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**Where and How Indians Die:
Context of American Indian
and Alaska Native Deaths.**

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Monitoring how people die is effective in indicating national trends in illness across time and geography.

Analysis by racial and ethnic groups can highlight disparities that identify where our health system is failing (NICOA'S Monograph, Vol.1 No.1, "How Indians Die"). Better understanding of the context of where death occurs might similarly expose variations that could indicate disparate living conditions among racial and ethnic minorities. This Monograph explores whether American Indians and Alaska Natives die under different conditions than the rest of the American population.

National Indian Council on Aging



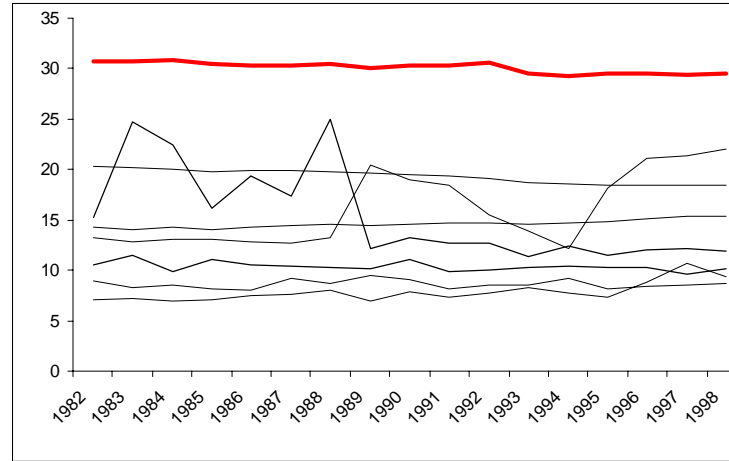
Death Away From Home

Of all racial and ethnic groups, American Indians and Alaska Natives (AI/ANs) are the most likely to die away from home, and outside their state of residence. Mortality data obtained from the National Center for Health Statistics (NCHS) for 1982 through 1998 show that 30 percent of all AI/AN deaths occurred away from the state of residence. This represents the largest proportion of deaths occurring out of the state of residence for any ethnic or racial group. (*The national vital statistics system started collecting mortality information at the beginning of the century and achieved national coverage in 1933*).

Map 1 compares the county where AI/ANs resided, versus where they died, for patients who died outside their resident state. The county of residence is shaded in red and the location of death is represented by a white dot for each death. In most cases, these out-of-state deaths represent reservation based AI/AN's who died in large cities. More than 80 percent of the AI/AN out-of-state deaths resulted from Arizona resident AI/ANs who died in New Mexico (Insert 1). It is likely that the data are tracking individuals from the largest reservation-based tribe, Navajo Nation, who died at the closest Indian Health Service hospitals or main general hospitals in Santa Fe and Albuquerque, NM. This suggests situations where AI/ANs might be transported to a city for emergency treatment. If this were indeed the case, the expectation would be that more AI/ANs would be recorded as dead-on-arrival.

Graph 1: Proportion of Deaths that Occur Outside of their State of Oesidence by Racial/Ethnic groups in the NCHS Mortality files 1982-1998.

American Indians and Alaska Natives in Red

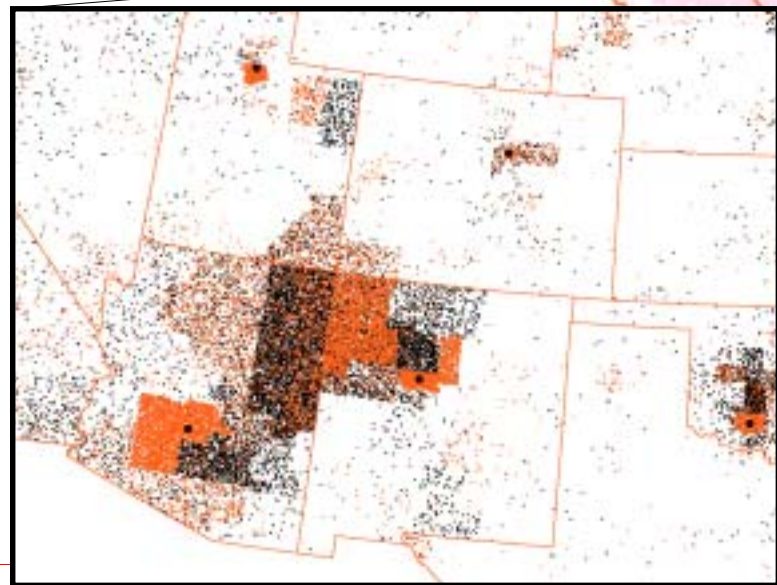


New Mexico has the highest rate of correctly classifying deaths of AI/ANs

Indian Health Service (1996), Adjusting for Miscoding

of Indian Race on State Death Certificates . IHS, Division of Program Statistics.

