

Impact case study (REF3b)

Institution: University College London
Unit of Assessment: 4 - Psychology, Psychiatry and Neuroscience
Title of case study: Identifying evidence-based competences for delivering behavioural support in the English Stop Smoking Services to enhance service quality on a national scale
1. Summary of the impact <p>Research carried out by Professor Susan Michie and colleagues led to the establishment of the NHS Centre for Smoking Cessation and Training (NCSCT) in 2009 to improve the quality of national stop smoking service provision. The team won the Department of Health contract to form the NCSCT which has led to important quality improvements as demonstrated by increases in knowledge and skills of practitioners, and improvements in success rates. It is estimated that to date the NCSCT has been responsible for an additional 7,500 smokers stopping long-term, saving an estimated 6,500 life years at an incremental cost of less than £500 per life year gained.</p>
2. Underpinning research <p>The impacts reported here stem from research commissioned by the Department of Health and led by Michie, published in 2009. The study was a systematic literature review of interventions to increase physical activity and healthy eating in which the first reliable taxonomy of 26 behaviour change techniques for specifying intervention content was developed [1]. This and subsequent taxonomies of techniques to change other health-related behaviours, published by Michie, are now widely used to develop interventions to help promote healthy lifestyles and to train and assess practitioners employed by the NHS to help people improve health-related behaviours. By combining the application of these taxonomies with statistical techniques of meta-regression and multi-level modelling, Michie and colleagues have been able to identify key “active ingredients” in complex interventions [1, 5]. Reliable taxonomies of the behaviour change techniques used in both individual and group behavioural support for smoking cessation were developed by the research teams of Michie and Professor Robert West in 2009-2010 [2, 3]. This enabled a fine-grained description of treatment protocols and current practice, demonstrating wide variations in both.</p> <p>To reduce the wide variation in practice across the 150 NHS Stop Smoking Services, the Department of Health established the NHS Centre for Smoking Cessation and Training (NCSCT) in 2009. UCL won the £3m tender, led by Michie, West and McEwen (Principal Researcher). Central to this award was the systematic, taxonomy-based method for identifying effective behaviour change techniques that would form the basis of the competences, learning outcomes, Standard Treatment Plan and national training curriculum of the NCSCT. To quote from the tender to the Department of Health, “Susan Michie, in collaboration with Robert West, has recently completed an analysis of NHS smoking cessation services across England, based on a taxonomy of techniques she has developed.”</p> <p>The taxonomic method enabled the identification of the component techniques of behavioural support associated with successful outcomes. This was done in two ways. The first was to specify the reported interventions in trials within Cochrane Collaboration systematic reviews of behavioural support for smoking cessation in terms of component behaviour change techniques, and analyse their associations with effectiveness [4]. The second was to specify the treatment protocols of the Stop Smoking Services across England in terms of behaviour change techniques and analyse their associations with the one-month, carbon monoxide validated quit rates, using the Department of Health’s national database [5]. The 16 effective behaviour change techniques thus identified have formed the basis of the national knowledge and skills training programme, delivered both online and in face-to-face courses.</p> <p>The taxonomic method has enabled the fine-grained translation of research evidence into practice and the evaluation of the extent to which this has been successful. A national evaluation of the face-to-face courses conducted in 2011 has demonstrated that practitioners’ confidence in their</p>

competence to deliver the core behaviour change techniques increased for all 16 techniques [6].

3. References to the research

- [1] Michie S, Abraham C, Whittington C, McAteer J, Gupta S. Effective techniques in healthy eating and physical activity interventions: a meta-regression. *Health Psychology*. 2009 Nov;28(6):690-701. <http://dx.doi.org/10.1037/a0016136>
- [2] Michie S, Hyder N, Walia A, West R. Development of a taxonomy of behaviour change techniques used in individual behavioural support for smoking cessation. *Addictive Behaviors*. 2011 Apr;36(4):315-9. <http://dx.doi.org/10.1016/j.addbeh.2010.11.016>
- [3] West R, Evans A, Michie S. Behaviour change techniques used in group-based behavioural support by the English Stop-Smoking Services and preliminary assessment of association with short-term quit outcomes. *Nicotine and Tobacco Research*. 2011 Dec;13(12):1316-20. <http://dx.doi.org/10.1093/ntr/ntr120>
- [4] Michie S, Churchill S, West R. Identifying evidence-based competences required to deliver behavioral support for smoking cessation. *Annals of Behavioral Medicine*. 2011 Feb;41(1):59-70. <http://dx.doi.org/10.1007/s12160-010-9235-z>
- [5] West R, Walia A, Hyder N, Shahab L, Michie S. Behaviour change techniques used by the English Stop Smoking Services and their associations with short-term quit outcomes. *Nicotine and Tobacco Research*. 2010 Jul;12(7):742-7. <http://dx.doi.org/10.1093/ntr/ntq074>
- [6] Brose L, West R, Michie S, Kenyon J, McEwen A. Effectiveness of an online knowledge training and assessment programme for Stop Smoking Practitioners delivered by the NHS Centre for Smoking Cessation and Training (NCSCT). *Nicotine and Tobacco Research*. 2012 Jul;14(7):794-800. <http://dx.doi.org/10.1093/ntr/ntr286>

