

## Appalachian infant death rates point to healthcare deficit

June 6 2012

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Infant death rates in Appalachia remain significantly higher than much of the rest of the country, and are especially high in the central Appalachian region, according to Penn State health policy researchers.

The percentage of [infant deaths](#) in the United States declined throughout the 20th century, including in Appalachia. However, according to recent data there continue to be more white infant deaths in Appalachia than throughout much of the rest of the nation.

"Infant mortality is viewed as an overall marker of public health in general, so the infant mortality rate is very important," said Marianne M. Hillemeier, associate professor of [health policy](#) and administration and [demography](#). "It's followed in the U.S. very closely, and it's followed internationally as an important indicator of overall health."

According to the Centers for Disease Control, as of 2005 the United States ranks 30th in the world for infant mortality.

Two-thirds of infant deaths occur in the first 28 days of life, but if a child dies before his or her first birthday, it is still considered an infant death. Many infants who don't survive are born prematurely, said Hillemeier. Although the causes of preterm labor are not well understood, better prenatal health care and more education for mothers-to-be can be helpful. The availability of physicians in rural areas is low, which may contribute to the higher number of infant deaths in Appalachia.

Hillemeier; Nengliang Yao, graduate student in health policy and administration; and Stephen A. Matthews, associate professor of sociology, anthropology and demography, analyzed the data for 13 [Appalachian states](#) obtained from the National Center for Vital Statistics and the Area Resource File, a national health resource information database. The Appalachian Regional Commission designated 420 of the 1,100 counties in these states, and eight independent cities in Virginia, as the Appalachian area. Limiting their analysis to the Appalachian states minimized potential disparities created by differing state health policies.

The researchers analyzed data from 1976 to 1980 and 1996 to 2000. During both time periods the Appalachian region had significantly fewer physicians throughout the region than in the non-Appalachian area. In the 1970s, the central Appalachian region had approximately one doctor for every 2,000 residents, compared to the non-Appalachian region, which had almost one doctor for every 500 people. Numbers improved in the 1990s, but central Appalachia was still far behind -- there was one doctor for every 1,000 people in central Appalachia, but the non-Appalachian region jumped to having nearly one doctor for every 350 residents.

"The Appalachian population was overwhelmingly white non-Hispanic during the late 1970s, and this population remained in the majority through the end of the study period," the researchers noted in the current issue of the *Journal of Rural Health*.

The U.S. 2000 census indicated that eighty-nine percent of the Appalachian population was white. Studying the white population removed some confounding factors, Yao explained, allowing a tighter focus on the availability of healthcare in the region.

The white infant [death rates](#) improved overall by about 6 percent, but Appalachian infant deaths were significantly higher than non-

Appalachian infant deaths for both time periods.

They further analyzed the data by examining the five Appalachian subregions, which are divided from north to south.

"It is worth noting that the central subregion of Appalachia has a significantly higher [infant mortality rate](#) than the other subregions," said Yao. "Central Appalachia, which includes West Virginia and eastern Kentucky, suffers most from poverty and isolation."

The researchers also found that poverty was and remains significantly higher in the Appalachian counties than in the non-Appalachian counties in the respective states. The central Appalachia subregion is in even worse shape, with the 1999 white poverty level 7 percent higher than in the other four subregions.

"Eliminating or reducing the poverty rates in this region could be helpful in improving infant [health](#)," said Yao. He hopes that this study is also a step in the direction of helping to improve healthcare policies in the Appalachian region.

Provided by Pennsylvania State University

Citation: Appalachian infant death rates point to healthcare deficit (2012, June 6) retrieved 26 April 2024 from

<https://medicalxpress.com/news/2012-06-appalachian-infant-death-healthcare-deficit.html>

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