Health Disparities Among American Indian/Alaska Native Populations

“Addressing Health Inequalities in the US”

by

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Map of INDIAN COUNTRY

Thanks to RUSSELL PUBLICATIONS

AtSDR

Agency for Toxic Substances and Disease Registry

CDC
Why is it Important to have Diversity in Public Health?

- Ensures that everyone understands the problems and are asking the right questions.
- Ensures that we are producing trustworthy data.
- Ensure that bias does not creep into the analysis and interpretation of results.
Ten Leading Causes of Death in the U.S. in 2002 for American Indians & Alaska Natives

1. Heart disease
2. Cancer
3. Unintentional injuries
4. Diabetes
5. Stroke
6. Chronic liver disease and Cirrhosis
7. Chronic lower respiratory disease
8. Suicide
9. Influenza and Pneumonia
10. Homicide

Source: Health, United States, 2004, Table 31.
Purpose of Discussion

• This presentation is to inform you of the Leading cause of Death Among AI/AN populations

• Present comparisons of AI/AN Health mortality/morbidity compared to other ethnic groups

• Discuss the need for Diversity in Public Health
### Ten Leading Causes of Death in the U.S. in 2002 for AI/AN as Compared to the Nation

<table>
<thead>
<tr>
<th>AI/AN</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Heart disease</td>
<td>• Heart disease</td>
</tr>
<tr>
<td>2. Cancer</td>
<td>• Cancer</td>
</tr>
<tr>
<td>3. Unintentional injuries</td>
<td>• Stroke</td>
</tr>
<tr>
<td>4. Diabetes</td>
<td>• Chronic lower respiratory disease</td>
</tr>
<tr>
<td>5. Stroke</td>
<td>• Unintentional injuries</td>
</tr>
<tr>
<td>6. Chronic liver disease &amp; Cirrhosis</td>
<td>• Diabetes</td>
</tr>
<tr>
<td>7. Chronic lower respiratory disease</td>
<td>• Influenza and Pneumonia</td>
</tr>
<tr>
<td>8. Suicide</td>
<td>• Alzheimer’s Disease</td>
</tr>
<tr>
<td>9. Influenza and Pneumonia</td>
<td>• Nephritis, nephrotic syndrome, &amp; nephrosis</td>
</tr>
<tr>
<td>10. Homicide</td>
<td>• Septicemia</td>
</tr>
</tbody>
</table>

**Source:** Health, United States, 2004, [Table 31](#).
AI/AN Population

• 2000 Census
  – AI/AN alone: 2,475,956
  – AI/AN alone or in combination: 4,119,301

• Mostly urban
  – 36% live on reservations
  – 64% live in urban areas
AI/AN Population

• 2000 Census*
  – AI/AN alone: 2,475,956
  – AI/AN alone or in combination: 4,119,301

• Mostly urban**
  – 14% live on reservations
  – 57% live in urban areas

American Indian and Alaska Native Population By State

AI/AN Population by State, 2000

* Census 2000, One race (AI/AN) alone
American Indian and Alaska Native Percent Population By State

AI/AN Percent Population by State, 2000

* Census 2000, One race (AI/AN) alone
## Demographics*

<table>
<thead>
<tr>
<th></th>
<th>AI/AN</th>
<th>U.S. All races</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Median Age</strong></td>
<td>29 years</td>
<td>36 years</td>
</tr>
<tr>
<td><strong>Median Income</strong></td>
<td>$35,441</td>
<td>$43,318</td>
</tr>
<tr>
<td><strong>Living in Poverty</strong></td>
<td>20%</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

2001 IHS Service Population* by Area
Total Population: 1,540,129

- Portland 158,892
- Albuquerque 82,818
- Billings 58,794
- Aberdeen 102,758
- Bemidji 94,362
- Albuquerque 82,818
- Nashville 78,745
- Tucson 28,980
- Oklahoma 318,691
- California 132,740
- Nevada 150,540
- Alaska 109,780
- Navajo 223,029

*Projected from 1990 Census

IHS Epidemiology
Age-Adjusted Death Rates per 100,000 Persons by Race and Hispanic Origin for All Causes: U.S. - 2002

http://www.cdc.gov/nchs/data/hus/hus04trend.pdf#topic
Age-Adjusted Death Rates per 100,000 Persons by Race for All Causes: U.S. & IHS Service Area - 1997

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Sources:**
- HUS = Health, United States, 1999. Table 30.
IHS Trends in Indian Health
1998-1999

Age-Adjusted Death Rate

Rate Per 1,000 Population

American Indians & Alaska Natives, Adjusted (3-Year)
American Indians & Alaska Natives, Actual (3-Year)
U.S. All Races (1-Year)
U.S. White (1-Year)

Calendar Year(s)

