Stop Smoking Services and Health Inequalities

Authors: Rosemary Hiscock and Linda Bauld
Editor: Andy McEwen
Date of last review: December 2025

Executive summary

- Rates of smoking have declined in the UK in recent years, but the rate of decline has been significantly slower in more disadvantaged groups
- Health inequalities in the UK are widening according to some important measures, such as life expectancy
- Smoking is the single biggest preventable cause of these health inequalities
- Stop smoking services 'reach' a significant number of disadvantaged people who smoke, even in areas with high smoking prevalence. The services treat a higher proportion of people eligible for free prescriptions and who are unemployed than are found among the general population
- Despite this, people from disadvantaged areas find it more difficult to stop with the help of stop smoking services than their more affluent neighbours
- These differences in chances of quitting successfully appear to be due to: lack of social support, higher nicotine dependency, challenging life circumstances and factors relating to the stop smoking services themselves
- Ensuring that disadvantaged clients make full use of stop smoking aids (e.g. combination nicotine replacement therapy (NRT) or varenicline) and group support (possibly rolling drop-in groups) may help stop smoking services increase the quit rates amongst this population
- Stop smoking services in their current form contribute to reducing health inequalities; this impact could be even greater if those who are more disadvantaged contacted the services and if the services maximised the chances of them being successful through promoting use of the most effective stop smoking aids (combination NRT, nicotine vapes, varenicline and cytisinicline) and using more tailored and flexible approaches

Stop Smoking Services and Health Inequalities

In the UK, health inequalities (the differences in health between people of higher and lower socioeconomic status),[1] are widening on some important measures such as life expectancy.[2–6] Smoking is the single biggest preventable cause of these health inequalities and is responsible for about half the difference in death rates in men by socioeconomic status.[7] These inequalities have a cost for both society and the individual. Health inequalities in England alone cause productivity losses of £31–33 billion every year, £20–32 billion per year in lost taxes and higher welfare payments and additional NHS healthcare costs in excess of £5.5 billion per year.[2] The cost of tobacco represents a higher proportion of household income amongst those who are poorer, meaning that their tobacco use not only damages their health but also contributes to trapping people in poverty.[8]

Reaching people who smoke

When stop smoking services were first established in England in 1999–2000, they were piloted in areas of deprivation (Health Action Zones).[9] It was intended that the services would prioritise supporting those less affluent to quit in recognition of smoking's contribution to causing health inequalities. Even when stop smoking services were rolled out across the country in subsequent years, this early emphasis on supporting those who are more disadvantaged to quit remained. Research was conducted that assessed the extent to which stop smoking services were effective in more deprived communities. This research was commissioned in the knowledge that most health services are more accessible to more affluent groups – often referred to as the 'inverse care law'. Studies of stop smoking services showed that in contrast to other health interventions, they were effective at both reaching and treating disadvantaged groups. A study conducted in 2001–2 in a representative sample of 19 out of 25 English health authorities found that around one in three stop smoking service clients lived in the most disadvantaged quintile of communities, compared to one in ten clients who were from the most advantaged quintile.[10] The study found 'effectiveness of reach' in all 19 areas, meaning that services were reaching many more disadvantaged people than might have been expected even in areas with high smoking prevalence. This suggested that stop smoking services were being successful in reversing the 'inverse care law'.

Another study reached similar conclusions. This research analysed stop smoking service records for 202,084 clients who set quit dates between July 2010 and June 2011 in 49 services.[11] The services were reaching disadvantaged groups: 59% of clients were eligible for free prescriptions when about 50% of the general population are eligible.[12] In addition, 14% were unemployed when the unemployment rate nationally was 8%.

