What was/were the research questions:** To assess whether smokers' reports of smoking reduction (SR) and the use of NRT for SR and temporary abstinence (TA) predicted subsequent attempts to quit smoking and smoking status in a population sample. Whether use of NRT for SR or TA was associated with reduced cigarette consumption compared with SR without NRT and non-use of NRT for TA. **How were the data collected:** Monthly household surveys February 2007 - November 2010using random location sampling – Smoking Toolkit Study. Baseline face-to-face computer assisted interview and 6 month postal questionnaire.	**Population Characteristics:** Current smokers aged 16+ in England **How many participants were recruited:** 15,539 of whom 23% (n=3,149 chosen by researchers) completed a 6-month follow-up questionnaire	**Brief description of method and process of analysis:** At baseline, participants were asked whether they were currently using NRT for SR or TA. They were also asked for demographic information and daily cigarette consumption. At 6-month follow-up, data on attempts to quit smoking and smoking status were collected. Logistic regression to assess odds of undertaking each activity at follow-up in those undertaking or not undertaking it at baseline. **Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** Use of NRT for SR or TA was associated with a small reduction in cigarette consumption (two cigarettes per day) compared with SR without NRT or non-use of NRT for TA. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** NRT use for SR and TA prospectively predicted attempts to quit smoking (OR 1.61, 95% CI 1.30 to 2.01 and OR 1.94, 95% CI 1.56 to 2.38 for SR and TA respectively) and abstinence (OR 1.51, 95% CI 1.06 to 2.16 and OR 2.09, 95% CI 1.51 to 3.34 for SR and TA respectively) at 6-months follow-up.	**Limitations (author):** Cannot rule out the possibility that promoting NRT in this way might have adverse consequences that might reduce population quit rates. Self report data only. Low follow up rate. No data on NRT use and smoking between baseline and 6-month surveys.
Citation Beard 2011d.Use of nicotine replacement therapy for smoking reduction and during enforced temporary abstinence: a national survey of English smokers. Addiction	**What was/were the research questions:** Participants were asked (i) whether they were reducing the amount they smoked: if so, whether they used NRT; and (ii) whether they used NRT for TA. Demographic characteristics, daily cigarette	**Population Characteristics:** Current smokers aged 16+ in England **How many participants were recruited:** 11, 414. Of the participants, 56% were attempting SR, 14% were using NRT for SR	**Brief description of method and process of analysis:** Associations between SR and TA measures, past quit attempts and demographics were assessed by logistic regression analyses, controlling for potential confounding variables as appropriate. **Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** The use of NRT for SR, compared with unassisted SR, was more common among older smokers, while the use of NRT for TA was	**Limitations (author):** The cross-sectional nature of the study limits the conclusions that can be drawn. Reliance on self-report to assess smoking status, quitting behaviour and NRT use, which may have resulted in some

2011;106(1):197-204. **Study design:** Cross-sectional monthly surveys	consumption and whether a quit attempt had been made in the past 12 months were also assessed. **How were the data collected:** Monthly household surveys February 2007 – June 2009 using random location sampling – Smoking Toolkit Study. Face-to-face computer assisted interview	and 14% were using NRT for TA.	more common among women. Cigarette consumption was higher in those using NRT for SR than those attempting SR without NRT. The use of NRT for SR and TA was associated positively with past quit attempts. [The nicotine patch was the most commonly used form of NRT] **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** Smokers reporting reducing were more likely report having tried to quit in the past year than those who were not currently reducing (adjusted OR 3.80, 95% CI 3.48-4.13). Those using NRT to try to reduce were more likely to report a quit attempt in the past year than those reducing without NRT (adjusted OR 3.62, 95% CI 3.19-4.11). Smokers using NRT for temporary abstinence were also more likely to report trying to quit in the past year (adjusted OR 3.94, 95% CI 3.51-4.42).	recall bias or misreporting. There is evidence that smokers often forget past quit attempts.
