Press Release
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Chris Murray, MD. will be in Washington, D.C. on the 11th and is available for Interviews.
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New Harvard Study: Who, Where and Why Americans Live Longer or Die Sooner

More than 30 years separate Americans with the greatest life expectancies from those with the lowest. The "longevity gap" has persisted for at least two decades in spite of increasing efforts to eliminate obvious health disparities between large and distinct racial and ethnic groups, according to a new study by Harvard University Initiative for Global Health and Harvard School of Public Health.

At the high end are Asian American women living in Bergen County, NJ, who have an average life expectancy of 91 years; at the other end are Native American residents in South Dakota where the average life expectancy is only 58 years.

The new study, *Eight Americas: Investigating Mortality Disparities Across Races, Counties and Race-Counties in the United States,* published in the September issue of the journal *PloS Medicine* concludes that disparities seem to be caused by a number of chronic diseases, such as heart disease and cancer, and to injuries with well-established risk factors, like alcohol-related traffic accidents. Income, infant mortality, violence, HIV/AIDs, and lack of health insurance only explained a small percentage of the differences.

"If a considerable fraction of non-communicable disease variation is related to blood pressure, cholesterol and smoking, we have cheap and effective strategies for these problems," said

Christopher J.L. Murray, M.D., PhD, Director of the Harvard Initiative for Global Health and lead author of the study.

In supplemental data, counties with the longest life span are Clear Creek, Eagle, Gilpin, Grand, Jackson, Park and Summit counties in Colorado, Montgomery County in Maryland, Lyon and Sioux counties in Iowa. Residents have a combined life expectancy of 81.3 years. A complete set of the county data on life expectancy for both males and females from 1980-1999 can be found on these websites: http://medicine.plosjournals.org/perlserv/?request=index-html&issn=1549-1676 or http://www.globalhealth.harvard.edu

Lowest life expectancies of 66.6 years can be found in Bennett, Jackson, Mellette, Shannon, Todd and Washabaugh counties in South Dakota, a cluster with a largely reservation-based Native American population, followed by Baltimore City, Maryland, a known high risk urban area, at 68.6 years.

The life expectancy gap between the highest and lowest counties has been rising since 1984. "The counties that started the best just keep getting better," said Dr. Murray. "Those at the bottom either stayed the same or got worse."

According to the state data, Hawaiians have the greatest life expectancy, a collective 80 years for men and women with Hawaiian women leading all state groups with a life expectancy of 83.2 years. Hawaii's advantage is partly statistical, due to the small size of a state with only five counties.

Other "healthy" states include California, Colorado, Connecticut, Massachusetts, Minnesota, North Dakota, New Hampshire, Vermont and Washington, all with a combined male and female life expectancy topping 78 years.

The District of Columbia, with a combined life expectancy of only 72 years, ranks as the unhealthiest place to live, followed by Mississippi, 73.6 years, Louisiana 74.2, Alabama, 74.4 years and South Carolina, 74.8 years.

The longevity findings emerge from an in-depth analysis of life expectancy across the United States, based on Census Bureau and National Center for Health Statistics data. Using figures from 1980 and 2000, the team of Harvard researchers divided the population into 2072 individual county units and also into eight race/county subgroups.

"The study shows that 10 million Americans with the best health have one of the highest levels of life expectancy on record while tens of millions of other Americans have levels more typical of middle-income or low-income developing countries," said Dr. Murray who is also a professor at The Harvard School of Public Health.

"Internationally, the gap between the best and worst in the U.S. is comparable to the difference between the longest-lived people of Japan and West Africans near the lowest end of the life expectancy scale, said team co-leader Majid Ezzati, PhD, associate professor at The Harvard School of Public Health.

The study found that the 15.4-year gap in life expectancy between Asian American males and high-risk urban blacks is about the same as the gap between men in Iceland, who have the highest national life expectancy, and males in Belarus and Uzbekistan at the lowest end.

Similarly, a 12.8 year gap between Asian American women and low-income rural black women in the South is about the same as the gap between women in Japan, who have a life expectancy of 84.7 years, and women in Fiji, Nicaragua and Lebanon.

