Smoking is the single largest cause of the 10-20 year lower life expectancy of people with mental disorders.
• 15% among the 3.5% of 11-16 year olds with attention deficit hyperactivity disorder

Smoking is also important to address in groups at higher risk of mental disorders such as those with learning disabilities, for whom respiratory disease is the leading cause of death 14.

Impacts of smoking on mental disorders

Smoking is associated with higher rates of mental disorders:

• Smoking during pregnancy is associated with two fold increased risk of conduct disorder in boys at age three 15 and of antisocial behaviour and ADHD symptoms in older children 16.
• Smoking is associated with increased risk of depression 17 and anxiety disorders 18. The amount of tobacco smoked is associated with the number of depressive or anxiety symptoms, and after smoking cessation these symptoms reduce 19, 20.
• Smoking is associated with a 79% increased risk of Alzheimer’s disease and 78% increased risk of vascular dementia 21.

Benefits of smoking cessation

Given the 10-20 year lower life expectancy and higher rates of smoking in people with mental disorders, the following benefits of smoking cessation are even greater for this group although often underestimated:

• Physical benefits: Improved respiratory, vascular, reproductive, gastrointestinal and general health even within a few months of cessation 22.
• Mental benefits: Improved mental health and wellbeing, greater self-confidence, more social interaction, and reduced depressive and anxiety symptoms 17, 22. The impact on mood and anxiety disorders is at least as large as antidepressant treatment 22.
• Pharmacotherapy can minimise withdrawal symptoms which are relatively short-lived.
• Financial benefits 23: Smoking cessation can lead to financial gains and a 25% reduction in financial stress 24. This is even more important for people with mental disorders who spend proportionately more of their income on tobacco. One study highlighted that people with schizophrenia spent a third of their benefits on tobacco 25.
• Reduced doses of some medications by up to 25% in the first week after smoking cessation, and up to 50% four weeks after cessation 26.

Effective smoking cessation and reduction interventions

• Smokers with mental disorders are as motivated to stop as smokers without 27.
• Different types of support increase the rates of successful smoking cessation attempts in people with mental disorder 28.
• People who want to stop smoking should be offered a combination of pharmacotherapy and non-pharmacological approaches.
• Higher cessation rates occur when smoking cessation interventions are provided more intensively and in combination as they are for smokers within the general population.

• Evidence based smoking cessation interventions can be just as effective for people with mental disorder 28, 29, 30, 31, 32 but may require additional monitoring for medication dose adjustment and potential deterioration in mental health 28, 29, 33.

• Evidence based interventions which support reduction of tobacco use while people continue to smoke are also effective and double cessation rates 34.
• Support should be offered at every opportunity – ‘making every contact count’.

Pharmacological interventions

Different pharmacotherapies are effective for smoking cessation in the general population. Such interventions are also effective in people with mental disorders. As for other groups with higher levels of nicotine dependence, greater levels of cessation and reduction occur when behavioural support is accompanied by combined pharmacological interventions at higher doses:

• Nicotine Replacement Therapy (NRT) is effective (OR 1.84, 1.71-1.99) 35 although different products vary in effectiveness. Nasal spray is the most effective followed by tablets/lozenges, inhalers and patches with gum the least effective 36. However, NRT is more effective in combination with a patch and faster acting form such as gum, inhalator and spray 35, 36. As for other more dependent smokers, combination NRT for people with mental disorder is likely to be more effective and required for longer than the recommended 8-12 weeks 17, 29.
• Unlicensed products containing nicotine such as electronic cigarettes are likely to be less harmful than tobacco, although people using them should be encouraged to switch to a licensed product 29.
• Bupropion is effective (OR 1.82, 1.60-2.06) 35 and almost triples cessation rates at six months for those with schizophrenia with no reported serious adverse events 37.
• Nortriptyline is effective (OR 2.03, 1.48-2.78) 35.
• Cytine is effective (OR 3.98, 2.01-7.87) 35.
• Varenicline is effective (OR 2.88, 2.40-3.47) 38 with some evidence supporting the use of varenicline in people with depression 39 although a NICE review did not support use in people with schizophrenia 39.
• Comparing different pharmacological interventions 35:
  – NRT and bupropion are equally effective
  – Varenicline is more effective than bupropion or single forms of NRT
  – Varenicline is equally as effective as combination NRT
  – Addition of bupropion or nortriptyline does not increase effectiveness of NRT
  – Combination of different forms of NRT and NRT/ bupropion reduces smoking consumption in people with mental disorder 17, 29.

