**Introduction** Previous studies in developed countries have documented associations between air pollution and risk of some neoplasms. We explored the association of traffic-related air pollution with hospitalisations for cancer groups.

**Methods** Our analysis included all individuals admitted to public or private hospitals in São Paulo from 2004 to 2006 with a main diagnosis of primary invasive cancer. Only the first individual admission was considered, from which age, sex, diagnosis and home address were extracted. We calculated total, gasoline and diesel vehicles traffic density, from traffic counts data, for 4964 geographical units with a population of 20 or more inhabitants, formed by a grid of 500 by 500 m. We used logistic regression models adjusted by the Human Development Index of the area for groups of cancer.

**Results** There was an increased risk of hospitalisation for respiratory neoplasms in adults and for haematologic neoplasms in children and adolescents associated with living in areas with higher total traffic density and traffic density for vehicles powered by gasoline and diesel, with a clear dose-response gradient. The Rate ratios of these neoplasms for the highest category of exposure to total density traffic were, respectively, 3.11 (95% CI 2.26 to 4.87) and 2.35 (95% CI 1.59 to 3.49).

**Conclusion** Our study suggests an association between traffic air pollution and hospital admissions for respiratory and haematologic cancers. The adjustment for potential confounding variables, the use of more sophisticated exposure assessment models and of incidence data are needed to more directly investigate the cause and effect relationship.

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**TRENDS IN MORTALITY DUE TO POTENTIALLY HPV-RELATED HEAD AND NECK CANCERS IN BRAZIL, 1980–2007**

**Introduction** Alcohol and tobacco are the most important risk factors for head and neck cancers (HNC). However, in some countries, it has been observed an increase in incidence rates, particularly among young people and among non-drinkers and non-smokers. These trends have increased the debate about the role of human papillomavirus (HPV) and several studies suggest that this infection may play a causative role in oropharyngeal tumours. This study aims to evaluate the magnitude of cancers potentially related to HPV in Brazil.

**Methods** Time series study including deaths due to HNC registered in Brazil, from 1980 to 2007. Age-adjusted mortality rates are described for 100 000 people, according to tumour site (HPV-related or non-HPV related) and sex. Annual percentage change (APC) was calculated through Joinpoint modeling method, using the calendar year as regressor variable.

**Results** We observed a statistically significant increasing trends in mortality rates due to HPV-related HNC among males in the periods of 1980–1994 (APC = 2.4, 95% CI 1.0 to 3.8) and 1997–2005 (APC = 4.0, 95% CI 0.8 to 7.4), followed by a decrease in 2005–2007 (APC = –2.7, 95% CI –4.6 to –1.4), while for females a significant increase in rates was observed between 1980 and 1988 (APC = 7.6, 95% CI 0.3 to 15.4), followed by a decreasing trend in the period 1998–2007 (APC = –2.7, 95% CI –4.2 to –1.3). Regarding non-HPV related HNC, significant changes were only observed for females (1980–2007, APC = –2.1, 95% CI –2.8 to –1.4).

**Conclusion** Important decreases in HPV-related HNC mortality were recently observed in Brazil, particularly among females. These results can suggest that these trends reflects better prognosis related to HPV-positive HNC.