Multnomah County Health Department

Report Card on
Racial and Ethnic Health Disparities

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Foreword

Health disparities are differences in the health status of different segments within our community that are caused by a variety of factors such as poverty, educational status, environmental conditions, individual health behavior choices, and access to health care. Health inequities are the subset of these disparities that are systemic, avoidable, and unjust. Examples of these health inequities include disparate health outcomes arising from unequal opportunities for a healthy life based on racial and ethnic bias or discrimination stemming from national origin or sexual orientation. It is widely recognized that eliminating health disparities of all types must be a priority in order to achieve optimal health, not only for disadvantaged groups, but also for the community as a whole.

This report card is an attempt to monitor trends in health disparities in order to identify gaps between groups of color and the White non-Hispanic population of Multnomah County. In addition to focusing the efforts of our community in addressing disparities that are brought to light, the report card will also allow us to track successes in eliminating disparities over time.

Summary of Findings

Multnomah County communities of color experience levels of health similar to White non-Hispanic residents of the county on many of the health indicators we examined. However, there are specific areas of concern where the disparities in health status are large.

In examining 17 health indicators we found the greatest disparities in rates of new cases of sexually transmitted diseases (STDs). The rate of new cases of gonorrhea infections among African American residents of Multnomah County was 6 1/2 times the rate of White non-Hispanics in the county. Similarly, the rate of new Chlamydia cases diagnosed was 5 times higher among African American residents and about 2 1/2 times higher among Hispanic residents. New syphilis infections occurred at a rate three times higher among African Americans compared to White non-Hispanics.

Another area of concern is the rate of births to teenage mothers in communities of color. In the 2001-05 period among Hispanics the percent of live births to teen mothers was more than 6 times higher than for White non-Hispanic teens. For African American residents the teen birth rate was more than 2.5 times the rate for White non-Hispanics.

Finally, the homicide death rate was over six times greater among African American residents as compared with White non-Hispanics.

The Role of Health Promotion

The seventeen health outcomes presented in this report can all be improved through traditional health promotion activities aimed at improving access to health screening and health care, and educating the public about healthy lifestyles. A more comprehensive approach would require efforts to address social determinants of health such as educational attainment, income, access to nutritious food, and increased opportunity for physical activity.

As an example, deaths due to diabetes may be prevented not only through education on effective self-management and access to medical care, but also by preventing the disease itself through ready access to affordable, nutritious food and to opportunities for physical exercise.

Details on specific health promotion activities for many of these health issues can be found at the Centers for Disease Control and Prevention website at http://www.cdc.gov/nccdphp/programs/index.htm, and http://www.cdc.gov/Features/STDPrevention/.

Using this report card

We present summary information for Multnomah County for the 2001-05 period for seventeen health indicators by race/ethnicity. For each indicator we provide a table with information on the magnitude of the health issue in each racial and ethnic group in the form of a disease, mortality or health behavior rate. In order to compare communities of color with the White non-Hispanic residents of the county we have also provided a disparity ratio which is calculated by dividing the rate for each race group by the rate for White non-Hispanics (the comparison group). To provide practical significance to the disparity rate ratios presented we have labeled them as "No disparity", "Needs improvement" and "Requires intervention". Explanations for each of these labels is provided in the following table.

	Interpretation
No disparity	The rate ratio comparing the racial/ethnic group to White non-Hispanics shows little or no difference between the two groups with regard to the given health status indicator. For some indicators the group has better health outcomes than White non-Hispanics as represented by a rate ratio of less than 1.0.
Needs improvement	These indicators show statistically significant disparities between the group of color and the comparison group with rate ratios ranging from 1.0 to 2.0. To earn this grade the disparity cannot be large but has the potential to worsen and may require intervention.
Requires intervention	These indicators show statistically significant differences between the group of color and the White non-Hispanic population with rate ratios greater than 2.0. These disparities may be high priority candidates for corrective action.

Healthy People 2010 targets set by the Centers for Disease Control and Prevention have been provided where available to compare each group to national health objectives.

While there are different approaches to selecting a comparison group against which to evaluate various subsets of a population, we have chosen to use the White non-Hispanic population as the comparison group because they are less likely to experience discrimination based on race.

It is beyond the scope of this report to identify the specific causes of the health disparities among Multnomah County residents discussed in this report. The body of scientific literature examining health disparities and inequities indicates that these differences arise from various social determinants of health such as poverty, unemployment, education, gender, social exclusion, and lack of social support. Therefore, in interpreting the information presented in this report we caution the reader to view these disparities as the result of several closely interrelated factors rather than being attributable to any single cause.

Mother and Child Health

1. Mothers with no prenatal care in the first trimester of pregnancy

Race/Ethnicity	2001-05 Rate (% of live births)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	24.9	1.6	Needs improvement	No
Asian	22.3	1.5	Needs improvement	No
Native American	30.1	2.0	Needs improvement	No
Hispanic	32.5	2.1	Requires intervention	No
White non-Hispanic	15.4	Comparison group		No

- In Multnomah County, women of color are less likely to receive prenatal care in the first trimester of pregnancy than are White non-Hispanic women.
- The Healthy People 2010 target for first trimester prenatal care is no less than 90% of all live births.


Trend in No 1st Trimester Prenatal Care by Race
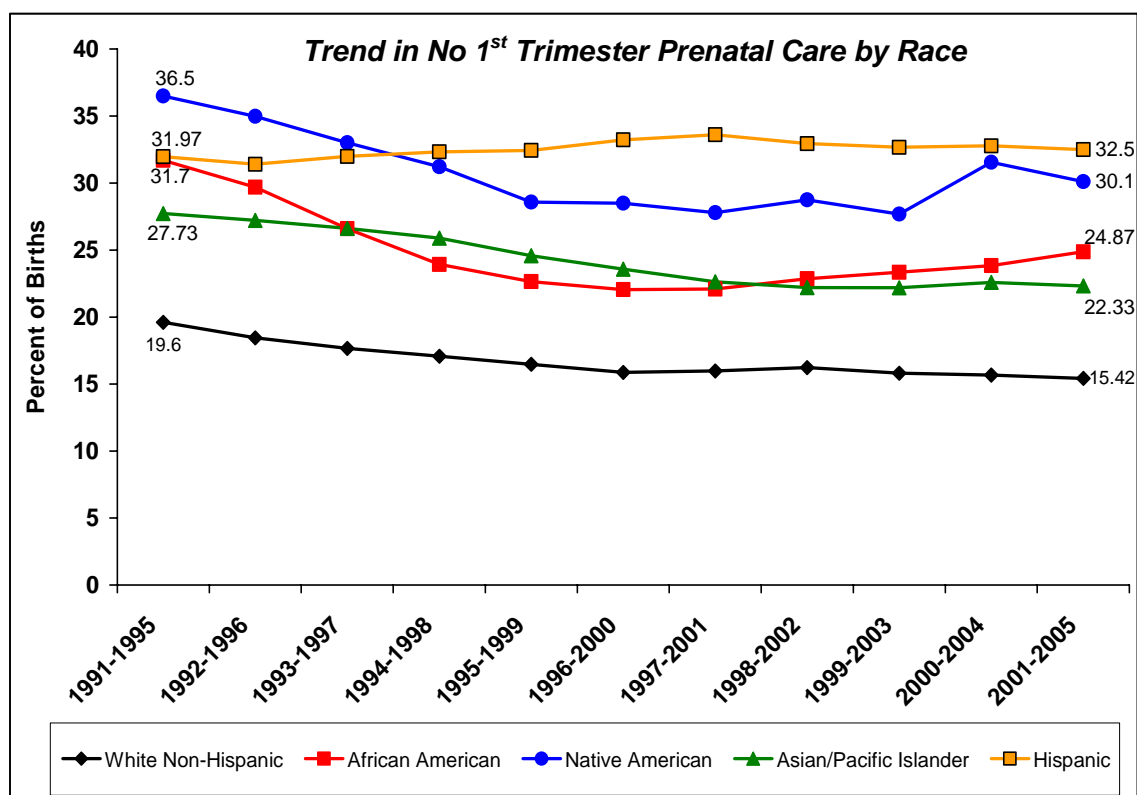
2. Low Birthweight Babies *(less than 5.5 lbs)*

Race/Ethnicity	2001-05 Rate (% of live births)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	11.4	2.0	Needs improvement	No
Asian	6.9	1.2	Needs improvement	No
Native American	8.4	1.4	Needs improvement	No
Hispanic	5.6	1.0	No disparity*	No
White non-Hispanic	5.9	Comparison group		No

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.

- In Multnomah County the percent of low birthweight babies is twice as high among African American mothers compared with White non-Hispanic mothers.
- Since the mid-1990s the percent of low birthweight babies among Native Americans has increased steadily; the 2001-05 rate was approximately twice the rate for 1995-99.
- In 2005, 8.2% of babies born nationwide were low birthweight and in 2001-05 Oregon's rate was 5.9%. The Healthy People 2010 target is no more than 5% of all live births.


