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# Encouraging disadvantaged parents to create a smoke-free home in a real world setting

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## First Steps to Smoke-free (FS2SF)

The FS2SF Project was funded by the Scottish Government Chief Scientist Office (CSO) and carried out by the Universities of Aberdeen and Edinburgh and NHS Lanarkshire

### First Steps Team

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# The First Steps Programme

- Provides one to one intensive support to first time mums and their families living in social disadvantage, through a home visiting service by First Steps workers
- Nesting the study within the First Steps Programme provided an opportunity to overcome some of the barriers identified in the REFRESH study in terms of recruiting disadvantaged parents, and embedding the intervention within an existing service.

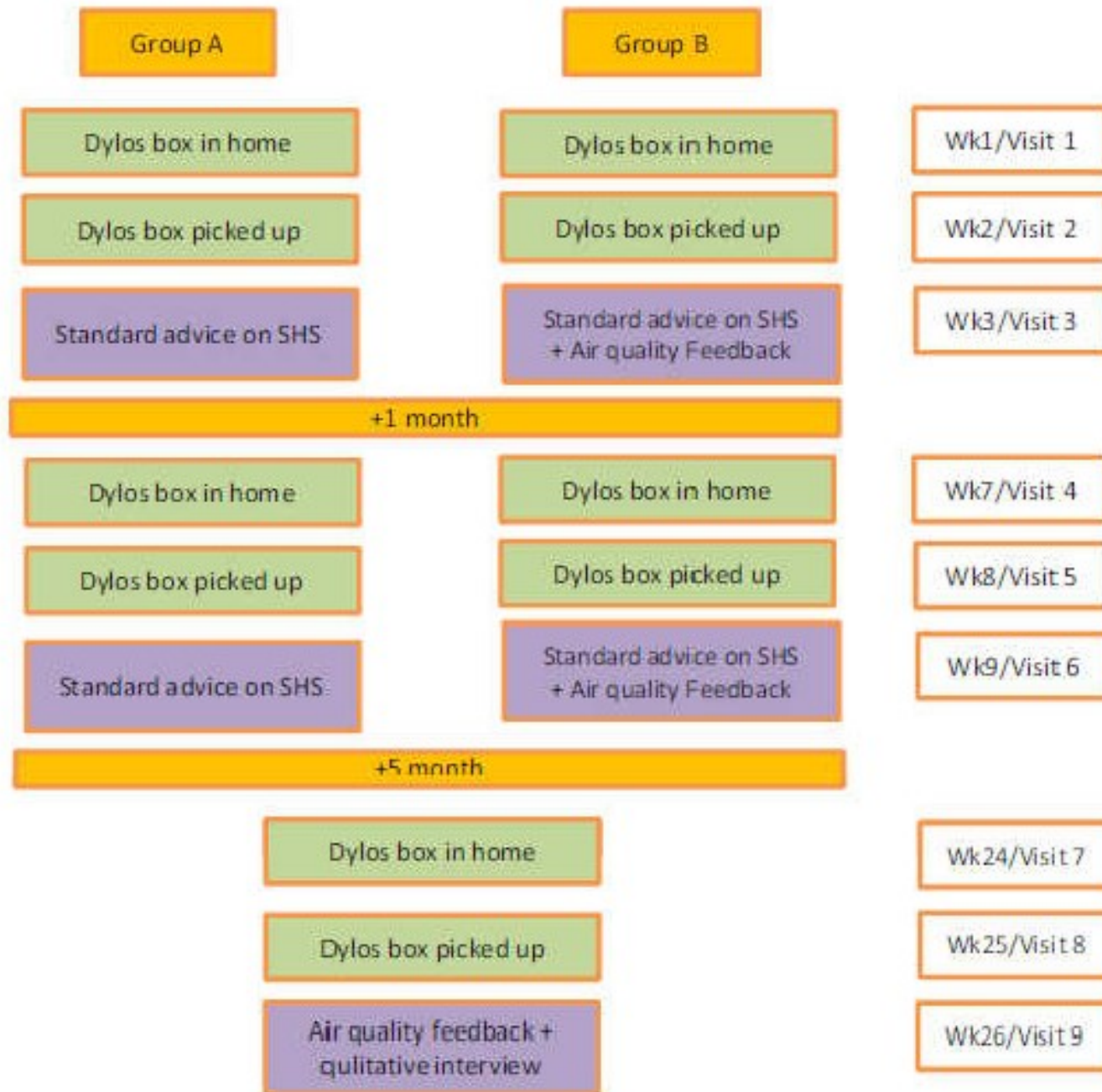


# FS2SF

- **Aim:** to determine if providing personalised feedback of household SHS concentrations AND standard advice on SHS was more effective than providing standard advice alone
- Primary outcome measure: Changes in household concentrations of fine Particulate Matter (PM<sub>2.5</sub>)
- Used a simple, low cost device (Dylos DC1700) to deliver air quality feedback



