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Appendix 1: Application of a Taxonomy of Behaviour Change Techniques used in a Smoke Free Homes Intervention

Analysis of the activities delivered in the smoke free homes intervention and their links to the 26 Behaviour Change Techniques which have been identified in the paper 'A Taxonomy of Behaviour Change Techniques Used in Interventions' (2008) Abrahams and Michie - Health Psychology 2008 Vol.27, No.3, 379-387

The activities listed could be used in 2 scenarios

- 1. Health Worker \rightarrow Pregnant woman (non smoker)
- 2. Pregnant woman \rightarrow Smoking partner / family

BCT	Determinant/	Link to theoretical	Definition	Activity	Agent	Recipient
		frame work		suggestions /		
	Domain (Michie)			comments		
1. Provide	Attitude	Information-	General	Positive messages	HW	Pregnant Woman
	Alliude			-		
information about		motivation-	information about	about benefits		
behaviour health	Knowledge	behavioural skills	behavioural risk,			
link		model (IMB)	for example			
			susceptibility to			
	Beliefs about		poor health			
	consequences		outcomes or			

	Motivation and goals (confidence building)		mortality risk in relation to the behaviour		Pregnant Woman	Partner / Family
2. Explore information on consequences	Motivation	Theory of Reasoned Action (TRA) Theory of Planned Behaviour (TPB) Social –cognitive	Information about the benefit and costs of action or inaction, focusing on what will happen if the person does or	Identification of perceived cost benefits balance in relation to the discussion with partner	HW	Pregnant Woman
(discussion around consequence)	motivation	theory (SCogT)	does not perform the behaviour	Identification of perceived cost benefits balance in relation to the baby	Pregnant Woman	Partner / Family
3. Provide information about others' approval	Social influences Motivation	(TRA, TPB, IMB)	Information about what others think about the person's behaviour and whether others	Present information on social norms (most babies live in SFHs) but understand and	HW	Pregnant Woman

	Belief about	will approve or	take into account		
	capabilities	disapprove of any	the immediate		
		proposed	social norm of the		
		behaviour change	mother and the		
			family – using		
			examples of other		
			women who have		
			discussed at home		
			and achieved SFH		
-			-	-	
	Social influences		Present	Pregnant Woman	Partner / Family
			information on		
			social norms		
	Motivation		(most babies live		
			in SFHs as many		
			people have		
	Belief about		stopped smoking)		
			but understand		
	capabilities		and take into		
			account the		
			immediate social		
			norm of the		
			family. Use as a		
			motivational tool		
			for goal setting		

4. Prompt	motivation	(TRA, TPB, SCogT,	Encouraging the	Intention – have	HW	Pregnant Woman
intention		IMB)	person to decide	the discussion		
formation			to act or set a	with the partner		
			specific goal, for example, to make a behavioural resolution such as "I will take more exercise next week."	Mother to choose a goal they are confident they can achieve re. raising the issue with partner / family 'DO you believe that having the conversation will lead to a change?' 'Are you confident that you could have the discussion with your partner?'		
				Is the intention to have a SFH	Pregnant Woman	Partner / Family
				'How important is it for the family / baby to have a SFH'?		

				'How confident are they this can be achieved?'		
5. Prompt barrier identification		(SCogT)	Identify barriers to performing the behaviour and plan ways of overcoming them	Explore barriers to having the discussion and a SFH (e.g. does the family live in a flat? Does the mother live in their own home or staying with someone else where they feel they may not be in a position to raise the issue?) Explore barriers to having a SFH	HW Pregnant Woman	Pregnant Woman
6. Provide general encouragement	Motivation attitude	(SCogT)	Praising or rewarding the person for effort or performance without this being	Praise the intention and provide positive encouragement - building rapport	ΗW	Pregnant Woman

			contingent on specified behaviours or standards of performance	Praise the intention and provide positive encouragement - building family engagement and praising resolve to go SF	Pregnant Woman	Partner / Family
7. Set graded tasks	Skills Motivation knowledge	(SCogT)	Set easy tasks and increase difficulty until target behaviour is performed	Encourage woman to identify small steps towards the goal of having the discussion about SFHs. May want to discuss some suggestions and encourage the women to come up with her own e.g. leaving a leaflet on a table, are there any TV ads that could prompt a discussion?	HW	Pregnant Woman