The just published study is the first of a series of descriptive papers from the three-year project funded by the Centers for Disease Prevention and Control and the National Institute on Aging.

A number of findings were unexpected and counter some common assumptions about reasons for differences in life expectancy. "Many health researchers focus on income, infant mortality, violence, HIV/AIDs, and lack of insurance to explain these differences, but only a small fraction of the variation is due to those five factors," said Dr. Murray.

For example, low income, rural white populations in Northland counties, a category that includes Minnesota, the Dakotas, Iowa, Montana and Nebraska, have a life expectancy of 76.2 years for

men and 81.8 years for women, a substantial advantage over the remaining 98 percent of the white population with an average, combined life expectancy of 77.1 years.

Life expectancy for low-income whites in rural Appalachia and the Mississippi Valley with similar incomes is much lower, about the same as Mexico and Panama. Differences in health Insurance coverage and use of routine health care do not seem sufficient to explain the disparity, said Murray.

"From the data on both counties and our *Eight Americas* study, it is overwhelmingly clear that the greatest disparity is among young and middle-aged adults, not on infants and the elderly as the policy emphasis has been.

As expected, Asian-Americans have an extraordinary advantage with life expectancy 5.9 years higher for males and 5.6 years higher than females than the nearest of the other groups in 2001. That advantage has remained constant for the two decades studied, even though second generation Asian Americans are included in the study. The longevity advantage of Asian Americans was expected to diminish once newcomers adopted new diets and lifestyles.

While life expectancy for Native Americans at the national level came out about the same as that of whites, this may be an artifact of how mixed races are reported; the same is not true for Native Americans living on or near reservations in the West who not only have the lowest average per capita income, $10,029, of all the groups studied but also the poorest life expectancy--about 65 for men and 74 for women. Analyses of the causes of death showed a high toll from alcohol-related problems, such as traffic accidents, cirrhosis of the liver, and diabetes.

The Eight Americas
Briefly, the Eight Americas described in the PLoS paper are defined as:
Group 1-- 10.4 million Asians, average per capita income $21,566, in 1889 counties where Pacific Islanders make up less than 40 percent of the Asian population;
Group 2--3.6 million Northland (112 rural counties in the Northern plains and Dakotas) low-income rural white, $17,758;
Group 3--214 million middle Americans, including all whites not in 2 and 4, Asians not in 1 and Native Americans not in 5, $24,640

Group 4--16.6 million low-income whites in 467 rural counties in Appalachia and the Mississippi Valley, $16,390;

Group 5--1 million Western Native Americans in 359 counties, $10,029;

Group 6--23.4 million black Middle America in 1,632 counties, including all other black populations not included in 7 and 8, $15,412;

Group 7--5.8 million southern low-income blacks in 427 rural counties, $10, 463;

Group 8--7.5 million high-risk urban blacks in 13 urban counties with a homicide mortality risk exceeding the 95 percentile of US counties, $14,800.

In the largest group, the 214 million middle Americans, life expectancy for males has increased from about 72 to 75 years over the 20 years under study, while that for women increased from 79 years to about 80 years.

Similar steady increases were seen for men in all groups, with the exception of high-risk urban blacks, who had a drop in life expectancy during the mid-90s attributed to HIV/AIDS.

Life expectancy for women held mostly steady, with the exception of erratic patterns for western Native Americans and a slight decline from about 78.2 years to 78.1 years for low-income whites in Appalachia and the Mississippi Valley.

"Why is the obvious question," said Dr. Murray, "and we don't have an answer as to why the central part is not making as much progress." When counties data are related to the *Eight Americas*, four, five and seven are predominately in counties making little progress.

"Something very geographic is going on," he said, "but typical analytic methods miss that part of the story because researchers tend to look at race, income and education, but rarely at place. Some really interesting patterns aren't related to those usual factors," he added. "Perhaps it is shared ancestry or the way people make a living. The tricky part is figuring it out. It is not simply income and race."

Overall, the gap between men and women is narrowing, which some researchers believe is related to tobacco and the fact that fewer men now smoke. But for most groups, he is impressed

by similarities. "If it is a bad county for males, it is likely to be bad for females. Whatever is driving any change, good or bad, is common between men and women," Dr. Murray said.

