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# Personalised information for improving the uptake of smoking cessation programs

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Smoking is the world's leading cause of preventable illness and death (1). Accounting for 6 million deaths annually, 600,000 of smoking-related deaths occur in non-smokers exposed to second hand smoke (2). A major risk factor for six of the eight leading causes of death worldwide, smoking affects nearly every organ of the body (3). Smokers usually underestimate their risk of smoking-related diseases (4). Awareness of health concerns are a major motivator to quit (5,6). One in every two smokers will die from their addiction, however quitting substantially reduces this risk (7,8). Making an attempt to quit smoking and then sustaining abstinence are both equally important in ultimately succeeding quitting. Smokers frequently attempt quitting several times unsuccessfully before achieving long-term abstinence (9,10). Smokers who seek support in quitting are much more likely to quit than those who try to quit alone, and the most effective aid for achieving smoking cessation is medication (e.g., nicotine replacement therapy, or varenicline) coupled with tailored behavioral support from specialist stop smoking services, like the National Health Service Stop Smoking Services (NHS SSS) in the UK (11-13).

NHS SSS encourage and support smokers to quit smoking. Providing specialist advice and access to medication support, this comprehensive program has seen a

good success rate in their reach and impact (14). However, despite achieving quit rates of 35% in 4 weeks of using the program, less than 5% of the smokers actually utilize the service owing to declined motivation to contact the services after referral from health care providers (14-16).

The lack of motivation to utilise this free service offered by NHS which otherwise has reported a good smoking cessation rate has been a thought to much more research in recent times. Some published studies have found that communicating tailored messages positively impacts recruitment and engagement, increasing the uptake and referral to these services (17). Proactive engagement of smokers by personalizing the advice and communicating the risk factors tailored to the individual works as a good engagement strategy. Additionally, targeting the smokers, who might be unaware of the smoking cessation program or may have inadequate information, can help motivate them to join a 'free trial session'; to 'come and try out' and experience the service. Gilbert *et al.* assessed this multimodal approach in the Start2quit trial conducted across 18 SSS comprising of 99 general practices in England (18). The uptake of SSS program was assessed by sending a tailored letter communicating risk to the individual smoker along with a 'no-commitment' trial session of the SSS program (intervention arm) compared to usual practice of sending a

generic letter informing about the SSS.

A total of 4,383 smokers were enrolled and followed up for 6 months to ascertain the attendance in the first SSS course and their smoking status. The proportion of smokers attending the first session of SSS course were significantly higher in the intervention group [17.4% (n=458)] compared to the control group [9.0% (n=158)]; [odds ratio (OR) =2.12; [95% confidence interval (CI), 1.75–2.57]; P<0.0001]. The number of participants reporting 7-day point-prevalent abstinence was higher in the intervention group [9.0% (n=236)] compared to the control group [5.6% (n=97)]; [OR =1.68; (95% CI, 1.32–2.15); P<0.0001]. Around half of the intervention group participants who attended the trial session came back for the SSS course. Number of participants achieving 7-day abstinence was higher for ones attending both the trial session and the SSS course [28.7% (97 of 338)] compared to those who only attended either the trial session [10.0% (40 of 401)], or the SSS course [17.5% (21 of 120)]. We further calculated the risk difference per 100 smokers treated for the outcome of validated 7-day point-prevalence abstinence which indicated that for every 100 patients receiving the intervention, 3.4 (95% CI, 1.9–4.9) additional patients would quit compared to 100 patients allocated to the control group.

The acceptance of both the communication of personal risk letter and the trial session augments the general acceptance of this proactive identification and intensive engagement strategy. The two components of the intervention might work additively or a personal advice tailored to an individual from health care professional might trigger cues to action. A ‘try-out’ session without the need of any commitment might serve as a laxer approach, giving an opportunity to experience the service. As opposed to the traditional smoking cessation programs, which target smoking population having an intention and motivation to quit, the program substantiates the need to proactively engage all the smokers even with unclear or distant plans to quit smoking. This could prove to be an effective approach in triggering the motivation to quit (19).

