Cost of smoking attributable hospital admissions to the NHS

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INTRODUCTION

Smoking is the biggest single cause of preventable mortality and ill-health within England. It is one of the largest causes of health inequalities in England[1]. Smoking and its associated harms continue to fall hardest on some of the poorest and most vulnerable people in our society[2].

In 2016/17, there were approximately 514,000 smoking related hospital admissions and on average, smokers see their GP 35% more than non-smokers[2]. These costs add significantly to a system already dealing with growing need.

METHODS

Using hospital episode data, smoking attributable admissions are defined as spells where the primary diagnosis of the admission episode is identified as a smoking attributable condition in NHS Digital's Statistics on Smoking report[3]. Smoking attributable admissions were identified based on the primary diagnosis of the admission episode, whereas the costs are for the full hospital spell. The cost of the full hospital spell is calculated using the standard Payment by Results (PbR) methodology. Spells with the smoking attributable primary diagnosis on admission were selected and the dominant health care resource group (HRG) was identified using the HES field [SUS generated core Spell HRG]. Where the HES field [SUS generated core Spell HRG] was not available the HRG attributed to the admission episode is used; this may result in the cost of these admissions being underestimated. The cost of the HRG was attached using Department of Health and Social Care's (DHSC) admitted patient care tariff. Total spell length of stay was identified from the spell's discharge information using the HES field [Spell Duration] in the final episode of the spell. Where the overall Spell Duration was not available the episode duration of the admission episode was used and this might result in the cost of these admissions being underestimated. Adjustments were made for short stay and long stay admissions according to the DHSC PbR guidance. A range of adjustments were made to these costs based on the treatment provided. Top-ups were applied for specialised services such as spinal surgery, neurosciences and orthopaedic using the clinical coding contained within the admission episode. The Market Forces Factor was applied to adjust the cost of the spell to take into account a range of local factors associated with providing that service, such as staffing costs, location etc. A smoking attributable fraction (SAF), which takes into account the local smoking prevalence, was then applied in order to calculate the cost. The total smoking attributable costs in each local authority is equal to the sum of the smoking attributable costs in those aged 35 years and over. Smoking attributable costs for England are calculated by summing the regional smoking attributable costs. For full details of the calculation of costs see the DHSC's PbR guidance[4].

It is important to note that this cost includes only those spells where the associated HRG has a national cost. Those HRGs with a locally determined cost have not been included in this calculation.

RESULTS

In England, the total cost of smoking related hospital admissions in 2016/17 was approximately £871.7 million.

The cost per capita of smoking related hospital admissions increased by £1.20 from 2015/16 to £28.40 in 2016/17 (figure 1).

In 2016/17 a clear gradient was seen between local authority deprivation deciles where the cost per capita ranged from £19.30 (in the least deprived decile to £33.70 in the most deprived decile). This can be seen in figure 2. The deprivation decile gradient was similar in 2015/16, but the gap between least and most deprived has decreased in 2016/17.

£28.40
2016/17

£27.20
2015/16

Figure 1: Cost per capita of smoking related hospital admissions in England

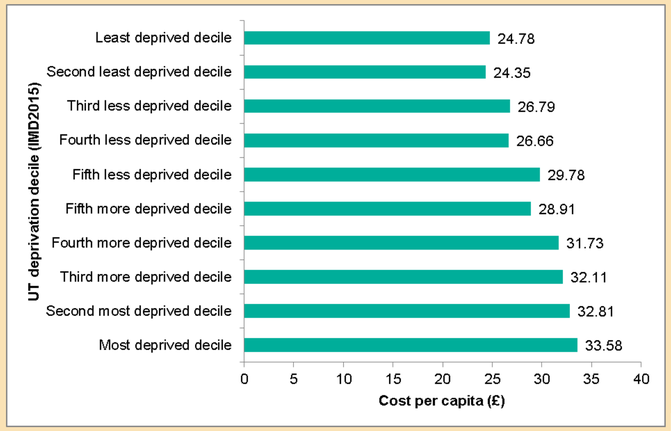

Figure 2: Cost per capita of smoking related hospital admissions by deprivation decile (2016/17)

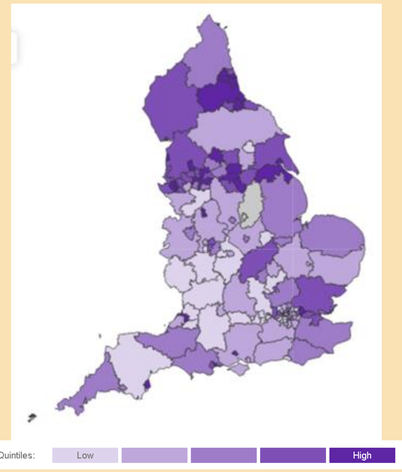

Figure 3: Regional cost per capita of smoking related hospital admissions (2016/17)

Variation can be seen in the cost per capita across England (figure 3). In 2016/17, local authority values ranged from £45.51 in Blackpool to £11.07 in City of London.

There was also regional variation in 2016/17, with the lowest cost per capita being £26.20 (West Midlands) and the highest, £35.30 (North East) and this is displayed in figure 4.

Eighty two percent (125 of 152) upper tier local authorities saw an increase in their cost per capita from 2015/16 to 2016/17.

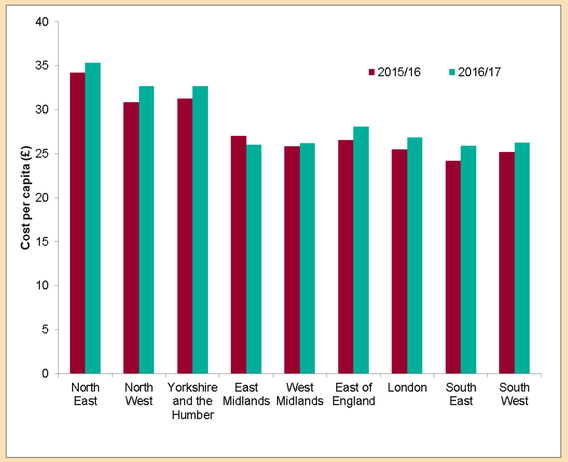

Figure 4: Regional cost per capita of smoking related hospital admissions (2016/17)

DISCUSSION

The true cost of tobacco use is likely to be higher than the figures provided here, with evidence now showing that smoking causes a greater range of diseases and death than accounted for in these costs. Public Health England are undertaking work to revisit the relative risks of conditions, and the number of conditions is likely to increase, which will therefore equate to an increase in costs. The SAF is based on the primary diagnosis of the admission episode, thus where the admission episode is not related to smoking have not been included in this analysis. Continuous improvements are being made to the Payment by Results (PbR) system which means costs for smoking attributable admissions can be measured with increasing accuracy and therefore these data are not necessarily comparable from year to year. Under HRG[4], there are over 1,400 standard cost groupings. Where a national tariff is not available and there is no additional indicative tariff available, the spell is not costed. It is important to note that primary care costs (which were estimated to be £1.1 billion in 2015) are not included here but add a significant additional cost to NHS services. Current and former smokers are more likely to require primary care services than those who have never smoked This analysis highlights the resource implications of preventable smoking related conditions and supports the arguments for local smoking prevention and health promotion initiatives.

CONCLUSIONS

This data aims to highlight the impact of preventable smoking-related conditions on inpatient hospital services in England. Higher costs of smoking attributable admissions are indicative of poor population health and high smoking prevalence.

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