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### **Life and death in the USA: New study concludes there are 'Eight Americas'**

Life expectancy in the United States shows some remarkable variations – from place to place, and between races. Researchers have now analysed the figures to conclude that the health of the American people divides them into 'Eight Americas' – based on their race, country of residence, and a few other community characteristics – with striking differences between them. For example, in 2001, the life expectancy gap between the 3.4 million high-risk urban black males and the 5.6 million Asian females was nearly 21 years.

Researchers at Harvard School of Public Health decided that if they could find a way of dividing the people of the US into groups based on a small number of characteristics – such as county of residence, race, and income – then it would help make clear the most important factors accounting for the differences in life expectancy. Their findings have been published in PLoS Medicine.

The researchers used data from the US Bureau of the Census and the National Center for Health Statistics (at the Centers for Disease Control) to calculate death rates for the years 1982–2001. They took note of the county of residence and of the race of all the people who died during that period of time. This enabled them to calculate the death rates for all 8,221 'race-county units' (all of the individuals of a given race in a given county). They experimented with different ways of combining the race-counties into a small and manageable number of groups and eventually settled on their Eight Americas, each containing millions or tens of millions of people.

For each 'America' the researchers estimated life expectancy, the risk of death from specific diseases at different ages, the proportion of people who had health insurance, and people's routine encounters with healthcare services. They also created maps of life expectancies for the US counties. They named their eight Americas as follows: Asians, northland low-income rural whites, Middle America, low-income whites in Appalachia

and the Mississippi Valley, western Native Americans, black Middle America, southern low-income rural blacks, and high-risk urban blacks.

Many striking differences in life expectancy were found between the eight groups. In 2001, the life expectancy gap between the 3.4 million high-risk urban black males and the 5.6 million Asian females was nearly 21 years. Within the sexes, the life expectancy gap between the best-off and the worst-off groups was 15.4 years for males (Asians versus high-risk urban blacks) and 12.8 years for females (Asians versus low-income rural blacks in the South). These differences are as large as those observed between Japan, the nation with the best life expectancy, and many low-income developing countries. Chronic diseases like heart disease and injuries, much of which is preventable through known effective interventions, were mainly responsible for these differences. The gaps between best-off and worst-off were similar in 2001 to what they were in 1987.

Health 'inequalities' in the US are large by all international standards, and are showing no sign of reducing. The researchers say that social and economic reforms could help change the situation. However, the public health system should also improve the way in which it deals with risk factors for chronic diseases and injuries, particularly in order to help the groups with the highest death rates.

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Citation: Murray CJL, Kulkarni SC, Michaud C, Tomijima N, Bulzacchelli MT, et al. (2006) Eight Americas: Investigating mortality disparities across races, counties, and race-counties in the United States. PLoS Med 3(9): e260.

<http://dx.doi.org/10.1371/journal.pmed.0030260>

PRESS-ONLY PREVIEW OF THE ARTICLE:

<http://www.plos.org/press/plme-03-09-ezzati.pdf>

Related images for press use: County Life Expectancies by Race. Deaths were averaged for 1997–2001 to reduce sensitivity to small numbers and outliers.

<http://www.plos.org/press/plme-03-09-ezzati-1.jpg>

Caption: Life expectancy at birth for black males and females. Only counties with more than five deaths for any 5-y age group (0–85) were mapped, to avoid unstable results.

<http://www.plos.org/press/plme-03-09-ezzati-2.jpg>

- Caption: Life expectancy at birth for white males and females.

Related table for press use: <http://www.plos.org/press/plme-03-09-ezzati-table.pdf>

- Caption: Definitions and Basic Sociodemographic Characteristics of the Eight Americas

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Related PLoS Medicine Perspectives article:

Citation: Pappas G (2006) Geographic data on health inequities: Understanding policy implications. PLoS Med 3(9): e357.

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