Southwest United States



Insert 1: AI/ANs who died out of state

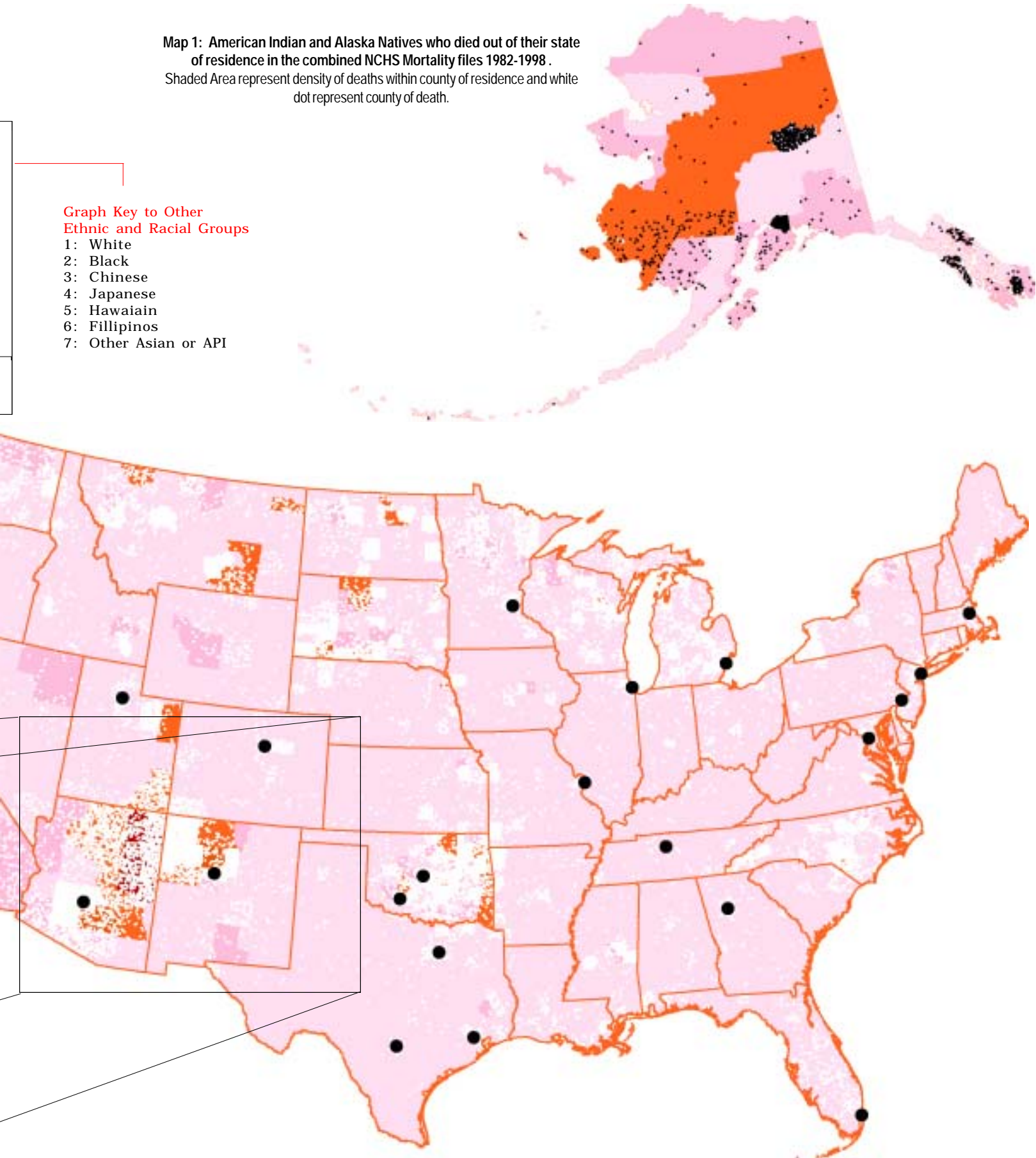
Black dots represent county of residence and red dots represent county of death. Combined NCHS Mortality files 1982-1998



Map 1: American Indian and Alaska Natives who died out of their state of residence in the combined NCHS Mortality files 1982-1998 .
Shaded Area represent density of deaths within county of residence and white dot represent county of death.

