OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT

oshpd

"Equitable Healthcare Accessibility for California"

racial & ethnic

Disparities in Healthcare

in California

California Fact Book

Winter 2010

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Disparities in Healthcare

in California

California Fact Book

Office of Statewide Health Planning and Development

Winter 2010

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"Equitable Healthcare Accessibility for California"

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EXECUTIVE SUMMARY

This 2010 Racial and Ethnic Disparities in Healthcare in California report, the second[1] published by the Office of Statewide Health Planning and Development (OSHPD), presents more than 30 healthcare quality measures for the state's five predominant racial and ethnic populations: Whites, Blacks, Hispanics, Asian/Pacific Islanders, and Native Americans. It identifies trends and gaps in access to healthcare and the quality of services received by these populations.

A new feature of this report is the incorporation of trend information from 1999 to 2007 for each measure, providing additional insights into racial and ethnic disparities.

Hospital inpatient discharge data reported to OSHPD by all California-licensed hospitals were used to calculate all of the measures in this report. The first section reports *access* and *quality measures* related to services provided in non-hospital settings, such as clinics and doctors' offices. The second section reports *outcome measures* for services provided in hospitals. The third section reports *service utilization measures* of treatment for heart conditions, including heart failure.

Sections one and two compare rates among populations using two types of nationally-recognized quality indicators developed by the federal Agency for Healthcare Research and Quality (AHRQ).[2] The results for Native Americans, however, are not conclusive due to limitations on how data for that population are collected.

Section 1: Sixteen *Prevention Quality Indicators (PQIs)* are reported, reflecting access to services and quality of care provided in doctors' offices, clinics and other non-hospital settings by measuring hospitalization rates for medical conditions and complications that can be prevented with proper medical care.

Section 2: Fifteen *Inpatient Quality Indicators (IQIs)* are reported, reflecting the outcomes of care provided to hospital inpatients by measuring death ("mortality") rates of selected illnesses and medical procedures.[3]

Section 3: Two utilization measures of cardiovascular (heart and circulatory system) treatments are reported as additional indicators of healthcare quality. These measure the extent to which a given group uses a particular service during a specified period of time. Many experts believe that healthcare service overutilization leads to higher healthcare costs, while underutilization indicates barriers to accessing healthcare services.

1 The Racial and Ethnic Disparities in Healthcare in California: California Fact Book, November, 2003, www.oshpd.ca.gov/HID/Products/PatDischargeData/ResearchReports/EthnicRacialDisp/RacialEthnicFactBook.pdf

2 AHRQ Quality Indicators, http://www.qualityindicators.ahrq.gov

3 These indicators have been statistically adjusted to account for variations in how sick patients were at the time they were admitted to a hospital.

Summary of Findings, 1999 through 2007

Findings regarding trends in access to and the quality of care *received in non-hospital ("ambulatory care") settings*, based on sixteen Prevention Quality Indicators (PQIs):

- Most measures showed dramatic improvements, generally suggesting better access to or quality of ambulatory care related to the medical conditions and procedures measured by the PQIs across all racial and ethnic groups.
- Disparities generally narrowed among all racial and ethnic groups, shown through overall variation across groups, and compared with Whites as the reference group. However, four medical conditions – perforated appendix, long-term diabetes complications, congestive heart failure, and adult asthma – showed no improvement, or worsened.
- Blacks consistently had the worst rates for fourteen PQIs, sometimes two- or three-times worse rates than Whites, even after adjusting for age and gender differences. Blacks generally showed improvement (a decrease) for ten PQIs.

Findings regarding outcomes of care provided in hospitals, based on fifteen Inpatient Quality Indicators (IQIs):

- All racial and ethnic groups appeared to have similar hospital inpatient death rates, except Blacks generally had better (lower) congestive heart failure death rates.
- Improvement (a drop) in death rates generally occurred for 9 measures, including congestive heart failure, coronary artery bypass graft (CABG) surgery, and heart attack.

Findings regarding utilization rates of hospital inpatients admitted with a heart attack:

- Significant and consistent differences occurred across racial and ethnic groups for inpatients undergoing CABG surgery or angioplasty, two procedures that have traditionally shown disparities. Black inpatients showed significantly lower utilization rates than all other races.
- Blacks tended to have the lowest CABG surgery and angioplasty rates, while Asian/Pacific Islanders had the highest rate for CABG and Whites had the highest rate for PTCAs.
- For all groups, CABG surgery rates dropped, while angioplasty rates increased.

Conclusion

General improvement in racial and ethnic disparities occurred across most of the sixteen measures of outpatient (non-hospital) care (PQIs), and most of the fifteen hospital inpatient outcome measures (IQIs). However, these gains did not eliminate disparities: some racial and ethnic groups had smaller improvements than others. Blacks showed consistently higher preventable hospitalization rates, especially in outpatient care, which generally improved over time, while Hispanics showed the greatest reduction in disparities compared with other racial groups, with improvements in fourteen measures.

The most dramatic disparities were seen in outpatient settings, and not for hospital inpatients, suggesting that once patients are admitted as inpatients to a hospital their outcomes are relatively similar across race or ethnic groups. High racial and ethnic disparity rates for outpatient care may be due to poor access to care or to the quality of outpatient care, a combination of both factors, or to a high prevalence rate of disease or health conditions among a specific population.

The findings of this report provide strong evidence for policy makers, healthcare providers, public health professionals, researchers, and other interested stakeholders to focus efforts on addressing access to and quality of care provided in outpatient (non-hospital) settings. In addition, further study of issues raised by this report is needed to better understand and address such disparities through appropriate interventions, such as program planning or policy development.

Notes

Hospitalization rates for Native Americans obtained from California hospital discharge data can underestimate actual hospitalization rates by more than half their actual values. About 60% of Native Americans are misclassified in other racial categories in state hospital discharge data used to determine the numerators of hospitalization rates, but not in population (census) data used to determine the denominators. Native Americans had the lowest rates for ten of sixteen Prevention Quality Indicators. These rates may be highly biased due to undercounting.