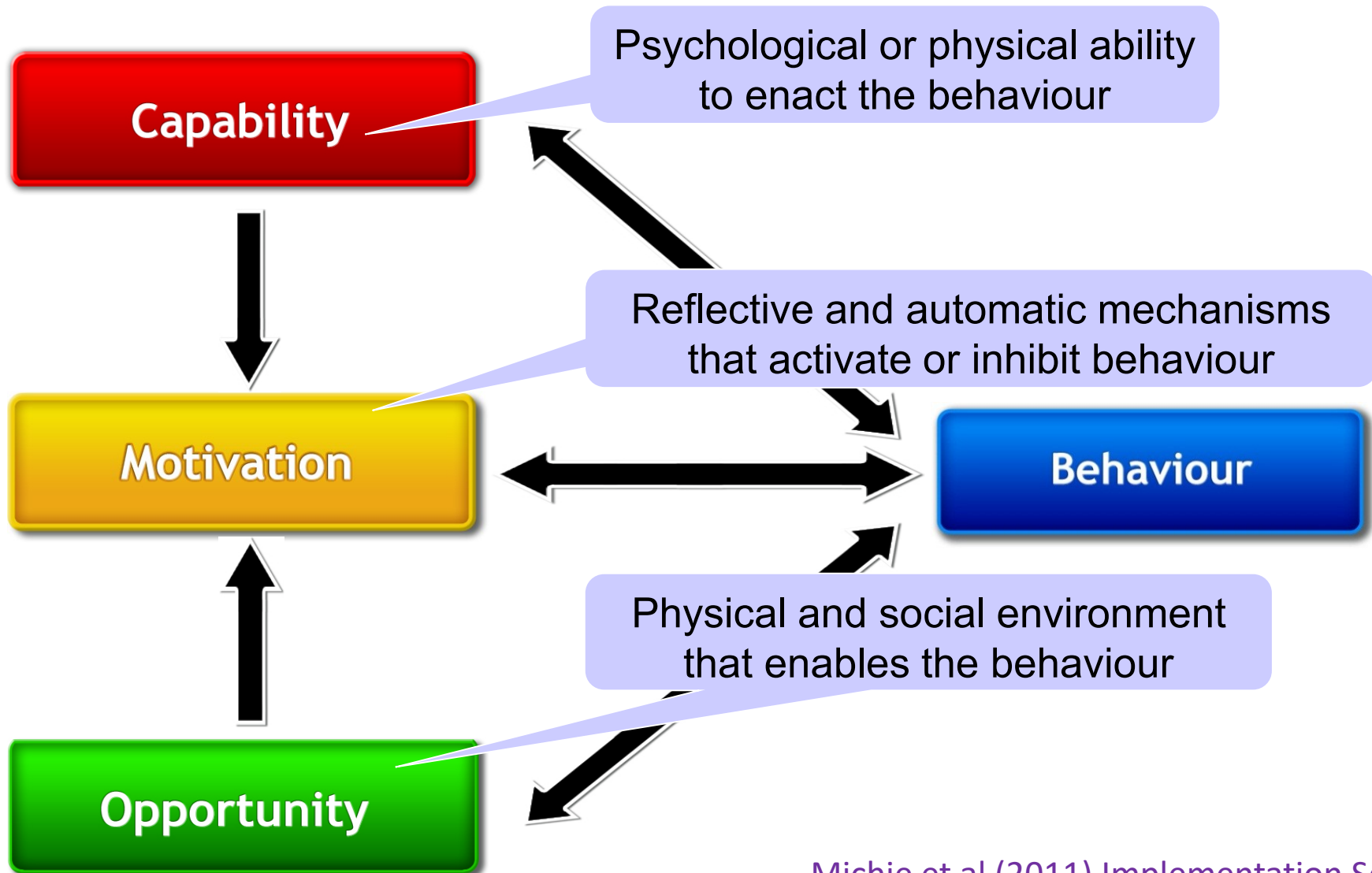
# Study design



- Recruitment was high with over 70% of eligible mothers agreeing to participate in the study, indicating a high level of interest in receiving this type of individual data about SHS concentrations in the home.
- Follow-up participation was also good with over 87% of those who completed the baseline measurements taking part at 1-month, and 67% at 6-month follow-up.
- However, quantitative findings showed that home SHS levels did not change in either arm of the trial.
- Qualitative interviews were carried out with 16 Group B participants to explore reasons for the limited effectiveness of the intervention.



