Multnomah County Health Department

Report Card on
Racial and Ethnic Health Disparities

April 2011

MULTNOMAH COUNTY
Health Department

Public Health
Prevent. Promote. Protect.

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Summary of Findings

This report is the most recent update to "Racial and Ethnic Disparities in Multnomah County: 1990-2004" and examines racial and ethnic health disparities in Multnomah County across 18 health indicators. Using White non-Hispanics as a comparison group, health disparity ratios were calculated for four groups: African Americans, Asians, Hispanics, and Native Americans. Indicators were also tracked from 1994-2007 to identify trends. The indicators selected for analysis in the original report include those that had been shown to be important in identifying racial and ethnic health disparities in national and local health disparity reports (*1, 2*) and for which reliable data by race and ethnicity are available for Multnomah County. For 2003-07, one of the indicators used in the original report (Syphilis case rates) has been dropped due to a small number of occurrences and two new indicators (prostate and colorectal cancer deaths) have been added.

Across the 18 indicators, African Americans experienced the greatest number of health disparities of all the racial and ethnic groups examined. The other groups – Asians, Hispanics, and Native Americans – experienced substantially fewer health disparities. In fact, on many of the health indicators examined, no significant health disparities were found for these groups when compared to White non-Hispanics.

It is important to note that due to racial/ethnic misclassification of Asians, Hispanics, and Native Americans upon death, this report probably underestimates health disparities for these groups. The problem is especially pronounced for Native Americans and Asians, who may be misclassified by as much as 21% and 11% respectively(*3*).

Progress made

Multnomah County Health Department published its first health disparities report based on rate ratios for groups of color relative to White non-Hispanics in 2004 using the 1990-1994 period as a baseline for comparison. Since that time there has been some improvement in health disparities, however, many have persisted. Across the 18 health indicators examined and all populations of color 27 health disparities were identified for the 1990-94 period, 24 were identified for 2001-05, and 22 were identified for 2003-07 (see section below titled "2003-07 Report Card Results" for details).

Between the 1990-94 and 2003-07 periods, the following health disparities were eliminated:

- Disparities experienced by African Americans in death rates for coronary heart disease, all cancers combined, lung cancer, and overall mortality (all causes)
- Disparities experienced by Hispanics in death rates for HIV and homicide
- A disparity in the Native American rate of new gonorrhea cases

A few new disparities also emerged over the period from 1990-94 to 2003-07. These included disparities in homicide rates for Asians and in infant mortality and new cases of chlamydia for Native Americans.

2003-07 Report Card Results

The following table summarizes the findings of this report for 2003-07. Health disparities are indicated as a minus symbol ("—") and are shaded either yellow or red depending on the degree of disparity. Red indicates the measures with the greatest disparities. Where non-Whites or Hispanics experienced better health than White non-Hispanics this is indicated by a plus symbol ("+") and green shading.

	African American	Asian/ Pacific Islander	Native American	Hispanic
▪ No 1st trimester prenatal care	—	—	—	—
▪ Low birth weight babies	—	—	=	=
▪ Teen births	—	=	—	—
▪ Infant mortality	—	=	=	=
▪ Coronary heart disease mortality	=	+	=	+
▪ Stroke mortality	—	=	=	+
▪ Diabetes mortality	—	+	=	=
▪ All cancer mortality	=	+	+	+
▪ Lung cancer mortality	=	+	=	+
▪ Female breast cancer mortality	=	+	NR	=
▪ Colorectal cancer mortality	=	=	NR	+
▪ Prostate cancer mortality	—	+	NR	NR
▪ HIV disease mortality	=	NR	—	=
▪ Gonorrhea incidence	—	+	=	—
▪ Chlamydia incidence	—	=	—	—
▪ Motor vehicle crash mortality	=	=	NR	=
▪ Homicide	—	—	NR	=
▪ All cause mortality	=	+	=	+

Where the rates are comparable for the groups this is indicated with an equal sign ("=") and green shading. "NR" indicates insufficient events to calculate a rate. Where the disparity ratio was not statistically significant, but consistently high rates compared with other groups may need to be addressed through public health intervention a striped green and yellow shading is used. This color scheme appears throughout the report and is explained in greater detail on page 8.

Overall mortality rates for all causes (all cause mortality) for each of the four groups of color are the same as or better than rates for White non-Hispanics. However, a closer look at the other 17 indicators shows the following health disparities.

African Americans

African Americans experienced the largest number of health disparities among racial/ethnic groups in Multnomah County. The report shows statistically significant disparities for 10 of the 18 health indicators for African Americans.

Health indicators requiring intervention include:

- Teen births
- Diabetes mortality
- Gonorrhea incidence
- Chlamydia incidence
- Homicide

Health indicators with improvement needed include:

- No first trimester prenatal care
- Low birth weight babies
- Infant mortality
- Stroke mortality
- Prostate cancer mortality

Relative to their White non-Hispanic counterparts African Americans:

- continued to have significantly higher proportions of mothers who did not receive prenatal care in their first trimester.
- experienced an infant mortality rate that was almost twice as high.
- had a higher stroke mortality rate.
- had a diabetes mortality rate more than twice as high.
- were almost two times as likely to die of prostate cancer though there was no disparity in other forms of cancer.
- experienced incidence of gonorrhea that was 5.7 times greater.
- experienced incidence of chlamydia that was 4.9 times greater.
- experienced a homicide mortality rate that was more than 6 times greater.

Asian/Pacific Islanders

Asian/Pacific Islanders experienced fewer health disparities than other racial/ethnic groups in Multnomah County. The report shows statistically significant disparities for 3 of the 18 health indicators for Asian/ Pacific Islanders.

There are no health indicators with a disparity ratio over 2.0 indicating "Requires Intervention."
Health indicators with improvement needed include:

- No first trimester prenatal care
- Low birth weight babies
- Homicide

Relative to their White non-Hispanic counterparts Asian/Pacific Islanders:

- continued to have significantly higher proportions of mothers who did not receive prenatal care in their first trimester.
- continued to have higher proportions of low birth weight births.
- were less likely to die of lung, breast and prostate cancers.
- had a lower incidence of gonorrhea.
- experienced a higher homicide rate.

Native Americans

There are statistically significant disparities in 4 of the 18 health indicators for Native Americans. However, for five of the other health indicators, Native Americans did not have a sufficient number of events to calculate a rate.

Health indicators requiring intervention include:

- Teen births
- HIV disease mortality
- Chlamydia incidence

Health indicators needing improvement include:

- No first trimester prenatal care

Relative to their White non-Hispanic counterparts:

- Native American had higher rates of teen births.
- Native Americans continued to have significantly higher proportions of mothers who did not receive prenatal care in their first trimester.

Hispanics

There are statistically significant disparities in 4 of the 18 health indicators for Hispanics.

Health indicators requiring intervention include:

- No first trimester prenatal care
- Teen births
- Chlamydia incidence

Health indicators needing improvement include:

- Gonorrhea incidence

Relative to their White non-Hispanic counterparts Hispanics:

- continued to have significantly higher proportions of mothers who did not receive prenatal care in their first trimester.
- were least likely of all racial/ethnic groups to initiate prenatal care in the first trimester of pregnancy. Approximately 1 in 3 Hispanic women did not begin care in the first trimester. Despite being least likely to get prenatal care in the first trimester, Hispanic women had a comparable rate of low birth weight babies.
- experienced a teen birth rate that was 6.7 times higher.
- had a chlamydia incidence that was 2.3 times higher.

Trend Data

Overall, rates for the reported health indicators are improving. Most of the indicators show either a decrease in rates or stable rates over time for all groups. Interestingly, the one exception to this is the diabetes mortality rate for the White non-Hispanic group. This rate has shown a statistically significant increase since 1994-98.

In addition, many of the gaps in rates between non-Whites and their White non-Hispanic counterparts have lessened since 2001-05. However, the gaps themselves have persisted.

Multnomah County Health Department efforts to address health disparities

The recently released *CDC Health Disparities and Inequalities Report—United States, 2011* cautions that health disparities between socioeconomic groups, race/ethnic groups and others will likely continue as a result of the economic downturn. The same populations that experience poorer health outcomes may feel the negative effects of the recession more keenly and these hardships may compound the problem of health disparities. In the face of these challenges it is imperative that the community continue its efforts to address social inequities from all angles including safety-net and targeted programs.

Over the past several years Health Department programs have taken leadership roles in efforts to reduce racial/ethnic disparities in health. Multnomah County Health Department (MCHD) routinely examines data on health disparities to monitor trends, guide Health Department policies and programs to eliminate health disparities, and to inform partners and county residents. The Health Department has made reducing health inequities a priority, and works to build community capacity to help reduce disparities. MCHD

programs have collaborated with community partners and other agencies to shape policies and programs that reduce health disparities through a variety of avenues. Examples include efforts to address sexual and reproductive health disparities, unequal access to healthy food and active transportation choices, and disparities in maternal and child health outcomes. MCHD programs also provide services directly to clients that are designed to address specific health disparities. These include culturally-specific early childhood services to the African American community to address high infant mortality rates, chronic disease screening in specific populations, and community-based testing for sexually transmitted diseases.

Providing health services is only one of the factors contributing to health outcomes. Factors such as education, income, housing, social class, and racism are also contributing factors. Public health alone cannot eliminate health inequities and their root causes; it will require broad efforts at the policy, community, family and individual levels to eliminate health inequities.

More broadly, MCHD is leading efforts to raise awareness of health equity through its Health Equity Initiative which aims to institutionalize a culture of routine and systematic consideration of health equity in program planning activities.

Health disparities and health inequities defined

About this report

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 such as the differences that arise from unequal opportunities for a healthy life based on racial and ethnic bias. 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.

Why racial/ethnic health disparities?

In national studies examining the contribution of both race/ethnicity and socioeconomic status (SES) to racial health disparities researchers have found that each factor exerts a strong influence (*4*). However, differences in SES explain only a part of the disparities in health outcomes between racial/ethnic groups (*4,5*). In light of these findings researchers have examined the role of discrimination in preventing all race/ethnic groups from achieving parity in health. These researchers have found higher rates of low birth weight among African American mothers who report experiencing racial discrimination (*6*) and higher risk-taking and unhealthy behaviors among children and adolescents of color (*7*) both of which are associated with exposure to long-term psychological stress.

Models that have been used to explain racial/ethnic health inequities attribute these differences to psychological stress resulting from the experience of racism or long-term exploitation and power differences (*8*). A system that favors one racial/ethnic group over others in terms of social position or access to basic resources (quality food, education, housing etc.) is unlikely to offer members of all groups an equal opportunity to work towards their full potential in life and in health. Consequently, members of some racial/ethnic groups may be at greater risk for preventable diseases during their lives and have shorter life spans. Unequally distributed opportunities for optimal health are not only inherently unfair, but also contribute to higher health care costs for the whole community.

Given the evidence in national studies that supports racial/ethnic discrimination as a contributor to health disparities it is important for us to examine the issue within our own community.

Using this report

Summary information is presented for Multnomah County for the 2001-05 and 2003-07 periods for eighteen health indicators by race/ethnicity. A table is provided for each indicator with information on the magnitude of the health issue for 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 a disparity ratio is provided for each period. The disparity ratio 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" (shaded green), "Needs improvement" (shaded yellow), and "Requires intervention" (shaded red). Explanations for each of these labels are provided in the following table.

It is useful to compare the level of statistical significance of the rate ratio for the 2001-05 period and the 2003-07 period for each indicator and within each race/ethnic group to understand changes in disparity

	Interpretation
No disparity	The rate ratio comparing the 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 between 1.0 and 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.

that have occurred over time.

Healthy People 2020 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 the purpose of this report is to assess the magnitude of disparity between disadvantaged groups (groups of color) and advantaged groups.

Statistical issues for specific populations

For some indicators such as infant mortality, Native American rates were not found to be statistically different from rates for other groups even when they appear to be as high or higher. This is due to factors such as a small overall population size and a small number of health events. When such small numbers of events occur the statistical techniques commonly used may not be able to detect a health disparity even when one does exist. In this situation, a group such as Native Americans may not appear to be experiencing statistically significant disparities. However, when rates remain consistently high need for improvement may be warranted.

Health outcomes among Asian/Pacific Islander and Hispanic populations

For a number of the health indicators examined in this report Asian/Pacific Islander and Hispanic residents of Multnomah County have better outcomes compared with the White non-Hispanic reference group. In some cases, such as with coronary heart disease, a possible explanation for this phenomenon may be that cultural influences on lifestyle choices among more recent immigrants may act as protective

factors. An example of this is nutrition and dietary choices that reduce the risk of diseases like coronary heart disease.