Age-Adjusted Death Rates
CY 1994-1996

U.S. All Races (1995) = 503.9
IHS Adjusted Total - All Areas = 699.3

Rate per 100,000 Population
Age-Specific Death Rates
Ratio of American Indians ('94-'96) to U.S. All Races ('95)
Deaths by Age and Race

Percent Distribution

- U.S. White (1995)
- U.S. Black (1995)

Age

- Under 5
- 5-24
- 25-44
- 45-64
- 65+
Death Rates for Leading Causes
American Indians and Alaska Natives (1997)

- Diseases of the Heart: 132.9
- Malignant Neoplasms: 107.5
- Unintentional Injuries: 82.2
- Diabetes Mellitus: 44.4
- Chronic Liver Disease & Cirrhosis: 31.7

Age-Adjusted Death Rate per 100,000 Population
Leading Causes of Death
All IHS Areas, CY 1994-1996

- Diseases of the Heart: 21.7%
- Malignant Neoplasms: 15.3%
- Accidents & Adverse Effects: 14.1%
- Diabetes Mellitus: 5.9%
- Chronic Liver Dis. & Cirrhosis: 4.7%
Leading Causes of Death
U.S. All Races, CY 1995

- Diseases of the Heart: 31.9%
- Malignant Neoplasms: 23.3%
- Cerebrovascular Diseases: 6.8%
- Chronic Obstructive Pulmonary Diseases: 4.5%
- Accidents & Adverse Effects: 4.0%
Age-Adjusted Death Rates per 100,000 Persons by Race for Cerebrovascular Diseases: U.S. & IHS Service Area - 1997

- **All Races (HUS)**: 25.9
- **White (HUS)**: 24.0
- **American Indian/Alaska Native (HUS)**: 19.9
- **AI/AN UnAdjusted IHS Service Area (IHS)**: 26.7
- **AI/AN Adjusted * IHS Service Area (IHS)**: 29.5

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Sources:**
- HUS = Health, United States, 1999. Table 30.
- IHS = Trends in Indian Health, 200-2001, General Mortality Stats, Part 4, Table 4.11 Age-Adjusted Death Rates, p69.
Death Rates, Leading Causes: Males

- Diseases of the Heart: 158.2
- Unintentional Injuries: 120.4
- Malignant Neoplasms: 101.7
- Diabetes Mellitus: 37.5
- Chronic Liver Disease & Cirrhosis: 31.9

Deaths per 100,000 Population
Death Rates, Leading Causes: Females

- Diseases of the Heart: 113.2
- Malignant Neoplasms: 98.2
- Unintentional Injuries: 55.8
- Diabetes Mellitus: 45.3
- Cerebrovascular Diseases: 31.6

Deaths per 100,000 Population
Selected Age-Adjusted Death Rates
Ratio of American Indians ('94-'96) to U.S. All Races ('95)

- Alzheimer's Disease
- HIV Infection
- Malignant Neoplasms
- Major Cardiovascular Dis.
- Homicide
- Suicide
- Pneumonia & Influenza
- Accidents
- Diabetes Mellitus
- Chron. Liver Dis. & Cirrhosis
- Tuberculosis, All Forms
Leading Causes of Death
Aberdeen Area, CY 1996-1998

- Diseases of the Heart: 21.1%
- Malignant Neoplasms: 15.0%
- Unintentional Injuries: 14.4%
- Diabetes Mellitus: 7.5%
- Chronic Liver Disease & Cirrhosis: 6.3%
## Leading Causes of Death
### Albuquerque Area, CY 1996-1998

<table>
<thead>
<tr>
<th>Cause</th>
<th>Percent of Total Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unintentional Injuries</td>
<td>16.2%</td>
</tr>
<tr>
<td>Diseases of the Heart</td>
<td>13.7%</td>
</tr>
<tr>
<td>Malignant Neoplasms</td>
<td>10.7%</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>9.5%</td>
</tr>
<tr>
<td>Chronic Liver Disease &amp; Cirrhosis</td>
<td>7.5%</td>
</tr>
</tbody>
</table>

**Note:**

- **Diseases of the Heart** includes heart disease, cerebrovascular disease, and rheumatic heart disease.
- **Malignant Neoplasms** includes all types of cancer.
- **Chronic Liver Disease & Cirrhosis** includes chronic liver disease and cirrhosis.

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**Source:**

- **IHS Regional Differences in Indian Health**
- **2000-2001 Chart 4.7, p. 54**
Leading Causes of Death
Nashville Area, CY 1994-1996

- Diseases of the Heart: 28.6%
- Malignant Neoplasms: 15.8%
- Unintentional Injuries: 10.6%
- Diabetes Mellitus: 8.9%
- Chronic Liver Disease & Cirrhosis: 4.4%
Age-Adjusted Death Rates per 100,000 Persons by Race, and Hispanic Origin for Unintentional Injuries: U.S. - 2002

http://www.cdc.gov/nchs/data/hus/hus04trend.pdf#topic
Age-Adjusted Death Rates per 100,000 Persons by Race for Unintentional Injuries: U.S. & IHS Service Area - 1997

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.

