## Asthma admissions, smoking bans and administrative databases: author's response

The issue of the potential misclassification within Hospital Episode Statistics (HES) data of asthma for another condition such as COPD, or vice versa, raised by Kent et al[1] is an important one and any impact that this may have should be considered. Misclassification with resultant bias is a potential risk of many studies. However, the extent, or direction, to which bias may be introduced to a study that uses the recorded primary diagnosis from nationally collected data to ascertain trends in admissions is difficult to estimate.

Kent et al' claim that asthma is misclassified in 9–14% of cases is based on a single study[2] using data, which is now at least 20 years old and came from only two hospitals in one region of England. As such it is highly unlikely to be representative of current national coding practice. Routinely collected data sets such as HES are continuously audited and the accuracy of clinical coding is assessed. We note that recent studies, although not specific to asthma or indeed other respiratory conditions, report that the introduction of measures such as Payment by Results has led to an improvement in the quality of coding in HES,[3] [4] and that 'current levels of reported accuracy suggest that routinely collected data are sufficiently robust to support their use for research and managerial decision-making.'[4] A 2008/09 audit of all acute National Health Service trusts in England reported a mean coding error for any primary diagnosis of 13.1%,[5] considerably smaller than the 28% and 45% reported by the two hospitals in the Dixon et al[2] study for any primary diagnosis suggesting there have been marked improvements in coding accuracy over time.

The use of the primary diagnosis from the HES data set is an established method of analysis[6] [7] to establish trends

in emergency or elective admissions and is routinely used for this purpose.[8] While we acknowledge the potential issue of misclassification using the primary diagnosis of a patient's stay in hospital and the possibility that our study may, therefore, be subject to some bias, we note that it is only the coding error rates around the time of the legislation that will impact on our findings. These error rates though are likely to be considerably smaller than those quoted by Kent *et al* based on the Dixon *et al*[2] study. Moreover, the direction and magnitude will further depend on the differential effect that secondhand smoke has on asthma compared with the other conditions misclassified as asthma about which very little is known.

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