



# Arkansas Department of Health

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Governor Mike Beebe

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Many of you may have received the Dec 31 newsletter twice. The first time it was sent, it did not go out to most of you for some reason. Because that happened I decided to send it again last week. Unfortunately, we forgot to change the date. Sorry! (I don't charge extra for your receiving it twice)

H1N1 disease appears to be very low in the state currently (or you are not reporting it). We have no positive PCR's for anything but H1N1-so no seasonal flu seen yet.

## **Deaths Related to 2009 Pandemic Influenza A (H1N1) Among American Indian/Alaska Natives - 12 States, 2009, *MMWR*, December 11, 2009 / 58(48);1341-1344**

Indigenous populations from Australia, Canada, and New Zealand have been found to have a three to eight times higher rate of hospitalization and death associated with infection with the 2009 pandemic influenza A (H1N1) virus. In October, two U.S. states (Arizona and New Mexico) observed a disproportionate number of deaths related to H1N1 among American Indian/Alaska Natives (AI/ANs). These observations, plus incomplete reporting of race/ethnicity at the national level, led to formation of a multidisciplinary workgroup comprised of representatives from 12 state health departments, the Council of State and Territorial Epidemiologists, tribal epidemiology centers, the Indian Health Service, and CDC. The workgroup assessed the burden of H1N1 influenza deaths in the AI/AN population by compiling surveillance data from the states and comparing death rates. The results indicated that, during April 15-November 13, AI/ANs in the 12 participating states had an H1N1 mortality rate four times higher than persons in all other racial/ethnic populations combined. Reasons for this disparity in death rates are unknown and need further investigation; however, they might include a high prevalence of chronic health conditions (e.g., diabetes and asthma) among AI/ANs that predisposes them to influenza complications, poverty (e.g., poor living conditions), and delayed access to care. Efforts are needed to increase awareness among AI/ANs and their health-care providers of the potential severity of influenza and current recommendations regarding the timely use of antiviral medications. Efforts to promote the use of 2009 H1N1 influenza monovalent vaccine in AI/AN populations should be expanded.

In November 2009, all state health departments were invited to participate in the workgroup investigation by providing data on influenza-related deaths among their residents. Twelve states (Alabama, Alaska, Arizona, Michigan, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming) chose to participate, representing 50% of the AI/AN population in the United States. An H1N1 death was defined as a death in a resident of a

participating state reported during April 15-November 13 with any positive result from an influenza test, including rapid enzyme immunoassay, direct or indirect influenza fluorescent antibody, real-time reverse transcription-polymerase chain reaction assay (rRT-PCR), or viral culture. Because >99% of influenza specimens tested during the study period had been found to be H1N1, all cases with a positive influenza test were presumed to be H1N1 and not seasonal influenza. Race/ethnicity and influenza risk status of decedents were determined through review of death certificates, medical records, or death investigation reports. CDC-defined groups at higher risk for influenza complications were used to classify decedents as at high risk for influenza complications. Bridged-race vintage 2008 postcensal population estimates were used by all states to determine population data for rate calculations. Death rates by race/ethnicity were age adjusted to the 2000 U.S. standard population. Using rate ratios, AI/AN death rates were compared with death rates for all other racial/ethnic populations, including deaths in persons of unknown race.

A total of 426 H1N1 deaths were reported by the 12 states during April 15-November 13. Forty-two deaths (9.9%) occurred among AI/ANs, although AI/ANs make up approximately 3% of the total population in the 12 states. The overall AI/AN H1N1-related death rate was 3.7 per 100,000 population, compared with 0.9 per 100,000 for all other racial/ethnic populations combined, resulting in a mortality rate ratio of 4.0. Age group--specific H1N1-related death rates were 3.5 for persons aged 0-4 years, 1.1 for persons aged 5-24 years, 4.2 for persons aged 25-64 years, and 7.2 for persons aged  $\geq 65$  years. In all age groups, the AI/AN death rate was higher than the rate for all other racial/ethnic populations combined.

Among the AI/AN deaths related to H1N1, 81.0% of decedents had high-risk health conditions, compared with 77.6% of persons in all other racial/ethnic populations combined. In addition, greater percentages of AI/AN decedents had asthma (31.0%) and diabetes (45.2%) than decedents in all other racial/ethnic populations combined (14.1% asthma and 24.0% diabetes).

The AI/AN population is culturally diverse and spread among approximately 560 federally recognized tribal communities in 34 states and multiple urban areas. Health disparities between the AI/AN population and other racial/ethnic populations are well documented. Mortality rates and trends for respiratory diseases indicate that AI/ANs are at increased risk for death resulting from pneumonia and influenza. Although AI/AN death rates varied among the 12 participating states in this study, the aggregate AI/AN H1N1-related death rate from 12 states was four times higher than that of all other racial/ethnic groups combined.

The higher mortality rate among AI/ANs observed in this investigation is consistent with reports of increased influenza-related morbidity and mortality among indigenous populations in other parts of the world during the current H1N1 pandemic and also is consistent with observations from previous pandemics. After the influenza pandemic of 1918-19, U.S. government investigators reported that influenza-related mortality rates among AI/ANs were four times higher than the rates observed among persons in general urban populations.

The factors that produce a higher influenza mortality rate among AI/ANs are unknown but might include higher prevalence of underlying chronic illness such as diabetes. The age-specific prevalence of diabetes in AI/AN adults is two to three times higher than for all U.S. adults. In

addition, AI/ANs are twice as likely to have unmet medical needs because of cost. AI/ANs also have the highest poverty rate (30%), which is twice the national rate and three times the rate for whites among households with children aged <18 years, suggesting that delayed access to medical care and living conditions associated with poverty might contribute to their higher influenza mortality rate.

The findings in this report are subject to at least five limitations. First, AI/AN decedents often are misclassified as persons of other races on death certificates, decreasing the number of AI/AN deaths by as much as 30% in some reports. Second, the time lags in reporting of deaths and the manner in which states collect death data and classify decedents as at high risk for influenza complications might vary and affect rate ratios in an unpredictable manner. Third, race and ethnicity were unknown for 19 deaths, although for a conservative comparison, these deaths were included with the combined group of all other racial/ethnic populations. Fourth, greater incidence of influenza disease among AI/ANs might have contributed to the higher mortality rate; however, the incidence of disease among AI/ANs is unlikely to be so much greater than all other populations that it could account for a mortality rate that is four times higher. Data on race/ethnicity are not collected consistently for influenza patients. Finally, although >99% of all identified influenza strains in the United States during the investigation period were thought to be H1N1, confirmation by rRT-PCR or viral culture was not required for inclusion in this analysis.

If you have any questions please feel free to contact Dr. Sandy Snow at 501-661-2169 or fax to 501-661-2300 or e-mail to [Sandra.snow@arkansas.gov](mailto:Sandra.snow@arkansas.gov)