# Qualitative analysis



# Qualitative findings

- The intervention increased women's capability to change home-smoking behaviour, through increasing awareness and understanding of SHS risks to their children
- Participants reported increased motivation to change their smoking, with most expressing shock that their personalized feedback displayed higher PM<sub>2.5</sub> readings than expected.
- However, taking effective action was constrained by their limited social and environmental opportunities, including others' smoking in the home and access to outdoor space.





*“I feel like I’ve learnt a lot about what it [SHS] can do to your health...and what it could do to your children.” (P1)*

*“At first I was in denial, and then I had the proof right in front of me in black and white and I went, ‘no, right now is the time to make a change’.” (P8)*

*“They only smoke in the house when I’m not in. They will not admit it, but one of them had a cigarette while I was gone.” (P8)*

*“I live on the 13th floor of a high rise flat...I can’t exactly go out to have a cigarette, just to come back and find out he’s been screaming for the last 5 minutes.” (P7)*



## Using air-quality feedback to encourage disadvantaged parents to create a smoke-free home: Results from a randomised controlled trial



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[10.1016/j.envint.2018.07.039](https://doi.org/10.1016/j.envint.2018.07.039)

### ARTICLE INFO

Handling editor: Xavier Querol

#### Keywords:

Environmental Tobacco Smoke  
Second-hand Smoke  
Children  
PM<sub>2.5</sub>  
Education  
Intervention

### ABSTRACT

**Objective:** To determine if low-cost air-quality monitors providing personalised feedback of household second-hand smoke (SHS) concentrations plus standard health service advice on SHS were more effective than standard advice in helping parents protect their child from SHS.

**Design:** A randomised controlled trial of a personalised intervention delivered to disadvantaged mothers who were exposed to SHS at home. Changes in household concentrations of fine Particulate Matter (PM<sub>2.5</sub>) were the primary outcome.

**Methods:** Air-quality monitors measured household PM<sub>2.5</sub> concentrations over approximately 6 days at baseline and at one-month and six-months post-intervention. Data on smoking and smoking-rules were gathered. Participants were randomised to either Group A (standard health service advice on SHS) or Group B (standard advice plus personalised air-quality feedback). Group B participants received personalised air-quality feedback after the baseline measurement and at 1-month. Both groups received air-quality feedback at 6-months.

Journal of Public Health | pp. 1–8 | doi:10.1093/pubmed/fdaa042

## ‘They only smoke in the house when I’m not in’: understanding the limited effectiveness of a smoke-free homes intervention

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### ABSTRACT

**Background** Children’s second-hand smoke (SHS) exposure in the home is highest in socio-economically disadvantaged areas. Personalized household air-quality measurements can promote changes in smoking that reduce SHS exposure. The ‘First Steps 2 Smoke-free’ (FS2SF) intervention is the first to trial this approach delivered as part of health professionals’ routine work. This paper reports the findings of qualitative interviews with participants that explored their experiences of the intervention and why outcomes varied.

**Methods** 120 women were recruited from the NHS First Steps Programme, which supports disadvantaged mothers. They received either personalized feedback on their home air quality and advice on reducing SHS or standard SHS advice. Qualitative interviews with 15 mothers were analyzed thematically using the Capability, Opportunity, Motivation, Behaviour (COM-B) model.

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<https://doi.org/10.1093/pubmed/fdaa042>



# Conclusions

- Personalised feedback of air quality information using low cost devices can be successfully integrated into routine services provided by health care providers
- Providing personalised air quality feedback may not be suitable for all groups of smoking parents, and may be best suited to support those who have the opportunities to change home smoking behaviours.
- Smoke-free home interventions needs to take account of the complex lives that people live, and work with all household members who smoke, not just mothers.

