The clinical case for providing stop smoking support to mental health patients

What is the relationship between smoking and mental health?

People with mental health illness smoke at higher rates and are more highly dependent than the general population.[1–4] People with severe mental illnesses, for example schizophrenia spectrum disorders and bipolar disorders, smoke at very high rates (an estimated 70%), with the highest rates of smoking reported among psychiatric inpatients.[1,3,4] A 2019 survey of acute adult mental health inpatients in the UK found smoking prevalence was 51.9%.[5]

Importantly, persons with mental health illness die about 10 – 20 years earlier than the general population; smoking-related illness is the single largest contributor to their reduced life expectancy.[1,6–9]

Additionally, a significant number of staff hours are spent facilitating smoking in inpatient mental health wards and this can strain staff resources.[10]

Why intervene in secondary care?

Hospitalisation offers an opportune time to encourage patients to stop smoking for five main reasons:

- Firstly, this time is often a 'teachable moment' where patients are more receptive to intervention and are more motivated to quit.
- Secondly, abstaining from smoking at this time can improve recovery and lead to significant health benefits.
- Thirdly, the hospital's no smoking environment creates an external force to support abstinence.
- Fourthly, patients are ideally placed to be given information about treatment options, supported through tobacco withdrawal and signposted to specialist services.
- Finally, smoking cessation interventions are highly cost-effective and result in direct cost-savings to the NHS.

Reasons for the high smoking rates include:[1]

- smoking being used as a form of 'self medication' against certain symptoms of mental illnesses;
- smoking being used to alleviate side effects of some psychiatric medications;
- a lack of alternative activities and coping strategies;
- the 'culture' of accommodating smoking and smoking as a 'reward' within mental healthcare settings.[11]

Nicotine dependence and psychiatric disorders

- Patients with psychiatric disorders are more likely to smoke heavily and experience severe withdrawal symptoms from cigarettes.[12–14]
- In patients with schizophrenia and schizoaffective disorder, typical antipsychotics may decrease patients' ability to stop smoking, whereas atypical antipsychotics decrease basal smoking and promote stopping smoking.[15]
- Schizophrenic patients who stop smoking experience impairments in visuospatial working memory.[16,17]

What are the health effects of stopping smoking on mental health patients?

Evidence from systematic reviews has found treating tobacco dependence in patients with stable psychiatric conditions does not worsen mental state.[18,19] Successfully stopping smoking will benefit a patient's long-term health by reducing the risk of developing smoking-related illnesses (e.g. cancers, heart disease, stroke, respiratory illness) that are the major cause of mortality and morbidity.[20,21]

In addition to the well-established benefits of increased life expectancy and improved physical health, stopping smoking is associated with:

- Reduced depression, anxiety, and stress[18,22]
- Improved positive mood and quality of life[18]
- Possible reduction in some doses of medications (e.g. clrozapine and olanzapine) following stopping smoking[23,24]
- More disposable income[1,2]

General health benefits of stopping smoking[21]

- Within 20 minutes heart rate and blood pressure drops.
- Within 12 hours carbon monoxide levels in the blood return to normal.
- Within 24 hours the chance of a heart attack decreases.
- Within 2 weeks to 3 months circulation improves and lung function increases.
- Within 1 to 9 months lungs regain normal ciliary function, reducing infection risk.
- Within 1 year risk of heart attack is reduced by half.
- Within 5 to 15 years risk of stroke is reduced to that of a non-smoker.
- By 10 years the risk of lung cancer is approximately half that of a smoker. The risk of cancers of the mouth, throat, bladder, kidney and pancreas also decrease.
- By 15 years risk of heart attack is that of a non-smoker.

Stop smoking support is effective

A patient's mental health illness should not be a reason to not intervene with stop smoking support. Contrary to common perception, smokers with mental illness have been shown to be similarly motivated to stop smoking to the general population of smokers.[25,26] It has been shown that smokers with mental illness can quit smoking, and that they are more likely to quit successfully if they receive the appropriate support.[18,27–29]

Providing stop smoking support has proven to be effective for hospitalised patients, regardless of reason for admission.[30] Treatments that work in the general population also work for those with severe mental illness[18,27,28,31–34] Effective methods typically include a combination of stop smoking medications and behavioural support.