Non-pharmacological interventions

The following interventions are likely to be effective for people with mental disorders:

• Simple advice from doctors 38.

• Smoking cessation advice given by nurses 39.
• Multi-sessional intensive behavioural support is more effective in groups than individual and more effective than self-help or other less intensive interventions 40.
• Telephone support 41 and multiple call-back counselling improves cessation rates 42.
• Some internet based interventions 43.

For smokers with mental disorders 29:

• Motivational interviewing increases referrals for smoking cessation.
• Contingency payments with or without NRT/bupropion can reduce consumption in those with schizophrenia.

Combined pharmacological and other interventions

• Mood management strategies in combination with pharmacotherapy support cessation in people with depression 44.
• In people with schizophrenia, weak evidence for increased rates of cessation and reduction using combination high intensity behavioural therapy with NRT 45.

Therefore, combination NRT should be offered to all smokers with mental disorders with the options of further interventions as required.

Population approaches

• Smoke-free policies and campaigns targeting people with mental disorder.
• Assessing compliance with tobacco legislation.
• Addressing illicit tobacco.

Prescribing considerations

Stopping smoking is an opportunity to reduce doses of some antipsychotics, antidepressants and benzodiazepines within days of cessation (as reduced metabolism decreases dose requirements).

Preventing medication toxicity following cessation

Smoking increases the metabolism of some medications including antidepressants (tricyclics and mirtazapine), antipsychotics (clozapine, olanzapine and haloperidol), benzodiazepines and opiates 24. This results in significantly lower plasma levels so that larger doses are required to achieve similar therapeutic effects. Following smoking cessation, doses of these medications need to be reduced to prevent toxicity 26:

• Clozapine and olanzapine: 25% dose reduction during first week of cessation and then further blood levels taken on a weekly basis until levels have stabilised.
• Fluphenazine and some benzodiazepines: 25% dose reduction in first week.
• Tricyclic antidepressants: 10-25% dose reduction in first week.

Further dose reductions may be required with continued cessation although original doses need to be reinstated if smoking is resumed 26.

Contraindications

Bupropion is contraindicated in bipolar affective disorder and epilepsy due to risk of seizure 45. It should not be prescribed with drugs which increase risk of seizures such as tricyclic antidepressants, MAOIs and some anti-psychotics including clozapine, chlorpromazine and depot injection 26.
Monitoring of mental state during cessation
Depressive symptoms may worsen in a minority of people following cessation although symptoms of schizophrenia do not appear to worsen (but see next paragraph).

Potential side effects of bupropion and varenicline
Bupropion and varenicline are effective and tolerated: a Cochrane review found no excess neuropsychiatric or cardiac side effects and a large prospective cohort study found no increased risk of treated depression or suicidal behaviour. However, there have been reports of neuropsychiatric side effects for both bupropion and varenicline, even in people without pre-existing mental disorders. Therefore, the MHRA and BNF advise care be taken when prescribing these medications for people with a history of psychiatric illness as there is a relative lack of research for use within this group.

Because of this, use of bupropion and varenicline should always be accompanied by appropriate monitoring:

- Warn people taking bupropion or varenicline of the potential increased risk of adverse neuropsychiatric symptoms and monitor them regularly, particularly in the first 2-3 weeks
- Emergence of neuropsychiatric symptoms should prompt immediate stopping of bupropion and varenicline and continued monitoring until symptoms resolve.

Minimising weight gain
Average weight increases by 4.7kg one year following smoking cessation although a Cochrane review highlighted that this can be reduced through setting a target for weight gain and controlling calorie intake, taking regular exercise and increasing physical activity at home.

Key role of primary care
Most mental disorders and associated physical health issues are managed within primary care. Primary care therefore plays a key role in communicating how smoking cessation and reduction can improve physical and mental health in both the short and long term. GPs should aim to:

- Offer combined Nicotine Replacement Therapy (NRT) to all, including those who continue to smoke, to support smoking reduction if not abrupt cessation
- Encourage engagement in group or individual smoking cessation counselling
- Advise that secondary mental health settings are smoke-free and that interventions are in place to support temporary abstinence and reduced smoking if the person is unwilling to stop smoking
- Reduce doses of relevant drugs upon smoking cessation. This requires clear communication and co-ordination between smoking cessation services and prescribers in primary and secondary care
- Monitor the mental state of patients following cessation. For those taking bupropion and varenicline, there should be a clearly negotiated plan of support that outlines actions to be taken in the event of change in psychiatric symptoms, especially in the first 2-3 weeks
- Monitor for smoking resumption since this is common and requires prompt dose increases of some medications
- ‘Making every contact count’