Stop Smoking Services and Health Inequalities

There remains a concern about whether services are reaching the *most* disadvantaged people, however; pilot projects exploring how to reach disadvantaged groups and encourage cessation[13–19] suggested that people who are disadvantaged may not be being targeted effectively due to the pressure of service targets for the number of four-week quitters. Opportunities to enrol disadvantaged people in treatment may exist through stop smoking services working with other organisations, such as children's centres, mental health services and criminal justice services. The pilot project indicates, however, that these organisations may not be promoting quitting or referring to stop smoking services effectively: smoking status was not recorded systematically and staff were not sufficiently engaged with smoking as a priority health issue. Suggested solutions included raising smoking cessation along with other health issues, starting by advising on smokefree homes rather than directly with cessation, using carbon monoxide (CO) monitoring to identify 'hidden' smoking and opt-out referrals. However, although the use of opt-out referral systems increased the numbers of referrals, because stop smoking services were not necessarily set up to deal with these the conversion to quit attempts was low.

Trying and succeeding in stopping smoking

Despite the fact that stop smoking services are successfully reaching disadvantaged people, a consistent finding has been that these individuals find it more difficult to stop than their more affluent neighbours. This has been found in studies that have looked at both short- and long-term outcomes for clients.

For example, in the study of over 200,000 clients already mentioned above, those from routine and manual occupations were less likely to have quit than clients from managerial and professional occupations (Odds Ratio=1.14 (1.10 to 1.18)). Clients who paid prescription charges (and were therefore more likely to be working) were more likely to quit (Odds Ratio=1.18 (1.14 to 1.21)) than those who were exempt.[11] Similar results were found in studies that have looked at one year quit rates for clients of stop smoking services. Clients with the highest socioeconomic position were twice as likely to quit compared with those in the lowest position at two services in England; and five times more likely to quit when using a pharmacy-based service in Glasgow.[20]

Why do we see this difference in success rates? We know that individuals from varied social groups are just as motivated to stop smoking and just as likely to try and stop[21, 22] so the difference in success rates is not due to lack of trying. Instead, research points to a number of other explanations including: lack of social support, higher nicotine dependency, challenging life circumstances and factors relating to stop smoking services themselves.

First, less affluent individuals may find quitting more difficult because they have fewer people supporting their quit attempt.[23, 24] Lack of support may be because they are living in a household with other people who smoke or that friends and family smoke.[25] There is also some evidence that less affluent individuals regard smoking as more common in the general population than statistics suggest and thus they may feel less social pressures not to smoke.[26] These types of influences can make quitting more difficult. Conversely, we know that positive social support (from non-smoking friends and family or from others trying to quit at the same time for example) can make a real difference to those trying to stop.[27]

Nicotine dependency also has a role to play. A number of studies have found those who are less affluent are more highly dependent on the nicotine in cigarettes.[28, 29] This may be partly the result of people from a lower socioeconomic position taking up smoking earlier and smoking more cigarettes per day.[30] Nicotine addiction can make cutting down as well as quitting more difficult, and studies have shown that people with higher levels of nicotine addiction and, those who are less affluent, smoke each cigarette more completely and make take deeper drags on the cigarette than people less dependent on tobacco.[29, 31, 32]

Difficult or challenging life circumstances can also make quitting more difficult. People who are less affluent are more likely to cite being nervous, restless or depressed as a reason for relapse than those who are more affluent.[33, 34] In addition, lower socioeconomic status can be associated with work environments with higher levels of boredom and stress[35] and more stressful living environments inside the home andin the neighbourhood. This may lead to individuals having more immediate concerns that supersede smoking cessation[17, 24, 36, 37]; people in these situations can view smoking as a way of enabling them to cope.[38, 39]

Finally, how stop smoking services are used or what forms of behavioural support they offer may play a role in differences in quit rates. In a study looking at one year outcomes for clients using services, researchers found that disadvantaged clients were less likely to use pharmacotherapy (such as NRT or varenicline) for long enough or to attend sessions regularly.[20] This finding is supported by other smoking cessation studies that have found that lower income individuals are more likely to discontinue pharmacotherapy early[40] and are less likely to complete the behavioural support programme.[41] Attending a higher proportion of sessions of behavioural support to stop smoking is associated with higher chances of quitting, as is using the correct dose of stop smoking aids for long enough to address cravings and withdrawal symptoms.[42, 43] In addition, in a more recent study, more affluent individuals were more likely to attend group rather than one to one support, and groups were associated with higher quit rates. When this was examined more closely, it was found that drop-in rolling groups may be a particularly promising form of behavioural support for more disadvantaged clients, possibly because this more flexible type of support may be better suited to their life circumstances.[44]

