

Institution: Cardiff University
Unit of Assessment: UoA 25 Education
Title of case study: DECIPHer-Assist: the UK's most effective school-based smoking prevention programme (Case Study 2)
<p>1. Summary of the impact (indicative maximum 100 words)</p> <p>Since 2010, over 60,000 Year 8 students (including over 11,000 trained peer supporters) have been exposed to a new smoking prevention programme which has achieved a projected 1674 fewer teenage smokers. DECIPHer-ASSIST, a theoretically-grounded peer-led, schools-based smoking prevention intervention was developed and evaluated during research studies conducted at Cardiff University. An MRC-funded trial demonstrated that this intervention reduced the prevalence of smoking by 10% and that it is cost-effective. The intervention has been highlighted in numerous national strategy documents and was recommended in NICE guidance. It is being implemented under licence by public health providers in 23 areas across the UK. A new Cardiff University-owned company (DECIPHer Impact Ltd) sells these licences and supports the delivery of ASSIST in secondary schools.</p>
<p>2. Underpinning research (indicative maximum 500 words)</p> <p>Underpinning theory and development of the ASSIST Programme:</p> <p>Research published in the early and mid-1990's suggested that interventions addressing attitudes and behaviours were largely unsuccessful in influencing smoking behaviour. This led to an interest in social influences approaches to addressing adolescent behaviour, particularly the 'diffusion of innovation' approach which relies on the diffusion of new norms of behaviour through social networks by locally influential opinion leaders.</p> <p>Between 1995 and 2000 Prof. Michael Bloor (Reader, 1995-1997; Professor, 1997-2004; Professorial Research Fellow, 2007-present) began to apply a diffusion of innovation theory to adolescent health. Bloor and his colleagues developed a new schools-based smoking prevention intervention that relied on the power of social influence. This was a school-based, peer-led programme, encouraging new norms of smoking behaviour by training influential Year 8 students to work as 'peer supporters'. Pupils nominated by their peers are trained and supported to have informal conversations with other Year 8 students about the risks of smoking and the benefits of being smoke-free [3-1].</p> <p>An exploratory trial led by Bloor and funded by the Medical Research Council (MRC) and the Wales Office of R&D for Health and Social Care, Mid Glamorgan and Bro Taf Health Authorities and the European Commission from 1995-1996, supported this approach, showing promising signs of potential effectiveness [3-1]. Other Cardiff University colleagues were Jane Frankland (Research Associate, now Southampton University), Annette Catherine (Trainer) and Margaret Robinson (Project Co-ordinator, Family Studies Research Centre).</p> <p>MRC-funded evaluation of the ASSIST Programme:</p> <p>The promising outcomes from this study led to further funding from the MRC to develop the intervention [3-2] and to conduct a large scale cluster randomised trial to evaluate the effectiveness of the ASSIST Programme. The trial (2001-2005) was an interdisciplinary collaboration between Cardiff University and the University of Bristol. Identical teams (PI, Study Co-ordinator, researcher, intervention staff and administrator) in each university were responsible for collaboratively developing the intervention, evaluation material, and the collection and analysis of data. In Cardiff, Bloor and subsequently Professor Laurence Moore (Senior Research Fellow/Senior Lecturer, 2000-2003; Director of the Cardiff Institute of Society and Health, 2003-2010; Professor of Public Health Improvement/Director of DECIPHer, 2009-2013) held the PI position in Cardiff. Moore was the trial statistician. Dr Jo Holliday (Research Sociologist/Health Services Researcher, 2001-2003; Research Associate, 2003-2009; Research Fellow, 2009-present) was the Cardiff-based researcher with responsibility for collecting outcome, process and economic evaluation data, leading the social network analysis aspect of the study and analysing process evaluation data.</p> <p>Almost 11,000 12-13 year old students in 59 schools were recruited into the trial and were followed up on three occasions. Self-reported smoking behaviour collected at each time-point was validated by measuring nicotine levels in saliva. The trial found the ASSIST programme to be effective in</p>

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reducing smoking prevalence over the two year period of follow-up, with an odds ratio of 0.78 (95% CI: 0.64-0.96) [3-3]. Drawing on this data and adjusting for baseline differences and other potential confounders, this effect is equivalent to a reduction in prevalence of 10%, or 2.1 percentage points. As a result, the 2004 Annual Meeting of the Society for Social Medicine selected the trial as its 'top ranked' abstract for the event and the trial findings were subsequently published in *The Lancet*.

An embedded process evaluation established that the ASSIST programme was implemented with a high degree of fidelity, was acceptable to schools and school teachers and to the young people who received it [e.g. 3-4, 3-5]. In addition, a cost effectiveness analysis of the ASSIST programme showed that at a cost of £32 per student the incremental cost per student not smoking at two years was £1,500. The ASSIST programme is therefore cost-effective under conservative assumptions regarding the extent to which reductions in adolescent smoking lead to lower smoking prevalence and/or earlier smoking cessation in adulthood [3-6].