				Could use SFH steps and 4 week challenge – smoke away from baby – smoke in one room only – totally SFH – stay	Pregnant Woman	Partner / Family
				smoke free for at least 4 weeks		
8. Provide instruction		(SCogT)	Telling the person how to perform a behaviour and/or preparatory behaviours	NA	HW	Pregnant Woman
9. Model or demonstrate the behaviour / Rehearsal of relevant skills	Skills Social influence	(SCogT)	An expert <i>explores</i> with the person/ shows the person how to correctly perform a	? demo of discussion / role play / Able to practise	HW	Pregnant Woman
			behaviour, for example, in class or on video		Pregnant Woman	Partner / Family

10. Prompt	Self efficacy	Control theory	Involves detailed	Encourage	HW	Pregnant Woman
specific goal		(CT)	planning of what	woman to		
setting	Skills		the person will do,	develop strategy		
	motivation		including a	e.g. Identify		
			definition of the	appropriate time		
			behaviour	to have		
			specifying	discussion.		
			timeframe, scope	Possibly develop		
			or duration and	SMART objective		
			specification of at least one context, that is where, when, how, or with whom	Agree specific goal and steps along the way. Set SMART objectives for various steps. E.g. set a 4 week smoke free challenge	Pregnant Woman	Partner / Family
11. Prompt review of behavioural goals		(CT)	Review and/or reconsideration of previously set goals or intentions	Discussion – how did it go? And 'what else?'	HW	Pregnant Woman
				How do we feel	Pregnant Woman	Partner / Family
				about this – is it		
				working for us?		

12. Prompt self- monitoring of behaviour	Skills Attitude	(CT)	The person is asked to keep a record of specified behaviour(s) (e.g. in a diary)	N/A Possibly use a monitoring tool e.g. diary / sticker chart	HW Pregnant Woman	Pregnant Woman Partner / Family
13. Provide feedback on performance	Attitude Beliefs about consequences and capabilities	(CT)	Providing data about recorded behaviour or evaluating performance in relation to a set standard or others' performance i.e. the person received feedback on their behaviour	Asking what worked well / was didn't work so well / what could have been different How did the family perform in relation to steps / SMART objectives – could use diary / sticker chart what has worked well – if we didn't achieve what could we change	HW Pregnant Woman	Pregnant Woman Partner / Family

contingent		Operant	Praise,	Praise if	HW	Pregnant Woman
-		conditioning (OC)	encouragement	successful		
rewards	motivation		that are explicitly	discussion and		
			linked to the	encourage to use		
			achievement of	alternative		
			specified	strategies if not		
			behaviours	gone so well		
				Goody bag?	Pregnant Woman	Partner / Family
				Identify the		
				positives e.g.		
				house smells		
				better, baby is		
				going to be		
				healthier, maybe		
				smoking less		
				therefore saving		
				money		
15. Teach to use	Memory,	(OC)	Teach the person	e.g. no smoking	HW	Pregnant Woman
prompts or cues	attention,		to identify	signs, removing		
	decision process		environmental	ashtrays, umbrella		
	and action		cues that can be	by door - agree		
	planning		used to remind	which are		

			them to perform a behaviour, including times of day or elements of contexts	acceptable	Pregnant Woman	Partner / Family
behavioural	Motivation Action planning	(OC)	Agreement (i.e. signing) of a contract specifying behaviour to be performed so that	N/A	HW	Pregnant Woman
			there is a written record of the person's resolution witnessed by another	Could be family agreement e.g. signing a SFH pledge Smoking fine if not done outside	Pregnant Woman	Partner / Family
17. Prompt practice		(OC)	Prompt the person to rehearse and repeat the behaviour or preparatory	Encourage women to rehearse discussion beforehand	HW	Pregnant Woman
			behaviours	Maybe think about dealing with specific situations / people e.g.	Pregnant Woman	Partner / Family