Sources: HUS = Health, United States, 1999. Table 30.  
IHS=Trends in Indian Health, 200-2001, General Mortality Stats, Part 4, Table 4.11 Age-Adjusted Death Rates, p69.
Unintentional Injuries Age-Adjusted Death Rates, per 100,000 Persons
U.S. and Selected States, 1995-1997

![Graph showing age-adjusted death rates per 100,000 persons for different races and states. The graph includes bars for Total, White, Black, AI/AN, Asian/PI, and Hispanic populations. The data is presented for the years 1995-1997.]
Unintentional Injuries Age-Adjusted Death Rates per 100,000 Persons U.S. and Selected States 1995-1997

- **US**: Total 30.3, White 29.8, Black 36.7, AI/AN 16.4, Asian/PI 57.4
- **NM**: Total 51.4, White 48.2, Black 31.1, AI/AN 99.1, Asian/PI 60.4
- **MD**: Total 23.0, White 22.2, Black 26.8, AI/AN 13.1, Asian/PI 9.0

United States, New Mexico, and Maryland.
Age-Adjusted Death Rates per 100,000 Persons by Race, and Hispanic Origin for Motor Vehicle-Related Injuries: U.S. - 2002

<table>
<thead>
<tr>
<th>Race/Origin</th>
<th>Age-Adjusted Death Rate per 100,000 Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Races</td>
<td>15.7</td>
</tr>
<tr>
<td>White</td>
<td>16.0</td>
</tr>
<tr>
<td>African American</td>
<td>15.0</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>28.8</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>8.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>15.2</td>
</tr>
</tbody>
</table>

Age-Adjusted Death Rates per 100,000 Persons by Race for Motor Vehicle-related Injuries: U.S. & IHS Service Area - 1997

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Sources:** HUS = Health, United States, 1999. Table 30.  
### Age-Adjusted Death Rates per 100,000 Persons by Race, and Hispanic Origin for Suicide: U.S. - 2002

<table>
<thead>
<tr>
<th>Race/Origin</th>
<th>Age-Adjusted Death Rate per 100,000 Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Races</td>
<td>10.9</td>
</tr>
<tr>
<td>White</td>
<td>12.0</td>
</tr>
<tr>
<td>African American</td>
<td>5.3</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>10.2</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>5.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5.7</td>
</tr>
</tbody>
</table>

**Source:** Health, United States, 2004. Table 29.  
[http://www.cdc.gov/nchs/data/hus/hus04trend.pdf#topic](http://www.cdc.gov/nchs/data/hus/hus04trend.pdf#topic)
## Age-Adjusted Death Rates per 100,000 Persons by Race for Suicide: U.S. & IHS Service Area - 1997

<table>
<thead>
<tr>
<th></th>
<th>All Races (HUS)</th>
<th>White (HUS)</th>
<th>American Indian/Alaska Native (HUS)</th>
<th>AI/AN Unadjusted IHS Service Area (IHS)</th>
<th>AI/AN Adjusted * IHS Service Area (IHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Death Rate</strong></td>
<td>10.6</td>
<td>11.3</td>
<td>12.9</td>
<td>17.6</td>
<td>20.2</td>
</tr>
</tbody>
</table>

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Sources:**
- HUS = Health, United States, 1999. Table 30.
Suicide Age-Adjusted Death Rates per 100,000 Persons, U.S. and Selected States¹ 1995-1997

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>AK</th>
<th>CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>10.8</td>
<td>19.7</td>
<td>10.3</td>
</tr>
<tr>
<td>White</td>
<td>11.6</td>
<td>16.0</td>
<td>11.3</td>
</tr>
<tr>
<td>Black</td>
<td>6.6</td>
<td>0.0</td>
<td>6.9</td>
</tr>
<tr>
<td>AI/AN</td>
<td>6.2</td>
<td>0.0</td>
<td>6.2</td>
</tr>
<tr>
<td>Asian/PI</td>
<td>6.7</td>
<td>0.0</td>
<td>6.1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.0</td>
<td>0.0</td>
<td>5.2</td>
</tr>
</tbody>
</table>

¹ Source: CDC

Graph showing suicide rates for different demographic groups in the US, Alaska (AK), and California (CA) from 1995 to 1997.
Suicide Age-Adjusted Death Rates per 100,000 Persons, U.S. and Selected States, 1995-1997

