

Time Trends of Lung Cancer in Missouri, US

Jian C Chang, Ph.D.

Univ of Missouri, School of Medicine, Dept of Health Management & Informatics, Columbia, MO.

This study examined the time trends for lung cancer among white and African-American men and women in Missouri between 1980 and 1998.

The analyses were based on data from the Missouri Cancer Registry and the Center for Health Information Management and Evaluation, maintained by the Missouri Department of Health. Incidence and mortality rates were directly standardized to age and the 1970 US standard. The estimated annual percent change was calculated using log-linear analysis.

The age-adjusted incidence rate was 64.4 per 100,000 for whites and 72.7 per 100,000 for African Americans for the period between 1985 and 1997 in Missouri. Lung cancer incidence increased by 0.02% annually among white men and increased by 2.3% annually among African American men. Lung cancer incidence increased significantly by 2.3% annually among white women and increased by 2.4% among African American women. Among men age 65 and older lung cancer incidence increased by 0.7% annually among white and increased by 3% annually among African American from 1985 to 1997. Among women age 65 and older lung cancer incidence increased significantly by 4.9% annually among white and increased significantly by 5.6% annually among African American. However during the same time period, among men under age 65 lung cancer incidence decreased by 1.1% annually among white and increased by 1.5% annually among African American. Among women under age 65 lung cancer incidence decreased by 0.2% annually among white and decreased by 0.6% annually among African American. Squamous cell lung cancer incidence (28% of the cases) decreased significantly by 2.8% annually among white men, decreased by 0.2% annually among white women, decreased by 1.6% annually among African American men but increased by 0.3% among African American women. Adenocarcinoma lung cancer incidence (27% of the cases) increased by 1% annually among white men, increased by 3% annually among white women, increased by 3.5% annually among African American men and increased by 3.7% among African American women. Large cell cancer incidence (8% of the cases) increased by 1.4% annually among white men, increased significantly by 4.5% annually among white women, increased significantly by 4.6% annually among African American men and increased by 3% annually among African American women. Small cell cancer incidence (17% of the cases) decreased significantly by 2.2% annually among white men, decreased by 0.2% annually among white women, decreased by 2.6% annually among African American men and decreased by 1.6% annually among African American women.

During this same period, squamous cell lung cancer incidence increased significantly by 1.6% annually among women age 65 and older and decreased significantly by 2.4% annually among women under age 65. Small cell lung cancer incidence also increased

significantly by 2.6% annually among women age 65 and older and decreased significantly by 2.7% annually among women under age 65. Among men of both age groups, squamous cell and small cell lung cancer incidence decreased significantly during this period.

Between 1990 and 1998, the age-adjusted mortality rate was 55.1 per 100,000 for whites and 72.7 per 100,000 for African Americans. Lung cancer mortality increased significantly by 0.7% annually among white men and increased significantly by 2.2% among African American men from 1980 to 1990. Lung cancer mortality increased significantly by 4.4% annually among white women and increased significantly by 4.5% among African American women from 1980 to 1990. Lung cancer mortality increased significantly by 2.7% annually among white women and increased 0.6% annually among African American women from 1990 to 1998. However, lung cancer mortality decreased significantly by 1.1% annually among white men and decreased significantly by 2.3% annually among African American men from 1990 to 1998.

Among men age 65 and older lung cancer mortality decreased by 0.1% annually among white and decreased by 0.9% annually among African American from 1990 to 1998. Among women age 65 and older lung cancer mortality increased significantly by 4.9% annually among white and increased by 2.5% annually among African American from 1990 to 1998. Among men under age 65 lung cancer mortality decreased significantly by 3% annually among white and decreased significantly by 4% annually among African American from 1990 to 1998. Among women under age 65 lung cancer mortality decreased by 0.2% annually among white and decreased by 1.4% annually among African American from 1990 to 1998.

Lung cancer incidence and mortality have been decreasing in the 90's among younger but not among older American in Missouri. The significant decreased in squamous cell and small cell lung cancer incidence, which occur more frequently in smokers, among men and younger women and the significantly decreased of lung cancer mortality among white and African American men age 45 to 54 during the last two decades can be attributed mostly to lower cigarette consumption and anti-smoking programs undertaken in the population..

Cette étude a examiné les variations temporelles du cancer du poumon parmi les hommes et les femmes de race blanche et de race noire dans l'état du Missouri, entre 1980 et 1998. L'incidence et la mortalité du cancer du poumon ont decru dans les années 90 parmi les Américains les plus jeunes, mais non parmi les Américains plus âgés dans l'état du Missouri. La décroissance significative dans l'incidence du cancer des cellules squameuses et des petites cellules du poumon, qui apparut plus fréquemment parmi les fumeurs, parmi les hommes et les jeunes femmes, et la décroissance significative du taux de mortalité du cancer du poumon parmi les hommes blancs et les hommes noirs âgés de 45 à 54 ans pendant les deux dernières décades, est principalement attribuable à la faible consommation de la cigarette et à la campagne anti tabac entreprise dans la population.