

# NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

## QUALITY AND OUTCOMES FRAMEWORK (QOF) INDICATOR DEVELOPMENT PROGRAMME

### Briefing paper

**QOF indicator area:** Smoking

**Potential output:** Recommendations for indicator development

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**Note:** The content of this document is derived from the previous QOF processes and the work of the National Primary Care Research and Development Centre (NPCRDC). It has been put into a NICE template to allow for consistency in reviewing the proposed QOF indicator.

### Introduction

This briefing paper presents an assessment of the suitability of an indicator developed through the previous QOF processes for inclusion in the NICE menu of QOF indicators.

It is based on the overview, evidence reviews and recommendations presented in the 'Smoking: the care and management of smoking in adults' NICE clinical guideline 59 (2008) and 'Brief interventions and referral for smoking cessation in primary care and other settings' NICE public health guidance 1 (2006).

The briefing paper is split into three sections:

- an overview of the topic, including an epidemiological summary and its current management.
- a review of the proposed indicator and a summary of the evidence that informs the indicator
- scoring of the potential indicator.

# 1. Overview – Smoking

## *Epidemiological Summary*

### **Definition**

Smoking is the inhalation of the smoke of burning tobacco encased in cigarettes, pipes, and cigars.

### **Incidence, prevalence and evidence of variation by age, sex and ethnicity**

According to Office for National Statistics (ONS) data, the prevalence of smoking in 2007 was 22% in men and 20% in women over the age of 16.

According to the British Heart Foundation, in 2006 smoking prevalence was higher among men than women for all age groups except 16 to 19 years. The greatest difference was found in people aged 25 to 34 years for whom smoking rates were 33% for men and 26% for women.

In both men and women, the percentage of adults who smoked was highest in those aged 20 to 34 years. Rates declined steadily with age and were lowest in those aged 60 and above (13% in men and 12% in women). This pattern has only emerged since the mid-1980s – prior to that, smoking prevalence was similar in all but the youngest and oldest age groups. This change reflects an increase in the number of men and women aged 35 and over who give up smoking.

In 2006, just under one in ten young people aged 11 to 15 in England were regular smokers (defined as usually smoking at least one cigarette per week). As in previous years, girls were more likely to be regular smokers than boys (10% of girls compared with 7% of boys). The proportion of regular smokers increased sharply with age in young people: 1% of 11 year olds in England smoked regularly compared with 21% of 15 year olds. Smoking rates vary considerably between ethnic groups. Rates are particularly high for the Bangladeshi (40%), Irish (30%) and Pakistani (29%) men compared with the national average of 24%. Among women, smoking rates are low (8% or below) with the exception of Black Caribbean (24%) and Irish (26%) women compared with the general population.

## **Morbidity and mortality**

Smoking is a significant cause of morbidity and mortality. The long-term risk of smoking to individuals has been quantified in a 50-year cohort study of British doctors. Observing deaths in smokers and non-smokers over a 50-year period, the study concluded that 'about half of all regular smokers will eventually be killed by their habit'.

In Europe, about 20% of deaths from cardiovascular disease (CVD) in men and about 3% of deaths from CVD in women are due to smoking. The equivalent figures for the 25 countries that made up the EU in 2006 (EU-25) are 16% and 5% respectively. A high proportion of premature deaths from CVD are due to smoking. In Europe, smoking causes 32% of CVD deaths in men aged 35 to 69 years and 6% of CVD deaths in women of the same age. In the EU-25 the equivalent figures are 28% and 13% respectively.

Smoking is a major risk factor for many diseases other than CVD – most notably cancer. About 23% of all deaths in men living in Europe and about 5% of all deaths in women are due to smoking (23% and 7% in the EU-25).

In total, over 1 million men and 200,000 women in Europe die from smoking each year (of which 375,000 men and 78,000 women die from CVD). In the EU-25 506,000 men and 148,000 women die from smoking each year (of which 135,000 men and 48,000 women die from CVD). In the EU-25, around 32% of deaths in men aged 35 to 69 and around 12% of deaths in women in the same age band are due to smoking.

Research from the World Health Organization has estimated the impact of smoking on total disease burden (both mortality and morbidity) in terms of disability-adjusted life years (DALYs) lost. The World Health Report 2002 estimated that in developed countries around 12% of all disease burden and over 20% of CVD is due to smoking.

The INTERHEART case-control study estimated that 29% of heart attacks in Western Europe and 30% in Central and Eastern Europe are due to smoking, and that smokers and former smokers from these regions are at almost twice the risk of a heart attack compared with people who have never smoked (Ounpuu et al., 2001).