3. References to the research (indicative maximum of six references)

- [3-1] **Bloor, M., Frankland, J.,** Parry-Langdon, N., Robinson, M., Allerston, S., **Catherine, A.,** Cooper, L., Gibbs, L., Gibbs, N., Hamilton-Kirkwood, L., Jones, E., Smith, R.W. & Spragg, B. (1999) A controlled evaluation of an intensive, peer-led, schools-based, anti-smoking programme. *Health Educ J* 58(1): 17–25. <http://dx.doi.org/10.1177/001789699905800103>
- [3-2] Starkey, F., Audrey, S., **Holliday, J., Moore, L.,** & Campbell R. (2009) Identifying influential young people to undertake effective peer-led health promotion: the example of A Stop Smoking In Schools Trial. *Health Educ Res* 24[6], 977-988. <http://dx.doi.org/10.1093/her/cyp045>
- [3-3] Campbell, R., Starkey, F., **Holliday, J.,** Audrey, S., **Bloor, M.,** Parry-Langdon, N., Hughes, R., & **Moore, L.** (2008) An informal school-based peer-led intervention for smoking prevention in adolescence (ASSIST): a cluster randomised trial *Lancet* 371(9624), 1595–1602. [http://dx.doi.org/10.1016/S0140-6736\(08\)60692-3](http://dx.doi.org/10.1016/S0140-6736(08)60692-3)
- [3-4] Audrey, S., **Holliday, J.** & Campbell R. It's good to talk: Adolescent perspectives of an informal, peer-led intervention to reduce smoking (2006) *Soc Sci Med* 63(2): 320-334. <http://dx.doi.org/10.1016/j.socscimed.2005.12.010>
- [3-5] **Holliday, J.,** Audrey, S., **Moore, L.,** Parry-Langdon, N. & Campbell, R. (2009) High fidelity? How should we consider variations in the delivery of school-based health promotion interventions? *Health Educ J* 68[1], 44-62. <http://dx.doi.org/10.1177/0017896908100448>
- [3-6] Hollingworth, W., Cohen, D., Hawkins, J., Hughes, R.A., **Moore, L., Holliday, J.,** Audrey, S., Starkey, F., & Campbell, R. (2012) Reducing smoking in adolescents: cost-effectiveness results from the cluster randomised ASSIST (A Stop Smoking In Schools Trial). *Nicotine Tob Res* 14[2], 161-168 <http://dx.doi.org/10.1093/ntr/ntr155>

Note: All citations are saved as pdf documents and are available from the HEI on request.

4. Details of the impact (indicative maximum 750 words)

Policy Changes and implementation: The ASSIST programme has had an impact **across the UK**, both from its implementation in schools and its incorporation into policy agendas. Since 2010 over 350 UK schools have hosted the programme and over 150 staff from former primary care trusts and local authorities have been trained to deliver it within their local area.

In **Wales**, the ASSIST programme has been implemented in 40-50 secondary schools per year since 2008 and is a continuing commitment in the 2012 Tobacco Control Action Plan [5-1].

In **England**, the Tobacco Control White Paper 'A Smokefree future' published in 2010 focuses on the use of evidence-based policies in three areas, the first of which is 'to stop the inflow of young people recruited as smokers'. The White Paper dedicates a section to peer-led and school based initiatives and states that it will consider the findings of the National Institute for Health and Clinical Excellence (NICE) review of the evidence on peer-led and school-based youth-focused initiatives

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when developing guidance on peer-led and school-based initiatives [5-2]. The review of smoking and young people which informed this White paper identified the ASSIST Programme as a '*potentially important intervention*' [5-3]. Furthermore, the NICE guidance on *School-based interventions to prevent smoking* (which was informed by four separate reviews) contains a specific recommendation on peer-led interventions which states that health care commissioners should '*Consider offering evidence-based, peer-led interventions aimed at preventing the uptake of smoking such as the ASSIST (A Stop Smoking in School Trial) programme*', [5-4] referring readers to the trial results published in *The Lancet*.

In **Scotland's** 2013 Tobacco Control Strategy, the ASSIST programme has been identified as a '*useful smoking prevention initiative... which could have a positive impact on inequalities*'. The strategy also states a commitment to pilot the intervention in Scotland to consider its suitability for Scotland and whether it can be adapted for use with other risk-taking behaviours [5-5].

The ASSIST programme has also been cited as an example of good practice in the UK Government White Paper, '*Healthy lives, brighter futures: The strategy for children and young people's health*' [5-6] and was flagged as an example of a preventative strategy aimed at young people in the NHS guidance document for its Stop Smoking Services [5-7].

A new not-for-profit company set up to licence the ASSIST Programme: In March 2010 Cardiff University and its collaborator in the DECIPHer centre, the University of Bristol, set up DECIPHer IMPACT Ltd (www.decipher-impact.com), a 'not for profit' company which maximises the translation and impact of evidence-based public health improvement research and expertise.