Trend in Low Birthweight Babies by Race
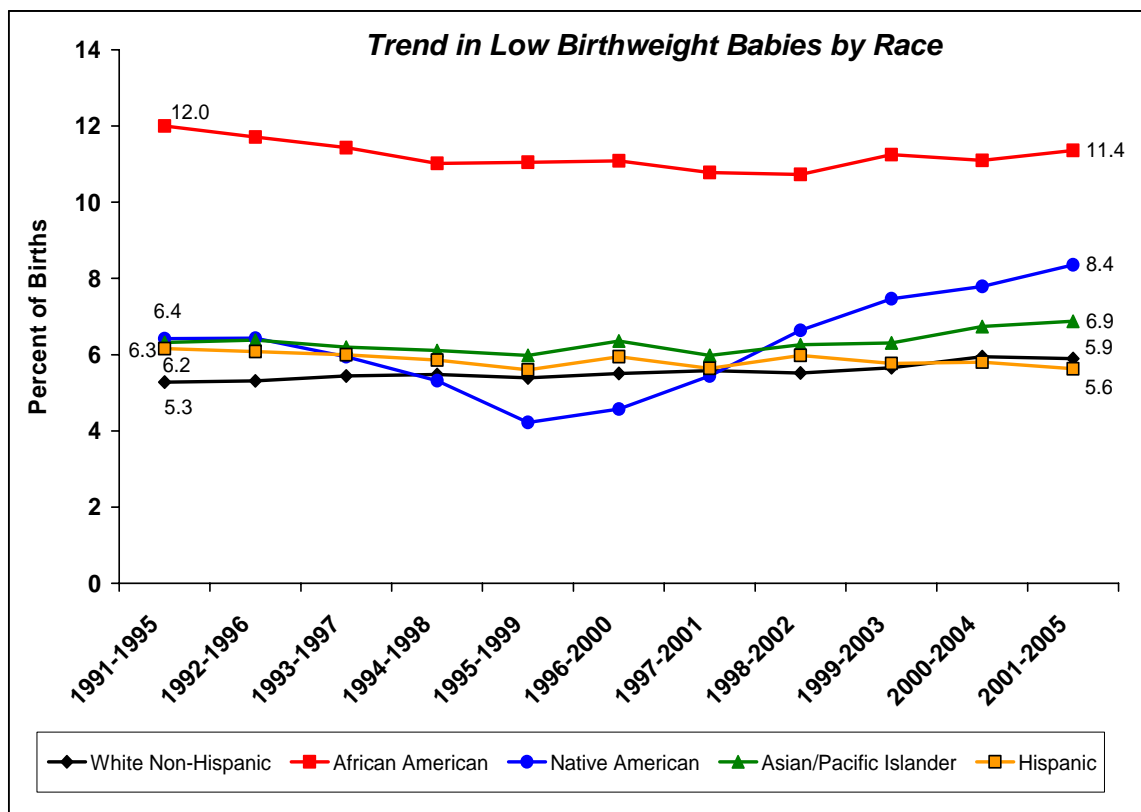
3. Teen Birth Rate

Race/Ethnicity	2001-05 Rate (rate of females 15-17 yrs old who gave birth per 1,000 teens)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	31.5	2.7	Requires intervention	N/A
Asian	13.3	1.1	No disparity*	N/A
Native American	20.6	1.8	Needs improvement	N/A
Hispanic	71.5	6.1	Requires intervention	N/A
White non-Hispanic	11.7	Comparison group		N/A

N/A = no Healthy People 2010 target for this indicator; *No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.

- In Multnomah County rates of teens who had babies was over 2.5 times greater among African Americans and over 6 times greater among Hispanics compared with White non-Hispanics.
- Native American teen births were almost twice the rate of White non-Hispanics.
- The 2005 U.S. teen birth rate was almost 22 births per 1,000 females aged 15-17 years; for 2001-05 the Oregon rate was 17.6 births per 1,000 females in that age group.
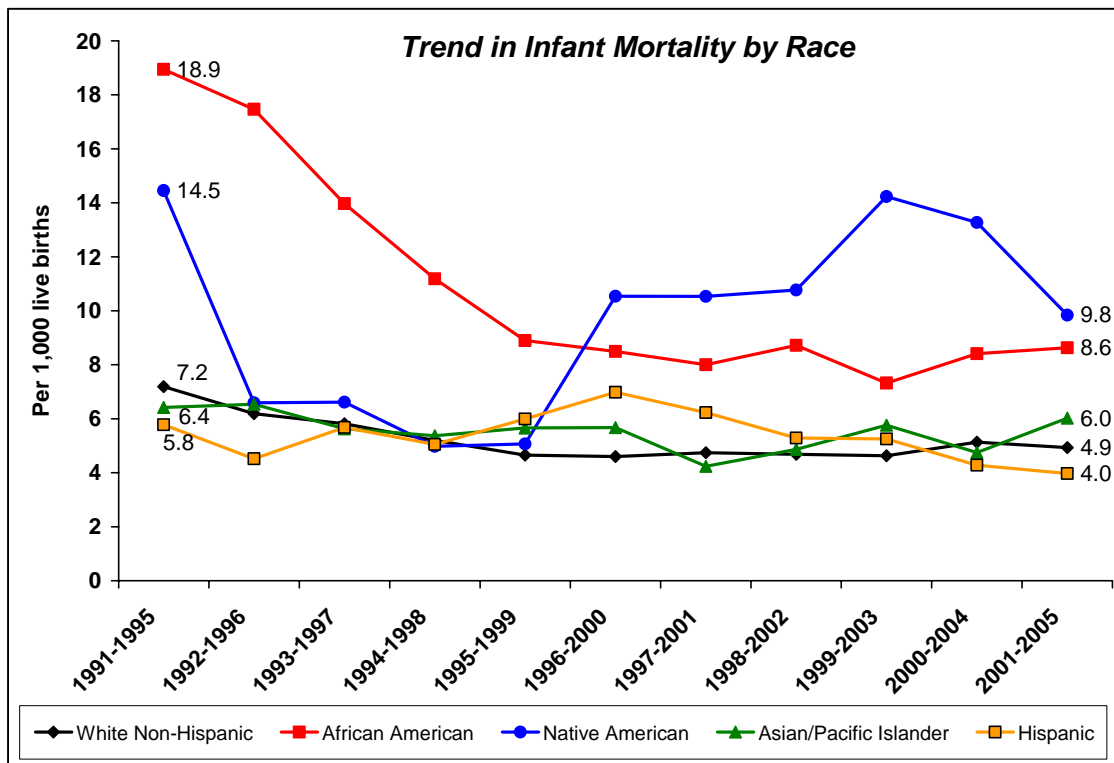

Trend in Births to Teen Mothers by Race
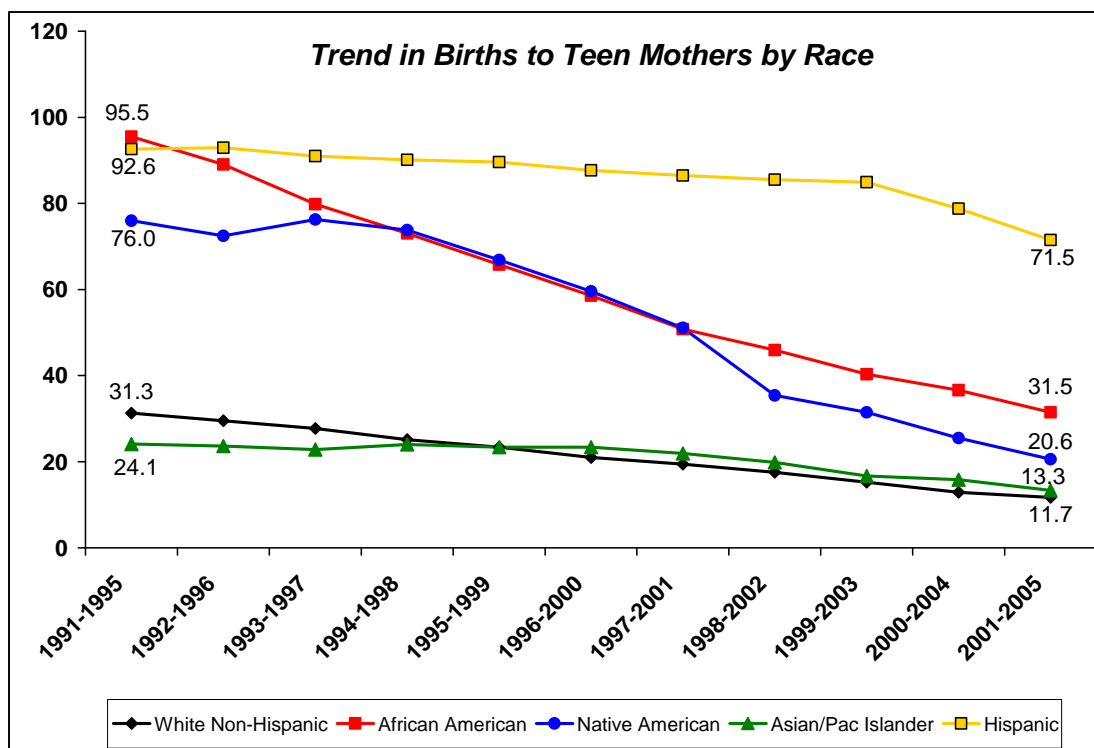
4. Infant Mortality

Race/Ethnicity	2001-05 Rate (deaths per 1,000 live births)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	8.6	1.8	Needs improvement	No
Asian	6.0	1.2	No disparity*	No
Native American	9.8	2.0	Needs improvement	No
Hispanic	4.0	1.0	No disparity*	Yes
White non-Hispanic	4.9	Comparison group		No

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.