Graph Key to Other
Ethnic and Racial Groups

- 1: White
- 2: Black
- 3: Chinese
- 4: Japanese
- 5: Hawaiain
- 6: Fillipinos
- 7: Other Asian or API





Deaths on Arrival

Contrary to expectation, the proportion of AI/AN who arrive dead is not significantly higher than that for other racial and ethnic groups.

In fact there has been a dramatic decline in the proportion of deaths that are recorded as “dead-on-arrival”. For instance, in 1982 over eight percent of all AI/AN deaths were reported as dead-on-arrival.

By 1998 this rate had decreased to 2.5 percent.

This decline is consistent with other racial and ethnic groups (Graph 2)

Death at Home

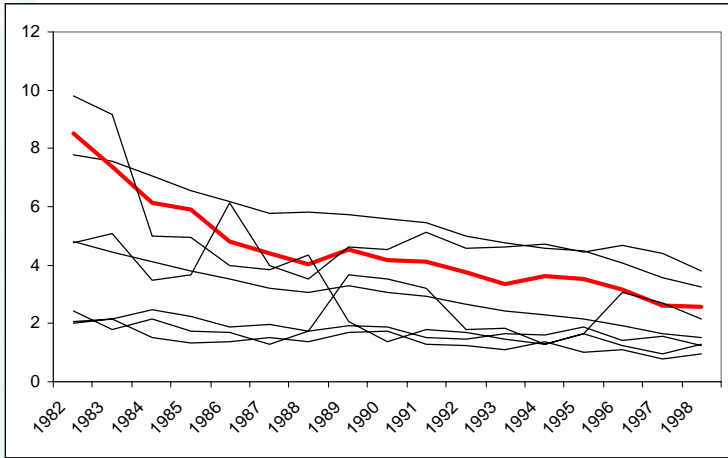
Deaths at home are increasing for the AI/AN population. Roughly 20 percent of all AI/AN deaths occur at the place of residence. Graph 3 portrays this increase. This trend is also seen for other racial and ethnic groups and reflects a demographic shift that is occurring. Elders constitute an ever-increasing proportion of U.S. and world populations and this group is more likely to die at home than any other age group.

Nursing Home Deaths

This demographic shift has also resulted in an increase in the number of deaths occurring in nursing homes, as Graph 4 portrays. In 1982, while only 9percent of all AI/AN deaths occurred in nursing homes, by 1998 this proportion increased to 13 percent. This pattern is repeated for all racial and ethnic groups. The racial and ethnic groups with the lowest proportion of nursing home deaths are Filipinos, Asian Pacific Islanders, and Hawaiians. From 1982 through to 1998, twelve percent of all deaths among AI/AN’s took place in a nursing home. By 1998 standards, this amounts to an average of 1,300 AI/AN deaths per year.



Graph 2: Proportion of Death on Arrival by Racial/Ethnic groups in the NCHS Mortality files 1982-1998.
American Indian and Alaska Native in Red

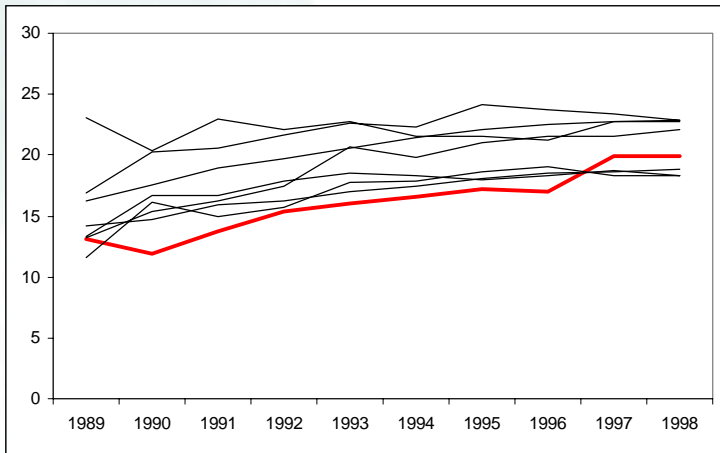


Trends

“In 1982 the NCHS reported 6,689 AI/AN deaths. By 1998 this rose to 10,862 deaths.”