Some gaps seem to be increasing. Asians keep expanding their advantage at one end of the spectrum while at the other end poor whites in rural Appalachia are worse off. To Dr. Ezzati, that is a cause of concern in evaluating our public health system. "The record of health disparities has been around for a long time. Despite the awareness, there has been no improvement, especially for diseases that cause large disparities and for which there are known, effective interventions. This is the story we often associated with developing countries," he said. "We are now about where we were 20 years ago."

The Harvard team hopes this study will suggest new ways to narrow the gaps. "There's this widespread view that if we only gave everyone health insurance, a big chunk of this disparity would go away," said Murray. "That would be a good thing, but it would only address a small fraction of disparities."

Instead, he suggested identifying risk factors and targeting populations with known problems. "There are things that can be done and we have reasonably good evidence that they work," said Dr. Murray. "If we did that, we could narrow those disparities."

Background

The Harvard team's work, which began in 1997 with the first study on county mortality patterns, parallels its ongoing work on global patterns of disease and risk factors. The current US studies were undertaken to try to understand the "extraordinary health disparity that exists in the country that spends the most on health care and to understand the paradox of the highest medical care available and at the same time so many lousy outcomes and pockets of people with conditions we're used to seeing in sub-Saharan Africa and parts of Asia," said Dr. Murray.

In the PLoS paper, the team also compares the experiences of the "Eight Americas" with international data from the World Health Organization's *Global Burden of Disease* report, speculates on reasons for the persistent health disparities between distinct and large subgroups, and offers suggestions for correcting these disparities.

Another paper drawn from this data (*Journal of the Royal Society of Medicine*, May 2006) looks at obesity patterns by state. Subsequent papers will explore the impact of smoking on the cross-county and Eight America patterns, offer more detail on the risk factors linked to differences in life expectancy, and assess how non-medical causes, such as education, income and government policy differences, affect life expectancy and healthy life expectancy, taking disabilities and functional health into account, as well as longevity.

Future work will be hampered by the recent NCHS decision to suppress county identifier information, which will make further tracking of cross county differences impossible.

50 Counties with Highest Life Expectancy for Males and Females

Rank	State	County	Life Expectancy Years
1	Colorado	Clear Creek	81.3
2	Colorado	Eagle	81.3
3	Colorado	Gilpin	81.3
4	Colorado	Grand	81.3
5	Colorado	Jackson	81.3
6	Colorado	Park	81.3
7	Colorado	Summit	81.3
8	Maryland	Montgomery	81.3
9	Iowa	Lyon	81.3
10	Iowa	Sioux	81.3
11	Minnesota	Nicollet	81.1
12	Iowa	Story	81.0
13	Minnesota	Carver	81.0
14	Florida	Collier	81.0
15	Oregon	Benton	80.9
16	Oregon	Polk	80.9
17	Virginia	Fairfax City	80.9
18	Virginia	Fairfax County	80.9
19	Arizona	La Paz	80.9
20	Arizona	Yuma	80.9
21	Iowa	Winneshiek	80.8
22	Utah	Morgan	80.8
23	Utah	Summit	80.8
24	Colorado	Archuleta	80.8
25	Colorado	Gunnison	80.8
26	Colorado	Hinsdale	80.8
27	Colorado	Mineral	80.8
28	Colorado	Ouray	80.8
29	Colorado	San Miguel	80.8
30	California	Marin	80.8
31	Minnesota	Stearns	80.8
32	Idaho	Blaine	80.8
33	Idaho	Boise	80.8
34	Idaho	Camas	80.8
35	Idaho	Custer	80.8
36	Utah	Washington	80.7
37	Minnesota	Olmsted	80.7
38	Utah	Cache	80.6
39	Utah	Rich	80.6
40	Minnesota	Douglas	80.5
41	Iowa	Johnson	80.5
42	Hawaii	Honolulu	80.5
43	Hawaii	Kalawao	80.4
44	Hawaii	Maui	80.4
45	Minnesota	Jackson	80.3
46	Minnesota	Nobles	80.3
47	Minnesota	Rock	80.3
48	South Dakota	Brookings	80.3
49	Colorado	Douglas	80.3
50	Colorado	Elbert	80.3