<table>
<thead>
<tr>
<th>Location</th>
<th>Total</th>
<th>White</th>
<th>Black</th>
<th>AI/AN</th>
<th>Asian/PI</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>10.8</td>
<td>6.6</td>
<td>6.2</td>
<td>6.7</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>UT</td>
<td>14.8</td>
<td>15.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>16.3</td>
</tr>
<tr>
<td>NJ</td>
<td>6.7</td>
<td>7.2</td>
<td>4.7</td>
<td>3.9</td>
<td>0.0</td>
<td>4.1</td>
</tr>
</tbody>
</table>
Suicide Death Rates for Males Ages 15-24 Per 100,000 Persons by Racial/Ethnic Group 1990-1997

Source: Health United States, 1999
**Age-Adjusted Death Rates per 100,000 Persons by Race for Malignant Neoplasms: U.S. & IHS Service Area - 1997**

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Sources:**
- HUS = Health, United States, 1999. Table 30.
- IHS=Trends in Indian Health, 200-2001, General Mortality Stats, Part 4, Table 4.11 Age-Adjusted Death Rates, p69.
Age-Adjusted Malignant Neoplasm Death Rates
CY 1994-1996

- California
- Navajo
- Phoenix
- Albuquerque
- Tucson
- Nashville
- Oklahoma
- Portland
- Alaska
- Aberdeen
- Billings
- Bemidji

IHS Adjusted Total - All Areas = 116.6
U.S. All Races (1995) = 129.9

Actual
Adjusted for Race Miscoding

Rate per 100,000 Population
All Cancer Age-Adjusted Death Rates per 100,000 Persons U.S. and Selected States¹
1995-1997

- **US**: 127.6, 124.9, 113.9, 125.1, 121.5
- **ND**: 167.9, 83.6, 0.0, 205.0, 172.5
- **TX**: 58.6, 89.4, 0.0, 20.2, 124.9

**Age-Adjusted Death Rates per 100,000 Persons**
Age-Adjusted Malignant Neoplasm Death Rates

Per 100,000 Population

U.S. All Races

American Indians & Alaska Natives, Adjusted

American Indians & Alaska Natives, Actual

Calendar Year

1973 '75 '80 '85 '90 '95
Age-Adjusted Death Rates per 100,000 Persons by Race, & Hispanic Origin for Diabetes Mellitus: U.S. - 2002

- All Races: 25.4
- White: 23.1
- African American: 49.5
- American Indian/Alaska Native: 43.2
- Asian/Pacific Islander: 17.4
- Hispanic: 35.6

Age-Adjusted Death Rates per 100,000 Persons by Race for Diabetes Mellitus: U.S. & IHS Service Area - 1997

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.

IHS Regional Differences in Indian Health
1998 – 1999

Age-Adjusted Diabetes Mellitus Death Rates
CY 1994-1996

- U.S. All Races (1995) = 13.3
- IHS Adjusted Total - All Areas = 46.4

- Actual
- Adjusted for Race Miscoding

Rates per 100,000 Population:

Alaska
California
Portland
Oklahoma
Navajo
Nashville
Billings
Aberdeen
Phoenix
Albuquerque
Bemidji
Tucson

IHS Adjusted Total - All Areas = 46.4
AGE-ADJUSTED DIABETES DEATH RATES
American Indians and Alaska Natives, IHS Service Area

Per 100,000 population
(single-year rates)

American Indians and Alaska Natives, Adjusted
American Indians and Alaska Natives, Actual
U.S. All Races

Calendar Year
Diabetes as Underlying Cause
Age-Adjusted Death Rate per 100,000 Persons by Racial/Ethnic Group – 1990-1997
Diabetes as Underlying Cause
Age-Adjusted Death Rates per 100,000Persons in Michigan
1989-1997
Age-Adjusted Death Rates per 100,000 Persons by Race for Diseases of the Heart: U.S. & IHS Service Area - 1997

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.

Age-Adjusted Diseases of the Heart Death Rates
CY 1994-1996

- Albuquerque
- Navajo
- California
- Tucson
- Portland
- Phoenix
- Alaska
- Oklahoma
- Nashville
- Billings
- Aberdeen
- Bemidji

Rate per 100,000 Population

- Actual
- Adjusted for Race Miscoding
- U.S. All Races (1995) = 138.3
- IHS Adjusted Total - All Areas = 156.0
IHS Trends in Indian Health 1998-1999

Age-Adjusted Heart Disease Death Rates

Per 100,000 Population

- American Indians & Alaska Natives, Actual
- U.S. All Races
- American Indians & Alaska Natives, Adjusted

Calendar Year

1973 '75 '80 '85 '90 '95

0 100 200 300
Heart Disease Death Rates by Age and Sex

Per 100,000 Population

Age

Male, Adjusted
Female, Adjusted
Age-Adjusted Lung Cancer Death Rates
CY 1994-1996