Smoking cessation interventions for hospitalised psychiatric patients should include:[27,31,34]

- in-hospital behavioural support,
- stop smoking medication, and
- follow-up following discharge from inpatient facility

Because of the higher levels of nicotine dependence among smokers with mental illness, they may need to be:[27,35]

- Given more help with stopping, both behavioural and pharmacological
- Considered for a broader range of tailored treatments and other approaches, such as advice to cut down before stopping or pre-loading with pharmacological treatment before stopping
- Offered a broader range of tailored treatments to stop smoking, including approaches other than abrupt quitting

Community mental health teams can often predict which service users are likely to require a future admission. Given that facilities are smoke-free, developing an advance plan for tobacco dependence treatment is recommended for service users who smoke.[35]

Use of stop smoking medication for mental health patients

Evidence indicates that nicotine replacement therapy (NRT), bupropion and varenicline are all effective treatments for smoking cessation and can be used to help people with mental health conditions stop smoking.[19,27,36–38] The most effective pharmacological treatment is either combination NRT (e.g. nicotine patch plus one of the faster acting products) or varenicline (Champix).[27,37,38] Several trials have been conducted in service users with psychosis and, when the results are pooled together, varenicline improves the odds of quitting by five times compared to placebo.[37] Stop smoking medications have not been found to increase the chances of deterioration in mental health in people with existing mental health conditions including persons with schizophrenia.[19,36–38]

Up until 2016, varenicline carried a black triangle symbol, indicating additional safety monitoring was required for people with a mental health condition. However, this was removed by the European Medicines Agency following the publication of the largest randomised controlled trial (RCT) to compare varenicline, NRT patch, bupropion or placebo in people with and without a psychiatric disorder.[38] Recent large-scale epidemiological studies and a large international RCT (the EAGLES Study) have proven that there is no causal link between varenicline and suicidal thoughts or depression.[36–38] Varenicline can therefore be used for smokers with mental illness. Although there is no causal link between varenicline and suicide or depression, it is known that the worsening of depression or mental health in individuals with a previous history of mental health difficulties is possible after someone stops smoking with or without the use of medications and as such closer monitoring of patients with a history of mental health illness during their quit attempt is advised.

Bupropion should be offered in the same way to people with a mental illness as it would to the rest of the population, but with certain additional cautions. Bupropion has been associated with seizures and is contraindicated in bipolar affective disorder and epilepsy; it has been associated with increased anxiety and depression and should not be prescribed to people with depression or suicidal thoughts; prescribing bupropion should be undertaken with caution for people receiving medications that are known to lower seizure thresholds.

Vaping

E-cigarettes provide nicotine without combustion and are popular among UK smokers as an alternative to smoking. While e-cigarettes are not risk-free, Public Health England estimates they are 95% safer than smoking cigarettes.[39] There is also evidence to indicate that e-cigarettes are effective in helping patients stop smoking.[39,40] Evidence on safety and the role vaping plays in supporting quitting is reviewed regularly. Policies related to the use of e-cigarettes in inpatient settings will vary by trust and organisation.

Medications for which plasma levels need to be monitored during smoking cessation

Stopping smoking can lead to the doses of some medications needing to be reduced, sometimes by as much as 50%, to achieve the same blood level and therapeutic effect.[23] For more information see: https://www.sps.nhs.uk/wpcontent/uploads/2020/03/UKMi_QA_Interactions-with-tobacco_update_Jul-2020.pdf

Antidepressants: duloxetine, fluvoxamine, mirtazapine, tricyclic antidepressants

Antipsychotics: chlorpromazine, clozapine, fluphenazine, haloperidol, olanzapine

Other medicines: carbamazepine, methadone, insulin, heparin, warfarin

Best practices for managing tobacco withdrawal in the smokefree inpatient setting

Most regular smokers will experience tobacco withdrawal symptoms within hours of their last cigarette and can range from mild to severe.[41] Withdrawal symptoms include aggression and hostility and can affect the care of the patient. Offering immediate support for temporary abstinence on admission, rather than asking the service user if they are interested in quitting or telling them they need to quit, avoids getting into lengthy conversations whilst they may be feeling distressed and overwhelmed. At the earliest opportunity, ensure that the management of the service user's tobacco use is included within their care plan.

A combination of the patch (NRT patch can take 20 – 40 minutes to reach therapeutic dose) with a short-acting oral NRT product (e.g. gum, inhaler, spray) is a recommended evidence-based practice for managing tobacco withdrawal in inpatient settings.[42,43]

Tobacco withdrawal symptoms include:[41]

- Urges to smoke or cravings
- Restlessness or difficulty concentrating
- Irritability, aggression, anxiety, crying, sadness or depression
- Difficulty sleeping or sleeping disturbances
- Increased appetite and weight gain
- Coughing
- Mouth ulcers
- Constipation
- Light headedness

Providing 'Very Brief Advice' to mental health patients

The NHS Long Term Plan has committed that all people admitted to hospital and users of specialist mental health services who smoke will be offered NHS-funded tobacco treatment services by 2023/24.[44]

NICE outlines a care pathway for supporting smoking cessation in the inpatient setting that can be adopted for inpatient psychiatric admissions.[42,45] In essence, the care pathway incorporates a very brief intervention using the 3As model:

ASK and record smoking status

ADVISE the patient:

- the best way of quitting is with a combination of support and stop smoking medication
- support with stopping smoking and/or managing any tobacco withdrawal symptoms (temporary abstinence) is available
- of the personal health benefits of stopping smoking

ACT on the patient response:

- prescribe NRT for patients in withdrawal
- monitor withdrawal and adjust pharmacotherapy accordingly
- refer to specialised stop smoking support (hospital-based, local stop smoking service)

References

1. Royal College of Physicians (RCP), Royal College of Psychiatrists. Smoking and Mental Health. London, UK; 2013.
2. Action on Smoking and Health (ASH). Stolen years: the mental health and smoking action report 2016. London: ASH; 2016. ISBN 978-1-872428-99-4.
3. Lasser KJ, Boyd W, Woolhandler S, et al. Smoking and mental illness: a population-based prevalence study. JAMA 2000;284(20):2606–10.
4. Richardson S, McNeill A, Brose LS. Smoking and quitting behaviours by mental health conditions in Great Britain (1993–2014). Addict Behav. 2019 Mar;90:14–9.
5. Ainscough TS, Mitchell A, Hewitt C, et al. Investigating changes in patients' smoking behaviour, tobacco dependence and motivation to stop smoking following a 'smoke-free' mental health inpatient stay: results from a longitudinal survey in England. Nicotine Tob Res. 2020:ntaa258 (in press).
6. Miller BJ, Paschall CB, Svendsen DP. Mortality and medical comorbidity among patients with serious mental illness. Psychiatr Serv. 2006;57(10):1482–7.
7. Plana-Ripoll O, Pedersen CB, Agerbo E, et al. A comprehensive analysis of mortality-related health metrics associated with mental disorders: a nationwide, register-based cohort study. Lancet. 2019;394(10211):1827–35.
8. Thornicroft G. Premature death among people with mental illness: at best a failure to act on evidence; at worst a form of lethal discrimination. BMJ 2013;346:f2969.
9. Druss BG, Zhao L, Von ES, et al. Understanding excess mortality in persons with mental illness: 17-year follow up of a nationally representative US survey. Med Care. 2011;49:599–604.
10. Sohal H, Huddlestone L, Ratschen E. Preparing for completely smoke-free mental health settings: findings on patient smoking, resources spent facilitating smoking breaks, and the role of smoking in reported incidents from a large mental health trust in England. Int J Environ Res Public Health. 2016;13(3):256.
11. Sheals K, Tombor I, McNeill A, et al. A mixed-method systematic review and meta-analysis of mental health professional's attitudes towards smoking and smoking cessation amongst people with mental illnesses. Addiction. 2016 Sep;111(9):1536–53.
12. Pomerleau CS, Marks JL, Pomerleau OF. Who gets what symptom? Effects of psychiatric cofactors and nicotine dependence on patterns of smoking withdrawal symptomatology. Nicotine Tob Res. 2000;2(3):275–80.
13. Xian H, Scherrer JF, Madden PA, et al. Latent class typology of nicotine withdrawal: genetic contributions and association with failed smoking cessation and psychiatric disorders. Psychol Med. 2005;35(3):409–19.
14. Weinberger AH, Sacco KA, Creeden CL, et al. Effects of acute abstinence, reinstatement, and mecamylamine on biochemical and behavioral measures of cigarette smoking in schizophrenia. Schizophr Res. 2007;91(1–3):217–25.
15. Matthews AM, Wilson VB, SH Mitchell. The role of antipsychotics in smoking and smoking cessation. CNS Drugs. 2011;25(4):299–315.
16. Dolan SL, Sacco KA, Termine AA, et al. Neuropsychological deficits are associated with smoking cessation treatment failure in patients with schizophrenia. Schizophr Res. 2004;70(2–3):263–75.
17. George TP, Vessicchio JC, Termine AD, et al. Effects of smoking abstinence on visuospatial working memory function in schizophrenia. Neuropsychopharmacology 2002;26(1):75–85.
18. Taylor GMJ, McNeill A, Girling A, et al. Change in mental health after smoking cessation: systematic review and meta-analysis. BMJ. 2014;348:g1151.
19. Tsoi DT, Porwal M, Webster AC. Interventions for smoking cessation and reduction in individuals with schizophrenia. Cochrane Database Syst Rev. 2013, Issue 2. Art. No.: CD007253.
20. Doll R, Peto R, J. Boreham, et al. Mortality in relation to smoking: 50 years' observations on male British doctors. BMJ 2004;328(7455):1519.
21. U.S. Department of Health and Human Services. The health consequences of smoking – 50 years of progress. A report of the surgeon general. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office of Smoking and Health; 2014.