National Center for Health Statistics Data

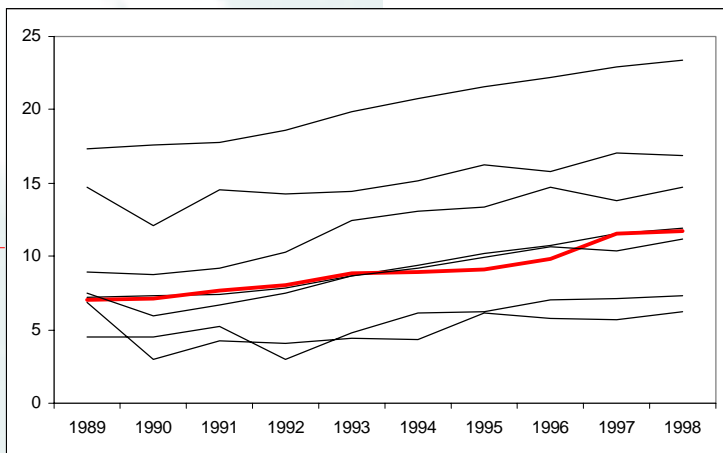
Graph 3: Proportion of Deaths at Own Residence by Racial/Ethnic groups in the NCHS Mortality files 1989-1998.
American Indian and Alaska Native in Red



“Incorrect classification of race in death certificates is the highest among Fillipinos and AI/ANs. Between 21 and 26 percent of AI/AN deaths are coded incorrectly”

Sorlie PD, Rogot E, Johngson NJ (1992), Validity of demographic characteristics on the death certifiacte. Epidemiology 3(2):181-4.

Graph 4: Proportion of Deaths in Nursing Homes by Racial/Ethnic groups in the NCHS Mortality files 1989-1998.
American Indian and Alaska Native in Red



“Between 1986 and 1988 Texas, Arkansas, and Missouri incorrectly classified between 47 and 39 percent of all AI/AN deaths”

Indian Health Service (1996), Adjusting for Miscoding of Indian Race on State Death Certificates. IHS, Division of Program Statistics.

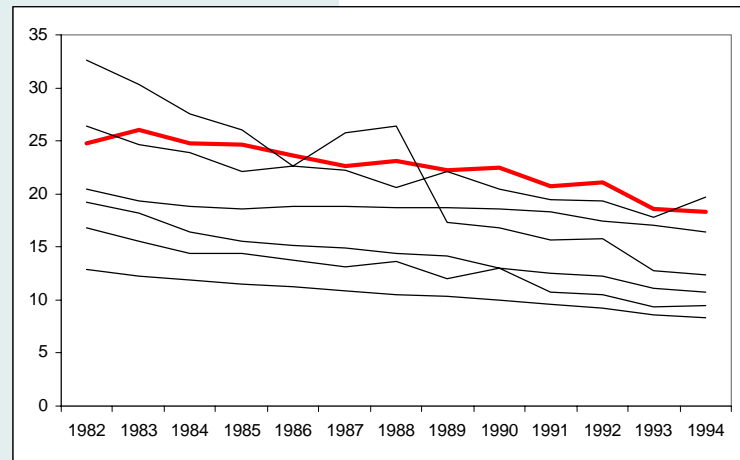
The terms “miscoding”, “misclassifying”, and “misreporting” are not technically identical. The NCHS and state coding of race entries on the death certificate is excellent, the problem lies with the race as reported on the certificate. This certificate is normally filled-in by the funeral director, based on information from a family member, or from observation. However, agencies that use these racial identifiers should be prudent in the interpretation such analyses if there are these documented inaccuracies.



Marital Status

Of all the AI/AN deaths reported during the 17 year period, the proportion occurring to AI/ANs who were classified as single ranged from 23 to 26 percent. This compares to a range of nine to twelve percent for Whites. Deaths for widowed AI/ANs ranged from 25 to 26 percent, compared to 35 to 38 percent for widowed Whites.

Table 3: Proportion of Deaths where Autopsy was Performed by Racial/Ethnic Groups in the NCHS Mortality files 1982-1994
American Indian and Alaska Native data in Red



Autopsy

Autopsy – the surgical examination of the body after death – is performed at hospitals and at coroner’s and medical examiner’s facilities, especially in the event of traumatic deaths.