Being the first study to assess the effectiveness of using ‘come and try’ sessions to motivate people to join smoking cessation services, the findings demonstrate potential in reaching and engaging larger populations. The individual effectiveness of both the component of the intervention—tailored risk communication or the trial session would be interesting to investigate further. Adopting and closely integrating technological interventions such as mHealth, eHealth, and eLearning into this strategy could further

assist in follow-up and data collection. This could further accentuate the population imbibition in a cost and time effective manner (20). The cost-effectiveness analysis of the interventions which is to be published in the near future would be interesting too for real-world implementation. The program as a whole offers very promising and novel avenues to derive benefit from the existing smoking cessation services and may be applicable to other health promotion services.

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### Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

### References

1. WHO Report on the Global Tobacco Epidemic: Warning about the Dangers of Tobacco. Geneva, Switzerland 2011. Available online: [http://www.who.int/tobacco/global\\_report/2011/en/](http://www.who.int/tobacco/global_report/2011/en/)
2. World Health Organization. Tobacco Fact Sheet 2016. Available online: <http://www.who.int/mediacentre/factsheets/fs339/en/>
3. World Health Organization, NMH Fact Sheet 2009. Available online: [http://www.who.int/nmh/publications/fact\\_sheet\\_tobacco\\_en.pdf](http://www.who.int/nmh/publications/fact_sheet_tobacco_en.pdf)
4. Weinstein ND, Marcus SE, Moser RP. Smokers' unrealistic optimism about their risk. *Tob Control* 2005;14:55-9.
5. Hyland A, Li Q, Bauer JE, Giovino GA, et al. Predictors of cessation in a cohort of current and former smokers followed over 13 years. *Nicotine Tob Res* 2004;6 Suppl 3:S363-9.
6. Hammond D, Fong GT, McNeill A, et al. Effectiveness of cigarette warning labels in informing smokers about the risks of smoking: findings from the International Tobacco Control (ITC) Four Country Survey. *Tob Control* 2006;15 Suppl 3:iii19-25.
7. Doll R, Peto R, Boreham J, et al. Mortality in relation to

- smoking: 50 years' observations on male British doctors. *BMJ* 2004;328:1519.
8. Pirie K, Peto R, Reeves GK, et al. The 21st century hazards of smoking and benefits of stopping: a prospective study of one million women in the UK. *Lancet* 2013;381:133-41.
  9. Hughes JR, Keely J, Naud S. Shape of the relapse curve and long-term abstinence among untreated smokers. *Addiction* 2004;99:29-38.
  10. Rigotti NA. Clinical practice. Treatment of tobacco use and dependence. *N Engl J Med* 2002;346:506-12.
  11. Secker-Walker RH, Solomon LJ, Flynn BS, et al. Training obstetric and family practice residents to give smoking cessation advice during prenatal care. *Am J Obstet Gynecol* 1992;166:1356-63.
  12. Kotz D, Brown J, West R. Prospective cohort study of the effectiveness of smoking cessation treatments used in the "real world". *Mayo Clin Proc* 2014;89:1360-7.
  13. Brose LS, West R, McDermott MS, et al. What makes for an effective stop-smoking service? *Thorax* 2011;66:924-6.
  14. West R, May S, West M, et al. Performance of English stop smoking services in first 10 years: analysis of service monitoring data. *BMJ* 2013;347:f4921.
  15. Health & Social Care Information Centre. Statistics on NHS Stop Smoking Services in England: April 2014 to March 2015. Available online: <https://digital.nhs.uk/>
  16. Lichtenstein E, Glasgow RE. Smoking cessation: what have we learned over the past decade? *J Consult Clin Psychol* 1992;60:518-27.
  17. Edwards AG, Evans R, Dundon J, et al. Personalised risk communication for informed decision making about taking screening tests. *Cochrane Database Syst Rev* 2006;(4):CD001865.
  18. Gilbert H, Sutton S, Morris R, et al. Effectiveness of personalised risk information and taster sessions to increase the uptake of smoking cessation services (Start2quit): a randomised controlled trial. *Lancet* 2017;389:823-33.
  19. Tzelepis F, Paul CL, Walsh RA, et al. Predictors of abstinence among smokers recruited actively to quitline support. *Addiction* 2013;108:181-5.
  20. Fulton EA, Brown KE, Kwah KL, et al. StopApp: Using the Behaviour Change Wheel to Develop an App to Increase Uptake and Attendance at NHS Stop Smoking Services. *Healthcare (Basel)* 2016;4:E31.

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