Information about size of local smoking cessation gap
Despite smoking being the largest single cause of premature death in people with mental disorder and the impact of cessation on mood and anxiety disorders being at least as large as antidepressant treatment, only a minority of smokers with mental disorder receive smoking cessation intervention:

- Only one in ten smokers with mental disorders receive cessation medication in primary care. Furthermore, interventions are lower per consultation for smokers with mental disorders compared with smokers without
- Although 82% of smokers in primary care in 2012-13 had a record of an offer of support and treatment within the preceding 27 months, no information is routinely collected about rates of intervention and outcomes for people with different mental disorder
- 9% of adult smokers set a quit date through NHS Stop Smoking Services in 2012-13 which is 11% lower than in 2011-12. There is no data on this for people with mental disorders

Co-ordination with public health

- Local public health teams are responsible for the Joint Strategic Needs Assessment (JSNA) which outlines the local level of unmet need
- Local level of unmet smoking cessation need for people with mental disorders should be included in JSNAs by estimating the numbers of smokers with mental disorders and the proportion that are receiving smoking cessation from primary care, secondary care, NHS Stop Smoking Services, pharmacies and other providers
- Such assessments can inform service planning and support CCGs to commission services which are compliant with the 2013 NICE guidance regarding smoke-free environments. In turn, this can challenge the notion of mental health services being complicit with smoking and smoking initiation

Useful Resources
http://www.rcplondon.ac.uk/publications/smoking-and-mental-health


NICE (2013) Tobacco harm reduction
http://www.nice.org.uk/ph45

http://www.hscic.gov.uk/catalogue/PUB12228

DH (2012) Local Stop Smoking Services. Key updates to the 2011/12 services delivery and monitoring guidance for 2012/13

DH (2011) NHS Stop Smoking Services: service and monitoring guidance 2011/12. This document provides best practice guidance relevant to the provision of all NHS stop smoking interventions including for those with mental illness. It sets out fundamental quality principles for the delivery of services and stop smoking support

Local tobacco control profiles for England Indicator dataset 2011
http://www.tobaccoprofiles.info/


Rethink physical health check tool (and other resources)
http://www.rethink.org/about-us/health-professionals/physical-health-resources

This factsheet is one of a series of practitioner resources originally developed by the Primary Care Mental Health Forum (Royal College of General Practitioners & Royal College of Psychiatrists) which have been updated with the support of NHS England and Public Health England.
Authors

Dr Jonathan Campon previously worked as a GP and is now a Consultant Psychiatrist and Director of Public Mental Health at South London & Maudsley NHS Foundation Trust, Director of Population Mental Health at UCLPartners and Visiting Professor of Population Mental Health at UCL.

Dr David Shiers is a retired GP from North Staffordshire and a Clinical Advisor to the National Audit of Schizophrenia.

We are grateful for the comments of Dr Roger Banks (Consultant in the Psychiatry of Intellectual Disability and Honorary Senior Lecturer at Bangor University), Dr Peter Elton (Clinical Director Greater Manchester, Lancashire, South Cumbria Clinical Strategic Network) and Professor Ann McNeill (Professor of Tobacco Addiction, UK Centre for Tobacco and Alcohol Studies, National Addiction Centre, Institute of Psychiatry, King’s College London).

References


17 Royal College of Physicians, Royal College of Psychiatrists. Smoking and mental health. 2013. eGEM: 578-180616-529-2013.0


25 Kelly C, McCreaddie R. Cigarette smoking and schizophrenia. Advances in Psychiatric Treatment 2000; 6: 327-331


27 Siru J, Hula-GK, Tait RJ. Assisting motivation to quit smoking in people with mental illness: a review. Addiction 2008; 104: 719-733


30 ph4


32 Foulds JGK, Steinberg MB, Richardson D et al. Factors associated with quitting smoking at a tobacco dependence treatment clinic. Am J Health Behav 2006; 30: 400-412


34 MHRa guidance Latest updated March 2009 http://www.mhra.org.uk/Pharmacy/SafetyInformation/ 

35 GeneralSafetyinformationandAdvice/ 

36 AdviserandInformationforConsumers/Stopsmokingtreatments/offering/ 

37 index.htm

38 NICE Tobacco harm reduction http://www.nice.org.uk/cpg45

39 NICe, 2013


49 van der Meer RM, Willemsen MC, Smit F, Cuijpers P. Smoking cessation interventions for smokers with current or past depression. Cochrane Database Syst Rev 2013; 8: CD006102


57 PUB12282