				friends visiting		
18. Use follow up prompts	Self efficacy		Contacting the person again after the main part of the intervention is complete	Asking about SFH at routine visits N/A	HW Pregnant Woman	Pregnant Woman Partner / Family
19. Provide opportunities for social comparison	oportunities for observation , ocial comparison of non-exper others' performance	observation / <i>raising awareness</i> of non-expert	Depends on context could be a group intervention in e.g. children's centre	HW	Pregnant Woman	
			group class or using video or case study	Maybe visit friends / family who are smoke free or thinking about how many people the family know who are smoke free	Pregnant Woman	Partner / Family

20. Plan social	Social influences	(Social support	Prompt	Antenatal group	HW	Pregnant Woman
support or social		theories)	consideration of	activity /		
change			how others could	buddying up		
			change their			
			behaviour to offer			
			the person help or			
			(instrumental)	Partner / friend	Pregnant Woman	Partner / Family
			social support,	supporting the		· · · · ·
			including "buddy"	mother discuss		
			systems and/or	SFH – possibly		
			providing social	backing up or		
			support	helping enforce /		
				having the		
				discussion on		
				behalf of the		
				mother		
21. Prompt			Indicating how the	Positive example	HW	Pregnant Woman
identification as a			person may be an	of tackling a		
role model			example to others	sensitive issue		
			and influence			
			their behaviour or			
			provide an	Wanting to be	Pregnant Woman	Partner / Family
			opportunity for	perceived as		
			the person to set	being good		
			a good example	parents and role		
				model to prevent		
				children taking up		
				smoking in later		

22. Prompt self- talk	Beliefs about capabilities		Encourage the use of self-instruction and self- encouragement (aloud or silently) to support action	life ?	HW	Pregnant Woman
23. Relapse prevention	Self efficacy Skills Beliefs about capabilities	(Relapse prevention therapy)	Following initial change, help identify situations likely to result in readopting risk behaviours or failure to maintain new behaviours and help the person plan to avoid or manage these situations	N/A Identifying the possible triggers that could result in smoking in the house – and strategies to address them	HW Pregnant Woman	Pregnant Woman Partner / Family

24. Stress management	Self efficacy	(Stress theories)	May involve a variety of specific techniques (e.g. progressive relaxation) that do not target the behaviour but seek to reduce anxiety and stress	?	HW Pregnant Woman	Pregnant Woman Partner / Family
25. Motivational interviewing	Motivation Beliefs about capabilities		Prompting the person to provide self-motivating statements and evaluations of their own behaviour to minimise resistance to change	? ?	HW Pregnant Woman	Pregnant Woman Partner / Family
26. Time management			Helping the person make time for the behaviour (e.g. to fit it into a daily schedule)	N/A N/A	HW Pregnant Woman	Pregnant Woman Partner / Family

Appendix 2: Phase 1 Focus Group Discussion (FGD) Topic Guides and Questionnaires

FGD topics with new mother's

Have you heard of SHS?

Were you given information during pregnancy?

When should you be given information about SHS?

What would you want to read about or hear to help you reduce second-hand smoke?

Let's look at some materials about SHS produced previously... What ideas do you have for materials/products with slogans?

FGD topics with health professionals

What are the key messages about SHS that parents need to be told?

What are the key message about SHS that others (such as friends, relatives) need to be told?

Phase 1 development work: women's questionnaire

Are you a new mum?

Are you an expectant mum?