Stop Smoking Services and Health Inequalities

Given that socioeconomic disadvantage is associated with heavier smoking and higher nicotine dependence, it has been suggested that more flexible interventions which encourage people to gradually cut down before quitting rather than quit abruptly may be helpful.[16] Engagement with services generally lasts less than 12 weeks and disadvantaged individuals may need longer term support; a text messaging relapse prevention service where clients were contacted up to 6 months after their quit date was well received among a sample of clients of whom 43% were defined as lower socioeconomic status.[19]

Can stop smoking services reduce inequalities?

The research we have to date shows that stop smoking services are already making an important contribution to reducing smoking including in less affluent groups. One study showed that stop smoking services can make a significant contribution to reducing the health inequalities caused by smoking.[9] It found that short-term cessation rates were lower in disadvantaged areas (53%) than elsewhere (58%) ($p<0.001$). However, the proportion of people who smoke being treated by services in more deprived areas was higher than that in less disadvantaged areas (17% compared with 13%) ($p<0.001$). Thus the overall effect was that a higher proportion of people in the most disadvantaged areas reported abstinence from smoking (8.8%) than in more advantaged areas (7.8%) ($p<0.001$).

In addition, all the factors outlined above that explain lower quit rates amongst disadvantaged clients are modifiable. Services can work with clients to identify the life circumstances that serve as barriers to quitting. They can also provide information and support to maximise the chances that those trying to quit will use pharmacotherapy correctly and for long enough. In addition, they can offer different forms of behavioural support, such as drop in rolling groups in a range of accessible venues, to try and meet the needs of varied client groups. This type of action can help to ensure that stop smoking services continue to play an important role in driving down smoking rates, particularly in those communities where tobacco takes the highest toll.

Stop Smoking Services and Health Inequalities

References

1. Kunst A, Mackenbach JP. Measuring socio-economic inequalities in health. Geneva: WHO1995.

2. UCL Institute of Health Equity. Health inequalities widen within most areas of England 2012 [cited 2012 19th November]. Available from: www.instituteofhealthequity.org/Content/FileManager/pdf/2-year-on-press-release-final.pdf.

3. The Scottish Public Health Observatory. Health inequalities: introduction. 2012 [updated 1st June 2012]; Available from: www.scotpho.org.uk/comparative-health/health-inequalities/introduction.

4. Tudor-Smith C. Tackling health inequalities in Wales www.dur.ac.uk/resources/wolfson.institute/Neil_Riley.pdf, accessed 25th February 2013

5. Welsh Assembly Government. Our Healthy Future: Technical Working Paper 2009 [cited 2012 20th October]. Available from: http://wales.gov.uk/docs/phhs/publications/100527technicalen.pdf.

6. Rodgers H, Stewart B, Keys L. NI Health & Social Care Inequalities Monitoring System: fourth update bulletin Belfast: Department of Health, Social Services and Public Safety; 2012 [cited 2012 20th November]. Available from: www.dhsspsni.gov.uk/inequalities_monitoring_update4-2.pdf.

7. Jha P, Peto R, Zatonski W, Boreham J, Jarvis MJ, Lopez AD. Social inequalities in male mortality, and in male mortality from smoking: indirect estimation from national death rates in England and Wales, Poland, and North America. Lancet. 2006 Jul–Aug;368:367–70.

8. Hiscock R, Bauld L, Amos A, Platt S. Smoking and socioeconomic status in England: the rise of the never smoker and the disadvantaged smoker. Journal of Public Health (Oxf). 2012;34:390–6.