- In Multnomah County the rate of infant mortality was twice as high in the Native American community compared with White non-Hispanics. African Americans had slightly less than two times the infant mortality rate of White non-Hispanics.
- The Hispanic community was the only population in Multnomah County to meet the Healthy People 2010 target for infant mortality of no more than 4.5 infant deaths per 1,000 live births.
- In 2005, the national infant mortality rate was 7.6 infant deaths per 1,000 live births; in 2001-05 Oregon's rate was 6.9.
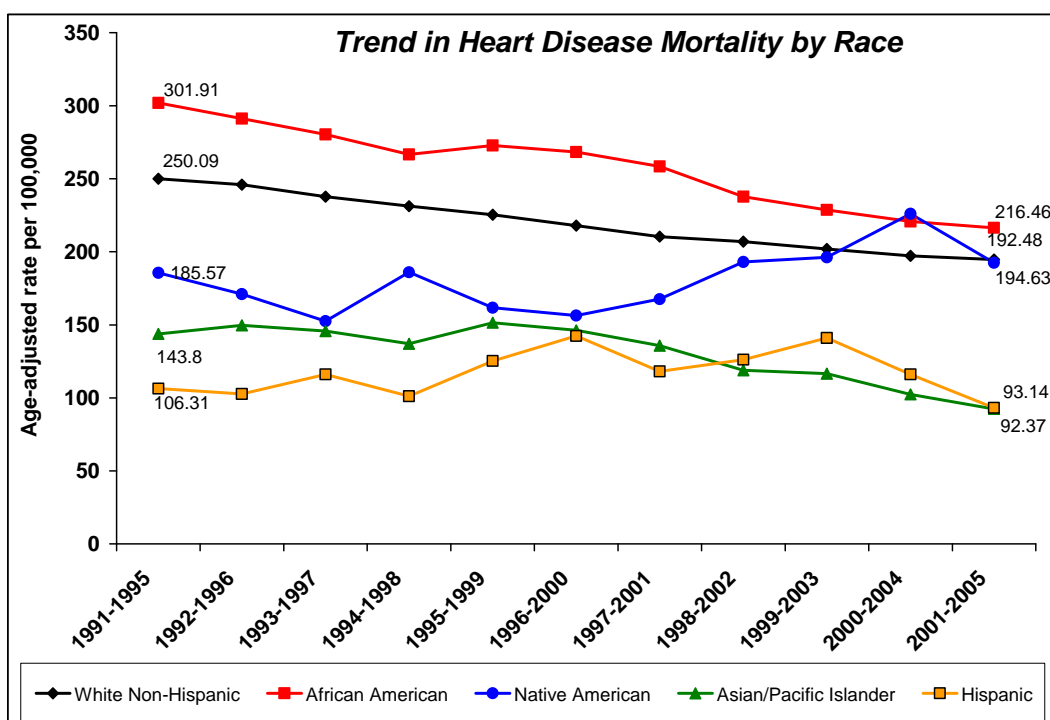

Trend in Infant Mortality by Race

Chronic Disease Mortality

5. Heart Disease Mortality

Race/Ethnicity	2001-05 Rate (deaths per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	216.5	1.1	No disparity*	N/A
Asian	92.4	0.5	No disparity*	N/A
Native American	192.5	1.0	No disparity*	N/A
Hispanic	93.1	0.5	No disparity*	N/A
White non-Hispanic	194.6	Comparison group		N/A

N/A = no Healthy People 2010 target for this indicator; *No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.

- In Multnomah County in 2001-05 African Americans had the highest heart disease mortality rate of any of the races; however, the rate was not statistically different from that of White non-Hispanics.
- Asians and Hispanics had heart disease mortality rates that were statistically lower than that of White non-Hispanics.
- During the same period Oregon's rate was 178.5 deaths per 100,000 and the national rate was 210.3 in 2005.
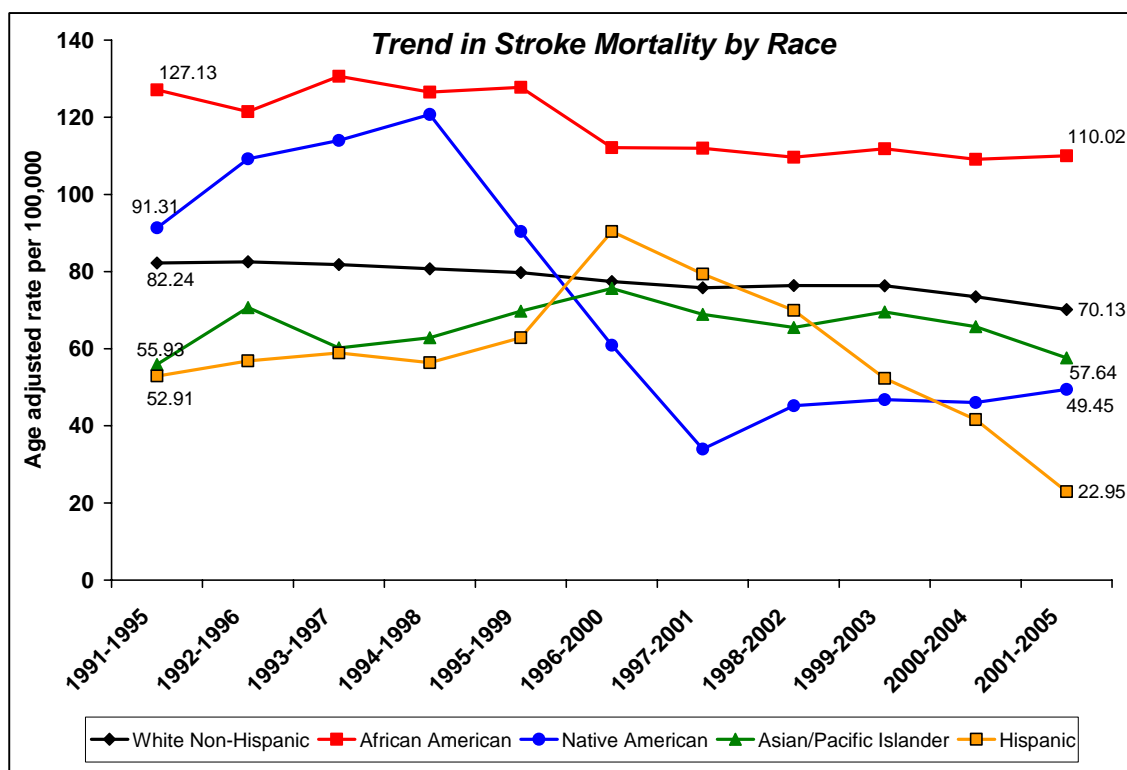
6. *Stroke Mortality*

Race/Ethnicity	2001-05 Rate (deaths per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	110.0	1.6	Needs improvement	No
Asian	57.6	0.8	No disparity*	No
Native American	49.5	0.7	No disparity*	No
Hispanic	23.0	0.3	No disparity*	Yes
White non-Hispanic	70.1	Comparison group		No

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.

- In Multnomah County in 2001-05 African Americans had the highest stroke mortality rate of any of the races and the rate was statistically higher than that of White non-Hispanics.
- Nationally, the stroke mortality rate was 46.6 deaths per 100,000 in 2005 and statewide the rate was 63.2 during the 2001-05 period.
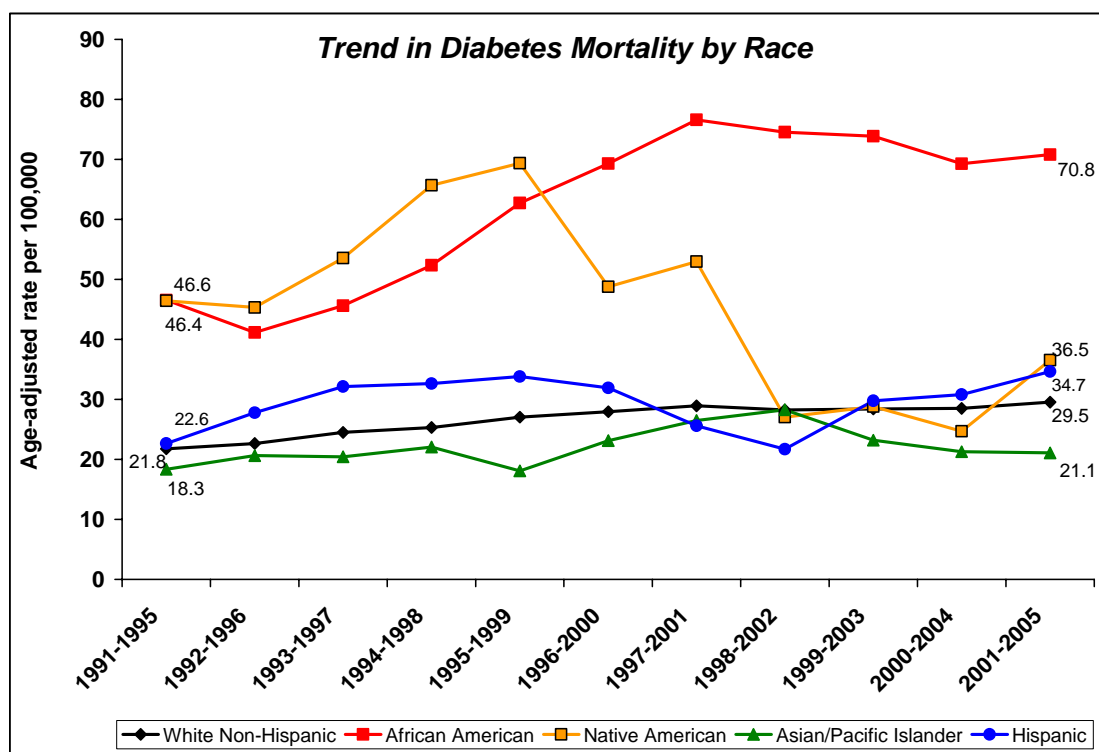

Trend in Stroke Mortality by Race

7. Diabetes Mortality

Race/Ethnicity	2001-05 Rate (deaths per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	70.8	2.4	**Requires intervention**	N/A
Asian	21.1	0.7	**No disparity***	N/A
Native American	36.5	1.2	**No disparity***	N/A
Hispanic	34.7	1.2	**No disparity***	N/A
White non-Hispanic	29.5	**Comparison group**		N/A

N/A = no Healthy People 2010 target for this indicator ;*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.