For further information on hospitalization rates of Native Americans see “Disparities in hospitalizations of rural American Indians,” Korenbrot CC, Ehlers S, Crouch J, *Medical Care 2003*; volume 41: pages 626-636.

In OSHPD data, Asian/Pacific Islander patients are combined into a single group. However, this methodological homogeneity may obscure variations in health status and healthcare utilization across the various Asian/Pacific Islander populations and do not reflect expected differences in language and cultural practices.

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INTRODUCTION

"Racial and ethnic disparities in healthcare exist and, because they are associated with worse outcomes in many cases, are unacceptable." – Institute of Medicine[1]

There is clear evidence that some members of California's diverse ethnic populations have found it harder to obtain medical insurance and medical care. While many state and federal programs continue to attempt to reduce racial and ethnic disparities in quality of and access to care, significant disparities continue to persist.

The 2010 Racial and Ethnic Disparities in Healthcare in California report is the second published by the Office of Statewide Health Planning and Development (OSHPD)[2] and examines key quality of care indicators of the healthcare that California's primary racial and ethnic populations received in hospitals and other settings. Trends in these indicators of health access, outcomes and quality, from 1999 through 2007, help determine whether racial and ethnic disparities in the state have changed over time.

Most measures in this report, developed by the federal Agency for Healthcare Research and Quality (AHRQ), through the work of University of California, San Francisco, and Stanford University as part of the Healthcare Cost and Utilization Project (www.ahrq.gov/data/hcup/), help us understand the access to or quality of care that patients receive in hospitals and outpatient (non-hospital) settings, such as clinics and doctors' offices. The AHRQ Prevention Quality Indicators (PQIs) reflect access to and quality of care in outpatient settings, and the AHRQ Inpatient Quality Indicators (IQIs) reflect health outcomes by reporting hospital inpatient death (mortality) rates.

This report compares differences based on race and ethnicity for sixteen PQIs and fifteen IQIs, measuring access to or outcomes related to a total of thirty-one medical procedures or conditions.

Also, two utilization measures of heart (cardiac) disease treatment – coronary artery bypass graft (CABG) [heart bypass] surgery and percutaneous transluminal coronary angioplasty (PTCA) [non-surgical heart disease treatment, may include insertion of a stent] – are included in this report. These measures compare the frequency with which patients with heart disease receive either CABG surgery or PTCA.

Overall, as shown in the chart below, the rate at which people in California are hospitalized[3] is very different for different racial and ethnic groups. For every 1,000 people in the state there are 130 hospitalizations for Blacks and 110 for Whites. The rates are much lower for Hispanics (86), Asian/Pacific Islanders (67), and Native

1 Smedley BD, Stith AY, Nelson AR (Ed.). *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Institute of Medicine. 2003. The National Academies Press, Washington, DC. http://www.nap.edu

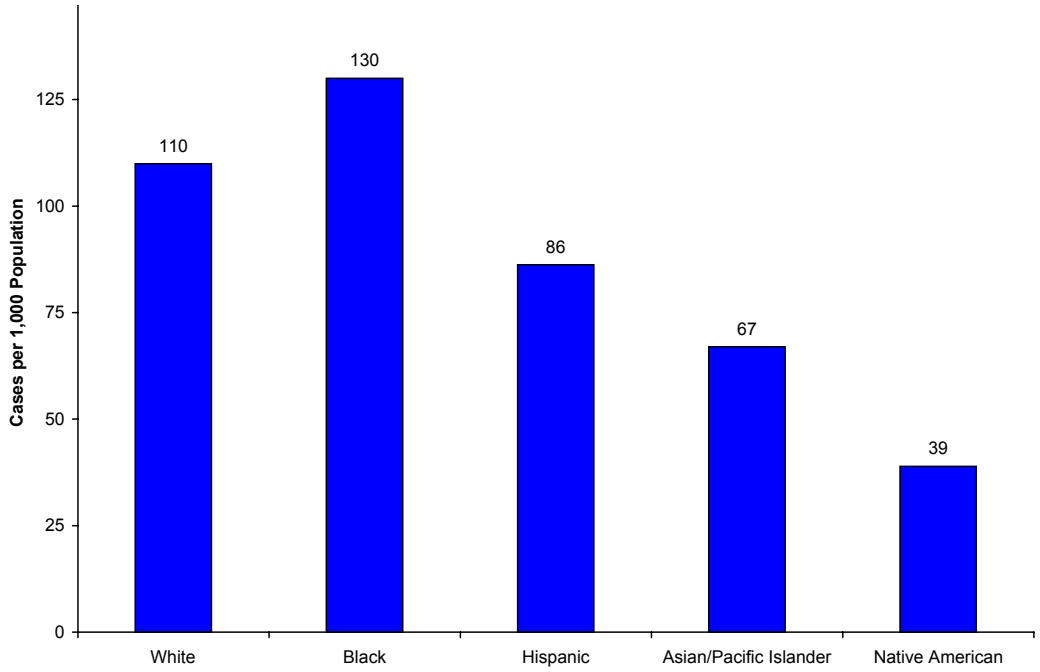
2 *Racial and Ethnic Disparities in Healthcare in California: California Fact Book*, November, 2003, www.oshpd.ca.gov/HID/Products/PatDischargeData/ResearchReports/EthnicRacialDisp/RacialEthnicFactBook.pdf

3 The hospitalizations counted here are for general acute care, not for inpatient skilled nursing, mental health, rehabilitation, or substance abuse treatment.

Americans (39). Indeed, rates for Native Americans were the lowest for ten of sixteen PQIs, however, these may be highly biased due to undercounting. This report provides background to help explain why these rates are so different.

The PQIs and IQIs presented here are based on inpatient data OSHPD collects from hospitals licensed by the California Department of Public Health. These data, almost four million records per year, are known as Patient Discharge Data.

Hospitalizations per 1,000 Population by Race and Ethnicity, California 2007



The following measures are included in this report. The numbering of PQIs and IQIs corresponds with that used by AHRQ, however, some IQI numbers are not entirely sequential because those indicators for volume and utilization, not related to mortality, were deleted from the list.