Citation Falba T, Jofre-Bonet M, Susan Busch, Duchovny N, Sindelar J. Reduction of quantity smoked predicts future cessation among older smokers. Addiction 2004;99(1):93-102. **Study design:** Nationally representative survey of older Americans aged 51-61 in 1991, followed every two years from 1992 to 1998	**What was/were the research questions:** Whether smokers who reduce their quantity of cigarettes smoked between two periods are more or less likely to quit subsequently. **How were the data collected:** Face-to-face interviews carried out with a nationally representative sample of individuals born between 1931 and 1941 and their spouses. Respondents were surveyed every two years from 1992 to 1998.	**Population Characteristics:** Older Americans aged 51-61 in 1991 **How many participants were recruited:** 12,652 individuals were interviewed at wave 1. Of these 11,594 (92%) remained at wave 2, 10,962 (94%) remained at wave 3, and 9989 (91%) remained at wave 4, equivalent to 79% of the wave 1 sample. Of those remaining at wave 4, 2,064 individuals were included who reported smoking at both wave 1 and wave 2 (21.7%).	**Brief description of method and process of analysis:** Participants were asked in both 1992 and 1994 how many cigarettes they smoked per day, and change between the two time points was assessed. Variables that had been found to be important predictors of cessation in other research were included in the analysis. ANOVA with follow on Tukey tests were used to examine changes in smoking status between waves 1 and 2. Logistic regression was used to examine the relationship between changes in smoking quantity and later cessation and relapse, and to assess whether effects were significantly different depending on the baseline level of smoking. **Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** Age, gender and education did not vary according to whether smokers reduced, increased or stayed the same. There was a significant difference in the number of blacks found in the increase group as opposed to the no change group. Differences were also not statistically significant for psychiatric problems and for the number of chronic health problems. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** Greater than a 50% decrease between wave 1 and 2, and a decrease between 25 and 50% were both associated with increase wave 3 cessation in both adjusted and unadjusted models. Comparison of all reducers with those who reported no change or increasing revealed	**Limitations (author):** The extent to which reduced smokers are more interested in quitting cannot be measured directly with these data. The findings are not generalisable to younger people as the average age of this sample is 55 years. Smoking status and quantity are assessed through self-reports. Reports of quantity smoked are probably subject to rounding error which affects the ability the detect changes in the amount of cigarettes smoked: those who did not change smoking quantity were more likely to report smoking exactly one pack a day.

			that any reduction was associated with a greater likelihood of cessation. Reduction was also associated with a lower likelihood of relapse, although these effects were not always significant.	
Citation Farkas. When does cigarette fading increase the likelihood of future cessation? Annals of Behavioural Medicine 21[1], 71-76. 2011. **Study design:** Telephone survey carried out at three time points	**What was/were the research questions:** Which smokers report cigarette fading, how much do they fade, when does fading lead to quitting, and if fading does not lead to quitting, can it be maintained. **How were the data collected:** Telephone surveys carried out at three time points between 1990 and 1992.	**Population Characteristics:** 1,682 adult smokers interviewed as part of the California Tobacco Survey **How many participants were recruited:** 1,682	**Brief description of method and process of analysis:** Cigarette consumption and smoking status were examined at three time points. Retrospective reports of quit attempts were measured at time 2, and cessation was measured at time 3. Fading was measured between time 1 and time 2. Weighted percentages, means, odds ratios and 95% confidence intervals were reported. Differences in percentages were evaluated by means of a special chi-square procedure for complex sample designs. **Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** Hispanic smokers were more likely than non-Hispanic whites to fade cigarettes (adjusted OR=2.27, 95% CI 1.08-4.76). African-Americans and Asian-Others were also more likely to report reducing compared to whites, but the differences were not statistically significant. Gender, age and level of education were not significant predictors of fading. Consumption at time 1 and quitting history between times 1 and 2 were also significant predictors of cigarette fading. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** Four different types of analyses were carried out to examine the relationship between cigarette fading and cessation. For the most part rates of cessation between those who faded and those who did not did not differ significantly. However, one model found that those who reduced their cigarettes by more than 67% were more likely to subsequently quit than those who reduced by 1-33% (OR=3.85, 95%CI 1.46-10.18). Another model found that those who smoked less than 15 cigarettes per day after fading were more likely to quit than those who smoked 15 or more (OR=2.62, 95% CI 1.32-5.18).	**Limitations (author):** Smoking status is based on self-reports. The reliance on self-reported cigarette consumption as the only measure to assess nicotine exposure was also given as a limitation.
