

Background smoking cessation rates in England

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This is a paper in a continuing series arising from the Smoking Toolkit Study, a monthly series of national surveys in England starting in October 2006 designed to provide up-to-date and accurate information on smoking and smoking cessation patterns. The study methods are given in Paper 1. Information will be added to the series and papers updated with new versions as new information becomes available. The Smoking Toolkit Study is funded by Cancer Research UK, Pfizer and GSK. For a full list of papers in the series go to www.smokinginengland.info.

Key message: Our best estimate of the background smoking cessation rate in England over the past 40 years is between 1% and 2% and our best estimate of the rate in the past year is between 2% and 3%. These figures have been calculated indirectly and rely on certain assumptions.

Background and aims

The rate at which the smokers in the UK stop permanently in any given year is of interest because it provides a marker of progress in tobacco control and an early indicator of future tobacco-related harm. It also provides an important comparison point for interventions designed to increase quit rates.

We do not have direct measures of this figure. This would require taking annual cohorts that were representative of the population and following them up for a sufficient period to be confident that those who had stopped during the year were no longer at significant risk of relapse. However, we do have indirect measures which can be used to estimate the figure as long as certain assumptions hold true.

One indirect measure of historic cessation rates averaged out over an extended period is based on looking at age trends in cross sectional surveys. We can look at the proportion in each age that report having stopped at least a year ago in relation to those who have ever smoked regularly. We have undertaken this analysis in a recent household survey in England.

Methods and findings

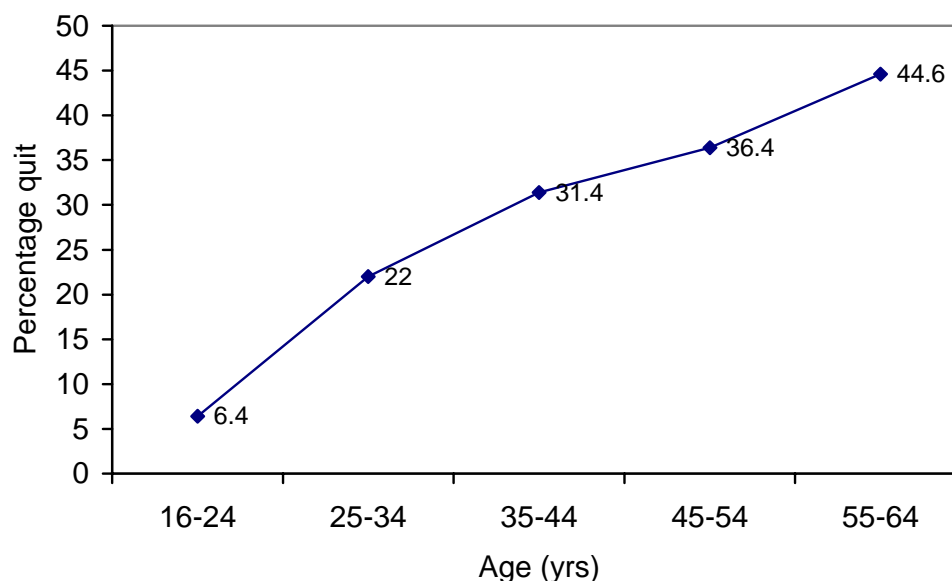
The sampling method is designed to generate a representative sample although this does require some weighting to adjust for slight imbalances in age and socioeconomic group. The fieldwork was undertaken by BMRB in October and November 2006. It involved 5386 participants aged 16 or over of whom 2185 reported having ever smoked regularly. The proportion of ever smokers who were ex-smokers increased from 6.4% in the 16-24 age range to 44.6% in the 55-64 age range, an increase of 38.2% over a 40 year period suggesting a background long-term quit rate of just under 1% per year of those who ever smoked (see Figure 1). This figure will slightly

overestimate the quit rate after middle age because of deaths from continuing smokers.

The background quit rate over this period as a proportion of those who were current smokers *in any given year* will be higher because over time, as smokers quit, the denominator reduces. Applying this correction to the above figures gives an average quit rate of 1.2%.

It is quite possible that background quit rates have changed over time and we are most interested in the rate in the most recent year. This requires different assumptions. In the above survey 7.5% (N=108) of those who reported having been smokers a year ago (N=1435) also reported having stopped at the point of the survey. Given that approximately half of these stopped within the past 6 months and probably have an average likelihood of relapse of approximately 75% (1) and those that stopped 6-12 months ago probably have an average likelihood of subsequent relapse of about 50% (2), the expected permanent cessation rate in would be approximately 2.8%. This figure is considerably higher than the historic rate estimated from the previous method but this is not implausible because of increased pressure to stop in recent years and greater use of aids to cessation such as the stop smoking services and nicotine replacement therapy.

Figure 1: Cumulative long-term cessation rate (ex-smokers as a proportion of ever-smokers) in England as a function of age



Another approach is to estimate the rate at which smokers try to stop in a given year and the likelihood of success of those quit attempts. Our survey described above found that approximately half of smokers reported having made at least one quit attempt in the past year, and many of these reported several quit attempts with the average rate across all smokers being .76 per year. Approximately 4% of unaided quit attempts last for at least 6 months (1) and so we would expect about 2% to succeed permanently. Approximately, 50% of quit attempts are aided by medication and/or

behavioural support and the success rates of these are approximately doubled in the case of medication (3) and probably quadrupled in the approximate 5% who use the services (4). From these rough estimates we would arrive at a figure of 2.4% permanent cessation for the population as a whole. This figure is probably an underestimate because failed quit attempts tend to be forgotten.

Conclusions

We do not have the data to be able to calculate background quit rates in the UK population but we can estimate historic rates and rates in the past year indirectly as long as certain assumptions hold true. Using data from England, the historic rate over the past 40 years is estimated at approximately 1.2% while the rate in the past year is estimated at approximately 2.8% by one method and 2.4% by another method. Because of the assumptions involved in the estimates and the sample size used to calculate these figures these figures must be treated with caution.

References

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