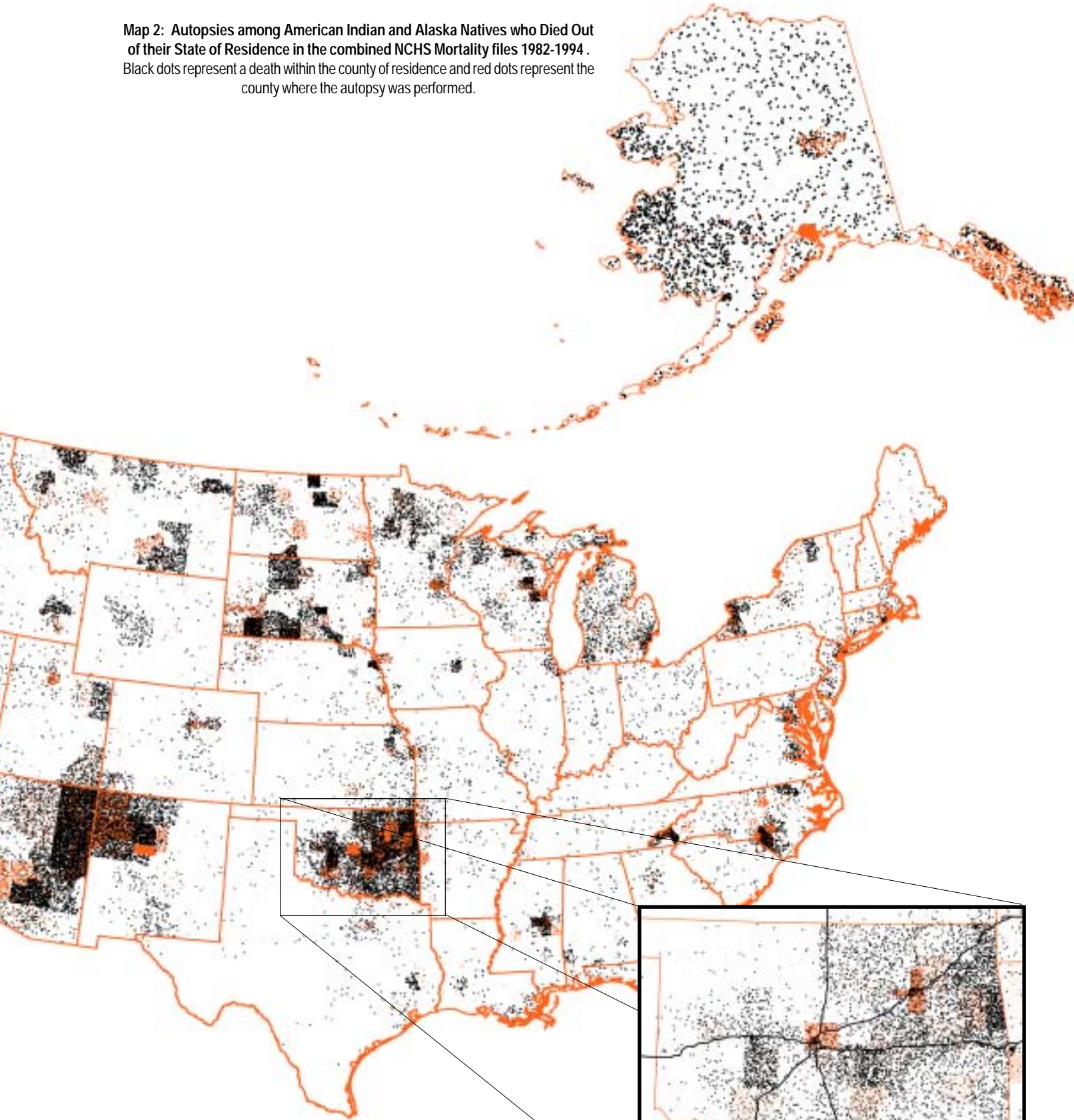
Due to spiritual beliefs, AI/ANs are generally reluctant to allow autopsies to be performed on their relatives. Given this fact, it is surprising to find that since 1989 AI/ANs are more likely to undergo an autopsy than any other racial or ethnic group. Although there has been a decline in such practices, 1993 saw more than 18 percent of AI/AN deaths being subject to autopsy. This high rate probably reflect the high proportion of deaths due to external causes. In such cases an autopsy is legally required. However, this conjecture needs further investigation. Unfortunately, the NCHS stopped including autopsy in their basic dataset in 1995. It is expected that they will reinstate this item in 2003.