IHS Adjusted Total - All Areas = 31.7
U.S. All Races (1995) = 38.3
Age-Adjusted Lung Cancer Death Rates

Per 100,000 Population

- U.S. All Races
- American Indians & Alaska Natives, Adjusted
- American Indians & Alaska Natives, Actual

Calendar Year

1973 '75 '80 '85 '90 '95
IHS Regional Differences in Indian Health
1998 – 1999

Life Expectancy at Birth, Both Sexes
CY 1994-1996

<table>
<thead>
<tr>
<th>Location</th>
<th>IHS Adjusted Total - All Areas</th>
<th>U.S. All Races (1995) = 75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberdeen</td>
<td>64.8 (65.2)</td>
<td></td>
</tr>
<tr>
<td>Berndtji</td>
<td>65.1 (67.8)</td>
<td></td>
</tr>
<tr>
<td>Tucson</td>
<td>66.9 (67.4)</td>
<td></td>
</tr>
<tr>
<td>Billings</td>
<td>67.2 (68.1)</td>
<td></td>
</tr>
<tr>
<td>Phoenix</td>
<td>69.0 (69.7)</td>
<td></td>
</tr>
<tr>
<td>Alaska</td>
<td>69.1 (70.0)</td>
<td></td>
</tr>
<tr>
<td>Portland</td>
<td>71.0 (72.6)</td>
<td></td>
</tr>
<tr>
<td>Navajo</td>
<td>72.5 (72.7)</td>
<td></td>
</tr>
<tr>
<td>Albuquerque</td>
<td>72.6 (73.5)</td>
<td></td>
</tr>
<tr>
<td>Nashville</td>
<td>72.7 (74.8)</td>
<td></td>
</tr>
<tr>
<td>Oklahoma</td>
<td>74.3 (79.5)</td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>76.4 (81.7)</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Actual life expectancies (i.e., not adjusted for miscoding of Indian race) are shown in parentheses.
IHS Regional Differences in Indian Health 1998-1999

Life Expectancy at Birth, Males
CY 1994-1996

Adjusted for Race Miscoding

IHS Adjusted Total - All Areas = 67.6 (69.8)

U.S. All Races (1995) = 72.5

Aberdeen
60.6 (61.0)

Tucson
62.2 (62.6)

Bemidji
62.4 (65.1)

Billings
63.6 (64.5)

Alaska
65.6 (66.5)

Phoenix
65.8 (66.6)

Navajo
68.3 (68.5)

Portland
68.6 (70.3)

Nashville
69.4 (71.7)

Albuquerque
69.9 (70.2)

Oklahoma
70.8 (75.9)

California
72.5 (78.2)

NOTE: Actual life expectancies (i.e., not adjusted for miscoding of Indian race) are shown in parentheses.
Life Expectancy at Birth, Females
CY 1994-1996

Adjusted for Race Miscoding

IHS Adjusted Total - All Areas = 74.7 (76.7)

U.S. All Races (1995) = 67.8 (70.5)

Bemidji
Aberdeen
Billings
Tucson
Phoenix
Alaska
Portland
Albuquerque
Nashville
Navajo
Oklahoma
California

NOTE: Actual life expectancies (i.e., not adjusted for miscoding of Indian race) are shown in parentheses.
IHS Regional Differences in Indian Health 1998-1999

Life Expectancy at Birth, Females CY 1994-1996

Adjusted for Race Miscoding

IHS Adjusted Total - All Areas = 74.7 (76.7)

Years

Bemidji 67.8 (70.5)
Aberdeen 70.0 (70.4)
Billings 70.8 (71.7)
Tucson 72.0 (72.5)
Phoenix 72.3 (73.0)
Alaska 73.0 (73.8)
Portland 73.4 (74.8)
Albuquerque 75.8 (76.6)
Nashville 76.0 (77.9)
Navajo 76.7 (76.8)
Oklahoma 77.5 (82.6)
California 80.2 (84.9)

U.S. All Races (1995) = 67.8 (70.5)

NOTE: Actual life expectancies (i.e., not adjusted for miscoding of Indian race) are shown in parentheses.
IHS Regional Differences in Indian Health
1998 – 1999

Years of Potential Life Lost Rates
CY 1994-1996

- California
- Oklahoma
- Nashville
- Portland
- Albuquerque
- Navajo
- Billings
- Alaska
- Phoenix
- Bemidji
- Tucson
- Aberdeen

U.S. All Races (1995) = 53.7
IHS Adjusted Total - All Areas = 91.5

Rate per 1,000 Population Under 65 Years of Age

Actual
Adjusted for Race Miscoding
Infant Health

• What goes into ensuring a healthy infant?
  – Prenatal care
  – Nutrition
    • Breastfeeding
  – Freedom from poverty
  – Adequate child care
  – Health insurance
  – Preconception care
Fetal death definitions