Do you know when a baby is affected by second-hand smoke? (Respondents were asked to tick all statements they knew)

- a. When someone smokes in the same room as the baby
- b. When someone smokes in one room when the baby is asleep in another
- c. When someone picks up your baby but hasn't washed their hands after having a cigarette
- d. When the baby is taken in a car someone has just been smoking in
- e. When a baby touches clothes, sofa or carpets in a room where people have smoked

Second-hand smoke either causes or can increase the risk of these (*Respondents were asked to tick as many as they knew*)

- a. Asthma
- b. Lung infections
- c. Glue ear
- d. Cradle cap
- e. Sudden infant death
- f. Meningococcal disease (blood disease)
- g. Increased hospital visits

- h. Low birth weight i. Babies which are small for age in womb j. Skin rashes
- k. Wheezing

What would be the best way to help you reduce second-hand smoke for your baby? (Respondents were asked to prioritise which would be most useful); 1 being most useful and 5 being least

a. Support on how to influence smokers in your family, so that they don't smoke around your baby

b. The Facts about the chemical content of cigarette smoke such as arsenic, lead and cyanide

c. The Facts that when someone smokes, the toxic chemicals from cigarettes coat clothing and stay on your carpets and soft

d. To understand adults can choose but baby has no choice

e. To know that even if me or my family smoke, we know what we can do to keep the baby safe

When would it be good to get this information? (*Respondents were asked to tick the most useful time*)

- a. On booking in with the midwife
- b. At six months pregnant
- c. 2 weeks before the birth due date
- d. 2 weeks after the birth
- e. 3 months after

Phase 1 development work: health professional's questionnaire

What information do you think the intervention material should include? *Respondents were asked to priorities their selections, with 1 as most important*

a. Facts about the chemicals SHS contains eg arsenic, ammonia

- b. Facts about the impact on babies' health, eg respiratory problems, glue ear
- c. How smoke coats furnishings and clothes for hours after the cigarette is out
- d. How SHS in cars is particularly harmful for babies
- e. That the baby has no choice
- f. The positive steps they can take to make the baby's space as smoke free as possible
- g. How they may influence relatives' and friends' smoking behaviour, as well as their own

When do you think it would be best to give this information? This could be once, or more than once

- a. At a routine ante-natal appointment please say which visit and by whom
- b. At a routine post-natal appointment please say which visit and by whom

Which health professional do you think might be best placed to give the intervention material?

- a. GP
- b. Midwife
- c. Midwifery Support Worker
- d. Health Visitor
- e. Health Visitor Support Worker
- f. Other (please say)

What does the Health Professional need to say when they give the intervention? Respondents

were asked to tick all they thought would be useful.

- a. I need to tell you about the harm SHS may do to your baby
- b. Here is something local women have found useful
- c. Do you have any relatives or friends who smoke who will come to see the baby? We appreciate it's hard to ask them not to smoke, so here's something which may help
- d. Any reduction in your baby's exposure to SHS is better than none
- e. All Health Professionals give praise for implementing any change, however small

What media/method is best? (*Respondents were asked to prioritise which would be most valuable, with 1 as most valuable*)

- a. A leaflet in the back of the Red Book
- b. A catchy slogan e.g. you can choose, baby can't; we don't smoke near baby
- c. A bag, with slogan, to put their Maternity Notes in
- d. Posters in ante-natal settings
- e. A sticker for house and car
- A fridge magnet
- g. Post-its and pencils
- h. Tea towels
- i. Birth announcement cards, with message, to give to relatives and friends which Mum can personalise, personalised
- j. Multiple options of the above
- k. Other please give details

Have you ever spoken to a woman about SHS?

FGD Topic guide: design of intervention women and health professionals

Number of items Item/ phrases

What type of device?

What does it say?

What does the Midwife say when she gives it?



This bubble will appear blank, or white, until touched to activate thermchromatic ink

Second Hand Smoke

is the smoke which comes from other people's cigarettes. The smoke is full of chemicals and poisons, including lead, arsenic and cyanide.



Though you can't see it or smell it, it is like invisible grey snow, falling silently onto furniture and carpets in rooms where people smoke. Because your baby relies on the air you breathe to develop and grow, if you breathe in smoke, so does your growing baby.



SECOND HAND SMOKE IS AN INVISIONE THREAT

Second Hand Smoke

is the smoke which comes from other people's cigarettes. The smoke is full of chemicals and poisons, including lead, arsenic and cyanide.



Though you can't see it or smell it, it is like invisible grey snow, falling silently onto furniture and carpets in rooms where people smoke. Because your baby relies on the air you breathe to develop and grow, if you breathe in smoke, so does your growing baby.