Citation Hammond D, Reid JL, Driezen P, Cummings KM, Borland R, Fong GT, et al. Smokers' use of nicotine replacement therapy	**What was/were the research questions:** What are the prevalence and correlates or NRT use for reasons other than quitting smoking among smokers in four countries?	**Population Characteristics:** Adult daily smokers from Canada, the United States, The United Kingdom, and Australia **How many participants were recruited:**	**Brief description of method and process of analysis:** Participants were asked about demographics, smoking behaviour, use of NRT, and smoke free policies in the home, work place, restaurants and bars. Analyses were carried out on weighted data. Chi-square tests were used for between country comparisons and other categorical data. Logistic regression was used to model reasons for NRT use, controlling for various key variables.	**Limitations (author):** Lack of clarity over what "non-standard use of NRT" means – many smokers gave "other reason" as an answer and it is unknown what these other reasons

for reasons other than stopping smoking: findings from the ITC Four Country Survey [corrected] [published erratum appears in Addiction 2008 ;103(12):2075]. Addiction 2008;103(10):1696-703. **Study design:** Population based, cross-sectional telephone survey	**How were the data collected:** Telephone survey using CATI software carried out during 2005	6,532. Canada n= 1660, US n=1664, UK n=1617, Australia n=1591	**Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** Not reported – findings compare use of NRT for quitting with non-standard use (i.e. for reduction or to cope when cannot smoke). Across the four countries, 65.2% reported using NRT to aid with quitting, 8.3% reported using it to reduce, 8.4% reported using it to cope when unable to smoke, and 18.2 either reported using it for other reasons or did not state a reason. Numbers did not differ significantly across countries. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** Not reported.	might be. Only cross-sectional associations were examined.
Citation Hyland A, Levy DT, Rezaishiraz H, Hughes JR, Bauer JE, Giovino GA, et al. Reduction in amount smoked predicts future cessation. Psychology of Addictive Behaviors 2005;19(2):221-5. **Study design:** Random digit dialled cross-sectional telephone surveys associated with a smoking cessation intervention	**What was/were the research questions:** What is the prevalence of smoke-free homes, what are the characteristics of participants who adopted a smoke-free home policy, and what is the association between smoke-free homes and subsequent predictors of smoking cessation? **How were the data collected:** Random digit dialled cross-sectional telephone surveys carried out in 2001 and 2005	**Population Characteristics:** Adult smokers from the US and Canada (some of whom became former smokers by the end of the study) **How many participants were recruited:** 6,603 in 2001 and 4,963 in 2005 (from an original sample of 22,046 in 1988)	**Brief description of method and process of analysis:** Questions were asked on smoke-free home policies, smoking behaviour, including quit attempts, use of medication to aid in quit attempts, reductions in CPD, and cessation. Logistic regression used to assess the association between independent variables measured in 2001 and the adoption of a smoke-free home policy 2001-2005 as well as to assess the association between home smoking policies in 2001 and subsequent cessation/relapse indicators. **Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** Factors associated with adopting a smoke-free home policy were male gender, higher annual income, smoking less than five cigarettes per day, and the presence of no other smokers in the house. Smoke-free home policies were not associated with reductions in CPD. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** Smoke-free home policies were significantly associated with making a quit attempt and with quitting. Among former smokers in 2001, those with a smoke-free home policy were less likely to relapse to smoking compared with those who still allowed smoking in their homes.	**Limitations (author):** Only 23% of the original cohort recruited in 1988 completed an interview in 2005. The sample is skewed towards older, heavier smokers.

