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IS THE INCREASE IN ADENOCARCINOMA A RESULT OF CHANGES IN CIGARETTE DESIGN?

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Summary

1) The study provides new evidence that among smokers there has been an increase in the risk of developing lung cancer, controlling for amount and duration of smoking, which has progressively increased in the US over the past four decades.

2) This increase in the risk of lung cancer among smokers coincides with a change in cigarette design over the past five decades.

3) This increase in risk of smoking over time is not evident for squamous cell carcinoma of the lung and is driven largely by changes in the risk of adenocarcinoma. The increase in adenocarcinoma as a proportion of all lung cancers is much less evident in Australia. This suggests that the difference may be caused by a difference in the cigarettes used in the two countries. One major known differences in cigarettes between the two countries is the lower levels of tobacco specific nitrosamines (a lung specific carcinogen for adenocarcinoma) in Australian cigarettes. The increased risk of adenocarcinoma in the US may be explained by the higher levels of tobacco specific nitrosamines in US cigarettes.

4) These observations strongly support the need for regulation of tobacco products, since technology exists to lower nitrosamines in tobacco.