- Spontaneous abortions or miscarriages – early loss of pregnancy during first few weeks of gestation
- Fetal deaths – death between 20-27 weeks gestation
- Late fetal death – stillbirth 28+ weeks gestation
Infant Mortality Definitions

- Infant mortality – number of infant deaths per 1,000 live births
- Neonatal mortality – deaths in the first 27 days of life per 1,000 live births
- Postneonatal mortality – deaths from 28 to 364 days per 1,000 live births
Infant Mortality Rates per 1,000 Live Births by Race, and Hispanic Origin of the Mother: U.S. - 2002

http://www.cdc.gov/nchs/data/hus/hus04trend.pdf#topic
Infant Mortality Rates: 1972-94

Source: Trends in Indian Health 1997
Postneonatal mortality rates: 1972-94

Source: Trends in Indian Health 1997
* after adjusting for racial miscoding
Postneonatal Mortality Rates: 1972-96

Source: Trends 1998
*Adjusted for Miscoding
IMR declines

- Congenital anomalies declined 39% from 1979 to 1997
- SIDS fell by 42% from 1992
- RDS declined by 64% since 1989 due to new medical treatments
- Largest difference in birth weight specific IMRs between black and white has been infants over 2500 g (2.5 & 4.2)

Source: Guyer, B et al, Pediatrics 12-98
American Indian and Alaska Native Infant Mortality and SIDS

- Infant mortality has declined dramatically since the 1950’s
- The gap between the White and AI/AN rates has increased
- AI/AN have the highest post neonatal mortality rate
- SIDS rate 3 times the White rate

Source: Trends in Indian Health 1997
Leading causes of AI/AN infant death (1995-1996)

<table>
<thead>
<tr>
<th>Cause</th>
<th>Rate per 1,000 live births</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIDS</td>
<td>0.7 AI/AN, 0.7 US all races, 0.1 White</td>
</tr>
<tr>
<td>Congenital Anomalies</td>
<td>1.7 AI/AN, 1.7 US all races, 0.2 White</td>
</tr>
<tr>
<td>Disorders-short gest./LBW</td>
<td>1.0 AI/AN, 0.6 US all races, 0.4 White</td>
</tr>
<tr>
<td>Accidents</td>
<td>0.2 AI/AN, 0.2 US all races, 0.1 White</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>0.4 AI/AN, 0.4 US all races, 0.2 White</td>
</tr>
</tbody>
</table>

Source: Trends in Indian Health 1998 after adjusting for racial miscoding
LBW causes

• Prematurity – infant born too soon
  – 36 weeks or less
  – Less than 32 weeks for extreme prematurity

• Intrauterine growths retardation – born too small
  – Small for Gestational Age (SGA) rank in lowest 10th percentile
  – Developmental problems
Birth weight

wt grams

<2500 g

<2500 g

>4000

Source: Trends 1998

Source: Trends in Indian Health, 1997

*TB Case Rate = TB cases per 100,000 population
Percentage TB Cases in AI/AN, U.S.-Born Patients Only, United States, 1993-1999

Average percentage posted if at least 5% for 1993 -1999
Age-Adjusted Death Rates per 100,000 Persons by Race for Tuberculosis (TB): U.S. & IHS Service Area - 1997

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.

Age-Adjusted Death Rates per 100,000 Persons by Race, and Hispanic Origin for Chronic Liver Disease and Cirrhosis: U.S. - 2002

http://www.cdc.gov/nchs/data/hus/hus04trend.pdf#topic
Age-Adjusted Death Rates per 100,000 Persons by Race for Chronic Liver Disease and Cirrhosis: U.S. & IHS Service Area - 1997

<table>
<thead>
<tr>
<th>Category</th>
<th>Rate (per 100,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Races (HUS)</td>
<td>7.4</td>
</tr>
<tr>
<td>White (HUS)</td>
<td>7.3</td>
</tr>
<tr>
<td>American Indian/Alaska Native AI/AN (HUS)</td>
<td>20.6</td>
</tr>
<tr>
<td>Al/AN UnAdjusted Service Area (IHS)</td>
<td>31.7</td>
</tr>
<tr>
<td>Al/AN Adjusted * IHS Service Area (IHS)</td>
<td>36.4</td>
</tr>
</tbody>
</table>

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Sources:**
- HUS = Health, United States, 1999. Table 30.
- IHS = Trends in Indian Health, 200-2001, General Mortality Stats, Part 4, Table 4.11 Age-Adjusted Death Rates, p69.
Age-Adjusted Death Rates per 100,000 Persons by Race, & Hispanic Origin for Influenza & Pneumonia: U.S. - 2002

http://www.cdc.gov/nchs/data/hus/hus04trend.pdf#topic
Age-Adjusted Death Rates per 100,000 Persons by Race for Influenza & Pneumonia: U.S. & IHS Service Area - 1997

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.