AHRQ Prevention Quality Indicators (PQIs): Regarding Care in Outpatient (Non-Hospital) Settings

- PQI 01 – Diabetes Short-Term Complications
- PQI 02 – Perforated Appendix *[ruptured appendix]*
- PQI 03 – Diabetes Long-Term Complications
- PQI 04 – Pediatric Asthma
- PQI 05 – Chronic Obstructive Pulmonary Disease (COPD) *[chronic bronchitis or emphysema]*
- PQI 06 – Pediatric Gastroenteritis *[severe vomiting and/or severe diarrhea in children]*
- PQI 07 – Hypertension *[high blood pressure]*
- PQI 08 – Congestive Heart Failure (CHF) *[heart failure]*

PQI 09 – Low Birth Weight
PQI 10 – Dehydration
PQI 11 – Bacterial Pneumonia
PQI 12 – Urinary Tract Infection
PQI 13 – Angina without Procedure *[chest pain]*
PQI 14 – Uncontrolled Diabetes
PQI 15 – Adult Asthma
PQI 16 – Lower-Extremity Amputation among Patients with Diabetes *[removal of leg or foot due to diabetes complications]*

AHRQ Inpatient Quality Indicators (IQIs): Regarding Hospital Inpatient Death (Mortality)

IQI 08 – Esophageal Resection *[removal of all or part of the esophagus]*
IQI 09 – Pancreatic Resection *[removal of all or part of the pancreas]*
IQI 11 – Abdominal Aortic Aneurysm (AAA) Repair *[for ruptured or bulging aorta]*
IQI 12 – Coronary Artery Bypass Graft (CABG) *[heart bypass surgery]*
IQI 13 – Craniotomy *[operation through the skull, including brain surgery]*
IQI 14 – Hip Replacement
IQI 15 – Acute Myocardial Infarction (AMI) *[heart attack including transfers between healthcare facilities]*
IQI 16 – Congestive Heart Failure (CHF) *[heart failure]*
IQI 17 – Acute Stroke *[including hemorrhagic]*
IQI 18 – Gastrointestinal Hemorrhage *[intestinal bleeding]*
IQI 19 – Hip Fracture
IQI 20 – Pneumonia
IQI 30 – Percutaneous Transluminal Coronary Angioplasty (PTCA) *[non-surgical coronary artery disease treatment, may include insertion of a stent]*
IQI 31 – Carotid Endarterectomy *[surgery on the carotid artery in neck]*
IQI 32 – Acute Myocardial Infarction (AMI) without Transfer Cases *[heart attack without transfers between healthcare facilities]*

Utilization Measures: Percent Utilization of Procedures for Patient Admitted with a Heart Attack

Coronary Artery Bypass Graft (CABG) *[heart bypass surgery]*
Percutaneous Transluminal Coronary Angioplasty (PTCA)
[non-surgical coronary artery disease treatment, may include insertion of a stent]

In addition, but not included in this report, AHRQ developed two other types of quality indicators—Patient Safety Indicators and Pediatric Quality Indicators. AHRQ reports all four types of measures and explains more about these at www.qualityindicators.ahrq.gov/.

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SECTION 1: PREVENTION QUALITY INDICATORS (PQIs), PREVENTABLE HOSPITALIZATIONS, 1999-2007

Section 1 presents racial and ethnic disparities in outpatient healthcare by examining the Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators (PQIs)...*"a set of measures that can be used with hospital inpatient discharge data to identify 'ambulatory care sensitive conditions' (ACSCs). ACSCs are conditions for which quality outpatient care can potentially prevent the need for hospitalization, or for which early intervention can prevent complications or more severe disease."*[1]

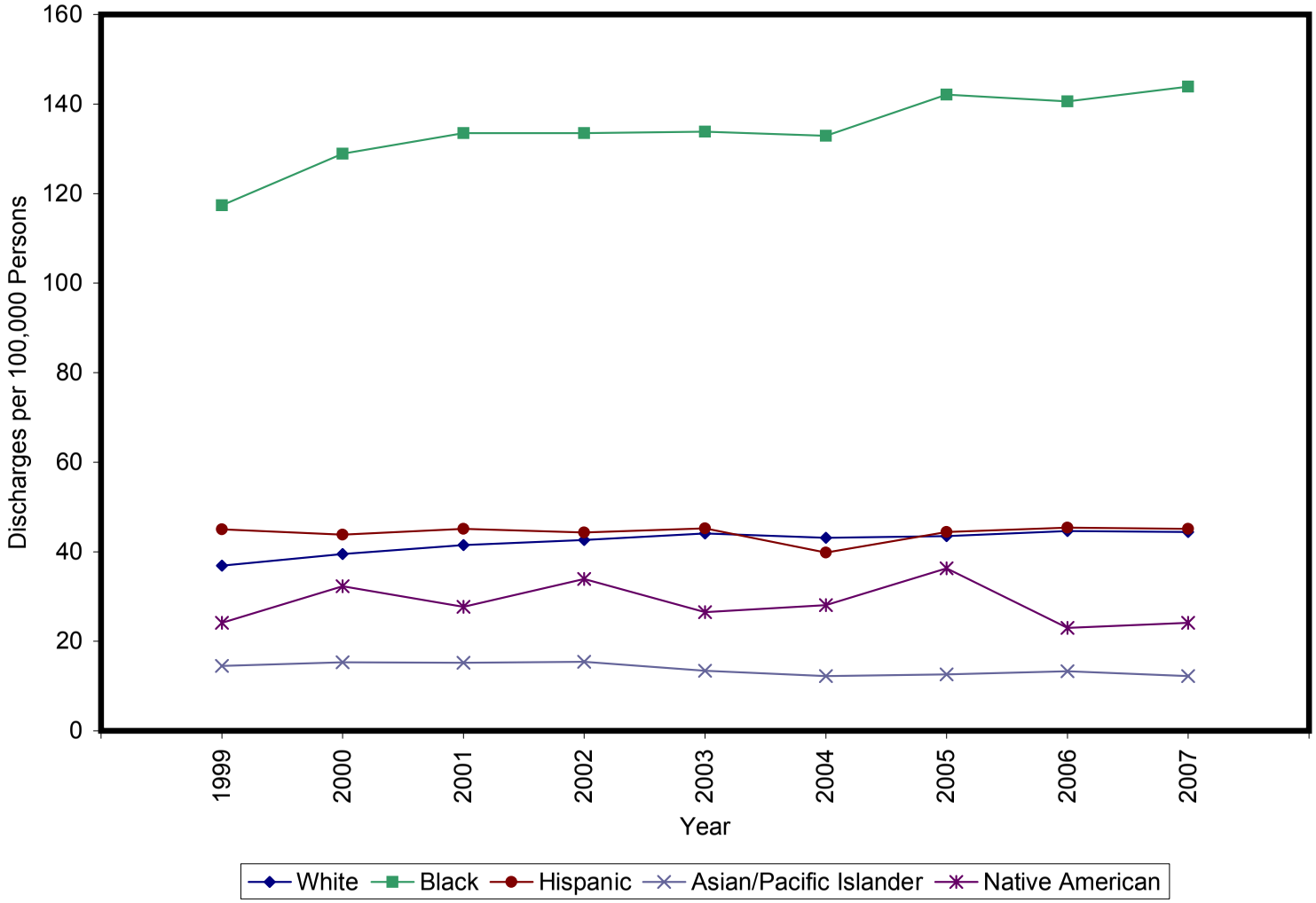
The following PQI admission rates are presented in this section:

- PQI 01 – Diabetes Short-Term Complications
- PQI 02 – Perforated Appendix *[ruptured appendix]*
- PQI 03 – Diabetes Long-Term Complications
- PQI 04 – Pediatric Asthma
- PQI 05 – Chronic Obstructive Pulmonary Disease (COPD) *[chronic bronchitis or emphysema]*
- PQI 06 – Pediatric Gastroenteritis *[severe vomiting and/or severe diarrhea in children]*
- PQI 07 – Hypertension *[high blood pressure]*
- PQI 08 – Congestive Heart Failure (CHF) *[heart failure]*
- PQI 09 – Low Birth Weight
- PQI 10 – Dehydration
- PQI 11 – Bacterial Pneumonia
- PQI 12 – Urinary Tract Infection
- PQI 13 – Angina without Procedure *[chest pain]*
- PQI 14 – Uncontrolled Diabetes
- PQI 15 – Adult Asthma
- PQI 16 – Lower-Extremity Amputation among Patients with Diabetes *[removal of leg or foot due to diabetes complications]*

1 AHRQ Quality Indicators Guide to Prevention Quality Indicators, 2007, http://www.qualityindicators.ahrq.gov/downloads/pqi/pqi_guide_v31.pdf

Diabetes Short-Term Complications Admission Rate (PQI 01)

FIGURE 1-1: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Diabetes Short-Term Complications Admission Rate (PQI 01)

TABLE 1-1: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	36.9	117.4	45.0	14.5	24.1
2000	39.5	128.9	43.8	15.3	32.3
2001	41.5	133.5	45.1	15.2	27.7
2002	42.6	133.5	44.3	15.4	33.9
2003	44.1	133.8	45.2	13.4	26.5
2004	43.1	132.9	39.8	12.2	28.1
2005	43.5	142.1	44.4	12.6	36.3
2006	44.6	140.6	45.4	13.3	23.0
2007	44.4	143.9	45.1	12.2	24.1
9-year Mean Rate (i.e., Average)	42.2	134.1	44.2	13.8	28.4
Range (Annual Cases)	4,797-5,737	1,806-2,402	2,357-3,699	314-423	32-54
Total Cases	48,843	19,077	27,226	3,351	362

RESULTS:

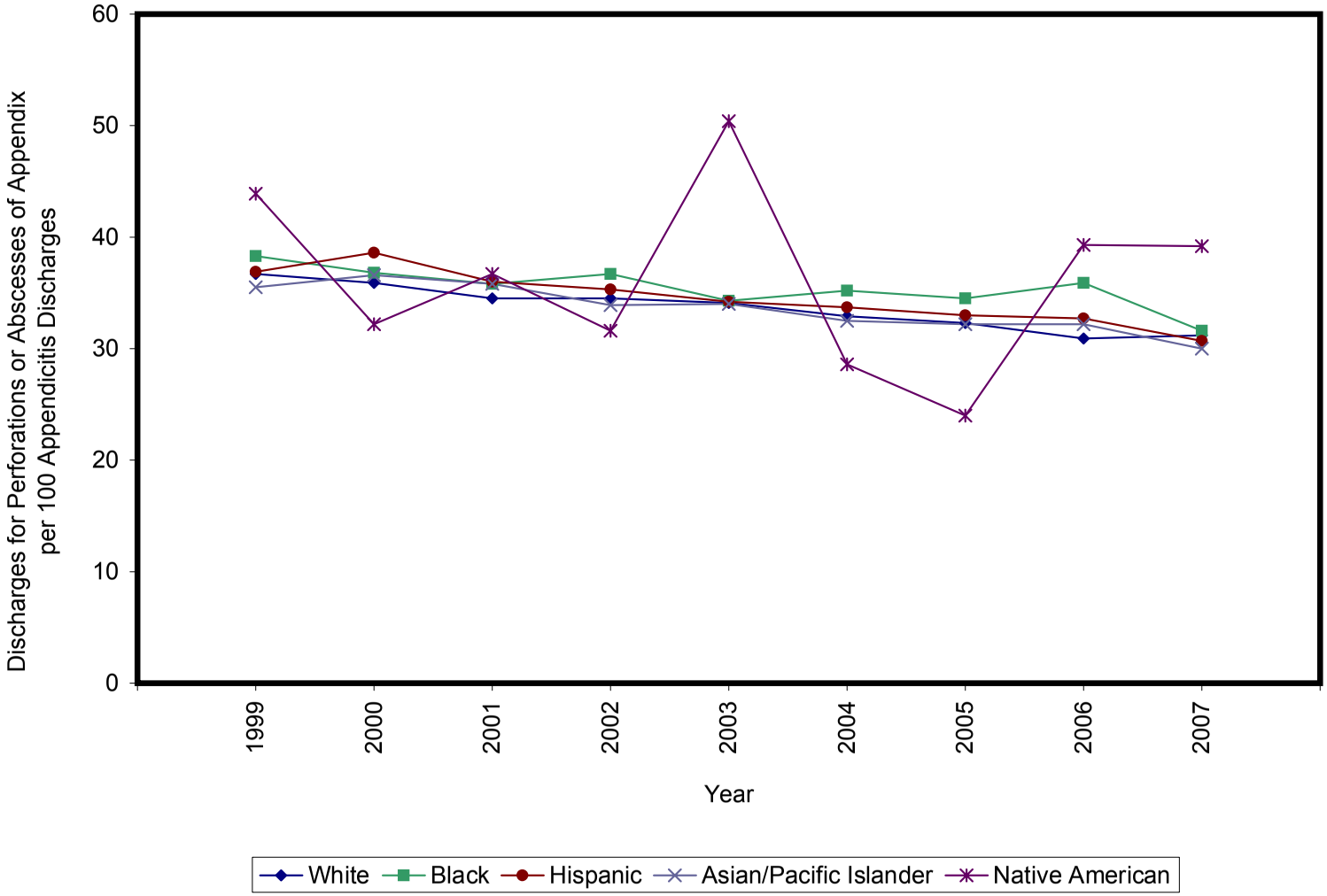
The average hospitalization rate for short-term complications of diabetes was much higher for Blacks (134.1) than for Hispanics (44.2) or Whites (42.2). Native Americans (28.4) and Asian/Pacific Islanders (13.8) had the lowest rates, compared with all race/ethnic groups. There was a slight upward trend in hospitalizations for this condition among Black patients, and to a lesser degree for White patients. Among Asian/Pacific Islanders, there was a slight downward trend and no trend over time for the other groups.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Perforated Appendix Admission Rate (PQI 02)