Mother and Child Health

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

Background

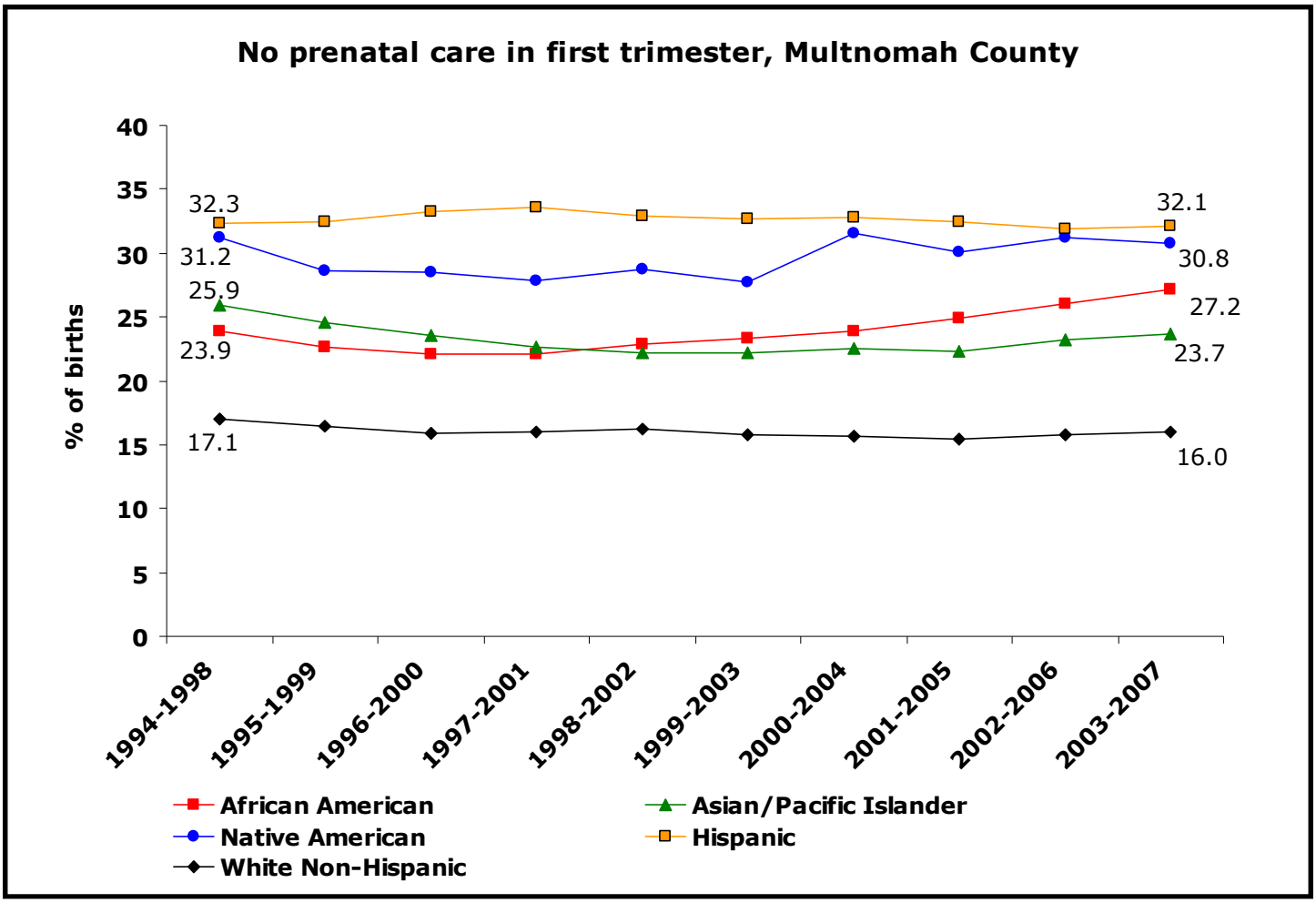
Starting prenatal care during the first trimester of pregnancy is important for the health of both mother and child. Early prenatal care helps in reducing perinatal illness, disability, and death by allowing health care providers to assess a pregnant woman's risk for complications and provide necessary treatments. Early and ongoing care during pregnancy also provides opportunities for health education to address behavioral factors such as smoking and alcohol use that contribute to poor health outcomes.

Healthy People 2020 objective and target: —Increase the proportion of pregnant women who receive prenatal care beginning in the first trimester to 77.9% of women delivering a live birth. (Alternatively stated, this target sets the standard of 22.1% or fewer mothers who *do not* receive prenatal care in the first trimester of pregnancy).

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (% of live births)	Disparity Ratio	Rate (% of live births)	Disparity Ratio		
African American	24.9	1.6	27.2	1.7	**Needs improvement**	**No**
Asian	22.3	1.5	23.7	1.5	**Needs improvement**	**No**
Native American	30.1	2.0	30.8	1.9	**Needs improvement**	**No**
Hispanic	32.5	2.1	32.1	2.1	**Requires intervention**	**No**
White non-Hispanic	15.4	***Comparison group***	16.0	***Comparison group***		**Yes**

Disparities

- Communities of color in Multnomah County continued to have significantly higher proportions of mothers who did not receive prenatal care in the first trimester of pregnancy compared to White non-Hispanics in 2003-07.
- Hispanic and Native American mothers experienced the greatest disparities compared with White non-Hispanic mothers in terms of receiving first trimester prenatal care.



Trends

- All of the racial/ethnic groups have experienced relatively steady proportions of pregnant women not initiating care in the first trimester of pregnancy between 1994-98 and 2003-07.
- Between 1994-98 and 2003-07, Hispanic women were least likely to initiate prenatal care in the first trimester of pregnancy and White non-Hispanic women were most likely to do so. Approximately 1 in 3 Hispanic women did not begin care in the first trimester compared with almost 1 in 6 White, non-Hispanic women.

2. *Low birth weight babies (less than 5.5 lbs)*

Background

Low birth weight babies are at higher risk of death within the first year of life. Health care interventions that can improve infant birth weight can improve infant survival rates substantially. Even after surviving the first year, low birth weight infants are more likely to experience long term developmental and neurological problems compared with normal birth weight infants. A leading cause of low birth weight births (accounting for 20 to 30% of low birth weight births) in the U.S. is maternal smoking which can slow down the growth of the fetus within the uterus during pregnancy. Further, studies examining the role of maternal stress due to racial discrimination on birth outcomes have found a greater rate of low birth weight among African American reporting experiences of discrimination compared with White mothers.

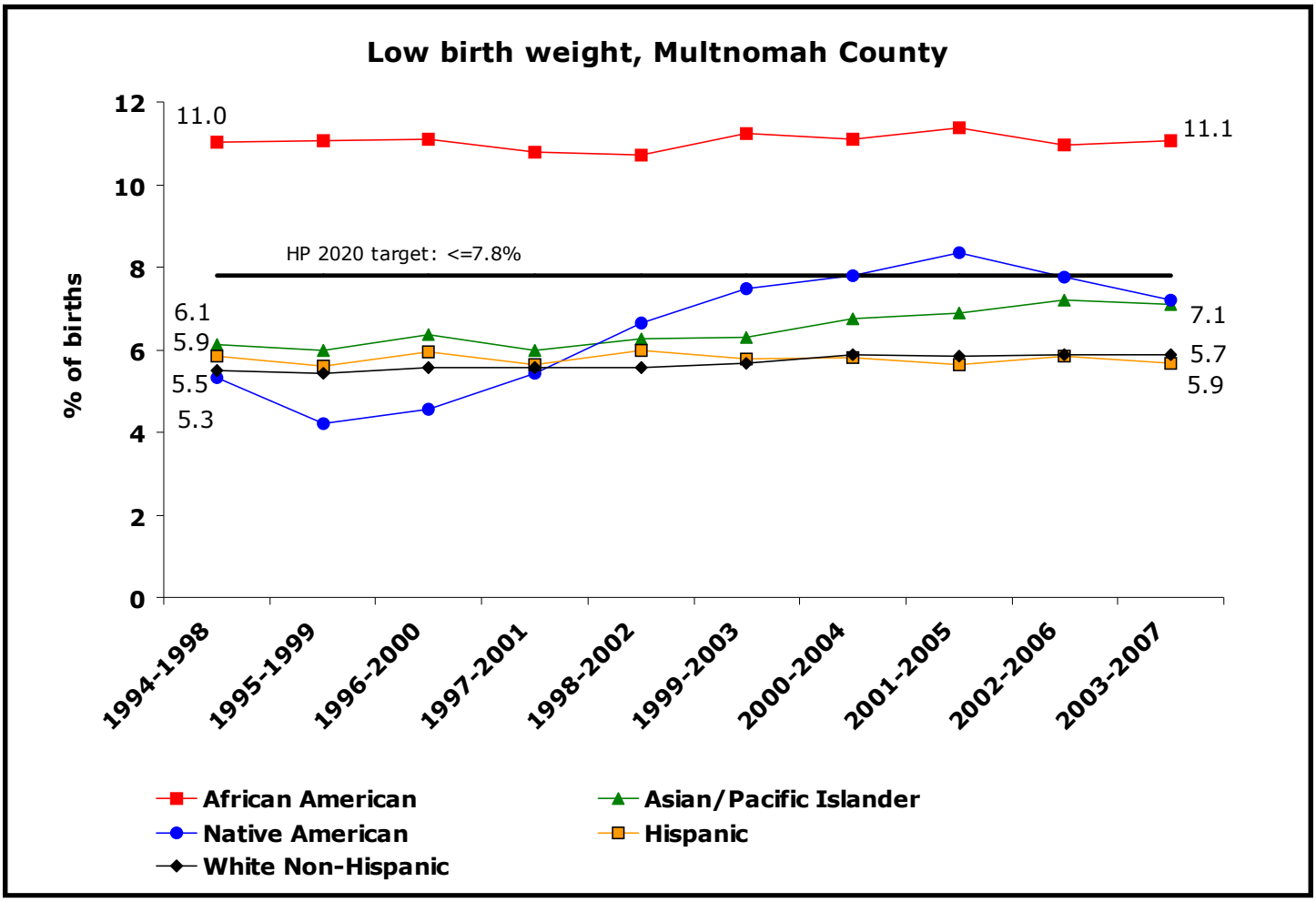
Healthy People 2020 objective and target: Reduce the proportion of low birth weight babies to 7.8 percent of live births.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (% of live births)	Disparity Ratio	Rate (% of live births)	Disparity Ratio		
African American	11.4	2.0	11.1	1.9	**Needs improvement**	**No**
Asian	6.9	1.2	7.1	1.2*	**Needs improvement**	**Yes**
Native American	8.4	1.4	7.2	1.2*	**No disparity**	**Yes**
Hispanic	5.6	1.0	5.7	1.0	**No disparity**	**Yes**
White non-Hispanic	5.9	***Comparison group***	5.9	***Comparison group***		**Yes**

* In some instances rate ratios share the same value but differ in their levels of statistical significance because of factors like population size and number of health events.

Disparities

- Some communities of color in Multnomah County continued to have higher proportions of low birth weight births compared to White non-Hispanics in 2003-07 including Asian/Pacific Islanders and African Americans. Hispanic and Native American women do not have higher proportions of low birth weight births relative to White, non-Hispanic women.



- Despite being the least likely to receive early prenatal care, Hispanic women have had a comparable rate of low birth weight infants compared with White non-Hispanic women and Hispanic women remained relatively constant between 1994-98 and 2003-07. One possible explanation is that Hispanic women in Multnomah County are relatively recent immigrants who still experience the benefits of protective factors of their own culture and community. According to this hypothesis, however, the following generations of Hispanic women may experience poorer birth outcomes as a result of chronic stress that stems, in part, from racial discrimination.

Trends

- There have been no statistically significant changes in rates of low birth weight infants for any of the racial and ethnic groups between 1994-98 and 2003-07.

3. *Teen birth rate (to mothers 15-17 years old)*

Background

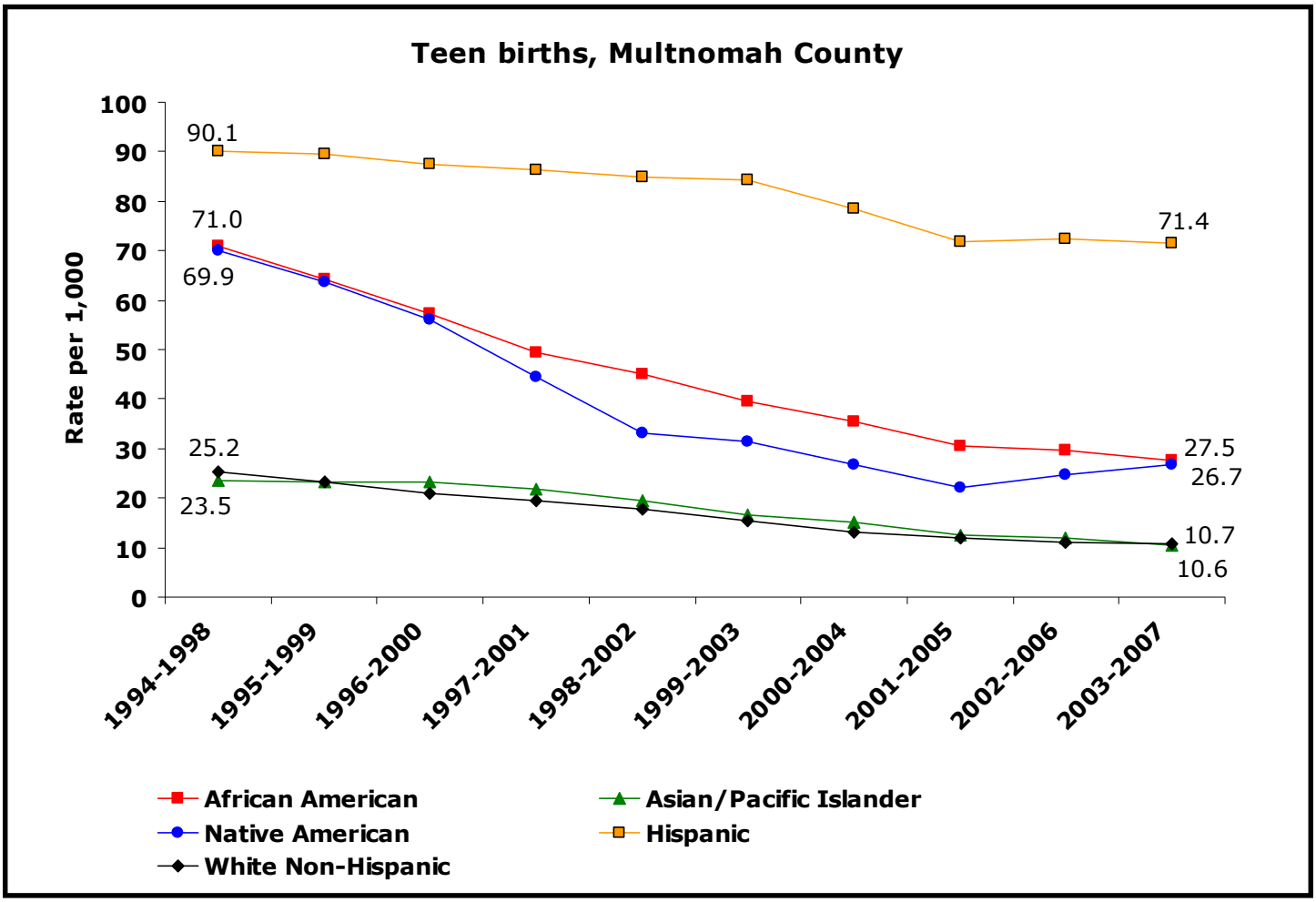
Teen pregnancy can result in considerable social problems for both teen parents and their children. Pregnancy and birth are strongly associated with higher high school drop out rates for teen girls which may have a significant impact on future educational and employment opportunities. Children of teen parents tend to have lower levels of school achievement and higher high school drop out rates. They are also at higher risk for health problems, incarcerations during adolescence, and for becoming teen parents themselves.