Key research grants arising from the research:

Michie S, West R, McEwen A. (joint PIs). NHS Centre for Smoking Cessation and Training. Department of Health. 2009–12. £2,967,354

Michie S, Johnston M, Abraham C, Francis J, Hardeman W and Eccles M. Methods for strengthening evaluation and implementation: specifying components of behaviour change interventions. Medical Research Council. 2010–3. £509,200

Johnson A, Hayward H, King M, Michie S, Raine R. NIHR School for Public Health Research (UCL). National Institute for Health Research. 2012–7. £2,150,000

West R, Michie S, McNeill A, Aveyard P. Smoking cessation: population and clinical approaches. Cancer Research UK. 2012–7. £1,655,000

Britton J, 22 co-applicants including Michie S. The UK Centre for Tobacco and Alcohol Studies (UKCTAS). Medical Research Council. 2013–8. £3,523,631

4. Details of the impact

The NHS Centre for Smoking Cessation and Training (NCSCT), based at UCL, was set up in 2009 as an academic-NHS partnership in order to maximise the rate of uptake of research findings by the NHS Stop-Smoking Services. The aims of the NCSCT are “helping [smoking cessation practitioners] provide high quality stop smoking support based on the most up-to-date evidence available” and “to research and disseminate ways of improving the provision of stop smoking support” [a]. Michie and West, two of the three Directors, have led the research providing evidence for best practice within the NHS Stop-Smoking Services. These services now treat some 700,000 smokers each year and are the single largest life-saving treatment service in the NHS, preventing an estimated 12,000 premature deaths each year. The Tobacco Programme Manager at the Department of Health has praised the impact of the research underpinning the work of the NCSCT: “The research by UCL has contributed significantly to positively changing clinical practice nationally in what is a hugely important preventive health service treating some 700,000 people each year. The research provided the basis for establishment of the NCSCT and the content of its training and

assessment programme which currently has more than 12,000 registered practitioners. The research is also important to informing clinical practice internationally as well in an area where the UK is seen as a leader” [b].

1. Impacts on government policy

The impact of this research has been maximised by close collaboration with the Department of Health and practitioners and commissioners for the NHS Stop Smoking Services. This has taken the form of consultation and dissemination meetings, regular emailed briefings and web updates, surveys and high profile events at national and international conferences.

Evidence of the impact of the research via the NCSCT comes from its own research (e.g. [6]), key national documents and testimonials from leading policy-makers. For example, the Department of Health’s 2010 Tobacco Control Strategy, “A Smokefree Future: A Comprehensive Tobacco Control Strategy for England” refers to the NCSCT as core to several of its aspects [c]. See for example:

“We will continue to support the development and implementation of the NHS Centre for Smoking Cessation and Training (NCSCT) as the benchmarking organisation for clinical competence and standards for NHS Stop Smoking Services advisers” (p.50).

“Treatment effectiveness rates are variable across the country and this is not only due to variations in levels of addiction or deprivation. Access rates also vary across the country, often due to local demographics of different socio-economic and black and minority ethnic groups. The work of the NCSCT and other partners will help PCTs ensure that this variation is only due to clinical need.” (p.49).

“We will work with the NCSCT to develop and implement cessation packages and care pathways for smokeless tobacco users” (p.50)

“The Government already produces a range of supporting documents and tools to ensure that local areas have the skills and capabilities they need to deliver comprehensive local tobacco control measures. The NHS Centre for Smoking Cessation and Training (NCSCT), launched in 2009, provides direct support to the areas that most need it.” (p.65).