Citation Hyland A, Higbee C, Travers MJ, Van DA, Bansal-Travers M, King B, et al. Smoke-free homes and smoking cessation and relapse in a longitudinal population of adults. Nicotine and Tobacco Research 2009;11(6):614-8. **Study design:** Random digit dialled cross-sectional telephone surveys associated with a smoking cessation intervention	**What was/were the research questions:** To determine whether reducing cigarette consumption increases the likelihood of future cessation **How were the data collected:** Random digit dialled cross-sectional telephone surveys carried out in 1988, 1993, and 2001	**Population Characteristics:** Adults from the US and Canada who were smokers in both 1988 and 1993 **How many participants were recruited:** 3,385	**Brief description of method and process of analysis:** Questions were asked on consumption, with levels of reduction being calculated based on answers at the different time points, cessation, demographic variables, and smoking history. A multivariate logistic regression model was used to identify the characteristics of reducers and the association between reductions and future cessation whilst controlling for covariates. **Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** Smokers reducing by more cigarettes per day less likely to maintain those reductions. Independent predictors of reducing by ≥50% between 1988 and 1993 were history of multiple serious quit attempts, smoking more CPD in 1988, no other smokers in the household in 1988, prohibition of smoking in the worksite in 1993, and expressed concern for health as a reason for thinking about quitting. Gender, race-ethnicity, age, education, income, desire to quit, and age started smoking not significant predictors of reduction. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** Adjusted quit rates significantly higher among those reducing smoking by ≥50% compared with those who did not reduce smoking.	**Limitations (author):** The sample is skewed towards older, heavier smokers.
Citation Jannone LT. Process of smoking cessation in adolescents attending Quit 2 Win, a teen smoking cessation program Teachers College, Columbia University; 2006. **Study design:** Semi-structured interview carried out whilst students were attending a smoking cessation programme in their high school	**What was/were the research questions:** What coping strategies are used by teenagers as they attempt to quit smoking? **How were the data collected:** Semi-structured interview carried out face-to-face	**Population Characteristics:** Teen smokers from four suburban New Jersey high schools **How many participants were recruited:** 64	**Brief description of method and process of analysis:** The interview asked participants to identify coping strategies they used when they were tempted to smoke. Strategies were classified as a resist or lapse episode and were then coded using a previously developed coding manual. Each temptation episode was then coded according to whether cognitive and behavioural strategies were used or not. Background information was also gathered on level of addiction, history of smoking, stage of change, and readiness to quit. **Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** Not reported – looks at relationship between coping strategies and resisting smoking. Both cognitive and behavioural strategies were significantly related to resisting compared to using no strategies. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation :** Not reported	**Limitations (author):** Small sample size. Researchers only asked students to focus on two tempting episodes. Results are not generalisable to other teen populations. Teens may have over-reported strategies to please the interviewer. They may also have struggled to remember episodes.

Citation Knoke JD, Anderson CM, Burns DM. Does a failed quit attempt reduce cigarette consumption following resumption of smoking? The effects of time and quit attempts on the longitudinal analysis of self-reported cigarette smoking intensity. Nicotine and Tobacco Research 2006;8(3):415-23. **Study design:** Cross-sectional survey	**What was/were the research questions:** To examine whether a failed quit attempt reduced cigarette consumption following resumption of smoking; to examine the characteristics of smokers associated with changes in CPD. **How were the data collected:** Cross-sectional surveys carried out using random-digit dialling techniques. Data were used from the surveys carried out in 1990-91, 1996, and 1999.	**Population Characteristics:** Respondents from California aged at least 25 who indicated they had smoked at least 100 cigarettes in their lifetime. **How many participants were recruited:** 14,237	**Brief description of method and process of analysis:** Questions were asked on demographic information, smoking behaviour, and quit attempts. Descriptive and regression analyses were carried out. **Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** CPD one year ago, a previous quit attempt, age, education, and sex were all associated with a greater decline in cigarette consumption. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation :** Not reported	**Limitations (author):** Cross-sectional data. Different measures used to assess CPD at two different time points.