Healthy People 2020 objective and target — While there is a Healthy People 2020 objective for teen pregnancy (reduce teen pregnancy rate among adolescent females aged 15 to 17 years to less than 36.2 pregnancies per 1,000 females in that age group) there is no target for teen births.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (births to females 15-17 yrs old per 1,000 teen females)	Disparity Ratio	Rate (births to females 15-17 yrs old per 1,000 teen females)	Disparity Ratio		
African American	31.5	2.7	27.5	2.6	**Requires intervention**	**No target**
Asian	13.3	1.1	10.6	1.0	**No Disparity**	**No target**
Native American	20.6	1.8	26.7	2.5	**Requires intervention**	**No target**
Hispanic	71.5	6.1	71.4	6.7	**Requires intervention**	**No target**
White non-Hispanic	11.7	***Comparison group***	10.7	***Comparison group***		**No target**

Disparities

- African American, Native American and Hispanic teens continued to experience higher rates of teen births compared with White non-Hispanic teens in 2003-07.
- For all three groups the gap has not changed in a statistically significant way since 2001-05.



Trends

- There have been statistically significant declines in teen birth rates for all race/ethnic groups since 1994-98 .
- The greatest declines in teen birth rates have occurred among African American and Native American teens.

4. *Infant mortality*

Background

Infant mortality is an important indicator of the overall health of a community because it can reflect the state of an array of factors that eventually contribute to infant death. These factors include maternal health, socioeconomic status, exposure to chronic stress, and access to health care.

Healthy People 2020 objective and target: No more than 6.0 infant deaths per 1,000 live births due to any cause.

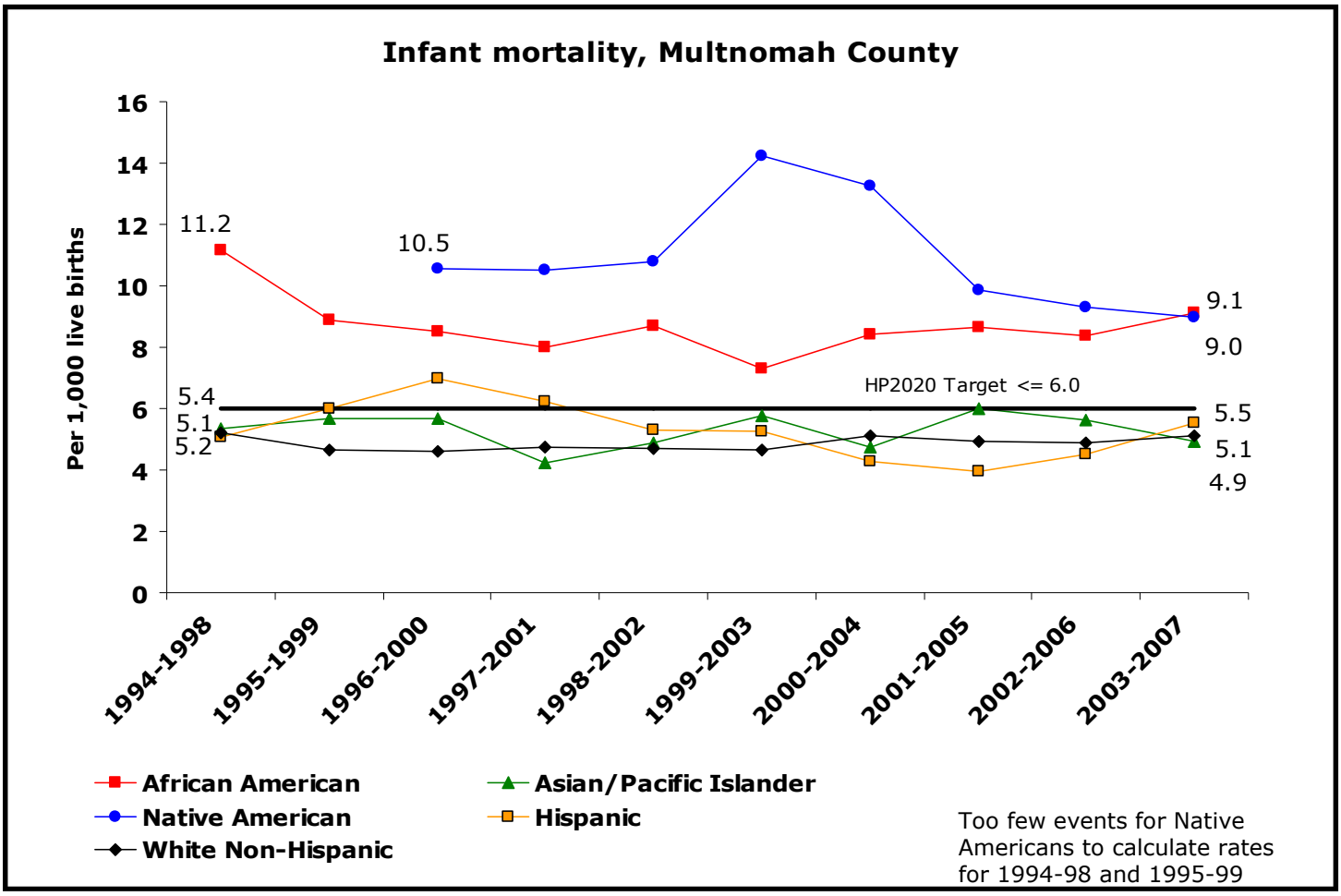
Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 1,000 live births	Disparity Ratio	Rate (deaths per 1,000 live births)	Disparity Ratio		
African American	8.6	1.8	9.1	1.8*	**Needs improvement**	**No**
Asian	6.0	1.2	4.9	1.0	**No disparity**	**Yes**
Native American	9.8	2.0	9.0	1.8*	**No disparity****	**No**
Hispanic	4.0	1.0	5.5	1.1	**No disparity**	**Yes**
White non-Hispanic	4.9	***Comparison group***	5.1	***Comparison group***		**Yes**

*In some instances rate ratios share the same value but differ in their levels of statistical significance because of factors like population size and number of health events.

**Even though the Native American rates and rate ratios are not statistically significant they have been flagged as needing improvement because they are consistently higher than rates in other race/ethnic groups.

Disparities

- African American's experienced an infant mortality rate that was almost twice as high as that of White non-Hispanics in Multnomah County in 2003-07. This difference was statistically significant. The disparity also existed during the 2001-05 period.



- All other racial/ethnic groups had infant mortality rates that were comparable to the White non-Hispanic rate in Multnomah County during the same period. Due to the smaller population size of Native Americans the infant mortality rate ratio is not statistically significant while the same rate ratio for African Americans is statistically significant.

Trends

- Infant mortality rates for most racial/ethnic groups in this county have either declined or remained steady between 1994-98 and 2003-07.
- The fluctuation in Native American infant mortality rates over this period may be due in part to the small numbers of events each year.

Chronic Disease Mortality

5. *Coronary heart disease mortality*

Background

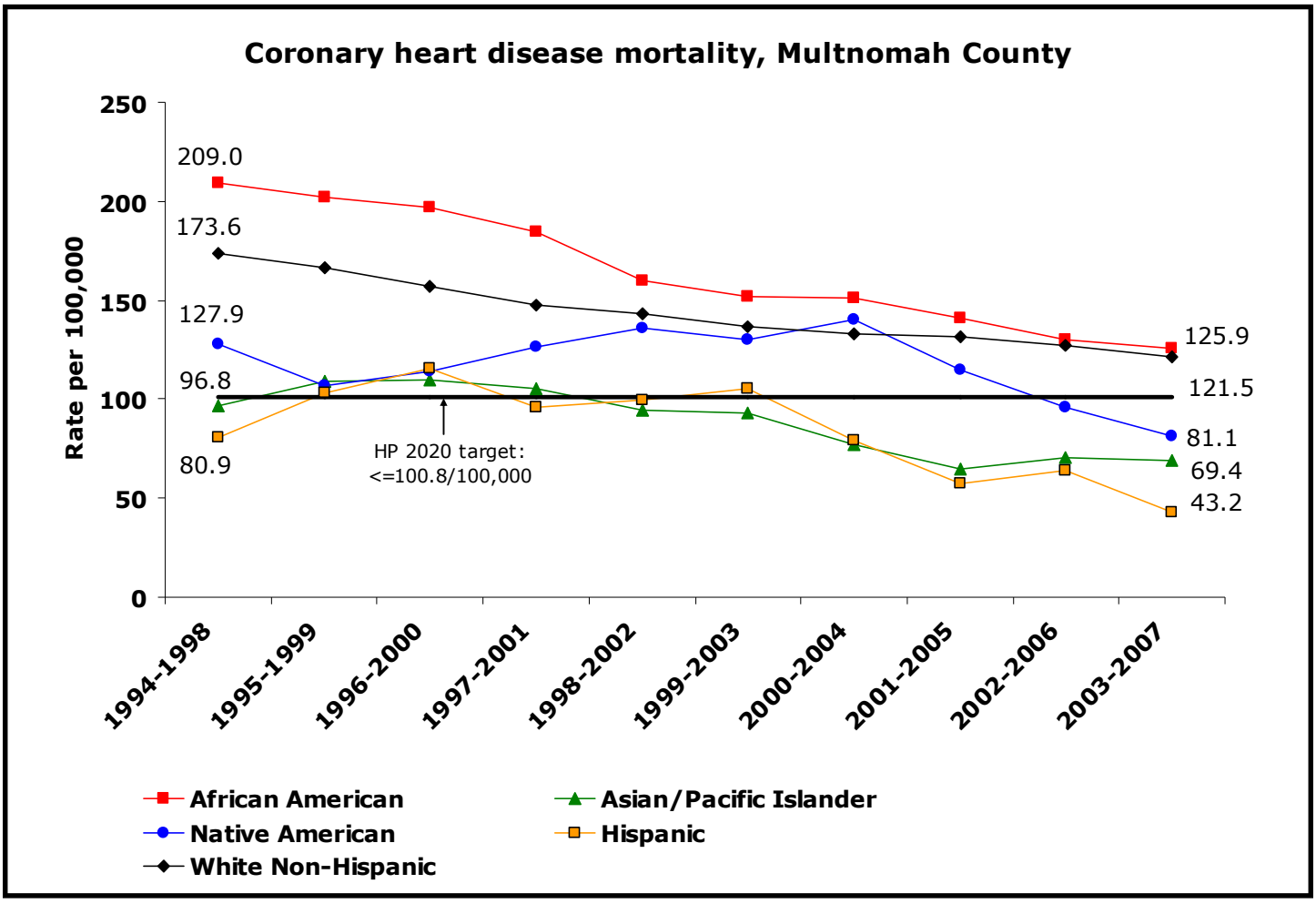
Heart disease is the leading cause of death for men and women in the United States. In addition to the potential for decreased longevity and quality of life for patients, there are significant costs associated with medical care and lost productivity.

Healthy People 2020 objective and target: No more than 100.8 deaths per 100,000 population due to coronary heart disease.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 popula-tion)	Disparity Ratio	Rate (deaths per 100,000 population)	Disparity Ratio		
African American	140.7	1.1	125.9	1.0	**No disparity**	**No**
Asian	64.8	0.5	69.4	0.6	**No disparity**	**Yes**
Native American	115.0	0.9	81.1	0.7	**No disparity**	**Yes**
Hispanic	57.6	0.4	43.2	0.4	**No disparity**	**Yes**
White non-Hispanic	131.9	***Comparison group***	121.5	***Comparison group***		**No**

Disparities

- In 2003-08 there were no disparities in heart disease death rates in Multnomah County when comparing White non-Hispanics with other racial/ethnic groups.



Trends

- There was a statistically significant decline in coronary heart disease death rates for African Americans, Asians, Hispanics, and White non-Hispanics in 2003-07 compared with 1994-98.
- For Native Americans the heart disease death rates show a moderate decline from 1994-98 to 2003-07.

6. Stroke mortality

Background

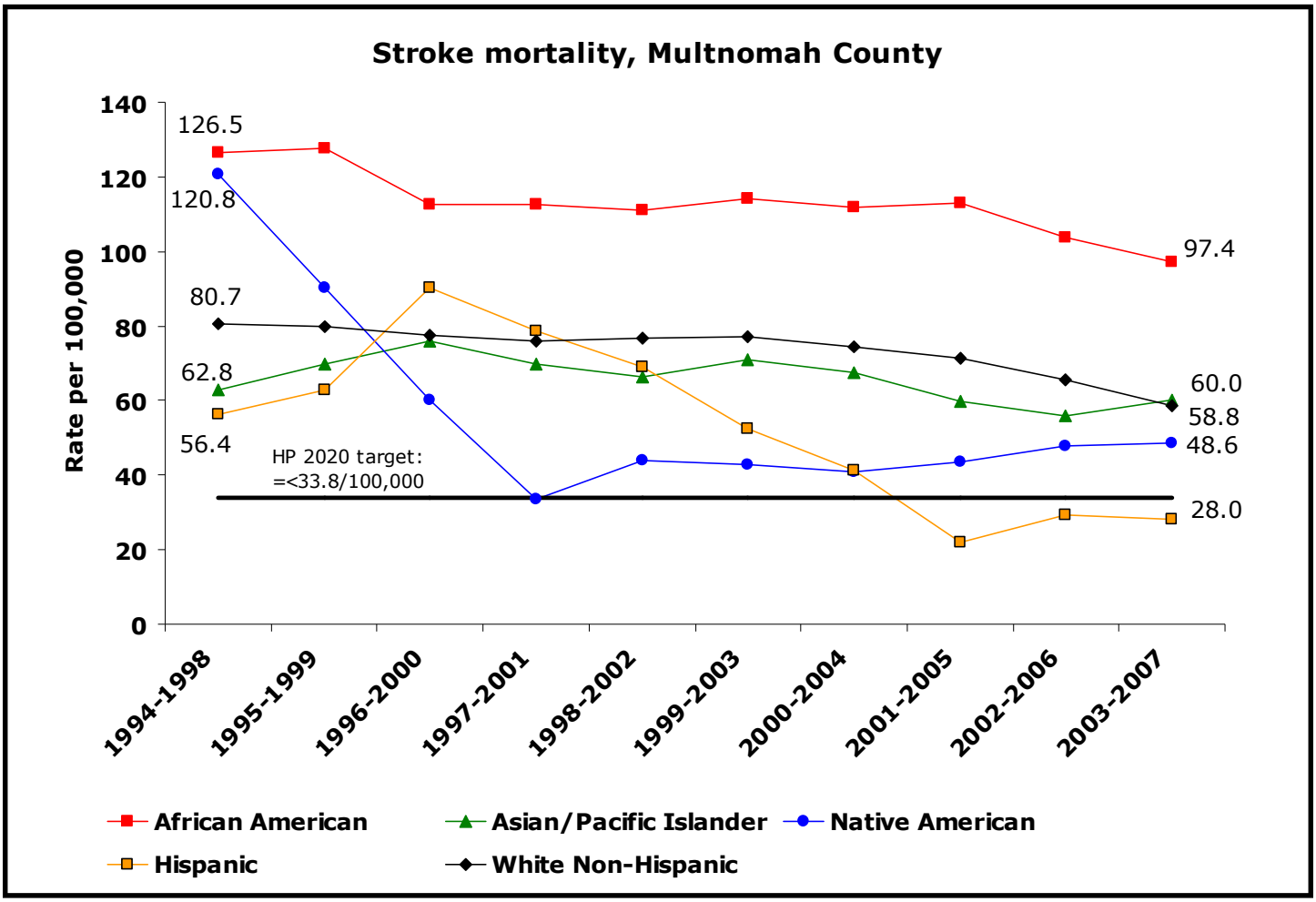
Stroke is the third leading cause of deaths in this country. Strokes occur when clots form in blood vessels supplying the brain resulting in brain damage or death. As a result of this damage, stroke survivors may experience symptoms ranging in severity, including paralysis or weakness, problems with comprehension or speaking, and difficulty controlling or expressing emotions. People who recover from strokes can take months or years to do so making strokes a leading cause of long-term disability in the U.S. Control of health conditions like high blood pressure, high cholesterol, diabetes, and heart disease can reduce the risk of stroke. In addition, adequate physical activity, and reduced tobacco and alcohol use can also protect individuals from stroke.