Map 2 shows where these autopsies were performed. The black dots represent the county of residence, and red dots the county where death occurred. This map shows that AI/ANs are more likely to undergo an autopsy when they die in a large city. Insert 2, a close-up of northeastern Oklahoma, shows this very clearly. The three highest concentrations of autopsies are in Oklahoma City, Tulsa, and Forth Smith on the western border of Arkansas. It could be argued that because these cities are more likely to have teaching hospitals, more autopsies are likely to be performed. However, this does not explain why AI/ANs undergo a higher proportion of autopsies when compared with other racial and ethnic groups.

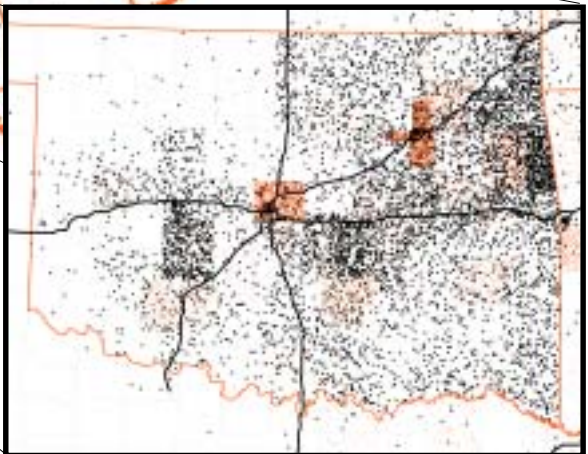




Map 2: Autopsies among American Indian and Alaska Natives who Died Out of their State of Residence in the combined NCHS Mortality files 1982-1994 .
Black dots represent a death within the county of residence and red dots represent the county where the autopsy was performed.



Insert 2: Autopsies on AI/AN who Died Out of their State of Residence in the Combined NCHS Mortality files 1982-1994 .
Black dots represent the county of residence and red dots represent the county of death.



Northeastern Oklahoma



Disparities and Similarities

Stark differences exist in the context of death among AI/ANs and other racial and ethnic groups, although there is an increasing convergence, such as:

Patient Status: Inpatient deaths for AI/ANs range from 37 percent in 1982 to 44 percent in 1998 (compared with Whites, 41 and 40 percent respectively). Outpatient deaths for AI/ANs range from 4 to 10 percent in 1982 and 1998 (compared with Whites, 4 to 7 percent respectively).

Place of Death: Deaths of AI/ANs on farms ranged from 0.4 to 1 percent in 1982 and 1998, compared with Whites of 3 to 2 percent respectively. Deaths of AI/ANs while at work ranged from 2 to 0.4 percent in 1982 and 1998, as compared with Whites, 4 to 2 percent respectively. Deaths of AI/ANs during recreation ranged from 4 to 2 percent in 1982 and 1998, as compared with Whites, 3 and 2 percent for 1982 and 1998 respectively.

Conclusion

Awareness of death trends and conditions within specific racial and ethnic groups is necessary because not only do we learn about disparate conditions (e.g., death away from home) but we also learn some of the conditions that affect AI/ANs (e.g., autopsies). The Centers for Disease Control and Prevention *Healthy People 2010* challenges “... **individuals, communities, and professionals - indeed, all of us - to take specific steps to ensure that good health, as well as long life, are enjoyed by all.**”

AI/ANs continue to be misclassified, ignored, and misrepresented. This Monograph highlights the need to promote the continued monitoring of health and ill-health of AI/ANs. Knowing the present health status is the only way to observe change and to truly know whether good health, as well as long life, are enjoyed by all.

The authors gratefully acknowledge the continued support, advice, and excellent work of the Division of Vital Statistics, National Centre for Health Statistics, at the Centers for Disease Control and Prevention. For technical information that describes the nature, sources, and limitations of the data the reader is referred to the Technical Notes of the Annual Mortality Report of NCHS, as well as the Technical Notes of Vital Statistics of the United States. The Annual Report for 1998 is entitled “Deaths: Final Data for 1998,” National Vital Statistics Reports, Vol. 48, No. 11 (web address: <http://www.cdc.gov/nchs/products/pubs/pubd/nvsr/48/48-pre.htm>) and the Mortality Technical Appendix (web address: <http://www.cdc.gov/nchs/about/major/dvs/mortdata.htm>). The authors are solely responsible for the content of this monograph.

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