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## A closer look at the epidemiology of lung cancer in Cuba, 1999-2012

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**Background:** Lung cancer is the most common and deadliest malignancy in Cuba. With an aging Cuban population, and the economic importance the tobacco industry, incidence for this and other cancers is expected to increase, further straining limited health care resources. Adequate allocation of resources for lung cancer prevention and early diagnosis requires compels a closer epidemiological look to identify potential areas of intervention.

**Objectives:** We described the lung cancer incidence and mortality patterns in Cuba, overall, and by sex, age, and province, from 1995 through 2012 and we discuss preventive and early detection strategies within the context of existing data.

**Methods:** We used Cuba's National Cancer Registry and National Medical and Statistical Registry to estimate crude and age-adjusted, lung cancer incidence and mortality rates, standardized to the world population. We conducted a time-series analysis using joint point to describe lung cancer mortality trends in Cuba from 1995 to 2014. We also estimated the crude and adjusted years of potential life lost (YPLL) by sex, age group, and province, and plot the trend across time for this variable (YPLL).

**Results:** Lung cancer incidence showed a slight decrease over time for males, but increased for females during the same time period: incidence rates for males and females were respectively 42 and 16 per 100,000 in 1990 and 40 and 21 per 100,000 in 2012. The provinces of Habana, Artemisa, Matanzas, and Camaguey recorded the highest LC incidences. Most LC were classified as non-small cell carcinomas (74%) and diagnosed at later stages (70% were stage III or IV). During the same time (1990-2012), LC mortality slightly increased from 27 to 31 per 100,000 persons, an increase disproportionately impacting women, as demonstrated by an increase in the proportion of all cancer deaths attributable to lung cancer, from 14% in 1995 to 19% in 2012, among women. Nearly 50% of deaths among people ages 30-69 were attributed to LC, with women more likely to die of LC at these younger ages.

**Conclusions:** LC incidence and mortality are increasing in Cuba, particularly among younger women. The fact that the provinces of highest LC incidence are geographically located in areas known for tobacco production (Partidos, Remedios and Oriente) suggests further research into risk behavior distribution and may inform implementation strategies for cancer control initiatives.

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