Healthy People 2020 objective and target: Reduce stroke deaths to no more than 33.8 deaths per 100,000 population.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 population)	Disparity Ratio	Rate (deaths per 100,000 population)	Disparity Ratio		
African American	110.0	1.6	97.3	1.7	**Needs improvement**	**No**
Asian/ Pacific Isl.	57.6	0.8	60.0	1.0	**No disparity**	**No**
Native American	49.5	0.7	48.6	0.8	**No disparity**	**No**
Hispanic	23.0	0.3	28.0	0.5	**No disparity**	**Yes**
White non-Hispanic	70.1	***Comparison group***	58.8	***Comparison group***		**No**

Disparities

- The rate of stroke mortality among African American residents of Multnomah County was higher compared with White non-Hispanics in both 2003-07 and 2001-05. This difference was statistically significant.



- Other race and ethnic groups experienced stroke mortality rates similar to or better than White non-Hispanic residents in 2003-07.

Trends

- A statistically significant decline in stroke mortality occurred among White non-Hispanic residents of Multnomah County between 1994-98 and 2003-07.
- Other racial/ethnic groups also appear to be experiencing declines in stroke death rates; however, the overall changes between 1994-98 and 2003-07 are not statistically significant.

7. Diabetes mortality

Background

Diabetes is a metabolic disorder with the potential for serious complications such as heart disease, kidney failure, blindness, and lower extremity amputations. Nationally it is the sixth leading cause of death, and in 2007 almost 8% of the population had diabetes (CDC Diabetes Public Health Resource). Studies estimate that in 2007 the national economic burden of pre-diabetes and diabetes was approximately $218 billion including the cost of higher medical care and lost productivity. (Dall, Zhang et al. 2010).

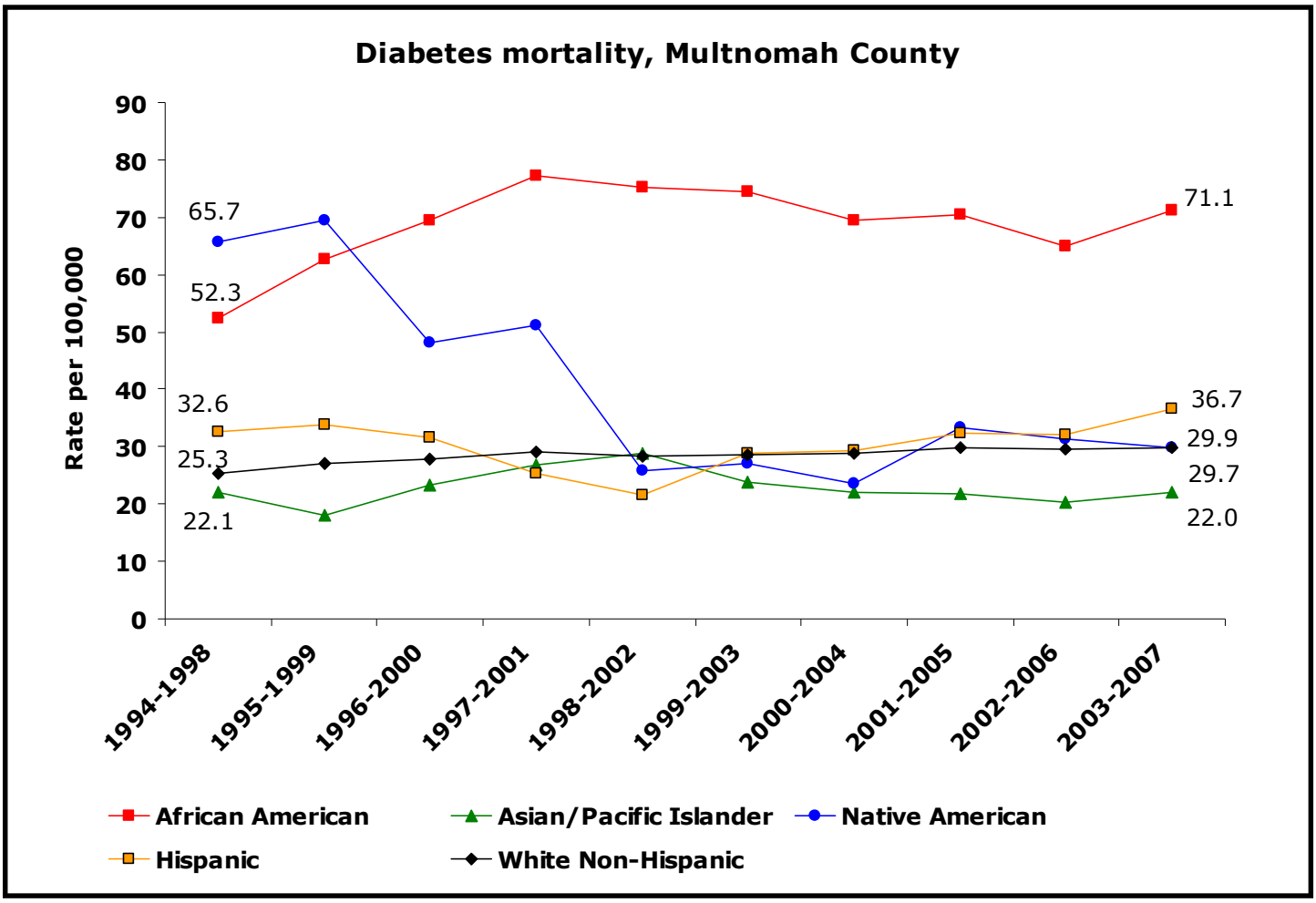
In Multnomah County, approximately 7% of the adult population had been diagnosed with diabetes in 2005.

Healthy People 2020 objectives and target: there is no target for diabetes deaths (where diabetes is the underlying cause). However, the target for diabetes-*related* deaths (where diabetes is either the underlying cause or any contributing cause of death listed on the death certificate) is no more than 65.8/100,000.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 population)	Disparity Ratio	Rate (deaths per 100,000 population)	Disparity Ratio		
African American	70.8	2.4	71.1	2.4	**Requires intervention**	**No target**
Asian	21.1	0.7	22.0	0.7	**No disparity**	**No target**
Native American	36.5	1.2	29.9	1.0	**No disparity**	**No target**
Hispanic	34.7	1.2	36.7	1.2	**No disparity**	**No target**
White non-Hispanic	29.5	***Comparison group***	29.7	***Comparison group***		**No target**

Disparities

- African American residents of Multnomah County had a diabetes mortality rate more than twice as great as that of White non-Hispanics in 2003-07. The gap in mortality rates between the two groups



remained the same in the more recent period compared with 2001-05.

- For the other racial and ethnic groups, there was no statistically significant disparity compared with White non-Hispanics.

Trends

- White non-Hispanic residents in Multnomah County have experienced an overall increase in diabetes mortality between 1994-98 and 2003-07 that is statistically significant.
- The other racial and ethnic groups did not experience a similar increase in diabetes deaths.

Cancer Mortality

8. *All cancer mortality*

Background

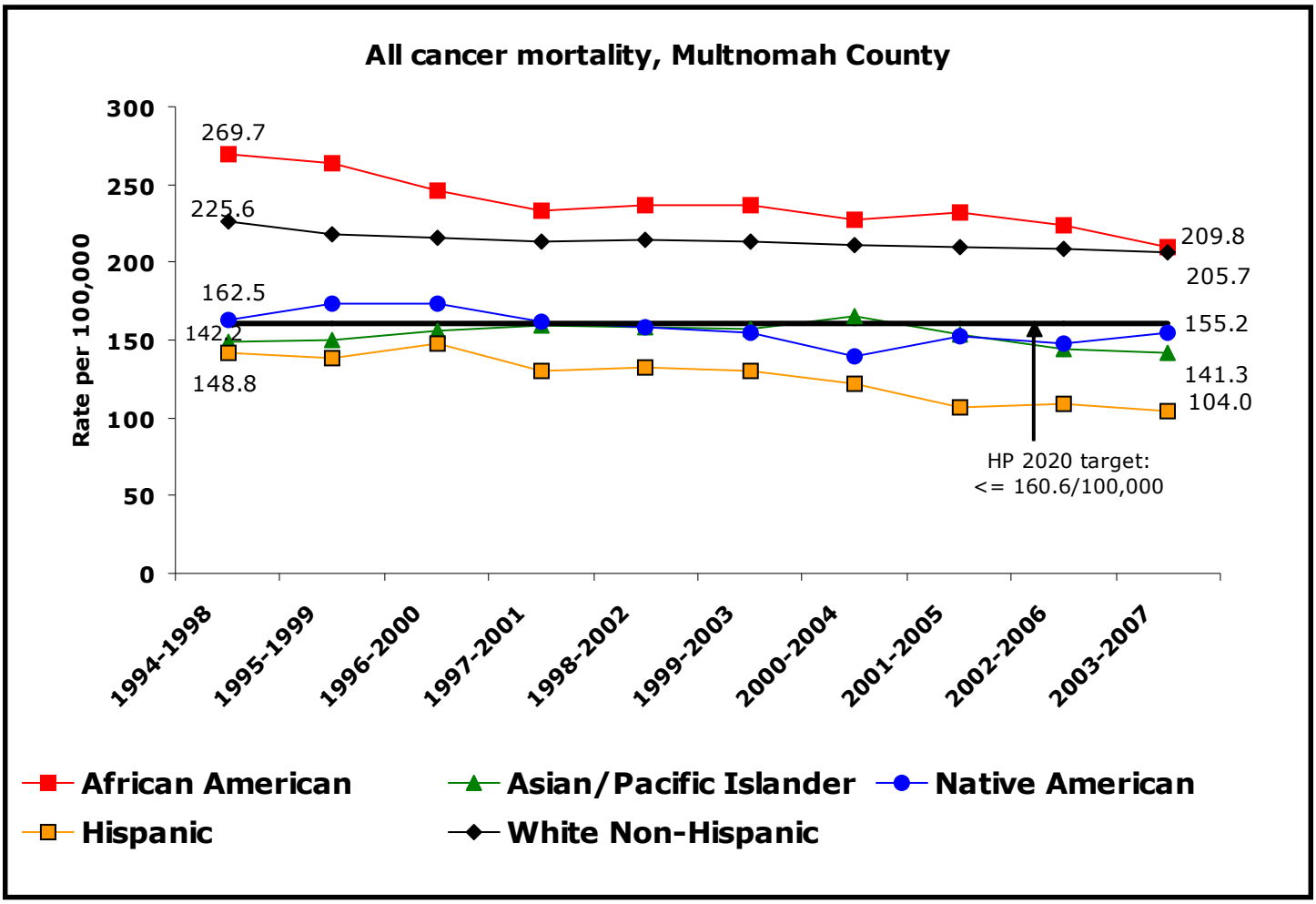
Although overall cancer mortality has declined over the past 10 years it is the second leading cause of death in the U.S. with over half a million deaths per year. Some forms of cancers can be detected through appropriate medical screening, resulting in fewer deaths. The risk of acquiring cancer can also be reduced through a healthy diet and adequate physical exercise, by limiting exposure to ultraviolet rays from the sun or tanning beds, avoiding tobacco use, and through immunization against the human papillomavirus.

Healthy People 2020 objective and target: Reduce overall cancer death rate to no more than 160.6 per 100,000 population.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 popula-tion)	Disparity Ratio	Rate (deaths per 100,000 population)	Disparity Ratio		
African American	232.6	1.1	209.8	1.0	**No disparity**	**No**
Asian	148.3	0.7	141.3	0.7	**No disparity**	**Yes**
Native American	160.1	0.8	155.2	0.8	**No disparity**	**Yes**
Hispanic	117.0	0.6	104.0	0.5	**No disparity**	**Yes**
White non-Hispanic	207.8	***Comparison group***	205.7	***Comparison group***		**No**

Disparities

- In 2003-07 there were no statistically significant disparities in overall cancer mortality when comparing the racial/ethnic groups to White non-Hispanics in Multnomah County. This was also true in 2001-05.



