

Evaluation of the London Smoking Cessation Transformation Programme: a time series analysis

Sarah E. Jackson PhD^{1*}, Emma Beard PhD¹, Professor Robert West PhD¹, Jamie Brown PhD^{1,2}

¹Department of Behavioural Science and Health, University College London, London, UK

²Department of Clinical, Educational and Health Psychology, University College London, UK

*Early career researcher

Corresponding author: Dr Sarah E Jackson, PhD. Department of Behavioural Science and Health, University College London, 1-19 Torrington Place, London WC1E 6BT

Tel: (44) 207 679 3179

Fax: (44) 207 916 8354

s.e.jackson@ucl.ac.uk

Background

In 2017, a citywide smoking cessation campaign – the London Smoking Cessation Transformation Programme – was launched in London to boost quitting rates. The campaign involved use of mass media and online marketing, an online portal and a dedicated telephone helpline. This study examined whether the campaign resulted in an increase in quit attempts and in the success rate among smokers who tried to quit in the first year of operation.

Methods

The programme began in 09/2017. We used data from 55,528 past-year adult smokers who participated in a monthly series of nationally-representative cross-sectional surveys in England between 11/2006 and 08/2018. 12.5% of smokers lived in London (intervention region) and 87.5% in the rest of England (control region). Interrupted time-series analyses, using Autoregressive Integrated Moving Average (ARIMA) and Generalised Additive Models (GAM), modelled population trends in the difference between monthly quit attempts and quit success rates among smokers who made a quit attempt in London versus the rest of England before and during the first year of the programme. Data were weighted to match the population in England.

Findings

The monthly difference in prevalence of quit attempts in London compared with the rest of England increased by 9.59% (95%CI=4.35-14.83, $p<0.0001$) from a mean of 0.04% pre-intervention to 9.63% post-intervention. The observed increase in success rates among those who tried was not statistically significant (4.72%; 95%CI=-2.68-12.11, $p=0.21$); Bayes factors indicated these data were insensitive. GAM analyses confirmed these results, showing a significant step-level change in the monthly prevalence of quit attempts from pre- to post-intervention that was 1.52 times larger in London than the rest of England (95%CI 1.21-1.91, $p<0.0001$), but no significant difference in change in success of quit attempts (OR=1.22, 95%CI 0.71-2.10, $p=0.48$).

Interpretation

The promotion of the London Smoking Cessation Transformation Programme during September 2017 was associated with a significant increase in quit attempts compared with the rest of England. This supports the view that media campaigns and cessation support can work together to improve quitting rates in large population groups. The programme could provide a blueprint for similar initiatives in other major cities in the UK or overseas.

Funding

The London Smoking Cessation Transformation Programme was jointly commissioned by 31 London boroughs. Cancer Research UK funded data collection (C1417/A22962; C44576/A19501) and SJ, EB & JB's salary (C1417/A22962). SJ's salary was also supported by the ESRC (ES/R005990/1). The funders had no final role in the study design; in the collection, analysis and interpretation of data; in the writing of the report; or in the decision to submit the paper for publication.

Contributors

SEJ, EB, RW and JB conceived and designed the study. EB analysed and interpreted the data. SEJ wrote the Abstract. All authors have seen and approved the final version of the Abstract for publication.

Conflicts of interest

JB and EB have received unrestricted research funding from Pfizer, who manufacture smoking cessation medications. RW undertakes research and consultancy for and receives travel funds and hospitality from manufacturers of smoking cessation medications (Pfizer, GlaxoSmithKline and Johnson and Johnson). All authors declare no financial links with tobacco companies or e-cigarette manufacturers or their representatives.

Ethics approval and informed consent

Ethical approval for the Smoking Toolkit Study was granted originally by the UCL Ethics Committee (ID 0498/001) and participants provided fully informed consent. The data are not collected by UCL and are anonymised before being received by UCL.