Citation Lane NE, Leatherdale ST, Ahmed R. Use of nicotine replacement therapy among Canadian youth: data from the 2006-2007 National Youth Smoking Survey. Nicotine Tob Res 2011;13(10):1009-14. **Study design:** Cross-sectional survey	**What was/were the research questions:** To determine the prevalence of NRT use among youth smokers in Canada and examine factors associated with its use. **How were the data collected:** Survey carried out during class time during 2006-07.	**Population Characteristics:** Canadian students in grades 9-12 **How many participants were recruited:** 41,886 students	**Brief description of method and process of analysis:** Students were asked about smoking status, use of NRT, quit attempts, and whether there were classes at school talking about the effects of smoking. Data were analysed using descriptive and logistic regression models. **Key predictors / factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** Not reported **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** Not reported	**Limitations (author):** Cross-sectional data so not able to define temporal relationships
Citation Levy DE, Thorndike AN, Biener L, Rigotti NA, Levy DE, Thorndike AN, et al. Use of nicotine replacement therapy	**What was/were the research questions:** To assess the prevalence of NRT use for purposes other than quitting smoking and examine the relationship of non-standard NRT use with	**Population Characteristics:** Adult smokers in Massachusetts **How many participants were recruited:** 1712. Baseline sample was	**Brief description of method and process of analysis:** Respondents were asked about NRT use, quit attempts, NRT to aid quit attempts, 50% reduction in the number of cigarettes used, and quitting smoking. The association between non-standard NRT use to cut down on smoking or to delay smoking before baseline and cessation attempts and smoking outcomes at two year follow-up was assessed using logistic regression to adjust for multiple potential	**Limitations (author):** The survey was designed to assess a wide range of tobacco related issues, but not non-standard NRT use specifically. Low response at follow-up. Findings may

to reduce or delay smoking but not to quit: prevalence and association with subsequent cessation efforts. Tobacco Control 2007 ;16(6):384-9. **Study design:** Population based longitudinal survey	subsequent smoking cessation efforts. **How were the data collected:** Telephone interview at baseline and 2-year follow up.	3084 respondents who indicated they were smokers, 1728 (56.1%) of these completed follow-up interviews, and 16 of these respondents were excluded from the analysis.	confounding factors. **Key predictors / factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** There was no significant association between past non-standard NRT use and 50% reduction in cigarettes per day at follow-up. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation :** Not reported.	not be generalisable beyond the Massachusetts area.
Citation Levy DE, Biener L, Rigotti NA, Levy DE, Biener L, Rigotti NA. The natural history of light smokers: a population-based cohort study. Nicotine & Tobacco Research 2009;11(2):156-63. **Study design:** Population based cohort survey	**What was/were the research questions:** To understand the natural history of light smokers (10 or less CPD); to identify factors associated with light smokers' progression to heavier smoking or smoking reduction/quitting. **How were the data collected:** Respondents were interviewed via telephone three times over a four year follow-up period: 2000-2001, 2002-2003, and 2005-2006.	**Population Characteristics:** Light smokers, adults in Massachusetts **How many participants were recruited:** 3,083 at baseline, 1,725 (56.0%) at wave 2, 1,319 (42.8%) at wave 3.	**Brief description of method and process of analysis:** Participants were asked about smoking status, CPD, and various covariates including demographic variables. Logistic regression was used to identify factors associated with light smokers' progression to heavier smoking or smoking reduction/quitting. **Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** Lighter smokers (not reducers) were generally younger and better educated, had higher incomes, and were more likely to be female and non-white. They started smoking at older ages, were less nicotine dependent, were more likely to have tried to quit in the past year, were more likely to plan on quitting in the next year, and were more likely to live and work in environments where smoking was banned. Among smokers consuming 6-10 CPD three factors were associated with a decreased likelihood of quitting or reducing: being White, smoking daily, and smoking the first cigarette of the day within 30 minutes of waking. Smokers who made a 24 hour quit attempt in the past year were more likely to reduce cigarette consumption or quit. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** Not reported	**Limitations (author):** Self-report of smoking status and cigarette consumption. The sample is drawn from one state and comprised largely Whites. High losses to follow up at waves 2 and 3.