Trends

- African American and White non-Hispanic residents of Multnomah County experienced statistically significant drops in overall cancer mortality when comparing 1994-98 rates to 2003-07 rates.
- While Hispanics, Native Americans, and Asian/Pacific Islanders also appear to be experiencing decreases in all cancer mortality these changes were not statistically significant.

9. *Lung cancer mortality*

Background

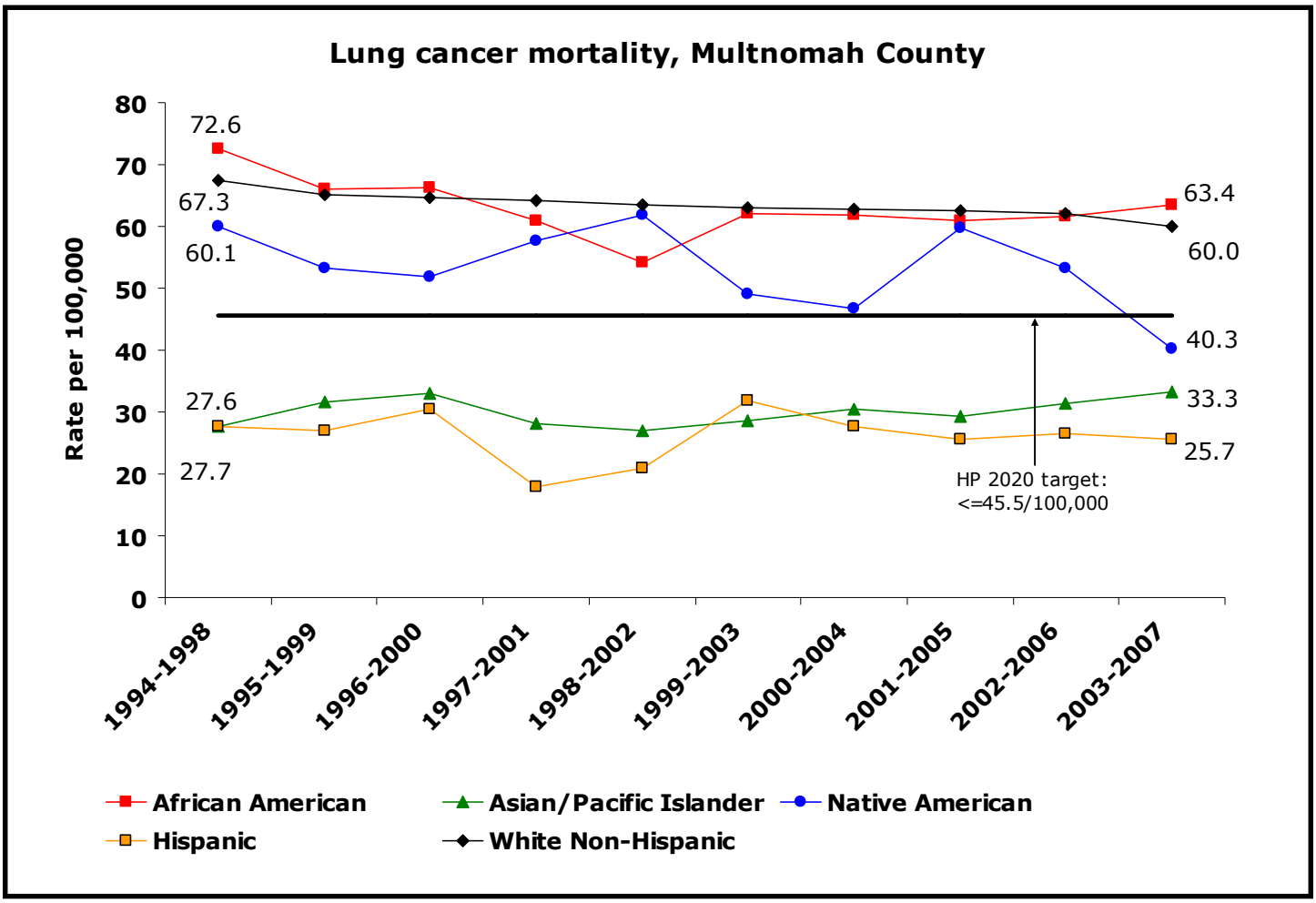
Lung cancer is the leading cause of cancer deaths among both men and women nationally. Rates of new cancer cases have declined over the past 25 years for men, and less consistently, for women. (National Cancer Institute, Lung Cancer Prevention). In spite of this progress, over 70,000 deaths due to lung cancer are expected nationwide in 2010. The primary risk factor for lung cancer is direct or indirect exposure to tobacco smoke. Other risk factors for this disease include exposure to radon, air pollution and a diet low in fruits and vegetables.

Healthy People 2020 objective and target: Reduce the lung cancer death rate to no more than 45.5 deaths per 100,000 population.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 population)	Disparity Ratio	Rate (deaths per 100,000 population)	Disparity Ratio		
African American	61.3	1.0	63.4	1.1	**No disparity**	**No**
Asian	28.3	0.5	33.3	0.6	**No disparity**	**Yes**
Native American	61.9	1.0	40.3	0.7	**No disparity**	**Yes**
Hispanic	27.2	0.4	25.7	0.4	**No disparity**	**Yes**
White non-Hispanic	62.0	***Comparison group***	60.0	***Comparison group***		**No**

Disparities

- None of the racial/ethnic groups in Multnomah County experienced an unfavorable disparity compared with White non-Hispanic residents during 2003-07. This was also true in 2001-05.
- County residents who were Asian/Pacific Islanders or Hispanics had lower lung cancer mortality compared with White non-Hispanics. The difference between these rates was statistically significant.



Trends

- There was a statistically significant decline in the rate of lung cancer deaths for White non-Hispanic residents of Multnomah in 2003-07 compared with 1994-98.
- For other racial/ethnic groups there was no statistically significant change in lung cancer mortality during this period. While Native Americans appear to have a much lower lung cancer death rate in 2003-07 compared to 2001-05 this drop is not statistically significant.

10. Female breast cancer mortality

Background

Breast cancer is the most common type of cancer experienced by women of all racial and ethnic groups in the U.S. Over 190,000 women were newly diagnosed with breast cancer nationwide in 2006 and over 40,000 died from this disease during the same year. In Multnomah County, 450 women died of breast cancer between 2003 and 2007. Risk factors for this type of cancer include a family history of the disease, and diet and being overweight. For some women hormone replacement therapy may also contribute to an increased risk of breast cancer.

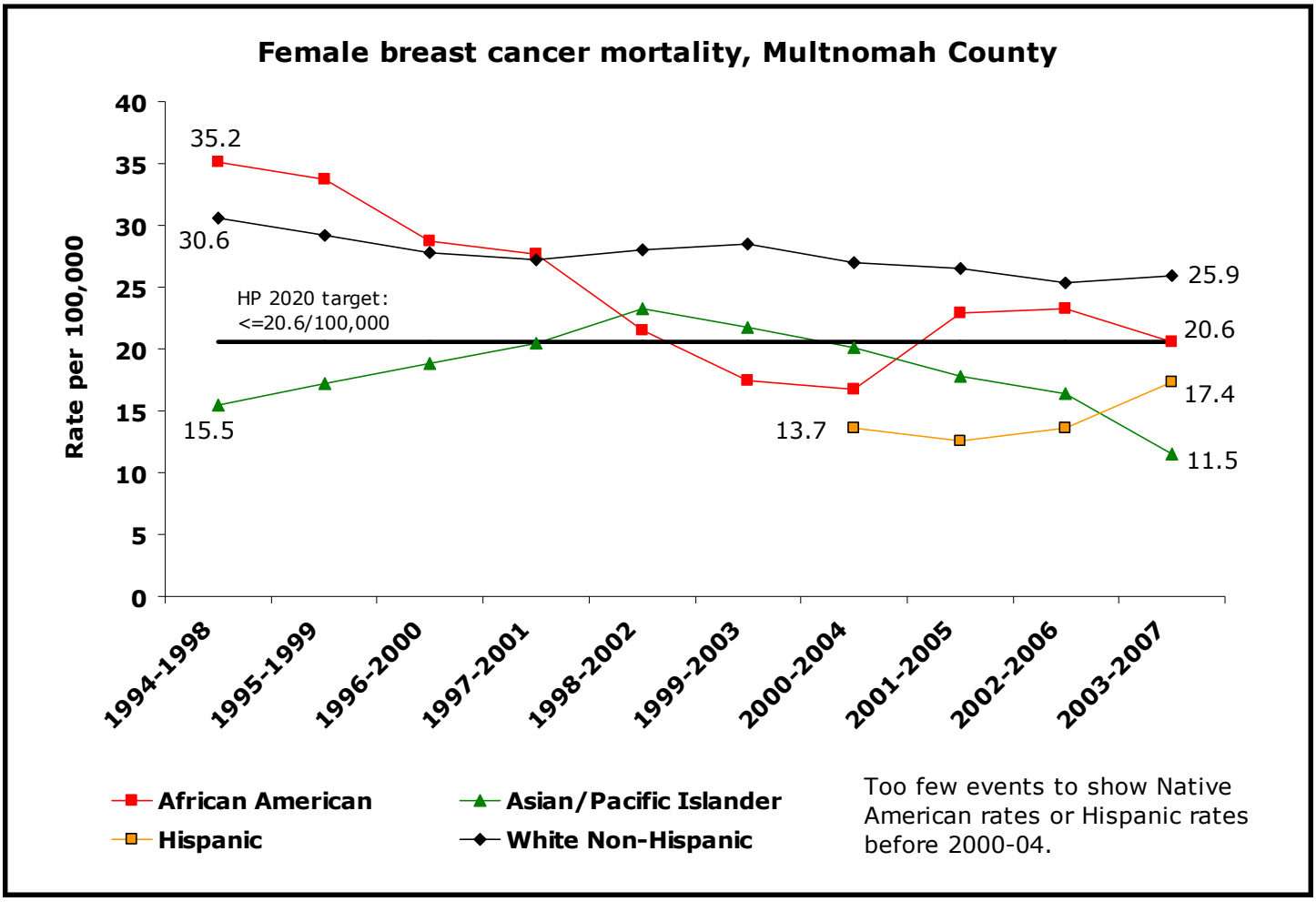
Healthy People 2020 objective and target: Reduce female breast cancer death rate to no more than 20.6 deaths per 100,000 females.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 population)	Disparity Ratio	Rate (deaths per 100,000 population)	Disparity Ratio		
African American	23.3	0.9	20.6	0.8	**No disparity**	**Yes**
Asian	17.2	0.7	11.5	0.4	**No disparity**	**Yes**
Native American	NR*	—	NR*	—	—	**—**
Hispanic	13.4	0.5	17.4	0.7	**No disparity**	**Yes**
White non-Hispanic	26.1	***Comparison group***	25.9	***Comparison group***		**No**

* The number of health events for Native Americans is too small to calculate a reliable rate.

Disparities

- In Multnomah County there were no statistically significant disparities in breast cancer mortality rates between the racial/ethnic groups. For Native American residents the number of deaths due to breast cancer were too small to calculate rates, therefore we are unable to provide a comparison with the White non-Hispanic population.



- Asian women residing in Multnomah County had a lower rate of breast cancer mortality in 2003-07 compared with White non-Hispanics. The difference is statistically significant.

Trends

- While the breast cancer mortality rates for all of the racial/ethnic groups appear to be showing an overall decline from 1994-98 to 2003-07 none of these changes is statistically significant.

12. Prostate cancer mortality

Background

Prostate cancer is among the most common forms of cancer affecting men nationwide. In 2007 there were over 220,000 men diagnosed with this form of cancer and almost 30,000 who died because of it. Age, family history and race are risk factors for getting prostate cancer. Nationally, African American men are more than twice as likely to die of prostate cancer than White men and it is more common for Hispanic men to have the disease compared with non-Hispanics. Asian/Pacific Islanders and Native Americans are less likely to get prostate cancer compared with White men.

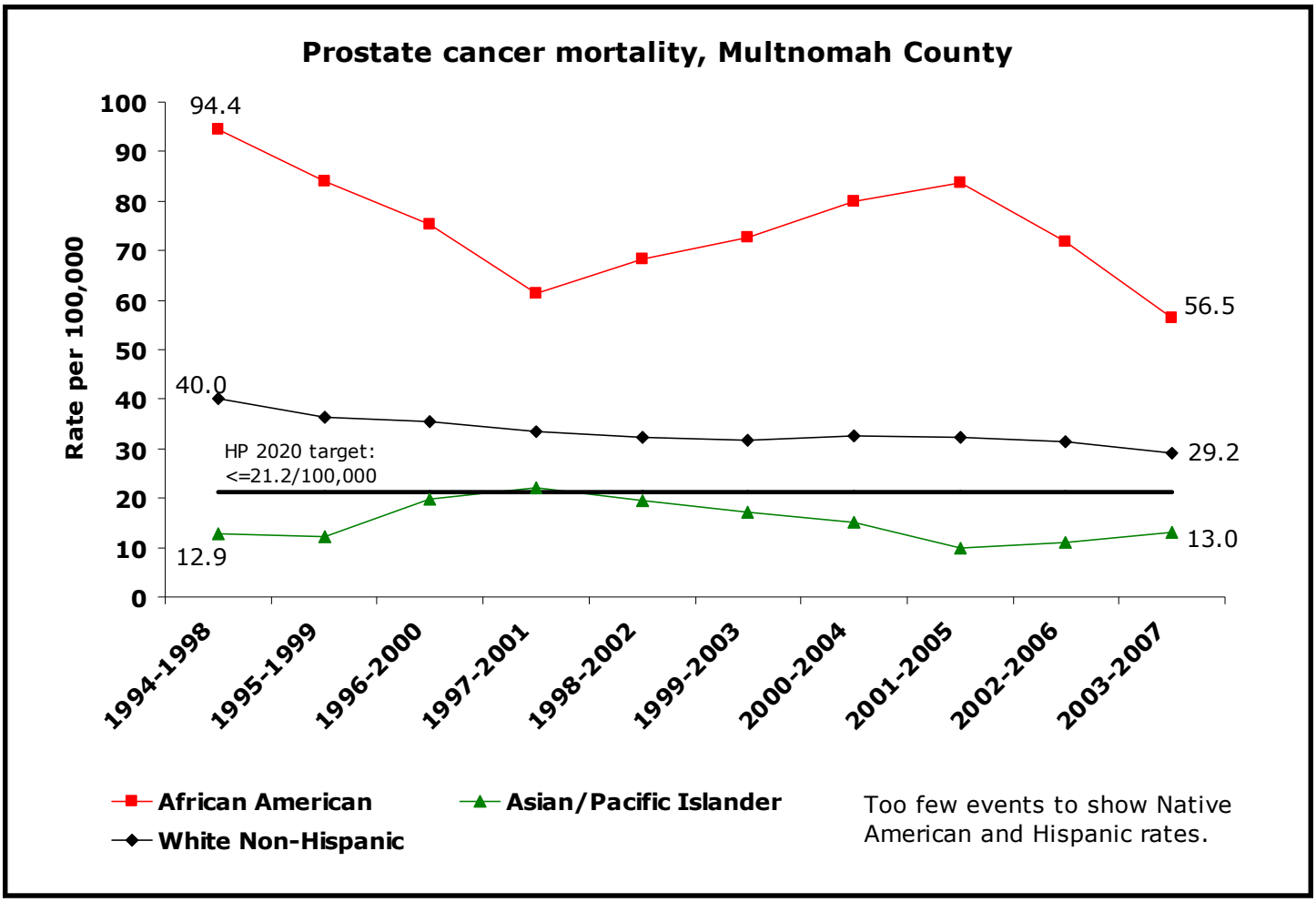
Healthy People 2020 objective and target: No more than 21.2 deaths per 100,000 males dying of prostate cancer.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 popula-tion)	Disparity Ratio	Rate (deaths per 100,000 popula-tion)	Disparity Ratio		
African American	83.6	2.6	56.5	1.9	**Needs improvement**	**No**
Asian	9.9	0.3	13.0	0.4	**No disparity**	**Yes**
Native American	NR*	—	NR*	—	—	**—**
Hispanic	NR*	—	NR*	—	—	**—**
White non-Hispanic	32.4	***Comparison group***	29.2	***Comparison group***		**No**

* The numbers of health events for Native Americans and Hispanics are too small to calculate reliable rates.