These data include only those deaths where diabetes was the underlying cause of death.

- In Multnomah County in 2001-05, African Americans had a statistically higher diabetes mortality rate compared with that of White non-Hispanics, Asians and Hispanics. Native Americans had the second highest diabetes mortality rate.
- In 2005 the U.S. diabetes mortality rate was 24.5 deaths per 100,000 population; Oregon's rate was 28.0 in 2001-05.
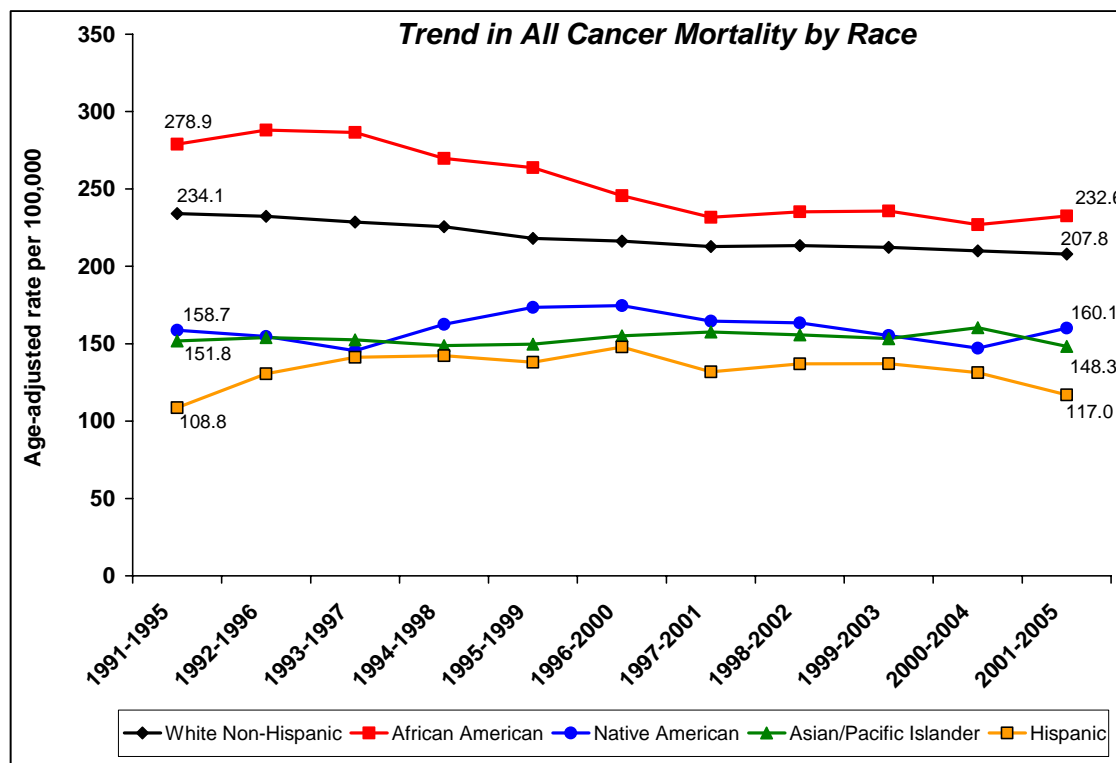
8. All Cancer Mortality

Race/Ethnicity	2001-05 Rate (deaths per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	232.6	1.1	No disparity*	No
Asian	148.3	0.7	No disparity*	Yes
Native American	160.1	0.8	No disparity*	No
Hispanic	117.0	0.6	No disparity*	Yes
White non-Hispanic	207.8	Comparison group		No

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.

- In Multnomah County in 2001-05 none of the groups of color had statistically worse rates of overall cancer mortality compared with White non-Hispanics.
- Asians and Hispanics had statistically lower rates of mortality relative to the White non-Hispanic population.
- In the U.S. in 2005 the overall cancer mortality was 183.8 deaths per 100,000 population and during 2001-05 the Oregon rate was 192.1. The Healthy People 2010 target is no more than 159.9 deaths per 100,000.
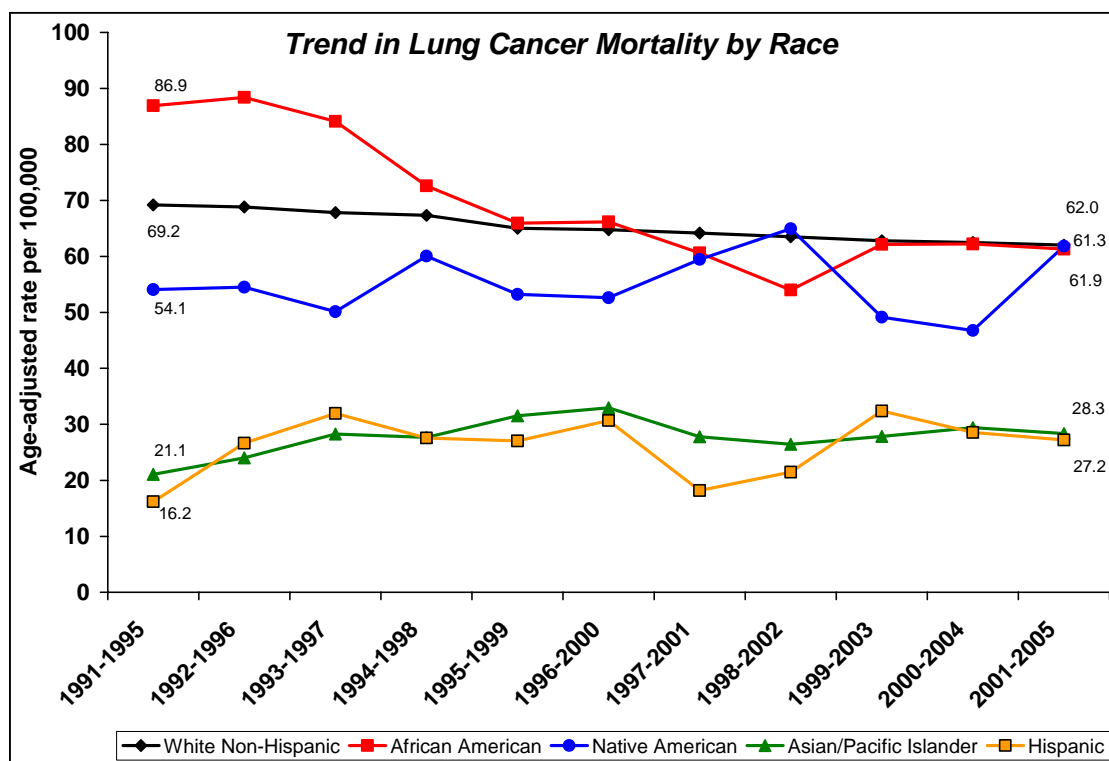

Trend in All Cancer Mortality by Race

9. Lung Cancer Mortality

Race/Ethnicity	2001-05 Rate (deaths per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	61.3	1.0	No disparity*	No
Asian	28.3	0.5	No disparity*	Yes
Native American	61.9	1.0	No disparity*	No
Hispanic	27.2	0.4	No disparity*	Yes
White non-Hispanic	62.0	Comparison group		No

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.