Sources: HUS = Health, United States, 1999. Table 30.
Pneumonia and Influenza Age-Adjusted Death Rate per 100,000 Persons by Racial/Ethnic Group 1990-1997

Source: Health United States, 1999
Age-Adjusted Death Rates per 100,000 Persons by Race, and Hispanic Origin for Human Immunodeficiency Virus (HIV) Disease: U.S. - 2002

- All Races: 4.9
- White: 2.6
- African American: 22.5
- American Indian/Alaska Native: 2.2
- Asian/Pacific Islander: 0.8
- Hispanic: 5.8

Age-Adjusted Death Rates per 100,000 Persons by Race for Human Immunodeficiency Virus (HIV) Disease:
U.S. & IHS Service Area - 1997

Sources: HUS = Health, United States, 1999. Table 30.
IHS=Trends in Indian Health, 200-2001, General Mortality Stats, Part 4, Table 4.11 Age-Adjusted Death Rates, p69.

*Adjusted to compensate for misreporting of AI/AN race on state death certificates.
Human Immunodeficiency Virus Infection Age-Adjusted Death Rates per 100,000 Persons by Racial/Ethnic Group 1994-1997
Total Enrollment of Minorities in Schools for Selected Health Occupations: Nursing, Registered According to Detailed Race, and Hispanic Origin: U.S. 2001-2002

<table>
<thead>
<tr>
<th></th>
<th>All Races</th>
<th>White Non-Hispanic</th>
<th>African American Non-Hispanic</th>
<th>American Indian</th>
<th>Asian</th>
<th>Hispanic / Latino</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Distribution</td>
<td>100.0</td>
<td>78.4</td>
<td>11.8</td>
<td>1.1</td>
<td>3.8</td>
<td>4.9</td>
</tr>
</tbody>
</table>

http://www.cdc.gov/nchs/data/hus/hus04trend.pdf#topic
Total Enrollment of Minorities in Schools for Selected Health Occupations: Dentistry According to Detailed Race, and Hispanic Origin: U.S. 2001-2002


Total Enrollment of Minorities in Schools for Selected Health Occupations: Medicine (Osteopathic) According to Detailed Race, and Hispanic Origin: U.S. 2001-2002

Percent Distribution of Enrollment of Minorities in Medical, Dental, and Nursing Schools by Race/Ethnicity 2001-2002

http://www.cdc.gov/nchs/data/hus/hus04trend.pdf#topic
Indian Health Service (IHS)
Indian Health Service

- Part of the Dept. of Health and Human Services since 1955

- Federal health care provider for eligible AI/AN
  - Member of federally recognized tribes (560)
  - Not an entitlement program
Indian Health Service

• 2001 IHS Service Population: 1,540,000

• ~200 facilities in 35 states
  – Mostly on reservation lands
  – 36 urban programs in 20 states
IHS Per Capita Appropriations

IHS Appropriations Per Capita Compared to Other Federal Health Expenditure Benchmarks

- Medicare Expenditures per Enrollee
- Medical Care for Veterans Administration Users
- US Per Capita Expenditures for Personal Medical Services
- Acute Medical Care for Medicaid Enrollees
- Medical Care for Federal Prison Inmates Benchmark
- FEHB Medical Care Benchmark
- IHS Appropriations & Collections Per User

- Medical Care for Veterans: $5,065 (1999)
- Medical Care for Federal Prison: $3,725 (1999)
- FEHB Benchmark: $1,914 (2002)
- IHS Appropriations: $619
Tribal Sovereignty & Self-Determination
Tribal Sovereignty

• Government to government relationship
  – Sovereign Nations

• Relationship is unique
  – Different from other communities
  – Different from other minority groups
1975 Indian Self-Determination Act (PL - 638)

- Gives tribes option to manage health care services in their communities

- Diminishes IHS presence in tribal affairs
  - Decentralizes IHS role in health services delivery
Contracts and Compacts

Three ways to manage health care services

1. IHS provides all health care services
2. Contracts between IHS and Tribes
   - Health care services are contracted
3. Compacts
   - Health care services are tribally run
   - 53% of IHS budget goes directly to Tribes
   - California and Alaska Areas are completely compacted
Challenges in Indian Health I

- **Under-funded**
  - 1996 per capita healthcare expenditures
    - U.S. - $3046
    - IHS - $1200

- **Multiple jurisdictions**
  - Tribal, state, federal
  - Quality of state and tribal relationships is variable

- **Incomplete data**
  - Racial misclassification
  - Data collection difficult
    - Multiple jurisdictions
    - Limited technology & resources
Challenges in Indian Health II

Fragmented health care delivery systems
- IHS Areas cross state boundaries
- Urban Indian programs, tribal programs

Limited access to services
- 1.5 million of 2.4 million AI/AN
- Limited urban programs
- High staff turnover rates and vacancies
Why do Disparities Continue to Exist?