22. McDermott M, Marteau T, Hollands G, et al. Change in anxiety following successful and unsuccessful attempts at smoking cessation: cohort study. Br J Psychiatry. 2013;202(01):62–7.
23. UK Medicines Information (UKMi). What are the clinically significant drug interactions with cigarette smoking? UKMi; Updated July 2020. Available from: https://www.sps.nhs.uk/wp-content/uploads/2020/03/UKMi_QA_Interactions-with-tobacco_update_Jul-2020.pdf
24. Zevin S, NL Benowitz. Drug interactions with tobacco smoking. An update. Clin Pharmacokinet. 1999;36(6):425–38.
25. Caponnetto P, Polosa R, Robson D, et al. Tobacco smoking, related harm and motivation to quit smoking in people with schizophrenia spectrum disorders. Health Psychol Res. 2020;8(1):9042.
26. Siru R, Hulse GK, Tait RJ. Assessing motivation to quit smoking in people with mental illness: a review. Addiction. 2009;104(5):719–33.
27. Peckham E, Brabyn S, Cook L, et al. Smoking cessation in severe mental ill health: what works? an updated systematic review and meta-analysis. BMC Psychiatry. 2017 Jul 14;17(1):252.
28. Kagabo R, Gordon AJ, Okuyemi K. Smoking cessation in inpatient psychiatry treatment facilities: a review. Addict Behav Rep. 2020 Jan 30;11:100255.
29. van der Meer RM, Willemsen MC, Smit F, et al. Smoking cessation interventions for smokers with current or past depression. Cochrane Database Syst Rev. 2013, Issue 8. Art. No.: CD006102.
30. Rigotti N, Clair C, Munafo MR, et al. Interventions for smoking cessation in hospitalised patients. Cochrane Database Syst Rev. 2012; Issue 5. Art. No.:CD001837.
31. Gilbody S, Peckham E, Bailey D, et al. Smoking cessation for people with severe mental illness (SCIMITAR+): a pragmatic randomised controlled trial. Lancet Psychiatry. 2019;6(5):379–90.
32. Prochaska J, Hall S, Delucchi K, et al. Efficacy of initiating tobacco dependence treatment in inpatient psychiatry: a randomized controlled trial. Am J Public Health. 2014;104(8):1557–65.
33. Metse AP, Wiggers J, Wye P, et al. Efficacy of a universal smoking cessation intervention initiated in inpatient psychiatry and continued post-discharge: a randomised controlled trial. Aust N Z J Psychiatry. 2017;51(4):366–81.
34. Stockings EAL, Bowman JA, Baker AL, et al. Impact of a post-discharge smoking cessation intervention for smokers admitted to an inpatient psychiatric facility: a randomized controlled trial, Nicotine Tob Res 2014;16(11):1417–28.
35. Robson D, McEwen A. Smoking cessation and smokefree policies: good practice for mental health services. National Centre for Smoking Cessation and Training (NCSCT), March 2018.
36. Taylor GMJ, Itani T, Thomas KH, et al. Prescribing prevalence, effectiveness, and mental health safety of smoking cessation medicines in patients with mental disorders. Nicotine Tob Res. July 2020;22(1):48–57.
37. Roberts E, Evins EA, McNeill A, et al. Efficacy and tolerability of pharmacotherapy for smoking cessation in adults with serious mental illness: a systematic review and network meta-analysis. Addiction. 2016;111(4):599–612.
38. Anthenelli R, Benowitz N, West R, et al. Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. Lancet. 2016;387(10037):2507–2520.
39. McNeill A, Brose LS, Calder R, et al. Vaping in England: an evidence update including mental health and pregnancy, March 2020: a report commissioned by Public Health England. London: Public Health England; 2020.
40. Hartmann-Boyce J, McRobbie H, Lindson N, et al. Electronic cigarettes for smoking cessation. Cochrane Database Syst Rev. 2020, Issue 10. Art. No.: CD010216.
41. National Centre for Smoking Cessation and Training. Practitioner Training (e-learning). Available from: https://elearning.ncsct.co.uk/england
42. National Institute for Clinical Excellence (NICE). Smoking: acute, maternity, and mental health services (PH48). London: NICE; 2013. Available from: https://www.nice.org.uk/guidance/ph48/
43. Lindson N, Chepkin SC, Ye W, et al. Different doses, duration, and modes of delivery of nicotine replacement therapy for smoking cessation. Cochrane Database Syst Rev. 2019, Issue 4. Art. No.: CD013308.
44. National Health Service (NHS). The NHS Long Term Plan. London: NHS; 2019. Available from: https://www.longtermplan.nhs.uk/publication/nhs-long-term-plan/
45. National Institute for Clinical Excellence (NICE). Smoking cessation in secondary care: NICE pathway. London: NICE; 2019. Available from: https://pathways.nice.org.uk/pathways/smoking-cessation-in-secondary-care