Disparity

- African American men in Multnomah County were almost 2 times as likely to die of prostate cancer as White non-Hispanic men in 2003-07. This disparity was statistically significant.



- During the same period, Asian/Pacific Islanders in this county were much less likely than White non-Hispanics to die of prostate cancer. This difference is also statistically significant.
- Due to the small number of prostate cancer deaths among Native American and Hispanic men residing in this county it was not possible to calculate rates or rate ratios for these groups.

Trends

- Prostate cancer mortality rates appear to be stable for White non-Hispanics and Asians and there is a gradual decline among African American men in Multnomah County between 1994-98 and 2003-07.

11. Colorectal cancer mortality

Background

In 2007, there were over 50,000 deaths nationwide due to colorectal cancer. While this form of cancer is one of the most common forms of cancer affecting both sexes, many people in the U.S. do not get screened for the disease. The risk of colorectal cancer increases with age and about 90% of all cases are diagnosed among those over 50 years. Other risk factors for this disease include a family history of colorectal cancer, lack of regular physical activity, a diet low in fruits and vegetables, a low-fiber and high-fat diet, overweight and obesity, alcohol consumption, and tobacco use.

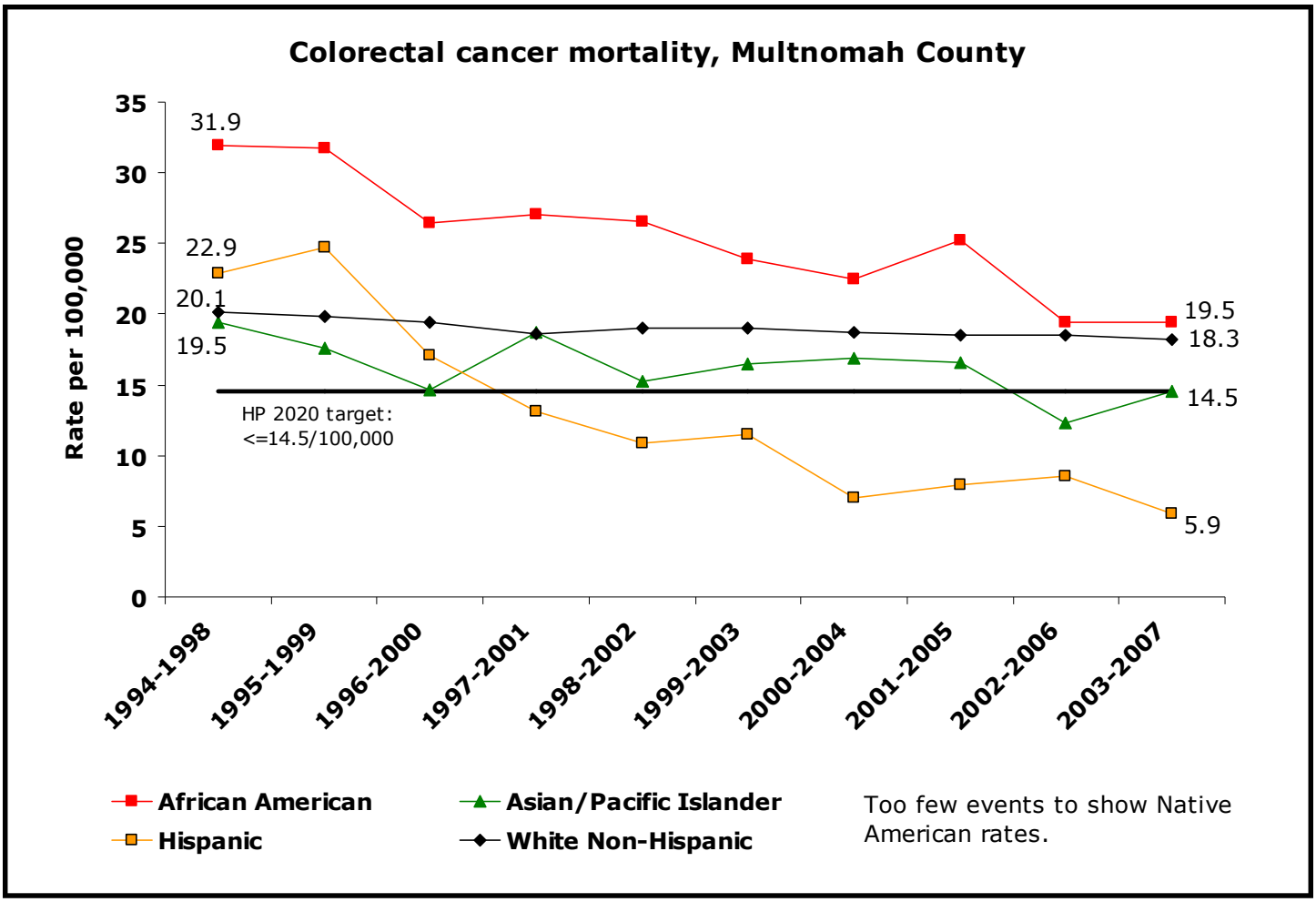
Healthy People 2020 objective and target: No more than 14.5 deaths per 100,000 population due to colorectal cancer.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 population)	Disparity Ratio	Rate (deaths per 100,000 population)	Disparity Ratio		
African American	25.2	1.4	19.5	1.1	**No disparity**	**No**
Asian	16.6	0.9	14.5	0.8	**No disparity**	**Yes**
Native American	NR*	—	NR*	—	—	**—**
Hispanic	7.9	0.4	5.9	0.3	**No disparity**	**Yes**
White non-Hispanic	18.5	***Comparison group***	18.3	***Comparison group***		**No**

* The number of health events for Native Americans is too small to calculate a reliable rate.

Disparities

- There were no disparities between White non-Hispanic residents and other racial/ethnic groups in Multnomah County in terms of colorectal cancer mortality in 2003-07. This was also true for the 2001-05 period.



Trends

- Between 1994-98 and 2003-07 colorectal cancer death rates appear to have decreased most notably for African American and Hispanic residents of Multnomah County.
- Mortality rates for White non-Hispanics and Asians appear to be relatively stable over this period.

Infectious Disease

13. HIV disease mortality

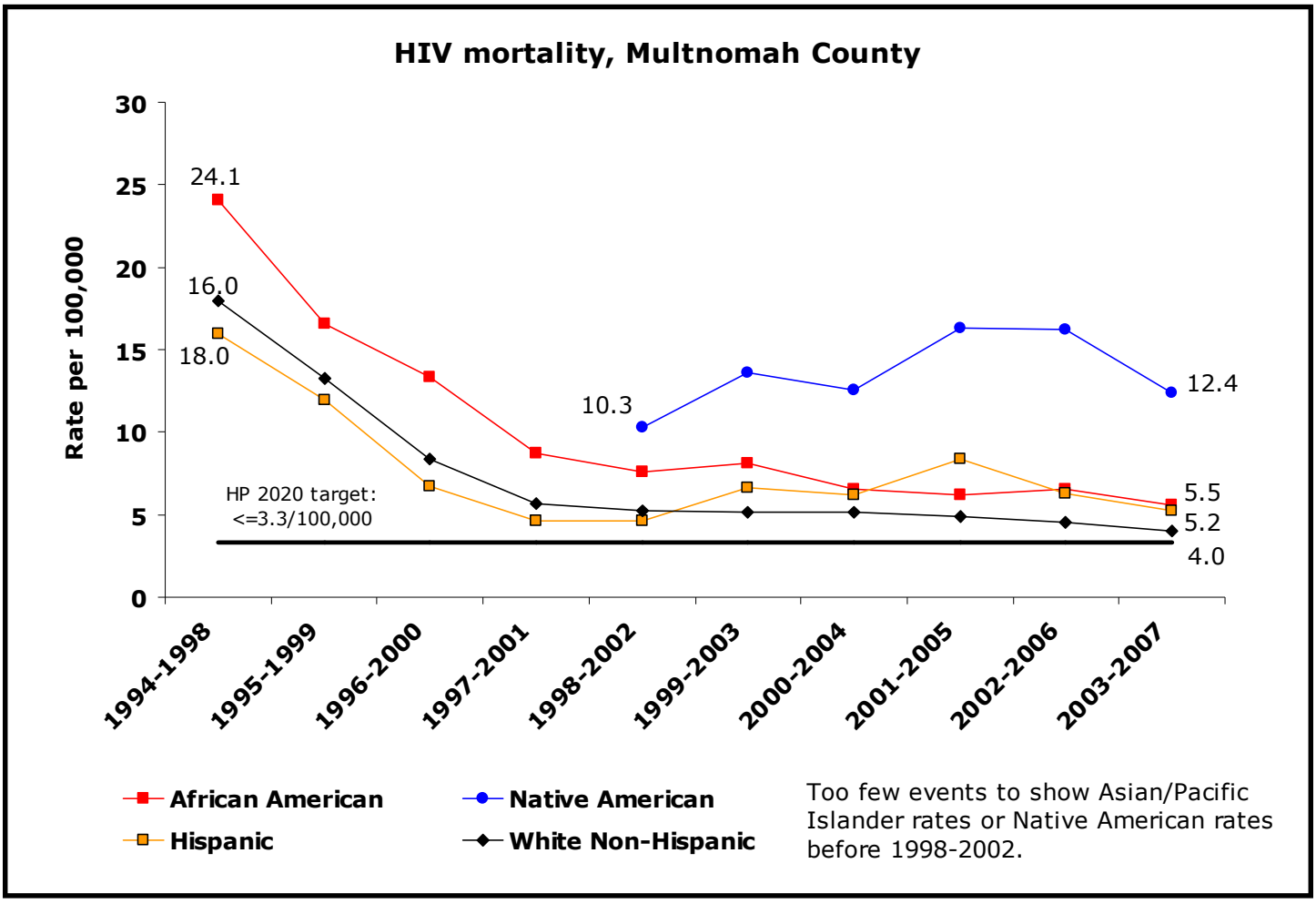
Background

According to the CDC, an estimated 1.1 million Americans currently live with HIV. Today medical advances have made it possible for those living with HIV to have symptom-free and productive lives. However, approximately 1 out of 5 persons with HIV is unaware of his or her HIV positive status. Without this knowledge there is a continued risk of transmission to others, along with missed opportunities for improved health and increased mortality among HIV positive individuals.

Healthy People 2020 objective and target: Reduce deaths from HIV infection to no more than 3.3 deaths per 100,000.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 population)	Disparity Ratio	Rate (deaths per 100,000 population)	Disparity Ratio		
African American	6.2	1.3	5.5	1.4	**No disparity**	**No**
Asian	NR*	—	NR*	—	**—**	—
Native American	15.9	3.3	12.4	3.1	**Requires intervention**	**No**
Hispanic	8.1	1.7	5.2	1.3	**No disparity**	**No**
White non-Hispanic	4.9	***Comparison group***	4.0	***Comparison group***		**No**

* The number of health events for Asians is too small to calculate a reliable rate.



Disparities

- Native American residents in Multnomah County had the highest rate of HIV disease mortality of all racial/ethnic groups during 2003-07. The rate for this group was more than 3 times the rate of the White non-Hispanic group.
- All other racial/ethnic groups had similar HIV disease mortality rates compared with White non-Hispanic residents in the county during this period.

Trends

- HIV death rates for all racial/ethnic groups have declined between 1994-98 and 2003-07.

14. Gonorrhea incidence

Background

Gonorrhea is one of several sexually transmitted diseases that affect millions of Americans each year. This preventable disease is significant because of the burden it creates in terms of quality of life, health complications, and health care costs. Without appropriate treatment, gonorrhea can result in reproductive health complications as well as fetal and perinatal health problems. It affects women more often and more severely than men. Nationally, there are also disparities in gonorrhea rates among racial/ethnic groups, age groups, as well as income levels. Due to many undiagnosed cases nationally, the reported cases of gonorrhea and chlamydia represent only a small fraction of the burden of sexually transmitted diseases in the U.S.

