Title of Abstract: Pulmonary Hypertension Mortality Surveillance – United States, 2001-2010

Authors: Schieb L, George M, Ayala C.
Institution and Country: All authors, Centers for Disease Control and Prevention, U.S.

BACKGROUND: Pulmonary hypertension (PH) is an uncommon but progressive condition. Previous surveillance from 1980-2002 identified decreasing pulmonary hypertension death rates among men but increasing rates among women while rates did not change among whites and increased among blacks. Continuing to track deaths related to the disease over time and by age, gender, race/ethnicity, and location can help inform research in the diagnosis and treatment of PH.

METHODS: We calculated age-adjusted and age-specific death rates per 100,000 population and assessed trends from 2001-2010 using data from the National Vital Statistics System and the U.S. Census Bureau. Pulmonary hypertension deaths were defined as deaths with ICD-10 codes I27.0, I27.2, I27.8, or I27.9 reported as any contributing cause of death on the death certificate.

RESULTS: Both the number and rate of pulmonary hypertension deaths increased from 2001 (21,000 deaths, 5.5 per 100,000) to 2010 (15,500 deaths, 6.5 per 100,000). Death rates for men decreased from 2001 to 2006 and then increased to 2010. Rates for women increased during the entire time period. In each year, rates were highest in non-Hispanic blacks (9.1 per 100,000 in 2010 compared to 6.5 for non-Hispanic whites) and increased during the entire time period for blacks, while increasing only from 2006 to 2001 for whites. Death rates were highest and increased the most dramatically in the 85 years and older age group; the rate in 2010 (108.7) was more than 1.5 times the rate in 2001 (65.6). Death rates in those younger than 1 year decreased significantly from 14.9 in 2001 to 8.2 in 2010. States in the northern U.S. west of the Mississippi River as well as New Hampshire, Vermont, and South Carolina had the highest PH death rates in 2010. While most deaths that were categorized as having PH as a contributing cause included PH as the underlying cause (30% overall in 2010), the distribution of underlying causes varied by race/ethnicity.

CONCLUSIONS: PH death rates increased over the ten-year period that we analyzed, especially from 2006 to 2010. Death rates in 2010 varied by age, gender, race/ethnicity, and state of residence. These results can help to generate hypotheses about risk factors for deaths related to PH and shed light on coding practices for mortality data. In addition, recognizing which populations experience the highest rates of PH can inform education and early detection efforts. Continued surveillance is needed to understand and address evolving trends in mortality associated with pulmonary hypertension and pulmonary hypertension-associated conditions, especially for sex, age, and race/ethnicity disparities.

TYPE: ___ Clinical Science _X_ Basic Science ___ Case Study