

## Case study 1: retrospective sustainability review of a hospital-based QI project on smoking cessation

This project<sup>1</sup> was reviewed to identify how far it addressed sustainability of the service, and opportunities to improve this aspect in follow on work, or similar initiatives. The aim of the project was to give the best possible smoking cessation support to smokers who come into contact with the hospital. Strategies included introducing intensive smoking-cessation counselling for inpatients, widening the range of nicotine replacement therapy products available within the hospital, and providing training for front-line staff. The team also used a novel teaching method, the electronic case-based discussion (eCBD) to provide training to junior doctors.

### 1. Setting goals:

While the ultimate goal of the project is not defined, the stated aim is arguably in support of the sustainable QI goal to “deliver care in a way that maximises positive health outcomes and avoids both financial waste and harmful environmental impacts, while adding social value at every opportunity.”

### 2. Understanding resource use:

Resource use was not explicitly considered in the course of developing the project.

### 3. Applying sustainability principles:

Sustainability Principle	Project strengths	Opportunities to improve
1. Prevention	Prevention of smoking-related disease was the primary focus of the project	Greater focus on COPD patients could yield greater health gains
2. Empowerment	Most smokers want to quit <sup>2</sup> ; this project facilitates them to do this	Further emphasis on facilitating rather than advising quitting <sup>3</sup>
3. Lean systems	Implementation of high-value, cost-effective interventions; use of existing staff resources and opportunistic patient contact	
4. Low carbon alternatives	eCBD training avoids need for travel/face-to-face meeting	Research the relative carbon impact of different options for smoking cessation support

### 4. Measuring impact:

The main measure of impact of the project was the number of referrals from secondary care to community smoking cessation services. This increased initially from 8 to 40 per month. Assuming a 15% quit rate we can expect a subsequent increase from 14 to 72 people successfully quitting per year.

It should be noted that data on financial and carbon costs in this context are not well established. Even quality-adjusted life year data is dated.<sup>4</sup> However, best estimates suggest 1.98 quality-adjusted life years saved from smoking cessation.<sup>5</sup> Assuming a long-term relapse rate of 35% we could estimate approximately 75 quality adjusted life years saved. Financial cost to the NHS and total carbon impacts of the project (from estimated increase in nicotine replacement therapy minus estimated avoided bed days, reduced inhaler use and the reduced carbon impact from not using tobacco) were estimated at £7000 saving / year and 16,000kgCO<sub>2</sub>e saving / year respectively. Cost savings to the patients would be far greater.

Social impacts were not quantified due to lack of data/evidence. However potentially important impacts were identified as benefits to social inclusion, personal independence (particularly in later life) and reduced spending on tobacco for patients themselves, reduced fire risk and health risks from passive smoking for carers and families, and, by reducing demand for tobacco products, a potential contribution to reducing health risks for people working in the supply chain, although this could be outweighed, at least in the short term, by loss of employment.

Had the project team intended to measure the impact on outcomes/TBL impacts, then it may have been possible to collect primary data e.g. on the social impact on patients and carers.

*References for Case study 1:*

1. Wilkinson, A., "The Electronic Case-Based Discussion; a novel teaching method applied to smoking cessation." *Thorax*, vol. Supplement, p. S79, 2015.
2. Statistics O for N. *Opinions Survey Report No. 40 Smoking-Related Behaviour and Attitudes*, 2008/2009.; 2009.
3. P. Aveyard, R. Begh, A. Parsons and R. West, "Brief opportunistic smoking cessation interventions: a systematic review and meta-analysis to compare advice to quit and offer of assistance.," *Addiction*, vol. 107, no. 6, pp. 1066-1073, 2012.
4. Feirman SP, Glasser AM, Teplitskaya L, et al. Medical costs and quality-adjusted life years associated with smoking: a systematic review. *BMC Public Health*. 2016;16:646.
5. Fiscella K, Franks P. Cost-effectiveness of the Transdermal Nicotine Patch as an Adjunct to Physicians' Smoking Cessation Counseling. *JAMA*. 1996;275(16):1247-1251.