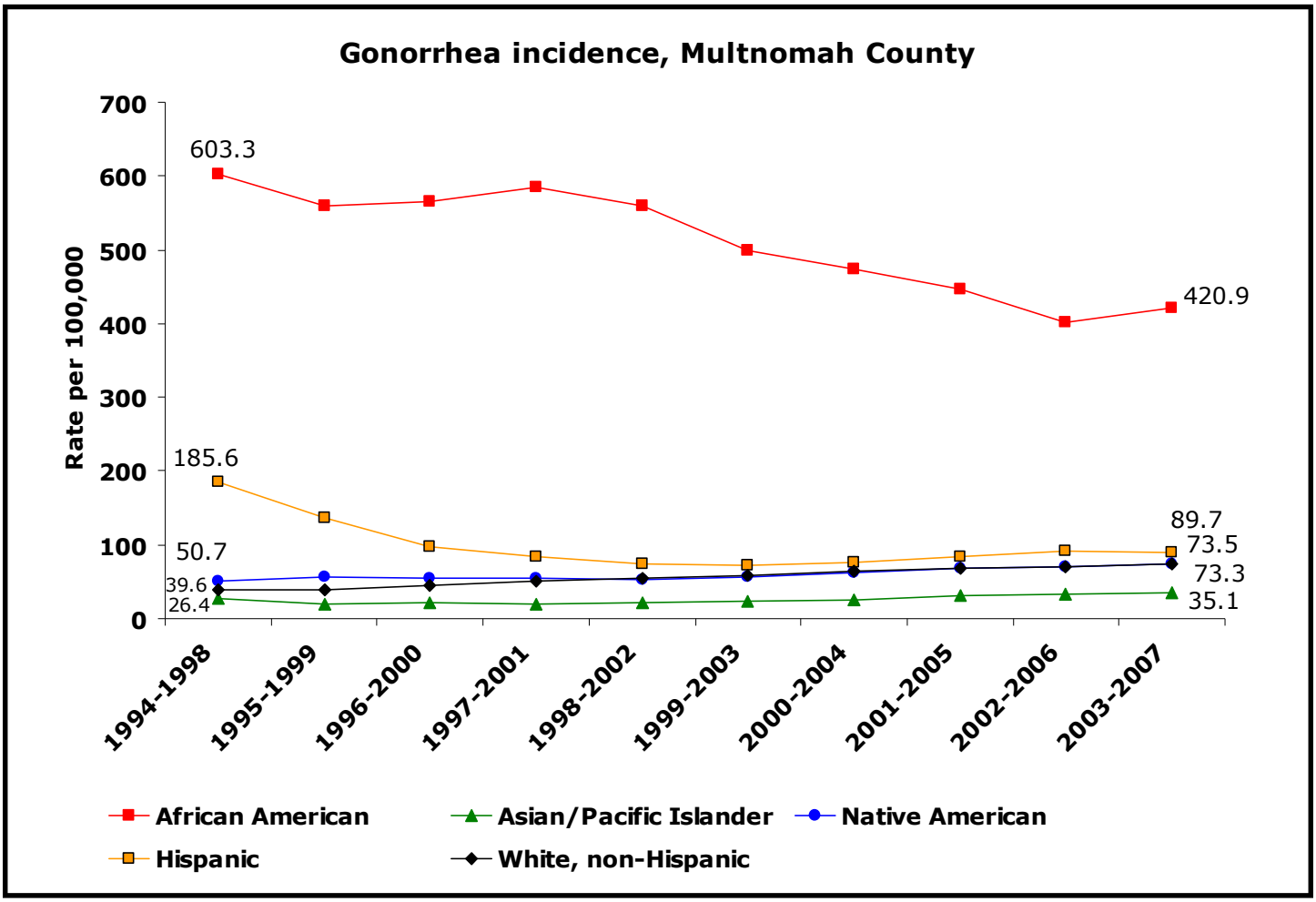
Healthy People 2020 objective and target: There is no target for reducing gonorrhea in the overall population; Healthy People 2020 sets targets for specific sub-populations.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (new cases per 100,000 population)	Disparity Ratio	Rate (new cases per 100,000 population)	Disparity Ratio		
African American	446.7	6.5	420.9	5.7	**Requires intervention**	**No target**
Asian	30.9	0.4	35.1	0.5	**No disparity**	**No target**
Native American	67.9	1.0*	73.5	1.0	**No disparity**	**No target**
Hispanic	83.3	1.2*	89.7	1.2	**Needs improvement**	**No target**
White non-Hispanic	69.1	***Comparison group***	73.3	***Comparison group***		**No target**

* In some instances rate ratios share the same value but differ in their levels of statistical significance because of factors like population size and number of health events.

Disparity

- The incidence of gonorrhea among African American residents of Multnomah County in 2003-07 was 5.7 times greater than the rate for White non-Hispanic residents. This disparity is statistically significant.



- Gonorrhea incidence rate for Asian/Pacific Islanders in the county was lower than that of White non-Hispanic residents. This difference is statistically significant.
- Among Hispanic and Native American residents of the county the gonorrhea incidence was similar to the rate for White non-Hispanic residents.

Trends

- Gonorrhea incidence rate declined most notably for African American and Hispanic residents of the county between 1994-98 and 2003-07.
- Gonorrhea incidence rates for Asian/Pacific Islanders, Native Americans, and White non-Hispanics in Multnomah County were relatively stable over this period.

15. Chlamydia incidence

Background

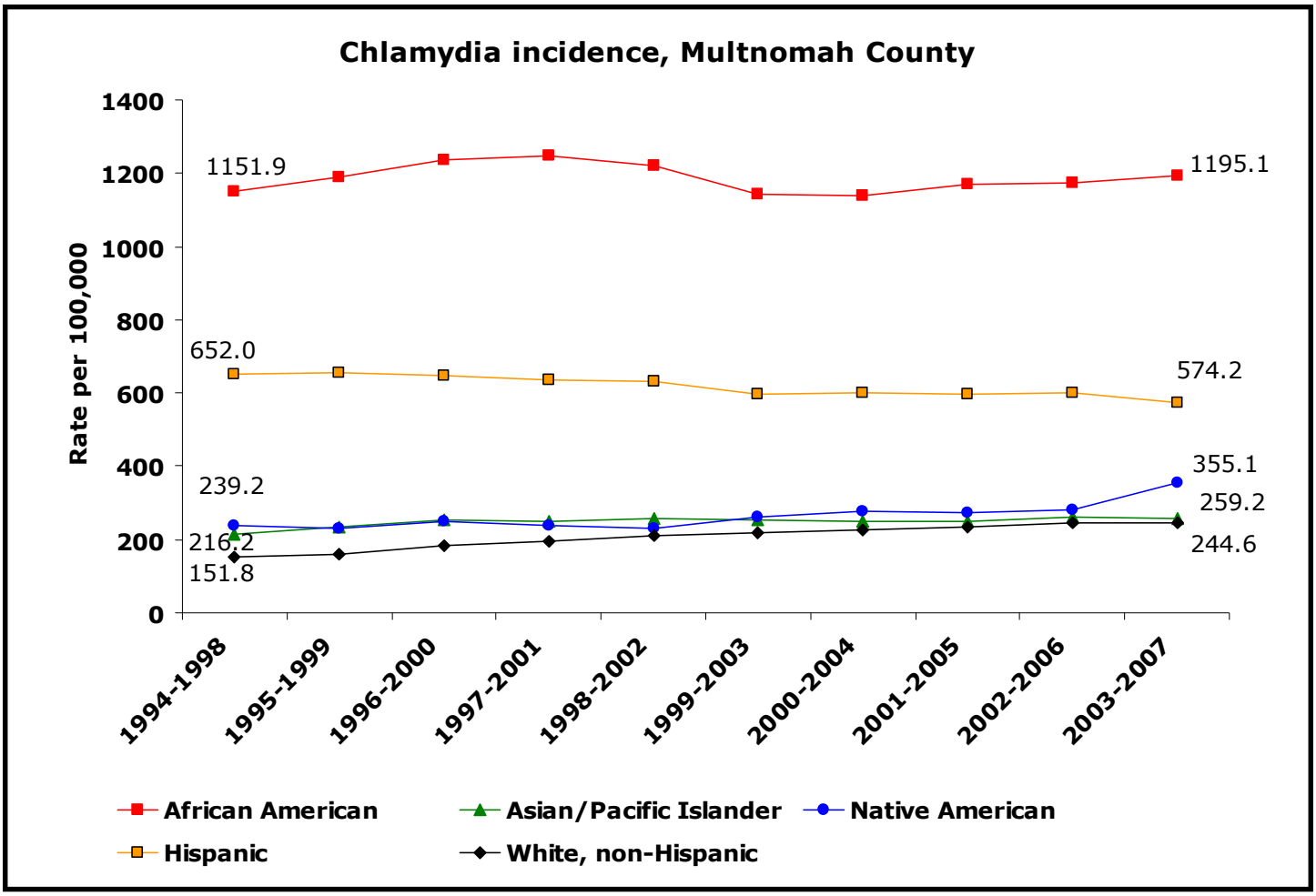
Chlamydia is one of several sexually transmitted diseases that affect millions of Americans each year. This preventable disease is significant because of the burden it creates in terms of quality of life, health complications, and health care costs. Without appropriate treatment, chlamydia can result in reproductive health complications as well as fetal and perinatal health problems. It affects women more often and more severely than men. Nationally, there are also disparities in chlamydia rates among racial/ethnic groups, age groups, as well as income levels. Due to many undiagnosed cases nationally, the reported cases of gonorrhea and chlamydia represent only a small fraction of the burden of sexually transmitted diseases in the U.S.

Healthy People 2020 objective and target: There is no target for reducing chlamydia in the overall population; Healthy People 2020 sets targets for specific sub-populations.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (new cases per 100,000 population)	Disparity Ratio	Rate (new cases per 100,000 population)	Disparity Ratio		
African American	1,171.1	5.0	1,195.1	4.9	**Requires intervention**	**No target**
Asian	248.0	1.1	259.2	1.1	**No disparity**	**No target**
Native American	272.5	1.2	355.1	1.5	**Needs improvement**	**No target**
Hispanic	598.1	2.5	574.2	2.3	**Requires intervention**	**No target**
White non-Hispanic	235.9	***Comparison group***	244.6	***Comparison group***		**No target**

Disparities

- African American residents of the county experienced 4.9 times higher incidence rates of chlamydia compared with White non-Hispanic residents in 2003-07. The difference was statistically significant. The disparity has remained relatively constant since 2001-05.



- Hispanic residents had a chlamydia incidence rate that was 2.3 times higher than that of White non-Hispanic residents. This difference is also statistically significant.
- Native American and Asian/Pacific Islander residents had the same chlamydia incidence rates compared with White non-Hispanics in 2003-07.

Trends

- Chlamydia incidence rates appear to be stable for all racial/ethnic groups between 1994-98 and 2003-07.

Other Mortality

16. Motor vehicle crash mortality

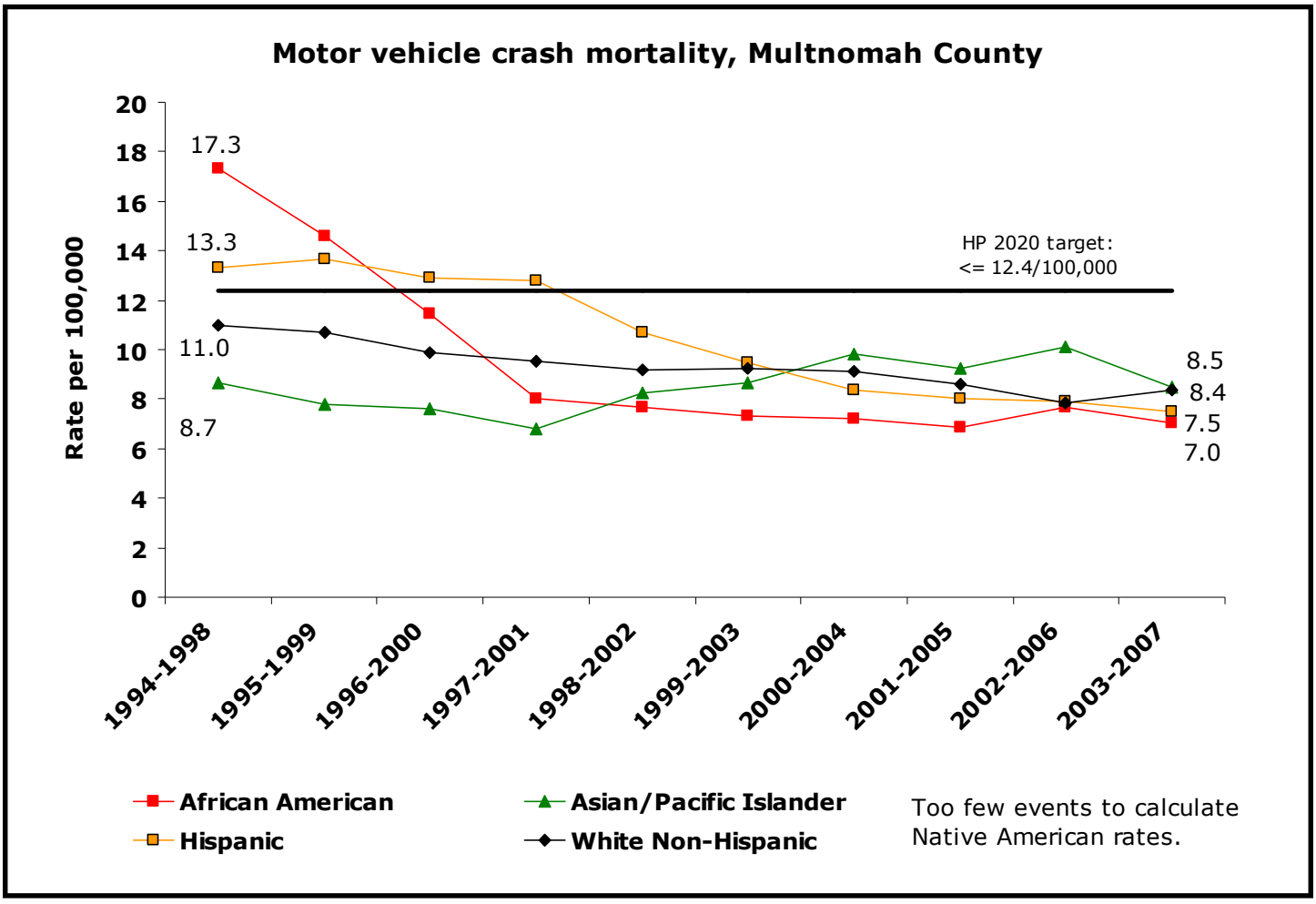
Background

Unintended injuries are among the leading causes of death in the United States. Within this broad category, motor vehicle crash deaths are a significant cause of death. As with all injury deaths, the burden of motor vehicle injury deaths can be measured in terms of quality of life, premature death, lost productivity, and the potential for high medical costs. Evidence-based interventions recommended by the Centers for Disease Control and Prevention include efforts to reduce alcohol-impaired driving through more stringent laws and education, and increased use of seat belts. Motor vehicle crashes and deaths due to distracted driving are also becoming areas of focus for public health and safety interventions.