The ASSIST programme is the company's first product which is now trademarked as the DECIPHer-ASSIST smoking prevention programme. Licences are sold by the company, for which licensees receive DECIPHer-ASSIST materials, training, support and ongoing quality assurance. This licensing system maximises the quality of the programme's implementation in real-world settings, thus protecting the brand and maximising the likelihood that the reductions in smoking found in the randomised controlled trial are reproduced in schools elsewhere. There has been substantial demand for DECIPHer-ASSIST from local healthcare purchasers. The majority of customers are Primary Care Trusts (PCTs) in England.

Company turnover for the year ending July 2013 was £240,000, generated from the sale of licences [5-8]. To date, 27 licences have been sold at between £25-30,000 per license. DECIPHer IMPACT Ltd has employed two members of staff: a General Manager and a Chief Executive Officer. DECIPHer IMPACT Ltd was the overall winner of the 2011 BRIG-H Health Innovation Award which recognises outstanding health innovation achievements [5-9] and the 2013 Cardiff University's Innovation and Impact Awards [5-10].

Fewer smokers: Since 2010, a total over 60,000 Year 8 students (over 11,000 peer supporters) have been exposed to DECIPHer-ASSIST [5-8]. Based on the level of effectiveness observed in the MRC trial, around 1674 fewer adolescents are regular smokers as a consequence of DECIPHer-ASSIST.

Cost savings: If the results of the cost effectiveness analysis were extrapolated to those students who have been exposed to the intervention, the annual cost of implementing ASSIST at this level would be around £38.1 million (based on 2007 figures). This investment would result in 20,400 fewer 14 year old smokers. Given that NHS expenditure on treating lung cancer in 2009/10 was £260.8 million in England, and NICE estimates that providing Varenicline (in the form of patches or gum for example) for 125,000 adult smokers attempting to quit in England and Wales would have annual prescription costs of £6.25 million, implementing ASSIST on a large scale will prove an important cost-saving element of tobacco control policy.

5. Sources to corroborate the impact (indicative maximum of 10 references)

[5-1] Welsh Government (2012) *Tobacco Control Action Plan for Wales* (pp4, 15-16).

<http://wales.gov.uk/topics/health/improvement/index/tobaccoplan/?lang=en> Confirms the

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commitment to provide the ASSIST Programme in 40-50 schools per year.

- [5-2] Department of Health (2010) *A Smokefree future: A comprehensive tobacco control strategy for England* (p40). http://www.umic.co.uk/downloads/a_smokefree_future.pdf/
or
http://webarchive.nationalarchives.gov.uk/20100509080731/http://dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_111789.pdf Confirms a commitment to consider the National Institute for Health and Clinical Excellence (NICE) review of the evidence on peer-led and school-based youth-focused initiatives when developing guidance on peer-led and school-based initiatives.
- [5-3] Amos, A. & Hastings, G., Angus, K., Bostock, Y., & Fidler, J. (2009). *A review of young people and smoking in England*. Public Health Research Consortium (pp76, 91, 97, 107). http://phrc.lshtm.ac.uk/papers/PHRC_A7-08_Final_Report.pdf Identifies the ASSIST Programme as a 'potentially important intervention'.
- [5-4] National Institute for Health and Clinical Excellence (2010) *NICE public health guidance 23: School-based interventions to prevent smoking* (pp10, 18, 43). Available from <http://www.nice.org.uk/nicemedia/live/12827/47582/47582.pdf> Confirms that schools should 'consider offering evidence-based, peer-led interventions aimed at preventing the uptake of smoking such as the ASSIST programme'.
- [5-5] The Scottish Government (2013). *Creating a Tobacco free generation: A Tobacco Control Strategy for Scotland* (p21). Accessed 11-Apr-13. Available from <http://www.scotland.gov.uk/Publications/2013/03/3766/0> Confirms that the Scottish Government will 'undertake a pilot of ASSIST'.
- [5-6] Department of Health (2009) *Healthy lives, brighter futures: The strategy for children and young people's health* (p59). Available from http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_094400 Uses ASSIST as a case study and identifies it as an example of good practice.
- [5-7] Chambers, M. (2009) *NHS Stop Smoking Services: Service and monitoring guidance* (p69). Available from <http://www.haltonandsthelenspct.nhs.uk/library/documents/HTSHnhs2010.2011stopsmokingservicesmonitoringguidance.pdf>
or
http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/@sta/@perf/documents/digitalasset/dh_109889.pdf Confirms the ASSIST programme as an example of a preventive strategy aimed at young people.
- [5-8] Letter of support from the Chief Operating Officer, DECIPHer Impact Ltd., regarding DECIPHer Impact Ltd, licence sales and the reach of the DECIPHer-ASSIST programme.
- [5-9] DECIPHer Impact project wins top award. http://www.apcrc.nhs.uk/library/archive_news/11.06.24.htm Confirms ASSIST as winner of 2011 BRIG-H Health Innovation Award which recognises outstanding health innovation achievements.
- [5-10] Innovative Research Recognised at University Awards <http://www.geldards.com/innovative-research-recognised-at-university-awards.aspx> Confirms ASSIST as winner of 2013 Cardiff University Innovation and Impact Awards.⁵⁻¹⁰

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