9. Bauld L, Judge K, Platt S. Assessing the impact of smoking cessation services on reducing health inequalities in England: observational study. Tob Control. 2007 Dec;16:400–4.

10. Chesterman J, Judge K, Bauld L, Ferguson J. How effective are the English smoking treatment services in reaching disadvantaged smokers? Addiction. 2005 Apr;100:36–45.

11. Murray S, Hiscock R, Bauld L, Brose LS, McEwen A, ELONS collaboration. Uptake, short term quitting and CO validation in a subset of English Stop Smoking Services: an analysis of routine data for the ELONS project. 2012.

12. Select Committee On Health. Third report: 4 Exemptions. 2006.

13. McNeill A, Amos A, McEwen A, Ferguson J, Croghan E. Developing the evidence base for addressing inequalities and smoking in the United Kingdom. Addiction. 2012 Dec;107:1–7.

14. Eadie D, MacAskill S, McKell J, Baybutt M. Barriers and facilitators to a criminal justice tobacco control coordinator: an innovative approach to supporting smoking cessation among offenders. Addiction. 2012 Dec;107:26–38.

15. Croucher R, Shanbhag S, Dahiya M, Kassim S, Csikar J, Ross L. Smokeless tobacco cessation in South Asian communities: a multi-centre prospective cohort study. Addiction. 2012 Dec;107:45–52.

16. Parker C, McNeill A, Ratschen E. Tailored tobacco dependence support for mental health patients: a model for inpatient and community services. Addiction. 2012 Dec;107:18–25.

17. McEwen A, Hackshaw L, Jones L, Laverty L, Amos A, Robinson J. Evaluation of a programme to increase referrals to stop-smoking services using Children's Centres and smoke-free families schemes. Addiction. 2012 Dec;107:8–17.

18. Bauld L, Hackshaw L, Ferguson J, Coleman T, Taylor G, Salway R. Implementation of routine biochemical validation and an 'opt out' referral pathway for smoking cessation in pregnancy. Addiction. 2012 Dec;107:53–60.

19. Snuggs S, McRobbie H, Myers K, Schmocker F, Goddard J, Hajek P. Using text messaging to prevent relapse to smoking: intervention development, practicability and client reactions. Addiction. 2012 Dec;107:39–44.

20. Hiscock R, Judge K, Bauld L. Social inequalities in quitting smoking: what factors mediate the relationship between socioeconomic position and smoking cessation? J Public Health (Oxf). 2011 Mar;33:39–47.

20. Hiscock R, Judge K, Bauld L. Social inequalities in quitting smoking: what factors mediate the relationship between socioeconomic position and smoking cessation? J Public Health (Oxf). 2011 Mar;33:39–47.

21. Kotz D, West R. Explaining the social gradient in smoking cessation: its not in the trying, but in the succeeding. Tob Control. 2009;18:43–6.

22. Reid JL, Hammond D, Boudreau C, Fong GT, Siahpush M. Socioeconomic disparities in quit intentions, quit attempts, and smoking abstinence among smokers in four western countries: findings from the International Tobacco Control Four Country Survey. Nicotine Tob Res. 2010 Oct;12 Suppl:S20–33.

23. Chandola T, Head J, Bartley M. Socio-demographic predictors of quitting smoking: how important are household factors? Addiction. 2004 Jun;99:770–7.

24. Lacey LP, Manfredi C, Balch G, Warnecke RB, Allen K, Edwards C. Social support in smoking cessation among black-women in Chicago public-housing. Public Health Rep. 1993;108:387–94.

25. Mermelstein R, Cohen S, Lichtenstein E, Baer JS, Kamarck T. Social support and smoking cessation and maintenance. J Consult Clin Psych. 1986;54:447–53.

26. Paul C, Ross S, Bryant J, Hill W, Bonevski B, Keevy N. The social context of smoking: A qualitative study comparing smokers of high versus low socioeconomic position. BMC Public Health. 2010;10:211.