- In Multnomah County in 2001-05 none of the groups of color had statistically worse rates of lung cancer mortality compared with White non-Hispanics.
- White non-Hispanics, Native Americans and African Americans had the highest lung cancer mortality rates.
- Asians and Hispanics had statistically lower lung cancer mortality rates compared with White non-Hispanics.
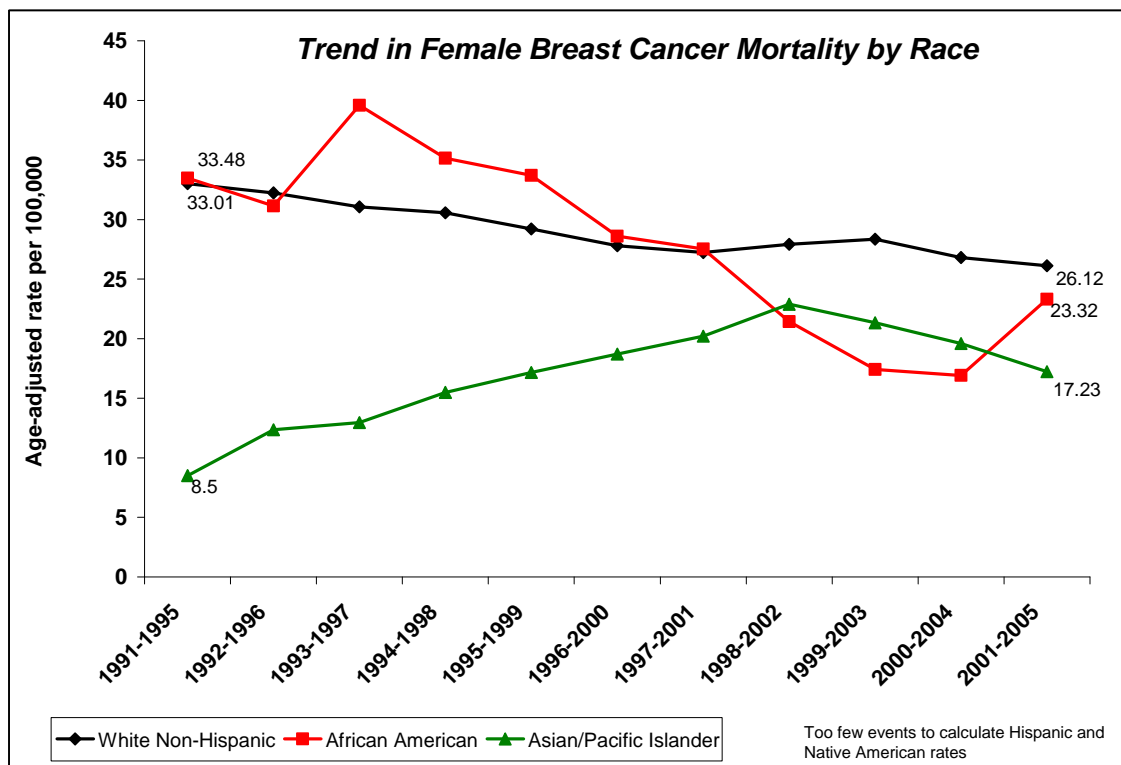

Trend in Lung Cancer Mortality by Race

10. Female Breast Cancer Mortality

Race/Ethnicity	2001-05 Rate (deaths per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	23.3	0.9	No disparity*	No
Asian	17.2	0.7	No disparity*	Yes
Native American	NR**	NR**		
Hispanic	13.4	0.5	No disparity*	Yes
White non-Hispanic	26.1	Comparison group		No

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics;
**NR = no rate due to small number of events.

- In Multnomah County in 2001-05 White non-Hispanics women had the highest breast cancer mortality rate however, this rate was not statistically higher than those for other races.
- The U.S. female breast cancer mortality rate was 27.3 deaths per 100,000 in 2005 and Oregon had a rate of 24.7 in 2001-05. The Healthy People 2010 target is no more than 22.3 deaths per 100,000 females.


Trend in Female Breast Cancer Mortality by Race

Infectious Diseases

11. HIV Disease Mortality

Race/Ethnicity	2001-05 Rate (deaths per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	6.2	1.3	No disparity*	No
Asian	NR**			
Native American	15.9	3.3	Requires intervention	No
Hispanic	8.1	1.7	Needs improvement	No
White non-Hispanic	4.9	Comparison group		

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics;
**NR = no rate due to small number of events

- In 2001-05 the Native American population of Multnomah County had the highest HIV disease mortality rate in the county and was statistically higher than that of the White non-Hispanic population.
- The U.S. mortality rates for HIV disease in 2005 was 4.2 per 100,000; Oregon's rate was and 2.0 in 2001-05. The Healthy People 2010 target rate is no more than 0.7 deaths per 100,000.
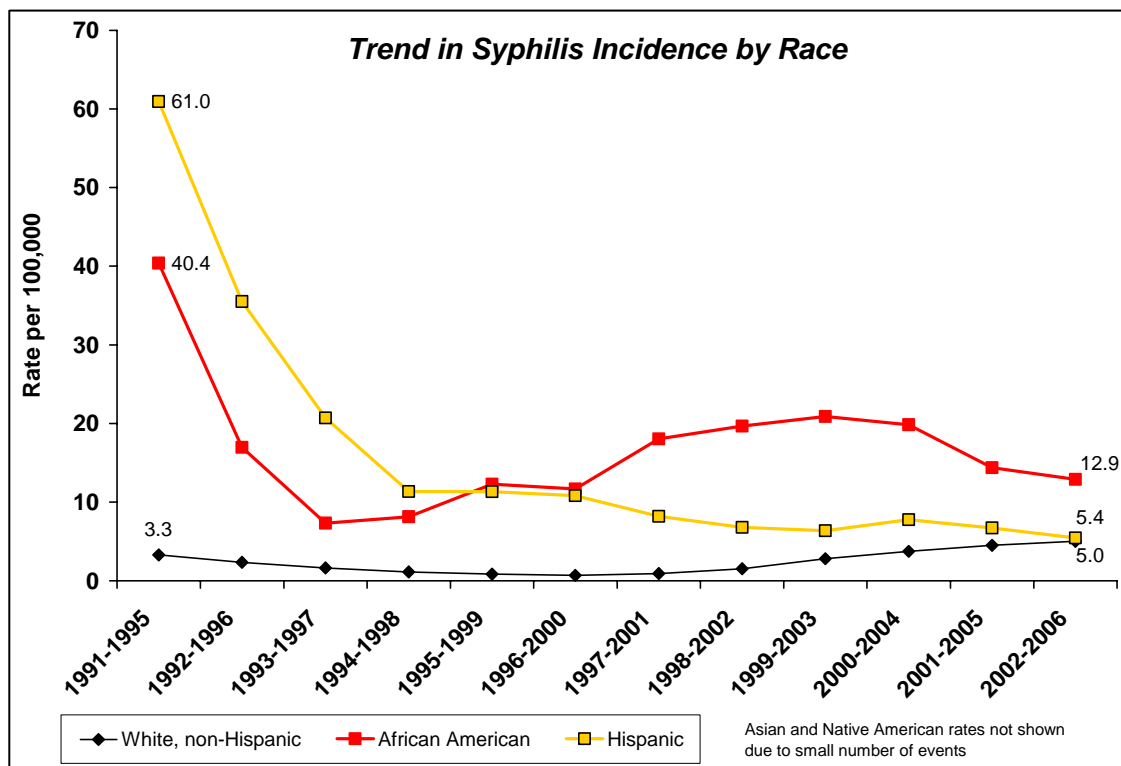

Trend in HIV Disease Mortality by Race
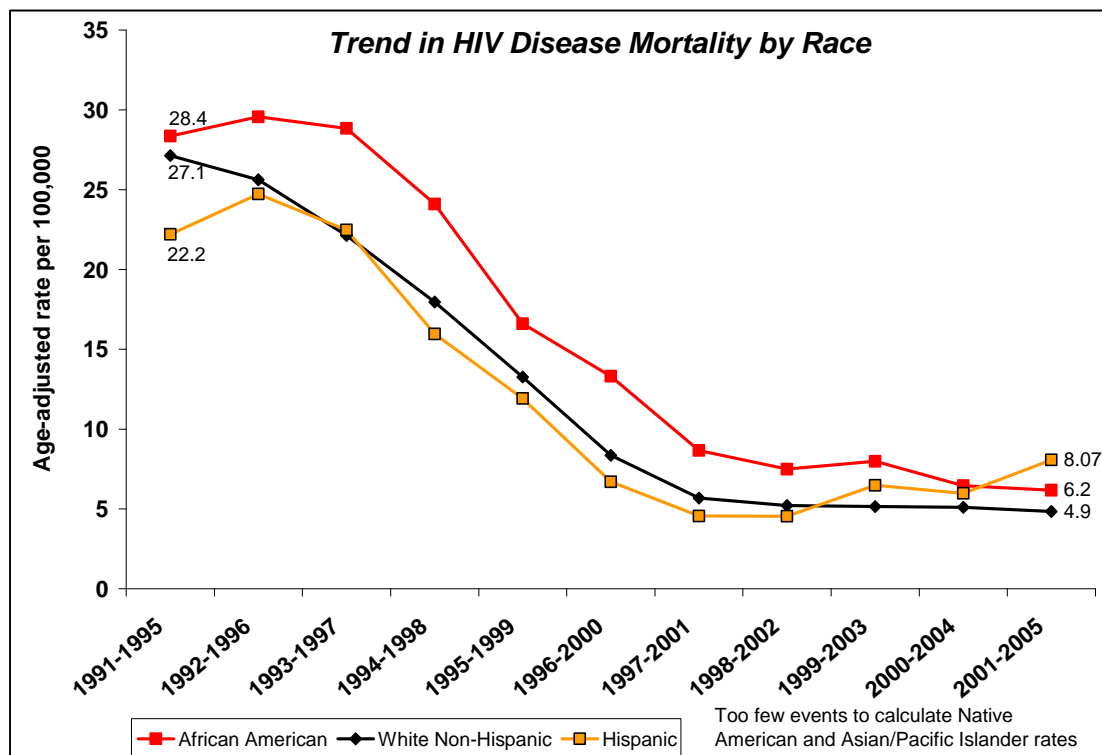
12. Syphilis Incidence Rate

Race/Ethnicity	2001-05 Rate (new cases per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	14.4	3.2	Requires intervention	N/A
Asian	2.1	0.5	No disparity*	N/A
Native American	NR**			N/A
Hispanic	6.0	1.3	No disparity*	N/A
White non-Hispanic	4.5	Comparison group		N/A

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.
**NR = no rate due to small number of events

- In 2001-05 the African American population of Multnomah County had over three times the syphilis incidence rate of White non-Hispanics and the highest incidence rate of all racial groups in the county.
- The national syphilis incidence rate in 2005 was 5.7 new cases per 100,000 and Oregon's rate was 1.4 in 2001-05.