Michie was called as a witness to the House of Lords Science and Technology Committee’s 2011 Inquiry, Behaviour Change, where she was questioned about the NCSCT as an example of evidence-based impact [d]. The NCSCT was singled out for praise as an “*example of evidence-based policy*” with its success attributed to it having been “*developed by, or in consultation with, academics with expertise in changing behaviour*” (p.20). The NCSCT was presented as an example of evidence-based policy in Box 1 of the report (p.20).

2. Impacts on commissioning

The NCSCT runs annual surveys of those working in the Stop Smoking Services. In 2012, 78% of commissioners who responded stated that they require that the services they commission have practitioners who are NCSCT certified. Managers of stop smoking services were asked if the NCSCT training courses and resources had improved their staff’s practice. On a 5-point scale from ‘1 - not at all’ to ‘5 - extremely’, the modal response (35%) was ‘4 - very much’, followed by ‘3 – moderately (29%) [e].

3. Impacts on professional training

The research reported here has formed the basis of the national, consensually determined set of competences for smoking cessation practitioners adopted by the NHS. This, in turn, has formed the basis of the Standard Treatment Programme and learning outcomes guiding the development of the first ever national training curriculum for practitioners [f]. This research has also formed the basis for the certification of Stop Smoking practitioners and accreditation of service providers. Between 2010 and 7 May 2013, 20,856 trainees have registered for the two stages of training: the

internet (knowledge) and face-to-face (skills) training. 11,791 have passed the Stage 1 formal assessment and are Stage 1 certified practitioners and 5,878 have passed the Stage 2 formal assessment and are fully certified practitioners. Initial evaluation has demonstrated positive effects on knowledge and self-reported competences and confidence [6].

4. Impacts on practitioners and services

In 2012, 1,223 practitioners rated the extent to which the NCSCT training and resources had improved their practice: The modal response, 34.0%, was 'very much', with 15.2% responding "extremely", 23.6% "moderately", 12.8% "a little bit" and 3.5% "not at all". Biochemically verified success rates available across 147 services for two years before the introduction of NCSCT training (2008-10) and one year after (2011-12) suggests NCSCT training has had an effect. The average success rates improved by nearly 2% for all services. The magnitude of the improvement for each service was predicted by the number of practitioners who attended the NCSCT face-to-face (skills) training while adjusting for the number of practitioners trained online (knowledge). A clear dose-response relationship was found between the number of practitioners trained and the improvement in success rates.

5. Impacts on health

The NCSCT was established to reverse the decline in quit rates and reduce the wide variability across local services. The three years prior to establishment of the NCSCT (2005/6 to 2008/9) saw a 4% fall in biochemically verified four-week quit rates in the services nationally. In the 3 years following establishment of the NCSCT (2008/9 to 2011/12) the quit rates rose by 6%. Variance in quit rates across the 151 services reduced by 31% between 2008/9 and 2011/12 [g].

With any before-after evaluation one can never be sure that changes are attributable to an intervention. As far as one can tell there were no other national events occurring at the time that could account for the reversal but it is prudent to consider a range of possible degrees of attribution. If all of the increase in quit success over the first three years of operation of the NCSCT was attributable to its operation, based on a known 70% relapse rate from 4 weeks to 12 months and 20% of the remained thereafter, its first three years of operation is estimated to save 21,500 life years: 6,500 after discounting at 3.5% per year as recommended by NICE. With the cost of the NCSCT over the first 3 years of £3 million, the estimated cost per discounted life year saved is less than £500. If only half of the improvement in quit rates was attributable to the NCSCT it would have saved 3,250 discounted life years at a cost per life year of less than £1,000. The NICE threshold for value for money is £20,000 per quality-adjusted life year gained.

5. Sources to corroborate the impact

- [a] <http://www.ncsct.co.uk/index.php>
- [b] Email 29 July 2013. Copy available on request.
- [c] Department of Health (2010). A Smokefree Future: A Comprehensive Tobacco Control Strategy for England. Department of Health.
http://webarchive.nationalarchives.gov.uk/20100509080731/http://dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_111789.pdf
- [d] House of Lords Science and Technology Committee (2011). Behaviour Change, Second Report of Session 2010-12, HL 179, The Stationery Office.
<http://www.publications.parliament.uk/pa/ld201012/ldselect/ldsctech/179/179.pdf>
- [e] NCSCT final report to Department of Health. See Website: www.ncsct.co.uk/
- [f] http://www.ncsct.co.uk/pub_training.php
- [g] http://www.ncsct.co.uk/publication_statistical-reports.php