- Multiple Causes; Social, Economic, Service.
- Disparities vary by state, region and causes vary by characteristics.
- Causes also vary for each racial/ethnic group and for subgroups of these groups.
- Many different persons and disciplines are involved in responding to health needs and not all understand the culture and needs of the population group they are working with.
- Language barriers exist.
Why do Disparities continue to Exist? (continued)

- States may not have the same resources and commitment.
- When many agencies are involved and/or accountable it may mean no one is accountable.
- Pervasive effects of poverty on health.
- Access to health care varies for different age groups and for different states.
- Differences in health care received.
- Health policy and the political arena.
Why Do We Need Natives (Ethnic Groups) in Public Health?

• Need to ensure that we ask the right questions, collect, analyze the data and interpret/disseminate the results to the public, especially those at greatest risk.

• Need to develop and evaluate interventions that are culturally appropriate and specific to the communities we are trying to serve.
Note:

From the National Vital Statistics Report (NCHS), Deaths: Final Data for 1997, Volume 47, number 19, page 95, it is stated that:

"Estimates of the approximate effects of the combine bias due to race misclassification on death certificates and under enumeration on the 1990 census areas follows:

  White  - 1.0 percent;
  Black  - 5.0 percent;
  American Indian  + 20.6;
  Asian or Pacific Islander, =10.7 (23)."

This indicates that these figures presented are seriously underestimated and the health problems could be seriously worse than indicated.
Tribal Sovereignty

- Treaty Tribes have a Nation to Nation relationship with the US. Government
- Tribes are Sovereign Nations
- States do not have jurisdiction on tribal lands
- Movement towards Tribal Self-Governance
- Tribes make and enforce your own Laws
Trust Responsibility

The general component of the Trust Responsibility relates to the United States unique legal and political relationship with federal-recognized Indians as part of treaties, statutes and executive orders.

The Supreme Court has noted that the federal government, as trustee, is “charged with moral obligations of the highest responsibility and trust.”

This responsibility provides a basis for the legal principle that ambiguities or doubts in statutes must be construed in favor of the Indians.

The Indian Tribal Justice Act, noted, that the general Trust Responsibility “includes the protection of the Sovereignty of each Tribal Government.”
Federal Indian Policy


The Supreme Court found that Tribes were no longer territorially separate from the United States.

Tribes (a) could not transfer lands to or sign treaties with any other colonizing power and (b) had placed themselves under the protection of the United States.
Federal Indian Policy (continued)

• 1830-1850, “Removal Policy” – Indian Removal Act policies moved the Tribes west of the Mississippi into the Louisiana and Northwest Territories.

• 1850-1871, “Removal Shifts to Reservation System” – Over 100 treaties created moving Tribes to new, smaller territories or confined them to smaller territories reserved from there aboriginal territory.
Federal Indian Policy (continued)

- **1871-1928, “Assimilation and Allotment Era”** - The United States sold or gave Indian Land to non Indians to make Indians Assimilate into non-Indian communities. Resulted in (a) the loss of 90 out of 138 million acres of land and (b) the displacement of thousands of Indians.

- **“Indian Reorganization Act of 1934”** - The Act reaffirmed that tribal governments had inherent powers.
Federal Indian Policy (continued)


- 1968 – Present – “Self Determination” – In 1968, PL 280 was amended to require the consent of Indian Nations before state could assume jurisdiction. This era of various presidential policy statements and legislative acts that benefited Indians, strengthened tribal governments, reaffirmed tribal sovereignty and ended the termination period.
Presidential Memorandum on Government-to-Government Relations with AI/AN Tribal Governments

- Operate within a government-to-government relationship with federally-recognized Tribes
- Consult, to the greatest extent practicable and to the extent permitted by law, with Indian tribal governments before taking actions that affect federally recognized tribes.
- Assess the impact of executive department and agency activities on tribal trust resources and assure that tribal rights and concerns are considered.
- Take appropriate steps to remove procedural impediments to working directly and effectively with tribal governments on activities that affect the trust responsibility and/or governmental rights of tribes.
Treat all men alike. Give them all the same law. Give them all an even chance to live and grow. All men were made by the same Great Spirit Chief. They are all brothers. The earth is the mother of all people, and all people have equal rights upon it.

*Chief Joseph, Nez Perce*