Note: 1999, the latest year available
Source: Harvard University Initiative for Global Health and Centers of Disease Control

50 Counties with Lowest Life Expectancy for Males and Females

Rank	State	County	Life Expectancy Years
1	South Dakota	Washabaugh	66.6
2	South Dakota	Todd	66.6
3	South Dakota	Shannon	66.6
4	South Dakota	Mellette	66.6
5	South Dakota	Jackson	66.6
6	South Dakota	Bennett	66.6
7	Maryland	Baltimore City	68.6
8	Virginia	Petersburg	69.6
9	South Carolina	Marlboro	69.6
10	Arkansas	Phillips	69.8
11	Mississippi	Coahoma	70.1
12	Florida	Union	70.2
13	Florida	Baker	70.2
14	West Virginia	Mcdowell	70.4
15	Missouri	St. Louis City	70.8
16	Missouri	Pemiscot	70.9
17	Mississippi	Sunflower	71.1
18	Arkansas	Crittenden	71.1
19	Virginia	Richmond City	71.1
20	Mississippi	Washington	71.1
21	Mississippi	Tunica	71.2
22	Mississippi	Tallahatchie	71.2
23	Mississippi	Quitman	71.2
24	West Virginia	Logan	71.2
25	North Carolina	Martin	71.2
26	Mississippi	Bolivar	71.4
27	South Carolina	Marion	71.4
28	West Virginia	Mingo	71.5
29	North Carolina	Robeson	71.5
30	Louisiana	Washington	71.6
31	Arkansas	Mississippi	71.6
32	Louisiana	Madison	71.6
33	Louisiana	Franklin	71.6
34	Alabama	Wilcox	71.7
35	Alabama	Lowndes	71.7
36	Arkansas	St. Francis	71.7
37	Louisiana	Orleans	71.8
38	Mississippi	Jefferson	71.9
39	Mississippi	Franklin	71.9
40	Mississippi	Claiborne	71.9
41	Mississippi	Grenada	71.9
42	Alabama	Macon	71.9
43	Alabama	Bullock	71.9
44	South Carolina	Dillon	71.9
45	Mississippi	Panola	71.9
46	Texas	Anderson	72.0
47	Kentucky	Harlan	72.0
48	Oklahoma	Seminole	72.0
49	District Of Columbia	District Of Columbia	72.0
50	North Carolina	Edgecombe	72.0

Note: 1999, the latest year available
Source: Harvard University Initiative for Global Health and Centers of Disease Control

51 States with the Longest Life Expectancy

Rank	States	Life Expectancy (Years)	Rank	States	Life Expectancy (Years)
1	Hawaii	80.0	27	New Mexico	77.0
2	Minnesota	78.8	28	Virginia	76.8
3	Utah	78.7	29	Delaware	76.8
4	Connecticut	78.7	30	Texas	76.7
5	Massachusetts	78.4	31	Pennsylvania	76.7
6	New Hampshire	78.3	32	Wyoming	76.7
7	Iowa	78.3	33	Illinois	76.4
8	North Dakota	78.3	34	Michigan	76.3
9	Rhode Island	78.3	35	Maryland	76.3
10	California	78.2	36	Ohio	76.2
11	Vermont	78.2	37	Indiana	76.1
12	Colorado	78.2	38	Missouri	75.9
13	Washington	78.2	39	Nevada	75.8
14	Wisconsin	77.9	40	North Carolina	75.8
15	Idaho	77.9	41	Georgia	75.3
16	Nebraska	77.8	42	Kentucky	75.2
17	Oregon	77.8	43	Arkansas	75.2
18	South Dakota	77.7	44	Oklahoma	75.2
19	New York	77.7	45	Tennessee	75.1
20	Maine	77.6	46	West Virginia	75.1
21	Florida	77.5	47	South Carolina	74.8
22	Arizona	77.5	48	Alabama	74.4
23	New Jersey	77.5	49	Louisiana	74.2
24	Kansas	77.3	50	Mississippi	73.6
25	Montana	77.2	51	District of Columbia	72.0
26	Alaska	77.1			

Note: 1999, the latest year available
Source: Harvard University Initiative for Global Health and Centers of Disease Control