SECOND HAND SMOKE IS AN INVISEDED

Can you answer these questions? Are they true or false? (reveal the answers)



TRUE

TRUE

TRUE

TRUE

TRUE

TRUE

- **Q: What is Second Hand Smoke?** A: Smoke from the burning end of a cigarette
- A: Smoke blown out by someone smoking
- A: Smoke still in a room when people have stopped smoking
- **Q: How does Second Hand Smoke affect baby?**
- A: Chemicals you breathe in with SHS go into baby's blood A: Baby gets less oxygen to grow
- A: Baby is more at risk of many health problems

Do *whatever* you feel you can to keep your growing baby safe!

- Ask smokers not to light up in your home
- If someone has smoked, open the windows and doors to get rid of smoke before you sit in the room
- Move away from people smoking in the street

Remember, if you breathe in smoke, so does your growing baby.





SECOND HAND SMOKE IS AN **NVISIBL** THREAT PROTECT rom Second Hand NHS



Soon you'll be welcoming your new baby into the world. Because your baby depends on you to stay safe and well, we need to let you know about an invisible danger which may be in your home and which could seriously harm Baby while still tiny; and also what you can do to protect your baby.



Second Hand Smoke is the smoke which comes from the burning end of a cigarette and the smoke blown out by smokers. The smoke is full of chemicals and poisons, including arsenic, lead and cyanide. Though you can't always see these chemicals, they are like invisible grey snow, falling silently onto furniture and carpets in rooms where people smoke. They stick on your hands and clothing and rub off onto the things you touch-including babyeven some time after stubbing out the cigarette. Your baby depends on you to help keep those tiny lungs safe. If you, a friend or relative, smokes in the room with Baby, then Baby breathes in carbon monoxide, cyanide, arsenic and lead.





If someone who smokes picks up your baby, the smoke chemicals from their clothes will rub onto the baby, who will then transfer them to their mouth!

Baby is more likely to get asthma, chest infections and other illnesses

Babies in homes where people regularly smoke in the house are more likely to die suddenly

There is a lot you can do to reduce the risk of harm as much as possible, or even remove the risk completely.

If you smoke, pop outside—keep an ashtray, an umbrella and a 'smoking jacket' by the door! Then always wash your hands after your cigarette.

Ask your friends and relatives to have their last cigarette as long as possible before visiting the baby.

If they want to smoke at your house, ask them to pop outside to smoke and then wash their hands when they come back in.

THINKING OF GIVING UP?!?

You-or your friends or relativesmight want to take the opportunity to stop smoking when Baby arrives; if you do, the NHS can provide support for you all-why not stop together?

Call 0800 169 4219 for Leeds NHS Stop Smoking Service.







16/3/12 15:09:18

Pg1 of printed 10pp leaflet Blank: magnet cover back sticks here

Second Hand Smoke is the smoke which comes from the burning end of a cigarette and the smoke blown out by smokers. The smoke is full of *chemicals* and *poisons*, including arsenic, lead and cyanide.

SECOND HAND SMOKE IS AN INVISIBLE THREAT Though you can't see the chemicals, they are like invisible grey snow, falling silently onto furniture and carpets in rooms where people smoke. They stick on your hands and clothing and rub off onto the things you touch including me—even some time after stubbing out the cigarette. IDEPEND ON YOU TO

HELP KEEP MY TINY LUNGS SAFE!

DEVICE 3.indd 4

16/3/12 15:09:18

If you smoke in the room with me, then I breathe in carbon monoxide, cyanide, arsenic, lead and other bad things. The smoke chemicals will coat the carpets and sofas.



DEVICE 3.indd 5

16/3/12 15:09:18

If anyone picks me up after having a cigarette, the *smoke chemicals* from their clothes will rub onto me–and then I'll put my fingers in my mouth! I'm more likely to get asthma, chest infections and other illnesses.

I could even DIE—and I've only just got here!





16/3/12 15:09:18



16/3/12 15:09:19

16/3/12 15:09:19

Have your last cigarette as long as possible before visiting me...