Trend in Syphilis Incidence by Race

13. Gonorrhea Incidence Rate

Race/Ethnicity	2001-05 Rate (new cases per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	446.7	6.5	Requires intervention	No
Asian	30.9	0.4	No disparity*	No
Native American	67.9	1.0	No disparity*	No
Hispanic	83.3	1.2	Needs improvement	No
White non-Hispanic	69.1	Comparison group		No

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.

- In 2001-05 the African American population of Multnomah County had over six times the gonorrhea incidence rate of White non-Hispanics and the highest incidence rate of all racial groups in the county.
- In the U.S. the gonorrhea incidence rate was 115.6 per 100,000 in 2005 and in Oregon the rate was 33.3 during the 2001-05 period. The Healthy People 2010 target rate of no more than 19 new cases per 100,000 was not met by any of the racial groups in this county.
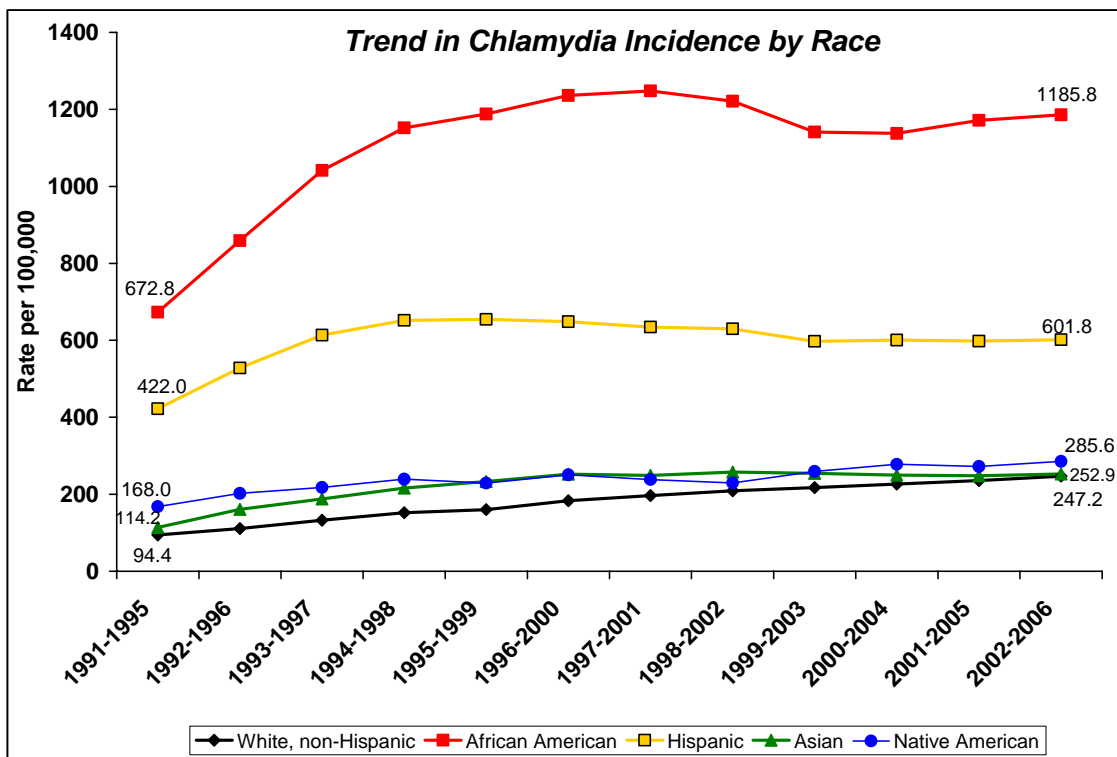

Trend in Gonorrhea Incidence by Race
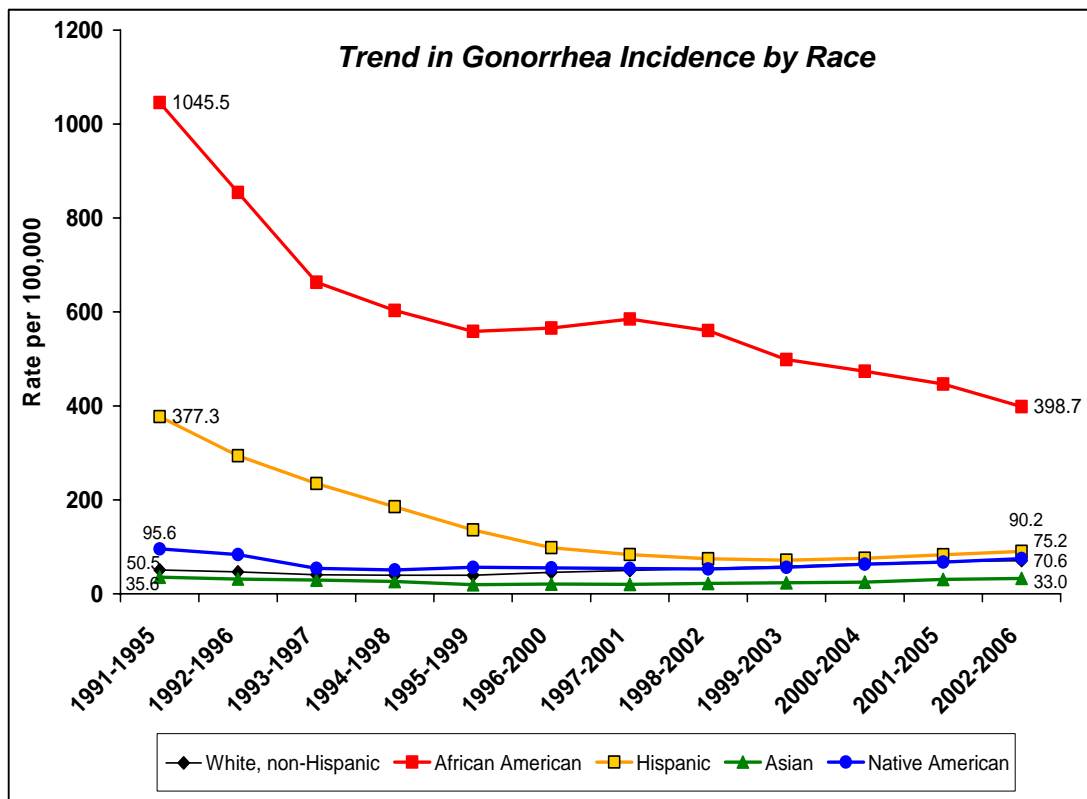
14. Chlamydia Incidence Rate

Race/Ethnicity	2001-05 Rate (new cases per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	1,171.1	5.0	Requires intervention	N/A
Asian	248.0	1.1	No disparity*	N/A
Native American	272.5	1.2	No disparity*	N/A
Hispanic	598.1	2.5	Requires intervention	N/A
White non-Hispanic	235.9	Comparison group		N/A

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.

- In 2001-05 the African American population of Multnomah County had approximately 5 times the Chlamydia incidence rate of White non-Hispanics and the highest incidence rate of all racial groups in the county.
- Hispanic residents had the second highest Chlamydia incidence rate which was also statistically higher than that of White non-Hispanics.
- The national Chlamydia incidence rate for 2005 was 332.5 new cases per 100,000 population and the statewide rate was 224.3 in 2001-05.