## ***Impact on health services***

### **Primary care**

Primary care has a major role in delivering smoking cessation interventions.

### **Secondary care**

Chronic heart disease (CHD) cost the healthcare system in the UK around £3.2 billion in 2006. Stroke cost approximately the same amount. This represents a cost per capita of just over £50 for each condition. The cost of hospital care for people who have CHD accounts for about 73% of the total costs of care for people with CHD. The hospital costs for stroke account for 94% of the total healthcare costs for people with stroke.

### ***Non-healthcare costs***

Looking only at the health care costs of CVD grossly underestimates the total cost of CVD in the UK. Loss of productivity from death and illness in those of working age, and from the informal care of people with the disease, contribute greatly to the overall financial burden.

In 2006, production losses due to mortality and morbidity associated with CVD cost the UK over £8.2 billion, with around 55% of this cost due to death and 45% due to illness in those of working age. In 2006, production losses due to mortality and morbidity associated with CHD cost the UK over £3.9 billion, with around 65% of this cost due to death and 35% due to illness in those of working age. The cost of informal care for people with CHD in the UK was around £1.8 billion in 2006. In contrast two thirds of the production losses for stroke were due to illnesses in those of working age, and the cost of informal care (£2.9 billion) was far higher than for CHD.

### ***Total costs***

Overall, CVD is estimated to cost the UK economy £30.7 billion a year. Of the total cost of CVD to the UK, around 47% is due to direct healthcare costs, 27% to productivity losses, and 26% to the informal care of people with CVD.

Overall CHD is estimated to cost the UK economy nearly £9.0 billion a year. Of the total cost of CHD to the UK, around 36% is due to direct health care costs, 43% to productivity losses, and 21% to the informal care of people with CHD.

### ***Current management in primary care***

Coleman studied general practice recording of smoking status, advice giving, and prescribing of medication for tobacco addiction up to the end of 2005 (Coleman et al. 2007). The incidence rates were calculated for people who consulted in a quarter. There was no detectable rise in the incidence of prescribing treatments for tobacco addiction, with an incidence of prescribing of about 200/10,000. Around 12% of smokers were given some kind of smoking-related advice per quarter, only 2% per quarter of all smokers or 17% of all advice resulted in prescription. This rate of prescription per consultation is probably about appropriate. At any one time, about 12% of smokers intend to stop smoking in the next month (Taylor et al. 2006) and so might be offered tobacco addiction treatment. The monthly incidence of attempts to stop is around 5–14% of all smokers (West 2008). The relatively high rate of prescribing as a proportion of all advice suggests that either some advice giving is going unrecorded and that advice given to people who are most interested in stopping is preferentially recorded, or that a number of these advice sessions were initiated by patients.

### ***NHS priorities and timeliness for guidance***

NICE public health guidance 1 'Brief interventions and referral for smoking cessation in primary care and other settings' highlights how national strategy and policy changes have supported smoking cessation:

"In the 1998 tobacco white paper 'Smoking kills' (Department of Health 1998) the government set out a comprehensive strategy to reduce tobacco use in the UK. It led to the establishment of the NHS Stop Smoking Services, the first nationwide stop smoking treatment service in the world, combining psychological support and medication. Data collected from April 2004 to March 2005 show that 529,520 people who had contact with the service had set a quit date – and 297,828 of them reported that they had stopped smoking 4 weeks after that quit date (Department of Health 2004)".

NICE public health guidance 1 also highlights the following:

“There is also evidence that the service is reaching smokers from disadvantaged socioeconomic groups, although they have a lower success rate than other socioeconomic groups (Chesterman et al. 2005).”

“Government policy now states that health professionals should refer patients who need support to the service. This is being reflected in contractual changes:

- since 2004, the General Medical Services contract for general practice (the Quality and Outcomes Framework (QOF) has awarded points for recording patients’ smoking status and providing cessation advice or referrals. The ‘Our health, our care, our say’ (Department of Health 2006) white paper outlines plans for the QOF to include wider public health and well-being measures by 2008
- from spring 2006, nurses and pharmacists who have undergone special training will be able to prescribe any licensed medicine, for any medical condition, within their competence.”

## **2. Review of proposed indicator**

### ***Proposed QOF indicator:***

**The percentage of current smokers whose notes record that referral to the NHS Stop Smoking service or pharmacotherapy with brief support has been offered in the previous 15 months.**

### ***Evidence summary for proposed new indicator***

This is a summary of the evidence supporting the proposed new indicator.