Citation MacPherson L, Strong DR, Kahler CW, Abrantes AM, Ramsey SE, Brown RA, et al.	**What was/were the research questions:** How does initial change in smoking levels relate to longer term smoking	**Population Characteristics:** Psychiatrically hospitalised adolescents aged 13-17 years who smoked at least one cigarette per week for	**Brief description of method and process of analysis:** Respondents were grouped into quit attempters, reducers, and maintainers. Hierarchical linear models and generalised estimating equations were conducted to test group differences in average number of cigarettes per smoking day, odds of making a quit	**Limitations (author):** Possible bias towards adolescents interested in quitting smoking. Sample was a homogenous group

Association of post-treatment smoking change with future smoking and cessation efforts among adolescents with psychiatric comorbidity. Nicotine & Tobacco Research 2007 ;9(12):1297-307. **Study design:** Secondary analysis of RCT data	outcomes among psychiatrically hospitalised adolescents who participated in a controlled trial of MI versus brief advice. **How were the data collected:** Combination of structured interviews and self-report questionnaires.	the four weeks prior to hospitalisation. **How many participants were recruited:** Included in the present study were 183 adolescents for whom post-hospitalisation smoking data were available for at least four weeks.	attempt, and continuous verified abstinence rates. **Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** Adolescents in the three groups of quit attempters, reducers, and maintainers did not differ by intervention condition, age, sex, nicotine dependence, CPD pre-hospitalisation or psychiatric diagnosis. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** Reducers had a greater percentage of quit attempts at follow-up than did maintainers. There were no significant differences across groups in abstinence rates.	of established daily smokers with acute psychiatric comorbidity. It is unclear whether reasons for change in smoking status were the effect of the intervention or because of other factors.
Citation Meyer C, Rumpf H, Schumann A, Hapke U, John U. Intentionally reduced smoking among untreated general population smokers: prevalence, stability, prediction of smoking behaviour change and differences between subjects choosing either reduction or abstinence. Addiction 2003;98(8):1101-10. **Study design:** Longitudinal observational study	**What was/were the research questions:** To examine intentionally reduced smoking among an untreated general population of smokers, and to examine differences between those choosing reduction and those choosing abstinence **How were the data collected:** Computer assisted personal interviews, mostly at participants' homes, carried out at three time points.	**Population Characteristics:** Daily adult smokers from North Germany. **How many participants were recruited:** 1520 at baseline, of whom 913 were followed up after 30 months and 786 after 36 months.	**Brief description of method and process of analysis:** Participants were asked about smoking-related and economic variables, including reduction attempts and maintenance of reduction. Data were analysed using t-tests, chi-square, and logistic regression. **Key predictors/factors associated with smoking reduction/CDTQ/ temporary abstinence (including use of interventions):** Socio-economic and smoking-related variables did not predict whether individuals attempted to reduce or quit. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** Those who tried to reduce had an increased probability of further reduction attempts at later follow-up, but the probability of quit attempts was equal compared with those not attempting to reduce or quit.	**Limitations (author):** No numerical thresholds to determine what exactly constitutes a reduction attempt. Self-reported smoking status.