Trend in Chlamydia Incidence by Race
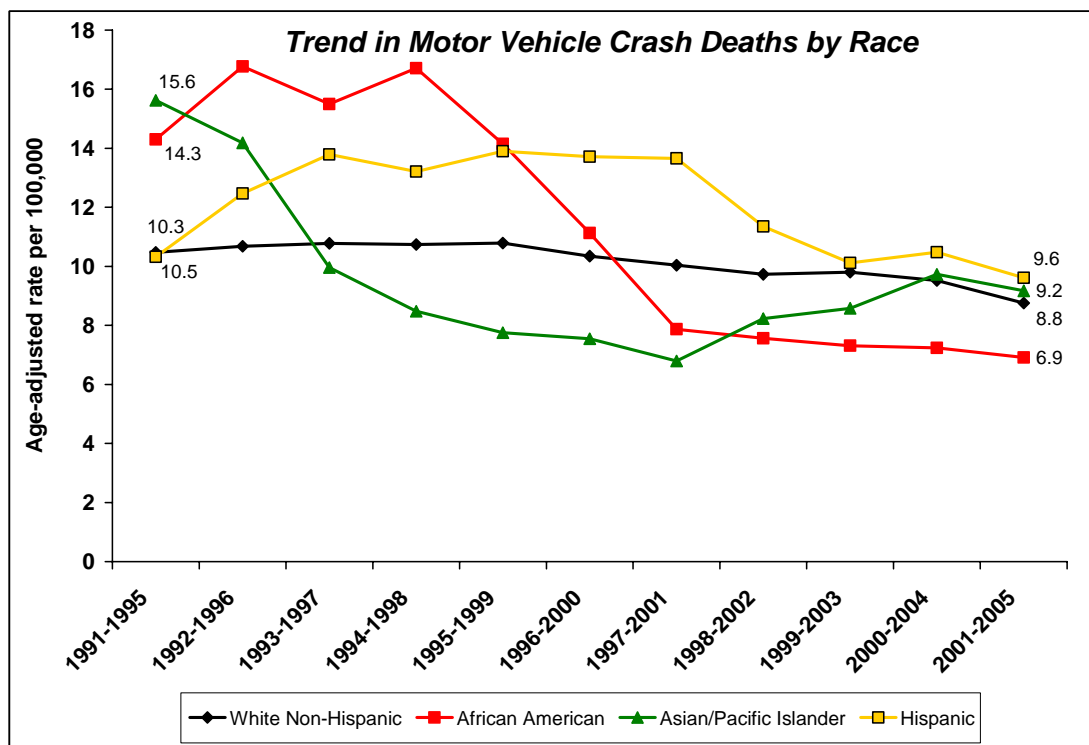
Injury-related Deaths

15. Motor Vehicle Crash Mortality

Race/Ethnicity	2001-05 Rate (deaths per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	6.9	0.8	No disparity*	Yes
Asian	9.2	1.1	No disparity*	Yes
Native American	NR**			
Hispanic	9.6	1.1	No disparity*	No
White non-Hispanic	8.8	Comparison group		Yes

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics;
** NR = no rate due to small number of events.

- In 2001-05 there were no disparities in motor vehicle crash deaths between groups of color in comparison with White non-Hispanics in Multnomah County.
- The national mortality rate due to motor vehicle crashes was 15.1 in 2005 and the state rate was 13.7 per 100,000 during the 2001-05 period. The Healthy People 2010 target rate is no more than 9.2 deaths per 100,000 population.
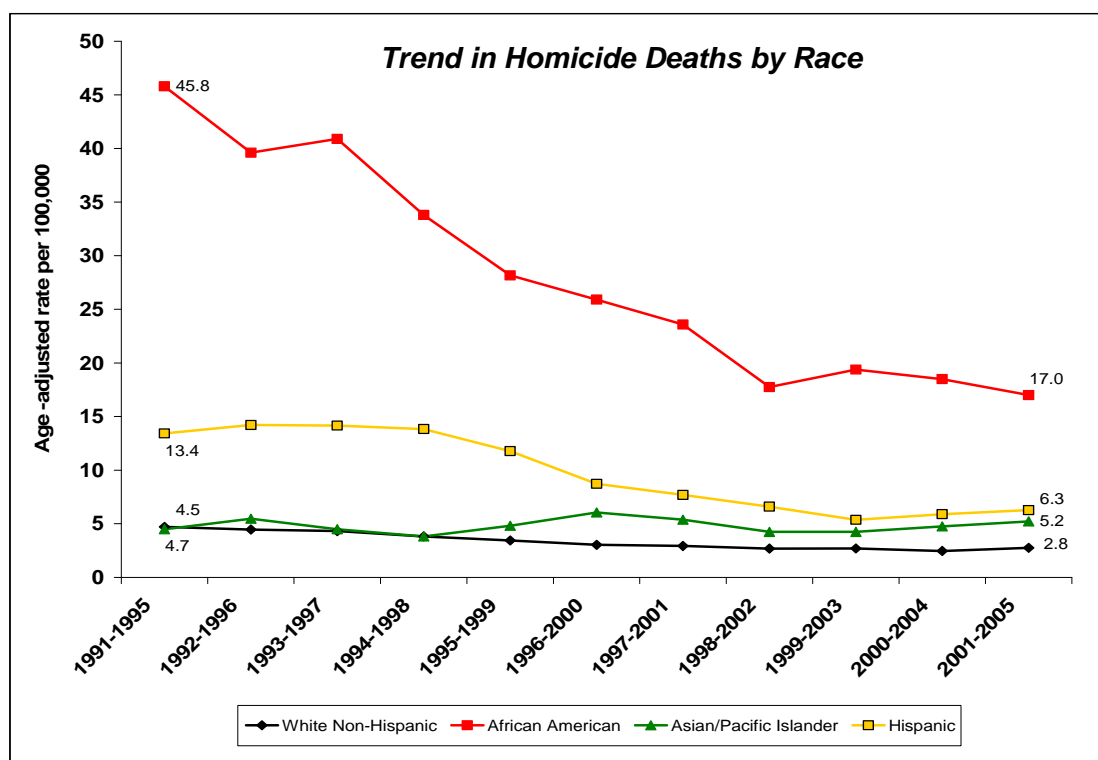

Trend in Motor Vehicle Crash Deaths by Race

16. Homicide

Race/Ethnicity	2001-05 Rate (deaths per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	17.0	6.2	Requires intervention	No
Asian	5.2	1.9	Needs improvement	No
Native American	NR**			
Hispanic	6.3	2.3	Requires intervention	No
White non-Hispanic	2.8	Comparison group		Yes

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.
 ** NR = no rate due to small number of events.

- In 2001-05 African Americans had the highest rate of homicide mortality among all racial groups. The African American rate was more than 6 times that of White non-Hispanics in Multnomah County, however, there has been a significant decline since the early 1990s when the African American homicide rate was almost 10 times that of White non-Hispanics.
- Nationally in 2005 the homicide mortality rate was 5.9 deaths per 100,000 and in 2001-05 Oregon's rate was 2.9. Healthy People 2010 has set a target rate of no more than 3.0 deaths per 100,000 population.


Trend in Homicide Deaths by Race

17. Overall Mortality

Race/Ethnicity	2001-05 Rate (deaths per 100,000 population)	Disparity Ratio	Health Disparity Grade	Met Healthy People 2010 target?
African American	1,003.2	1.1	No disparity*	N/A
Asian	527.7	0.6	No disparity*	N/A
Native American	817.1	0.9	No disparity*	N/A
Hispanic	471.5	0.5	No disparity*	N/A
White non-Hispanic	885.4	Comparison group		N/A

*No disparity = there is no statistically significant disparity between the group of color and White non-Hispanics.

- In 2001-05 African Americans had the highest rate of overall mortality among all racial groups, however, the rate was similar to that of White non-Hispanics.
- In general there is little disparity between groups of color compared with White non-Hispanics in this period.
- Nationally the overall mortality rate for 2005 was 798.8 deaths per 100,000 population and the state rate for 2001-05 was 799.7.

Trend in Overall Mortality by Race
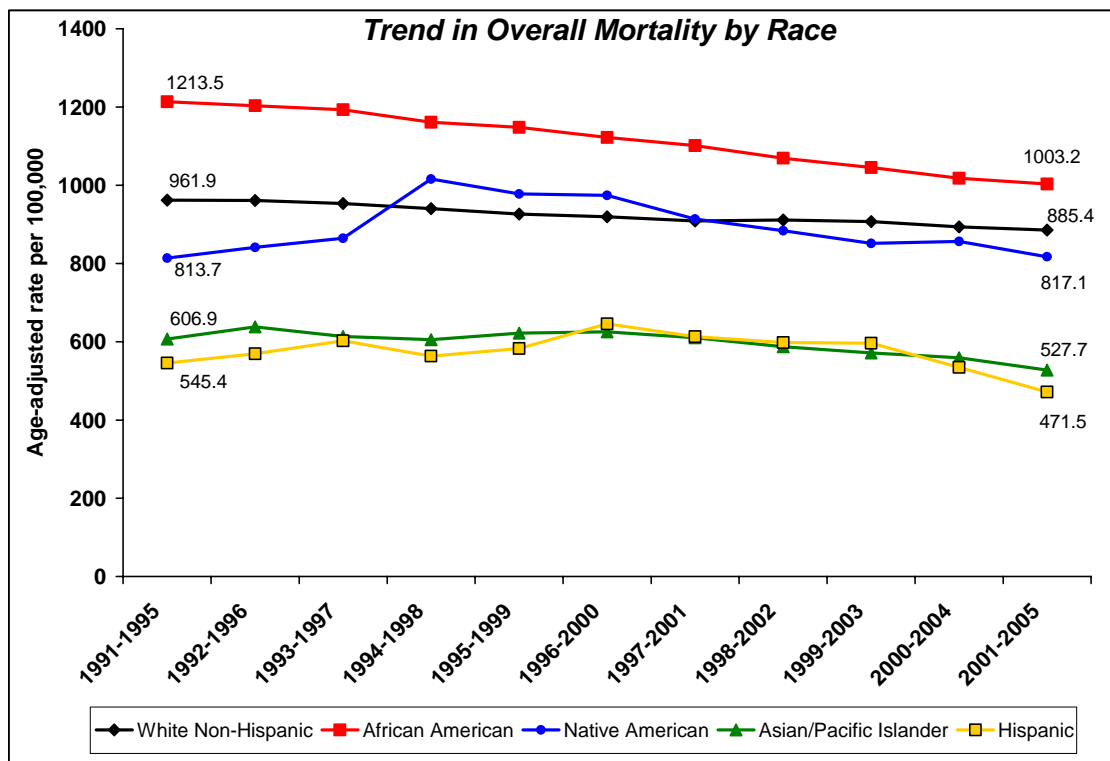
Appendix I: Technical Notes

Explanation of Indicators

For data sources for the following indicators please see Appendix II.