27. Nollen NL, Catley D, Davies G, Hall M, Ahluwalia JS. Religiosity, social support, and smoking cessation among urban African American smokers. Add Beh. 2005;30:1225–9.

28. Siahpush M, McNeill A, Borland R, Fong GT. Socioeconomic variations in nicotine dependence, self-efficacy, and intention to quit across four countries: findings from the International Tobacco Control (ITC) Four Country Survey. Tob Control. 2006;15:71–5.

29. Jarvis MJ, Wardle J. Social patterning of individual health behaviours: the case of cigarette smoking. In: Marmot M, Wilkinson R, editors. Social determinants of health1999.

30. David A, Esson K, Perucic A-M, Fitzpatrick C. Tobacco use: equity and social determinants. In: Blas E, Kurup A, editors. Equity, social determinants and public health programmes. Geneva: WHO; 2010.

31. Zielinska-Danch W, Goniewicz ML, Koszowski B, Labanowicz A, Czogala J, Szoltysek-Boldys I, et al. Relationship between nicotine dependence and smoking topography. Przegla?d lekarski. [English Abstract;]. 2010 2010;67:1033–6.

32. Fidler JA, Jarvis MJ, Mindell J, West R. Nicotine Intake in Cigarette Smokers in England: Distribution and Demographic Correlates. Cancer Epidemiol Biomarkers Prev. 2008 Dec;17:3331–6.

33. Lomas C, Al-Khairalla MZ, Winter JH. There a relationship between smoking cessation and socioeconomic status in patients with Chronic Obstructive Pulmonary Disease? Scot Med J. 2008 May;53:49.

34. Pisinger C, Aadahl M, Toft U, Jorgensen T. Motives to quit smoking and reasons to relapse differ by socioeconomic status. Prev Med. 2011 Jan;52:48–52.

35. Albertsen K, Hannerz H, Borg V, Burr H. The effect of work environment and heavy smoking on the social inequalities in smoking cessation. Public Health. 2003 Nov;117:383–8.

36. Lawlor DA, Frankel S, Shaw M, Ebrahim S, Smith GD. Smoking and ill health: Does lay epidemiology explain the failure of smoking cessation programs among deprived populations? Am J Public Health. 2003 Feb;93:266–70.

37. Businelle MS, Kendzor DE, Reitzel LR, Costello TJ, Cofta-Woerpel L, Li Y, et al. Mechanisms linking socioeconomic status to smoking cessation: A structural equation modeling approach. Health Psychol. 2010;29:262–73.

38. Graham H. When life's a drag: women smoking and disadvantage. London: HMSO; 1993.

39. Tsourtos G, O'Dwyer L. Stress, stress management, smoking prevalence and quit rates in a disadvantaged area: has anything changed? Health Promotion journal of Australia. 2008;19:40–4.

40. Lam T-H, Abdullah ASM, Chan SSC, Hedley AJ. Adherence to nicotine replacement therapy versus quitting smoking among Chinese smokers: a preliminary investigation. Psychopharmacology. 2005;177:400–8.

41. Nevid JS, Javier RA, Moulton JL. Factors predicting participant attrition in a community-based, culturally specific smoking-cessation program for Hispanic smokers. Health Psychol. 1996 May;15:226–9.

42. Clarke V, Hill D, Murphy M, Borland R. Factors affecting the efficacy of a community-based quit smoking program. Health Educ Res. 1993 Dec;8:537–46.

43. Gorini G, Chellini E, Terrone R, Ciraolo F, Di Renzo L, Comodo N. Course on smoking cessation organized by the Italian League against Cancer in Florence: determinants of cessation at the end of the course and after 1 year. Epidemiol Prev. [Comparative Study; English Abstract;]. 1998 1998;22:165–70.

44. Hiscock R, Murray S, Brose LS, McEwen A, Leonardi Bee J, Bauld L. Behavioural therapy for smoking cessation: the effectiveness of different interventions for disadvantaged and affluent smokers. Addict Behav. Under Review.