Please don't smoke in the house at all, my lungs are so small they soon fill up with smokepop outside, my mum can help with an ashtray for you.

DEVICE 3.indd 10

16/3/12 15:09:19

Give your hands a quick wash before picking me up. Ask my other relatives and mum's friends not to smoke around me either.

HANK

FOR PROTECTING ME FROM SECOND HAND SMOKE!

Pg 10 of printed 10pp leaflet Blank: magnet cover back sticks here



PROTECT







I'd like to welcome *all* my visitors.



Cyanide, arsenic and lead come off the end of the sticks and get into my lungs.





Bits float in the air and coat the carpets and sofas, like invisible grey snow.



My relatives and friends are brilliant—they protect me from Second Hand Smoke.



So Aunty Meg has thrown her cigs away...





...Kev and Reina go outside so my little lungs don't fill up with smoke.

There's an ashtray and an umbrella at the back door in case it rains. Grandma laughs, saying "Stop smoking and save your money for a holiday!"



Our neighbour Hardeep sometimes smokes.



He knows I like to hold his finger and put it in my mouth. He always gives his hands a good wash before he holds me.





Please remember: if you smoke in the house I smoke too. A big Thank You to all my new friends and relatives for protecting me from Second Hand Smoke!



SECOND HAND SMOKE IS AN INVISIBLE THREAT

Second Hand Smoke is the smoke which comes from the burning end of a cigarette and the smoke blown out by smokers.

The smoke is full of chemicals and poisons, including arsenic, lead and cyanide.

Babies have no choice if you smoke in the room, they smoke too.

Babies depend on you to protect them from Second Hand Smoke

Do you want to stop smoking? If you do, the NHS can provide support for you.

Call 0800 169 4219 for Leeds NHS Stop Smoking Service





Appendix 4

We would be grateful if you would take just a few moments to complete this short survey. You will <u>NOT</u> be identified from this survey. Please circle your answer to each question.

Q1. At the present time, do you smoke?

YES NO

Q2. Do you currently live with someone who smokes and/or have visitors who smoke?

YES NO

IF YOU ANSWERED "YES" TO Q1 OR Q2", THEN PLEASE ANSWER THE FOLLOWING QUESTIONS

Q3. Have you received any information about smoke free homes? (Please tick)

Yes I have received information from my midwife

Yes I have received information from another source (please specify).....

No I have not received any information about smoke free homes

Q4. Are there any restrictions or limits on where smoking can take place in your house? (Please tick)

My home was smoke free even before I found out I was pregnant

My home has been smoke free since I found out I was pregnant

There are NO limits or restrictions on smoking in my house

Thank you for completing this survey

Appendix 5

Participant & age at	Self-reported	Community midwife delivered interventions	Heath visitor delivered interventions
study entry (baseline)	Smoking status		
001 Age:18	Smoker	A: not applicable	B: given @ early start visit
		C: given @ antenatal appointment @40 weeks +3 days	D: given postnatal day 10
002 Age:20	Non-smoker	A: not known	B: given @ early start visit
		C: given postnatal day 13	D: given postnatal day 11
003 Age:28	Smoker	A: not applicable	B: posted with red book
		C: Not given - participant did not attend postnatal day 3 appointment with midwife	D: given postnatal day 14
004 Age:17	Smoker	A: not applicable	B: given @ early start visit
-		C: Not given – midwife did not visit until postnatal day 12	D: given postnatal day 11
005 Age:21	Non-smoker	A: given @16 week antenatal appointment	B: posted with child health book by HV administration team
		C: not given due to postal issues when GP surgery closed	D: given postnatal day 12
006 Age:30	Non-smoker	A: given @16 week antenatal appointment	B: given @ early start visit
		C: given @ 39 week antenatal appointment. (planned Caesarean-section)	D: given postnatal day 13
007 Age: 22	Non-smoker	A: given @16 week antenatal appointment	B: given @ early start visit
		C: given on postnatal day 3	D: given postnatal day 11
008 Age:18	Smoker	A: not applicable	B: given at routine visit by the family nurse practitioner
-		C: Not given	D: given postnatal day 10