[ruptured appendix]

FIGURE 1-2: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Perforated Appendix Admission Rate (PQI 02)
[ruptured appendix]

TABLE 1-2: Age-Sex Adjusted Values, 1999-2007 (Discharge for Perforations or Abscesses of Appendix per 100 Appendicitis Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	36.7	38.3	36.9	35.5	43.9
2000	35.9	36.8	38.6	36.6	32.2
2001	34.5	35.8	36.0	35.8	36.7
2002	34.5	36.7	35.3	33.9	31.6
2003	34.1	34.3	34.2	34.0	50.4
2004	32.9	35.2	33.7	32.5	28.6
2005	32.3	34.5	33.0	32.2	24.0
2006	30.9	35.9	32.7	32.2	39.3
2007	31.2	31.6	30.7	30.0	39.2
9-year Mean Rate (i.e., Average)	33.7	35.5	34.6	33.6	36.2
Range (Annual Cases)	3,785-4,391	241-311	2,150-2,752	560-813	11-28
Total Cases	37,310	2,467	23,058	6,292	172

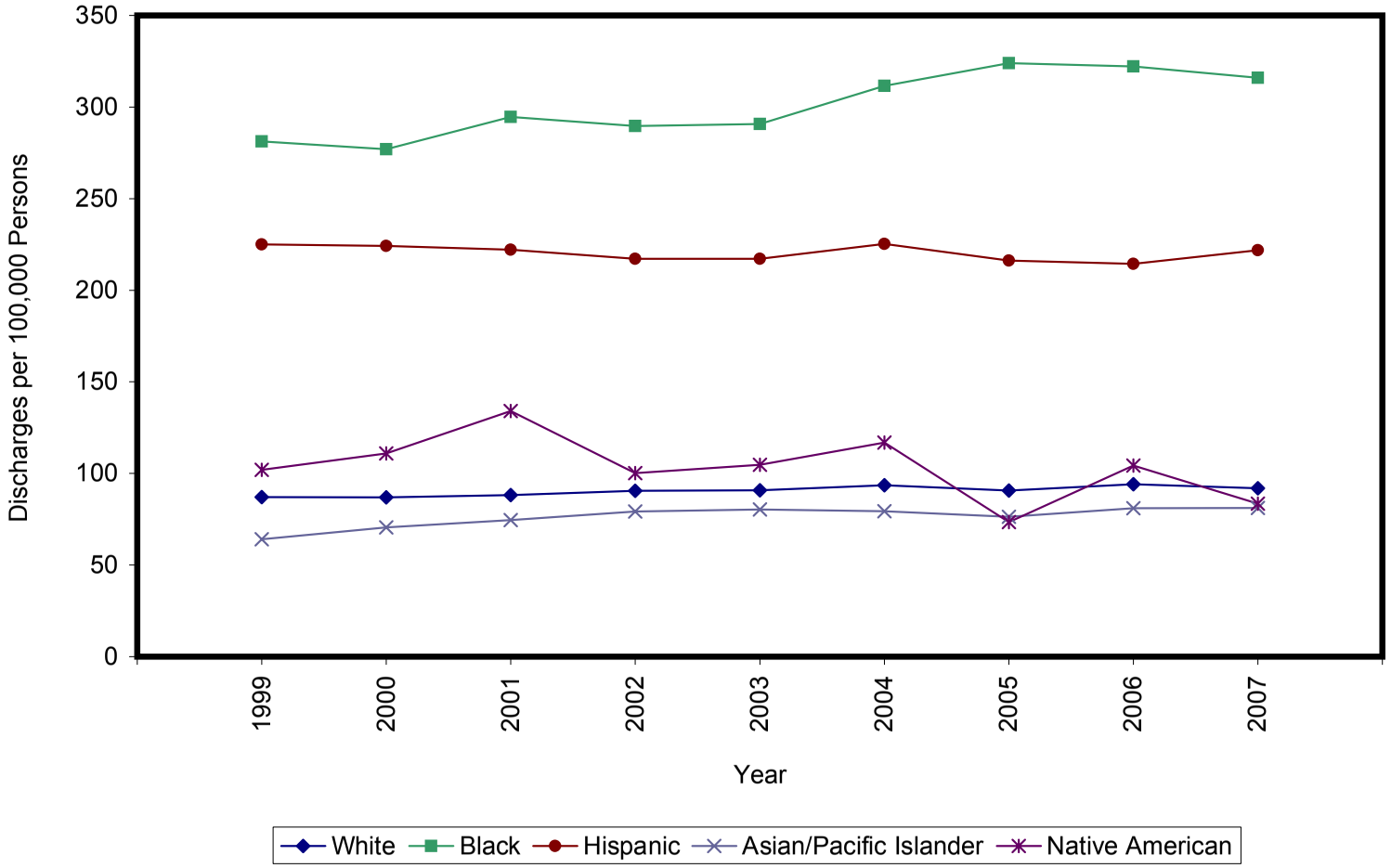
RESULTS:

The average hospitalization rates for perforated appendix were about the same for all the population groups, ranging from a low of 33.6 for Asians to a high of 36.2 for Native Americans. There was a downward trend in hospitalizations for this condition among all groups except Native Americans.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Diabetes Long-Term Complications Admission Rate (PQI 03)

FIGURE 1-3: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Diabetes Long-Term Complications Admission Rate (PQI 03)

TABLE 1-3: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	87.1	281.3	225.0	64.1	101.9
2000	86.9	277.0	224.2	70.5	110.9
2001	88.2	294.6	222.1	74.6	134.1
2002	90.5	289.6	217.2	79.3	100.2
2003	90.8	290.7	217.1	80.3	104.7
2004	93.5	311.6	225.3	79.4	116.8
2005	90.7	324.0	216.2	76.3	73.4
2006	94.1	322.2	214.4	81.0	104.3
2007	91.9	316.0	221.8	81.2	83.5
9-year Mean Rate (i.e., Average)	90.4	300.8	220.4	76.3	103.3
Range (Annual Cases)	10,845-11,949	3,287-4,219	7,353-10,676	1,237-2,158	94-139
Total Cases	103,010	33,817	80,551	15,872	1,059

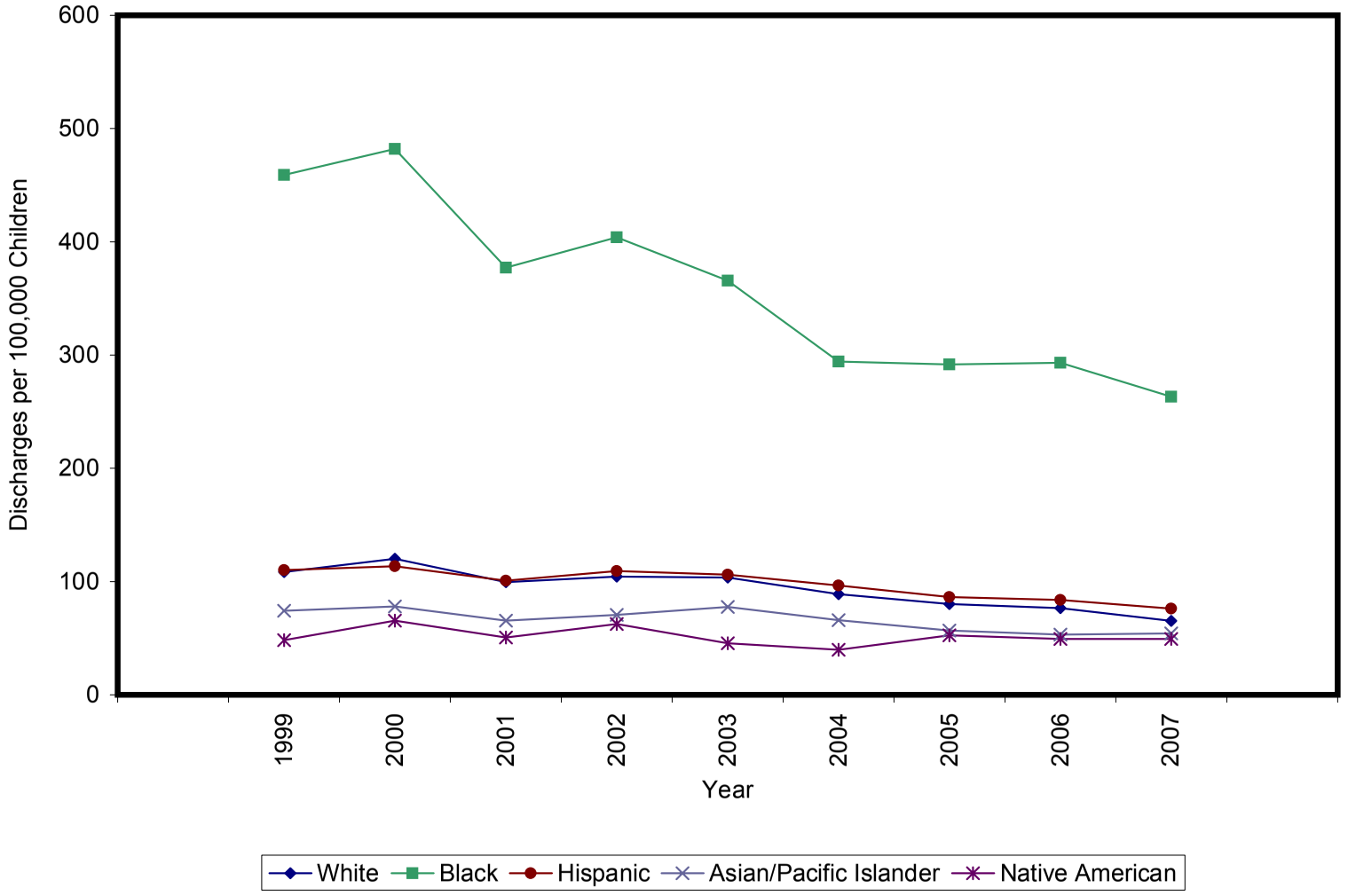
RESULTS:

The average hospitalization rate for long-term complications of diabetes was three times higher for Blacks (300.8) and two times higher for Hispanics (220.4) than for Whites (90.4); in 2007, both Asian/Pacific Islanders (76.3) and Native Americans (103.3) had the lowest rates, compared with all groups. There was an upward trend in hospitalizations for this condition among Blacks, and to a lesser degree for Whites and Asian/Pacific Islanders. There was a slight downward trend for Hispanics and no trend over time for Native Americans.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Pediatric Asthma Admission Rate (PQI 04)

FIGURE 1-4: Observed Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Pediatric Asthma Admission Rate (PQI 04)

TABLE 1-4: Observed Values 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	108.5	459.1	110.1	74.1	48.2
2000	120.1	481.9	113.5	78.0	65.5
2001	99.5	377.1	100.8	65.5	50.6
2002	104.4	404.0	109.3	70.6	62.5
2003	103.6	365.8	106.1	77.5	45.6
2004	88.9	294.2	96.6	65.9	39.7
2005	80.2	291.8	86.4	56.7	52.5
2006	76.6	293.2	83.8	53.2	49.3
2007	65.2	263.2	76.2	54.3	49.4
9-year Mean Rate (i.e., Average)	94.1	358.9	98.1	66.2	51.5
Range (Annual Cases)	1,752-3,558	1,462-2,992	3,074-4,082	459-654	17-30
Total Cases	24,440	19,222	33,375	5,055	208

RESULTS:

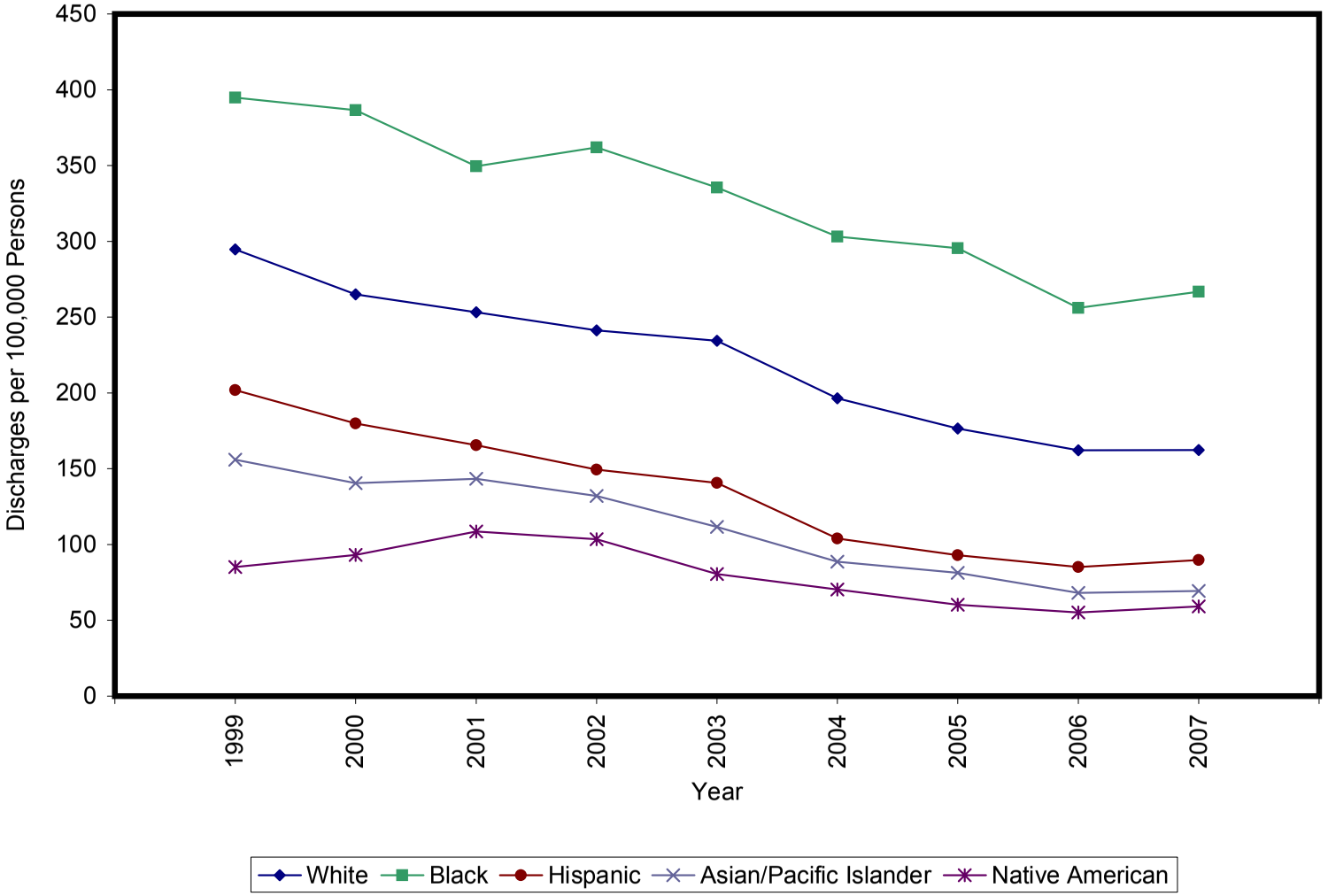
The average hospitalization rate for pediatric asthma was three and a half times higher for Blacks (358.9) than for Hispanics (98.1) or Whites (94.1). Asian/Pacific Islanders (66.2) and Native Americans (51.5) had the lowest average rates, compared with all groups. There was a steep downward trend in hospitalizations for this condition for Black children, declining 57% from 459.1 in 1999 to 263.2 in 2007. This rate also declined, but to a lesser degree for White and Asian/Pacific Islander children. There was no trend for Native American children.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Chronic Obstructive Pulmonary Disease (COPD) Admission Rate (PQI 05)

[chronic bronchitis or emphysema]

FIGURE 1-5: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Chronic Obstructive Pulmonary Disease (COPD) Admission Rate (PQI 05)

[chronic bronchitis or emphysema]