### **Clinical effectiveness supporting proposed new indicators**

The evidence that people who smoke continue to smoke or return to smoking after trying to stop despite their wish not to do so. Around 70% of UK smokers want to stop smoking at some time in the future and a slightly higher percentage intends to stop smoking at some time (Taylor, et al. 2006). These figures have not varied much over the past few years. Around 43% of the smoking population of England have tried to stop in the past year, but only 2–3% of the population succeed in stopping

(West 2008). The behaviour of smokers often shows the hallmarks of addiction, with reinstatement after abstinence as the norm not the exception, even after succeeding in not smoking for several months (Stapleton 1998). Furthermore, effective treatment for tobacco dependence exists, which can increase the likelihood of achieving lifetime abstinence several fold (Aveyard and West 2007). Smoking is also a lethal addictive disorder. A lifetime smoker has a 50% probability of dying due to their smoking, and on average will lose 10 years of life (Peto and Doll 2006). This contrasts with a loss of less than 3 years of life with severe hypertension and less than 1 year with mild hypertension (Kiiskinen, et al. 1998). Less than half of lifetime smokers will carry on smoking until death, based on current evidence.

In the Cochrane NRT review, in which NRT was offered to unselected smokers, the percentage using NRT was slightly lower than the percentage accepting it in some studies but ranged from 26% to 69% of unselected smokers, with a weighted average of 42% (Nebot and Cabezas 1992, Ockene, et al. 2008). The RR for long-term abstinence from the seven studies was 1.57 (95% CI 1.22 to 2.03) in unselected smokers, with little heterogeneity. This is similar to the overall effect estimate for NRT mainly derived from studies assisting willing quitters, RR 1.58 (95% CI 1.50 to 1.66) (Stead et al. 2008) which is initially surprising because nearly all the latter studies were done in committed quitters, almost all of whom attempted to quit.

There is strong evidence that both bupropion (Fossati, et al. 2007) and NRT (Stead, et al. 2008) are effective without regular behavioural support. The mechanism of action and clinical effects of varenicline suggest that would also be effective in this context.

Referral to NHS Stop Smoking Services is supported by data showing that prolonged 12-month abstinence rates obtained by NHS Stop Smoking Services are comparable with those obtained by specialists in research (Ferguson, et al. 2005), which is about three to four times higher than when smokers quit unaided (Hughes, et al. 2004). This efficacy is also supported by nationally representative survey data (West 2008).

### **Cost effectiveness supporting proposed new indicator**

The information below is from the NICE costing report for smoking cessation in primary care (May 2006).

The increased activity arising as a result of this guidance (NICE public health guidance 1) is forecast to be modest because of improvements already achieved in recent years. The increased costs arising from increasing brief interventions delivered in primary care is estimated to be £5.4 million as detailed below:

	<b>Cost (£000)</b>
Increased cost to provide quit advice	2,966
Increased cost of prescribing nicotine replacement therapy	2,218
Increased cost of prescribing bupropion	236
<b>Total</b>	<b>5,420</b>

## **Savings**

The information below is from the NICE costing report for smoking cessation in primary care (May 2006).

The health economic models for the NICE public health guidance PH10 on smoking cessation in primary care and the technology appraisal on bupropion and nicotine replacement therapy found smoking cessation interventions to be cost effective.

The NICE costing report reported only the short term additional cost of implementing the guidance by primary care trusts (PCTs). This is because the estimated longer term improvements in health, and consequent reduction in expenditure in treating smoking-related diseases, was expected to be delivered over a much longer time-frame. These cost implications could therefore not be calculated directly in the implementation costs of the guideline.

A study in 1998 estimated the cost of treating smoking-related disease to be £1.5 billion per year. Extrapolating the results from a model that looked at just two smoking-related events – acute myocardial infarction and stroke – indicates that savings of £20.7 million over 11 years for avoided events is achievable. Actual cost savings will be much higher because they will continue beyond 11 years and include other smoking-related diseases.



## ***Assessment of indicator against current practice***

### **Reduction of health inequalities**

NICE public health guidance 10 on smoking cessation services in primary care states that 'reducing smoking prevalence among people in routine and manual groups, some minority ethnic groups and disadvantaged communities will help reduce health inequalities more than any other public health measure' (2008). Differences in the prevalence of smoking between the higher and lower social classes account for over half the difference in the risk of premature death faced by these groups (Jarvis and Wardle 1999).

### **Will implementation of this indicator lead to cost-effective improvements in the delivery of primary care?**

The indicator is considered to have potential to lead to a change in current clinical practice that may lead to cost-effective improvements in the delivery of primary health care.

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