Mother and Child Health Statistics

1. **No first trimester prenatal care**

    No first trimester prenatal care is the percent of all live births to women who did not receive early prenatal care i.e. within the first trimester of pregnancy. It is calculated by dividing the annual total number of women who did not start receiving prenatal care within the first three months of the pregnancy by the total number of live births in the same year.

2. **Low birthweight babies**

    This indicator is calculated by dividing the number of babies in a given year born weighing less than 2,500 grams (approximately 5.5 lbs) divided by the total number of live births in that year.

3. **Teen birth rate**

    The teen birth rate is calculated by dividing the number of births to females 15 to 17 years old divided by the total number of females in that age group in the same year. The resulting fraction is multiplied by 1,000 and presented as teen births per 1,000 females aged 15-17 yrs.

4. **Infant mortality**

    Infant mortality is the number of deaths to infants less than 1 year of age divided by the number of live births in the same year. This fraction is multiplied by 1,000 and expressed as the infant mortality ratio per 1,000 live births.

Chronic Disease Mortality

5. **Heart disease mortality**

    Heart disease deaths are those for which the underlying cause of death listed on the death certificate was heart disease including acute rheumatic fever, chronic rheumatic heart diseases, hypertensive heart disease, hypertensive heart and renal disease, ischemic heart disease, pulmonary heart disease and diseases of pulmonary circulation, acute pericarditis, other diseases of pericardium, acute and subacute endocarditis, acute myocarditis, cardiac arrest, cardiac arrhythmias, and heart failure. ICD 10 codes for these causes of death are I00-I09, I11, I13, I20-51.

6. **Stroke mortality**

    Stroke mortality is also known as cerebrovascular disease mortality. These are deaths for which the underlying cause of death listed on the death certificate included one of the following: stroke, intracerebral hemorrhage, cerebral infarction, other cerebrovascular disease etc. ICD 10 codes for these causes of death are I60 through I69.

7. **Diabetes mortality**

    Deaths included in this rate are those for which diabetes mellitus is listed as the underlying cause of death on the death certificate. The ICD 10 codes for this cause of death are E10 through E14.

8. **All cancer mortality**

   Deaths included in this rate are those for which any form of malignant neoplasm is listed as the underlying cause of death on the death certificate. The ICD 10 codes for these cancers are C00 through C97.

9. **Lung cancer mortality**

   Lung cancer deaths are those for which malignant neoplasms of the trachea, bronchus or lung is listed as the underlying cause of death on the death certificate. The ICD 10 codes for this cause of death are C33 through C34.

10. **Female breast cancer mortality**

    Female breast cancer deaths are those for which malignant cancer of breast tissue is the underlying cause of deaths in females. The ICD 10 code for this cause of death is C50.

Infectious Diseases

11. **HIV disease mortality**

    Deaths used to calculate this mortality rate are those for which HIV disease is listed as the underlying cause. The ICD 10 codes for HIV disease are B20 through B24.

12. **Syphilis incidence**

    The syphilis incidence rate is calculated by dividing the number of new cases of syphilis diagnosed among Multnomah County residents in a given period by the total population of the county and multiplying the resulting fraction by 100,000. The rate for that period is expressed as the syphilis incidence rate per 100,000 population.

13. **Gonorrhea incidence**

    The gonorrhea incidence rate is calculated by dividing the number of new cases of gonorrhea diagnosed among Multnomah County residents in a given period by the total population of the county and multiplying the resulting fraction by 100,000. The rate for that period is expressed as the syphilis incidence rate per 100,000 population.

14. **Chlamydia incidence**

    The Chlamydia incidence rate is calculated by dividing the number of new cases of Chlamydia diagnosed among Multnomah County residents in a given period by the total population of the county and multiplying the resulting fraction by 100,000. The rate for that period is expressed as the syphilis incidence rate per 100,000 population.

Injury-related deaths

15. **Motor vehicle crash mortality**

    Deaths used to calculate the motor vehicle crash mortality rate are those for which the underlying cause of death listed on the death certificate includes any death caused by a motor vehicle crash to pedestrians, bicyclists, motorcyclists, occupants of motor vehicles, passengers in trains or street cars and drivers. The ICD 10 codes for these deaths include V02-V04, V80.3-V80.5, V81.0- V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89, V89.2.

16. **Homicide**

Deaths used to calculate mortality rates due to homicide are those for which the underlying cause of death is assault including assault by weapons, deadly force, poison, drowning, asphyxiation etc. The ICD 10 codes for these deaths include X85 through Y09 and Y87.1.

17. **Overall mortality**

The overall mortality rate is calculated using deaths due to any cause during a given period.

Misclassification of deaths

Deaths among some groups of color may under-represent the true death rate due to a given cause of death due to misclassification of the decedent's race. This is a systematic bias that is known to result in an undercount of deaths among Native Americans. The reader is asked to interpret race based mortality data with caution, particularly with regard to deaths among Native Americans.

Appendix II: Methodology

Age-adjusted death rate calculation

All mortality rates presented in this report are age-adjusted to the 2000 United States standard population. Age-adjusted rates are computed by the direct method by applying age-specific rates in a population of interest to a standardized age distribution, in order to eliminate differences in observed rates that result from age differences in population composition. Age-adjusted rates should be viewed as relative indexes rather than actual measures of risk. For further details on calculating age-adjusted death rates please visit the National Center for Health Statistics web site at http://www.cdc.gov/NCHS/DATAWH/NCHSDEFS/ageadjustment.htm.

Rates are calculated using the number of deaths due to a given cause of death that occurred in a given period of time and the average population at risk of dying from that cause of death during that period. Definitions for each cause of death examined in this report are listed in Appendix I.

Rate Ratios

Rate ratios were calculated by dividing the rate of a given indicator for a particular race by the corresponding rate for the White non-Hispanic population. Rate ratios of 1.0 or rate ratios with 95% confidence intervals that include 1.0 indicate that the group of color has reached parity with the White non-Hispanic population for that indicator. Rate ratios less than 1.0 with the upper bound of the 95% confidence interval also less than 1.0 indicates that a group has a rate that is statistically significantly better than the corresponding rate for the reference population. Finally, a rate ratio of greater than 1.0 with the lower bound of the 95% confidence interval also greater than 1.0 indicates that a group is statistically significantly worse than White non-Hispanics for that indicator.

Additional details on methodology

For a more detailed explanation of the methodology used in creating rate ratios and 95% confidence intervals for the ratios please see "*Racial and Ethnic Health Disparities in Multnomah County: 1990-2004*" which can be viewed at http://www.co.multnomah.or.us/health/hra/reports.shtml.

Appendix III: Data Sources

Mortality statistics

(1) US mortality statistics for 2005 from NCHS accessed 01/15/2008 at
http://www.cdc.gov/nchs/data/hestat/preliminarydeaths05_tables.pdf#A

(2) US Mortality Statistics for 1995 from NCHS accessed 01/15/2008 at
http://www.cdc.gov/nchs/data/mortab/aadr7998s.pdf

(3) Multnomah County and Oregon mortality rates calculated using VistaPHw 7.2.0.0, Calculator Version 6.0.1.0 Web with Death Certificate Data from Oregon Department of Human Services, Center for Health Statistics.

Mother and Child Health Statistics

(4) US birth statistics for 2005 from NCHS accessed 01/15/2008 at
http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_06.pdf

(5) US birth statistics for 1995 from NCHS accessed 01/15/2008
http://www.cdc.gov/nchs/data/statab/natfinal1995annvol1_01%20.pdf,
http://www.cdc.gov/nchs/data/statab/natfinal1995annvol1_25.pdf, and
http://www.cdc.gov/nchs/data/statab/natfinal1995annvol1_02%20.pdf

(6) Multnomah County and Oregon birth risk factors and infant mortality rates calculated using VistaPHw 7.2.0.0, Calculator Version 6.0.1.0 Web with Birth Certificate Data: Oregon Department of Human Services, Center for Health Statistics

STD Statistics

Unlike mortality or mother and child health statistics STD statistics have been presented through the 2002-06 period because more current data were available for STDs.

(7) US STD statistics for 1995 and 2005 accessed 01/16/2008 at http://www.cdc.gov/std/stats05/Tables/Table1.htm

(8) Multnomah County STD rates calculated using data from Oregon Department of Human Services, Sexually Transmitted Disease Program.

Population Data

(9) County Population by Age, Race and Sex:
   1. 1990-1999: Anchored estimates, U.S. Census and National Center for Health Statistics;
   2. 2000: Bridged count, U.S. Census;
   3. 2001-2005: Bridged estimates, National Center for Health Statistics.