Citation Peters LW, Kok G, Ten Dam GT, Buijs GJ, Paulussen TG. Effective elements of school health	**What was/were the research questions:** Do goals indicate motivation to quit smoking and predict which smokers will make a quit attempts?	**Population Characteristics:** Adult cigarette smokers recruited from 12 US cities **How many participants were recruited:**	**Brief description of method and process of analysis:** At baseline goals for reduction and/or quitting for the next 30 days and motivation for quitting were measured. Later on they reported their cigarette consumption via daily telephone messages. Data were analysed using Fisher's exact test for categorical variables and one way ANOVA for continuous variables with Tukey's HSD adjustment	**Limitations (author):** Small sample size. Absence of data on long-term success of quit attempts. Self-selected sample. Lack of verification of quit

promotion across behavioral domains: a systematic review of reviews. BMC Public Health 2009;9:182. **Study design:** 28 day natural history feasibility study of smoking cessation and reduction	**How were the data collected:** Via telephone calls and mailings	186	for pairwise comparisons. Logistic regression was carried out to examine the contribution of goals and intention to quit to making a quit attempt. **Key predictors/factors associated with smoking reduction/CDTQ / temporary abstinence (including use of interventions):** Not reported. **Evidence of association between smoking reduction / CTQ / temporary abstinence and subsequent cessation:** Those with a goal of reducing only appeared to be more likely to make a quit attempt than those with a goal of not changing, although this difference was not statistically significant.	attempts.
Citation Siegel MB, Tanwar KL, Wood KS. Electronic Cigarettes As a Smoking-Cessation Tool Results from an Online Survey. American Journal of Preventive Medicine 2011;40(4):472-5. **Study design:** Online cross-sectional survey	**What was/were the research questions:** To examine the efficacy of e-cigarettes as a smoking cessation tool. **How were the data collected:** Online survey conducted in 2010 of all first time purchasers of a particular brand of e-cigarettes during a two week period	**Population Characteristics:** E-cigarette purchasers, classified as smokers. US based. **How many participants were recruited:** 222, with a survey response rate of 4.5%. Six were excluded due to not meeting the definition of a smoker, leaving a final sample of 216.	**Brief description of method and process of analysis:** Those who opted to participate accessed the survey via a secure link. To estimate the effectiveness of e-cigarettes in smoking cessation, 95% confidence intervals were calculated. **Key predictors / factors associated with smoking reduction / CTQ / temporary abstinence (including use of interventions):** 66.8% of respondents reported a reduction in the number of cigarettes they smoked. **Evidence of association between smoking reduction / CTQ / temporary abstinence and subsequent cessation :** Not reported.	**Limitations (author):** Low response rate and lack of information on non-respondents. No verification of abstinence. Only users of one brand of e-cigarettes were surveyed.
Citation: West R, McEwen A, Bolling K, Owen L. Smoking cessation and smoking patterns in the general population: a 1-year follow-up. Addiction 2001;96(6):891-902. **Study design:** Longitudinal survey	**What was/were the research questions:** To assess the prevalence of motivation and behaviours relating to smoking cessation and attempts at harm minimisation and the stability of these over a one year period; to identify demographic, social, behavioural and psychological predictors of attempts to stop smoking and the success of	**Population Characteristics:** Adult smokers from the UK **How many participants were recruited:** 1911 smokers were interviewed in the first wave, 1012 of these were followed-up one year later	**Brief description of method and process of analysis:** Demographic information and information around smoking behaviour was collected. Chi-squared and regression analyses were carried out. **Key predictors / factors associated with smoking reduction/CTQ/ temporary abstinence (including use of interventions):** Cutting down in the first survey was predictive of cutting down in the second. **Evidence of association between smoking reduction/CDTQ/ temporary abstinence and subsequent cessation:** Of 518 smokers who attempted to cut down in the 12 months prior to the first survey, 43% (N=222) said this was as a prelude to	**Limitations (author):** Low response rate at follow-up. Representativeness of the sample as a whole – smokers who are more interested in cessation may be more likely to respond. Females were over-represented. No verification of smoking status. The definition of success at stopping was

	these attempts. **How were the data collected:** Face to face interviews were carried out with a national sample of UK smokers in April/May 1996 with follow-up one year later		cessation. Smokers who cut down and then managed to stop were not asked this question because the question was asked only of continuing smokers. Previous quit attempts and attempts to cut down as a prelude to quitting predicted future quit attempts. Cutting down for its own sake was not associated with future quit attempts.	arbitrary. Ability of participants to recall their quit attempts.