Healthy People 2020 objective and target: Reduce motor vehicle crash-related deaths to no more than 12.4 per 100,000 population.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 population)	Disparity Ratio	Rate (deaths per 100,000 population)	Disparity Ratio		
African American	6.9	0.8	7.0	0.8	**No disparity**	**Yes**
Asian	9.2	1.1	8.5	1.0	**No disparity**	**Yes**
Native American	NR*	—	NR*	—	**—**	**—**
Hispanic	9.6	1.1	7.5	0.9	**No disparity**	**Yes**
White non-Hispanic	8.8	***Comparison group***	8.4	***Comparison group***		**Yes**

* The number of health events for Native Americans is too small to calculate a reliable rate.



Disparity

- There were no disparities in motor vehicle crash deaths between the racial/ethnic groups in 2003-07 among county residents.

Trends

- Overall, the trends in motor vehicle crash deaths either declined (African American, Hispanic, Native American, White non-Hispanic) or remained stable (Asian/Pacific Islander) for all racial/ethnic groups between 1994-98 and 2003-07.

17. Homicide mortality

Background

According to the CDC, a complex interaction of individual, community, and broad societal factors determines a person's risk of being a victim or perpetrator of violence. At the individual level age, education, income, substance abuse, or a history of abuse can increase the risk of violence (both as victim or perpetrator). Communities that foster healthy relationships between individuals who can influence a person's attitudes and beliefs decrease the risk of violence. More broadly, social and cultural norms, economic factors, and social inequalities between groups can also affect the risk of violence.

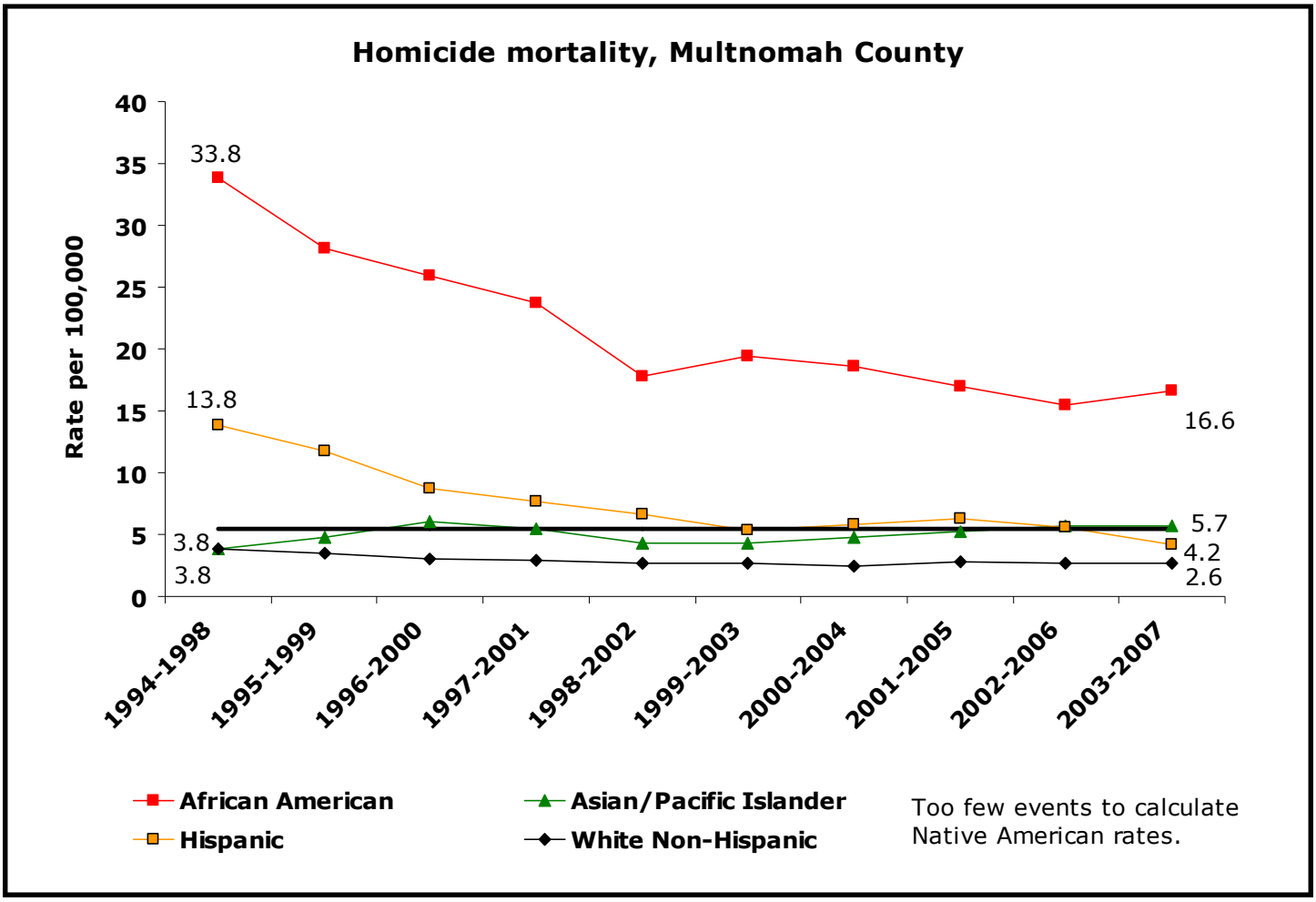
Healthy People 2020 objective and target: Reduce homicide to no more than 5.5 per 100,000 population.

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 population)	Disparity Ratio	Rate (deaths per 100,000 population)	Disparity Ratio		
African American	17.0	6.2	16.6	6.3	**Requires intervention**	**No**
Asian	5.2	1.9	5.7	2.2	**Needs improvement**	**No**
Native American	NR*	—	NR*	—	**—**	**—**
Hispanic	6.3	2.3	4.2	1.6	**No disparity**	**Yes**
White Non-Hispanic	2.8	***Comparison group***	2.6	***Comparison group***		**Yes**

* The number of health events for Native Americans is too small to calculate a reliable rate.

Disparities

- African American residents of the county experienced a homicide mortality rate that was more than 6 times greater than that of White non-Hispanics. This difference is statistically significant.
- Asian/Pacific Islanders also experienced a higher mortality rate compared with White non-Hispanics.



Asians experienced over twice the homicide rate of White non-Hispanics and this gap was also statistically significant.

- There was no significant disparity in the homicide rate for Hispanics compared with White non-Hispanics and there were too few homicides among Native Americans to create rates.

Trends

- Homicide rates declined overall between 1994-98 and 2003-07 for African Americans and Hispanics in the county.
- Asian/Pacific Islanders appear to have a slight increase in homicide deaths during the same period.
- The rate for White non-Hispanics remained stable between 1994-98 and 2003-07.

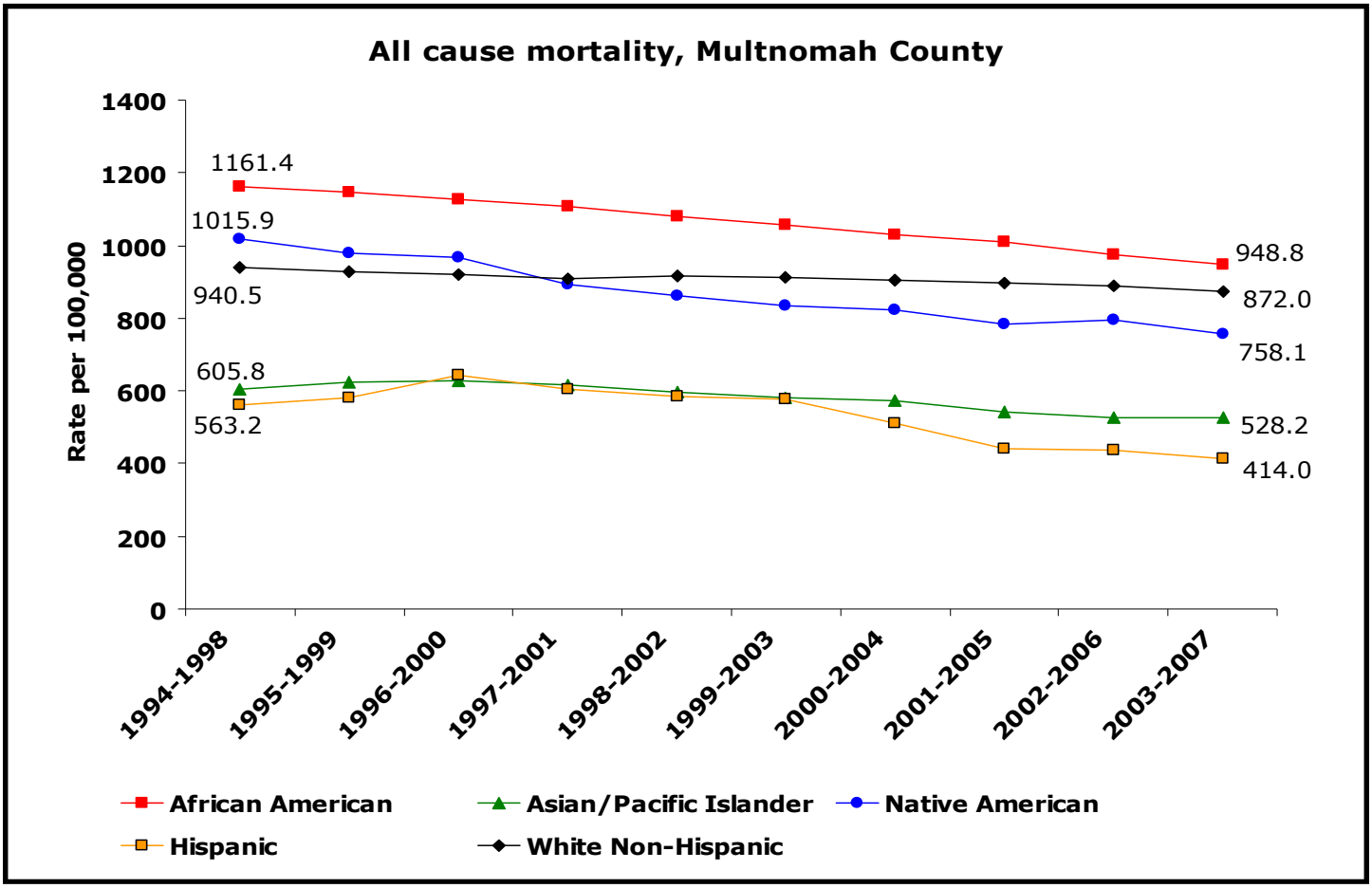
18. All cause mortality

Race/ Ethnicity	2001-05		2003-07		2003-07 Health Disparity Summary	Met Healthy People 2020 target?
	Rate (deaths per 100,000 population)	Disparity Ratio	Rate (deaths per 100,000 population)	Disparity Ratio		
African American	1,003.2	1.1	948.8	1.1	**No disparity**	**No target**
Asian	527.7	0.6	528.2	0.6	**No disparity**	**No target**
Native American	817.1	0.9	758.1	0.9	**No disparity**	**No target**
Hispanic	471.5	0.5	414.0	0.5	**No disparity**	**No target**
White non-Hispanic	885.4	***Comparison group***	872.0	***Comparison group***		

An examination of overall mortality rates by race/ethnicity provides a useful context for the analysis of deaths and illness due to specific diseases.

Disparities

- In both 2001-05 and 2003-07 there were no disparities between racial/ethnic groups in terms of overall mortality rates. However, as the previous portions of this report illustrate, there are several health outcomes in which various racial/ethnic groups fare worse than the comparison group (White non-Hispanics) and some health outcomes for which White non-Hispanics do not have the most favorable rates.



Trends

- Overall mortality rates for all racial/ethnic groups in Multnomah County have declined since 1994-98.
- The improvement in all cause mortality for White non-Hispanics does not appear to be as pronounced as those for other racial/ethnic groups.
- The most recent data indicate that White non-Hispanic all cause mortality rate is a close second to the African American rate with other groups experiencing better overall mortality rates.

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Appendix I

Explanation of indicators

Mother and Child Health Statistics

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.

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.

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.

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

Coronary heart disease mortality
Coronary heart disease deaths are those for which the underlying cause of death listed on the death certificate was hypertensive heart disease or ischemic heart diseases including angina, myocardial infarction, and chronic ischemic heart disease. ICD 10 codes for these causes of death are I11, and I20-25.

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.

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.

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.

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.

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

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.

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 gonorrhea incidence rate per 100,000 population.

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 gonorrhea incidence rate per 100,000 population.

OTHER MORTALITY

Motor vehicle crash mortality
Deaths used to calculate the motor vehicle crash mortality rate are those for which the underlying cause of death is listed on the death certificate includes any of 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 (.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28 (.3-.9), V29.4-V29.9, V30-V39 (.4-9), V40-V49 (.4-.9), V50-V59 (.4-.9), V60-V69 (.4-.9), V70-V79 (.4-.9), V80.3-V80.5, V81.1, V82.1, V83-86 (.0-.3), V87.0-V87.8, V89.2.

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 U01 through U02, X85 through Y09 and Y87.1.

All cause 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 Appendix A in "*Racial and Ethnic Health Disparities in Multnomah County: 1991-2005*" which can be viewed at http://web.multco.us/sites/default/files/documents/health_disparities_2006.pdf.

Appendix III

Data sources

Mortality statistics

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

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

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

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

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

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.

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

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

Population Data

County Population by Age, Race and Sex:

1990-1999: Anchored estimates, U.S. Census and National Center for Health Statistics;
2000: Bridged count, U.S. Census;
2001-2005: Bridged estimates, National Center for Health Statistics.

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