TABLE 1-5: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	294.7	394.8	201.8	156.0	85.1
2000	265.0	386.5	179.8	140.5	93.2
2001	253.3	349.5	165.6	143.3	108.6
2002	241.2	361.9	149.4	132.0	103.5
2003	234.4	335.5	140.7	111.6	80.6
2004	196.4	303.1	103.9	88.7	70.3
2005	176.6	295.5	93.0	81.3	60.2
2006	162.1	256.1	85.1	68.1	55.1
2007	162.4	266.8	89.7	69.4	59.2
9-year Mean Rate (i.e., Average)	220.7	327.7	134.3	110.1	79.5
Range (Annual Cases)	20,508-36,816	3,105-4,338	3,121-4,976	1,638-2,683	57-88
Total Cases	250,310	34,106	36,270	19,855	658

RESULTS:

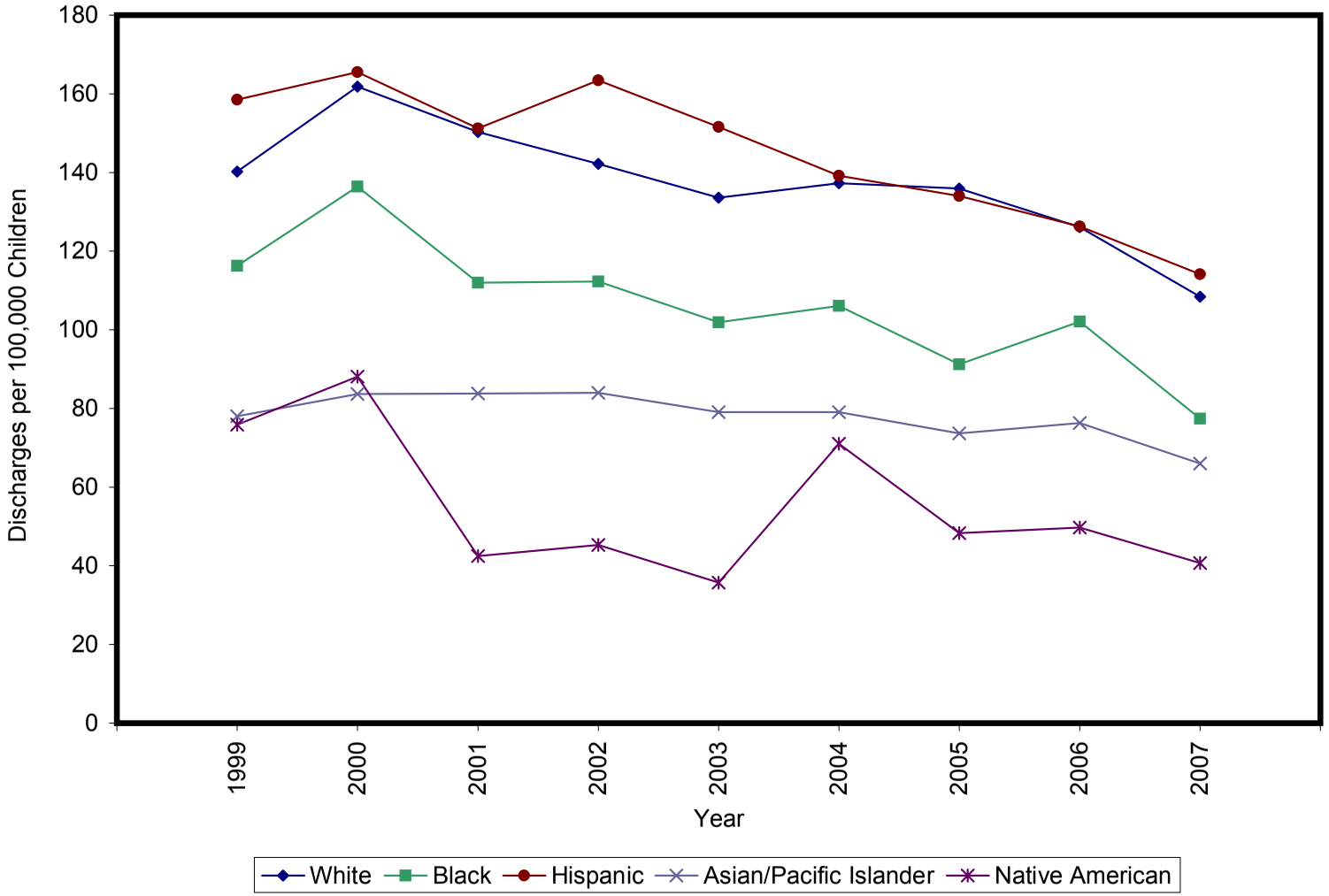
The average hospitalization rate for COPD was twice as high for Blacks (327.7) and about 50% higher for Whites (220.7) than for Hispanics (134.3). Asian/Pacific Islanders (110.1) and Native Americans (79.5) had the lowest rates, compared with all groups and were significantly lower, as were Hispanics, compared with Whites. There was a strong downward trend in hospitalizations for this condition for all groups.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Pediatric Gastroenteritis Admission Rate (PQI 06)

[severe vomiting and/or severe diarrhea in children]

FIGURE 1-6: Observed Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Pediatric Gastroenteritis Admission Rate (PQI 06)

[severe vomiting and/or severe diarrhea in children]

TABLE 1-6: Observed Values, 1999-2007 (Discharges per 100,000 Children)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	140.2	116.3	158.5	78.0	75.9
2000	161.8	136.4	165.5	83.7	88.1
2001	150.3	112.0	151.2	83.8	42.5
2002	142.2	112.3	163.4	84.0	45.3
2003	133.6	101.9	151.6	79.1	35.7
2004	137.3	106.1	139.2	79.1	71.0
2005	135.9	91.2	134.0	73.7	48.3
2006	126.1	102.1	126.3	76.3	49.7
2007	108.4	77.4	114.1	66.0	40.7
9-year Mean Rate (i.e., Average)	137.3	106.2	144.9	78.2	55.2
Range (Annual Cases)	3,210-5,247	472-900	5,168-6,815	633-776	17-48
Total Cases	38,960	6,204	55,174	6,599	247

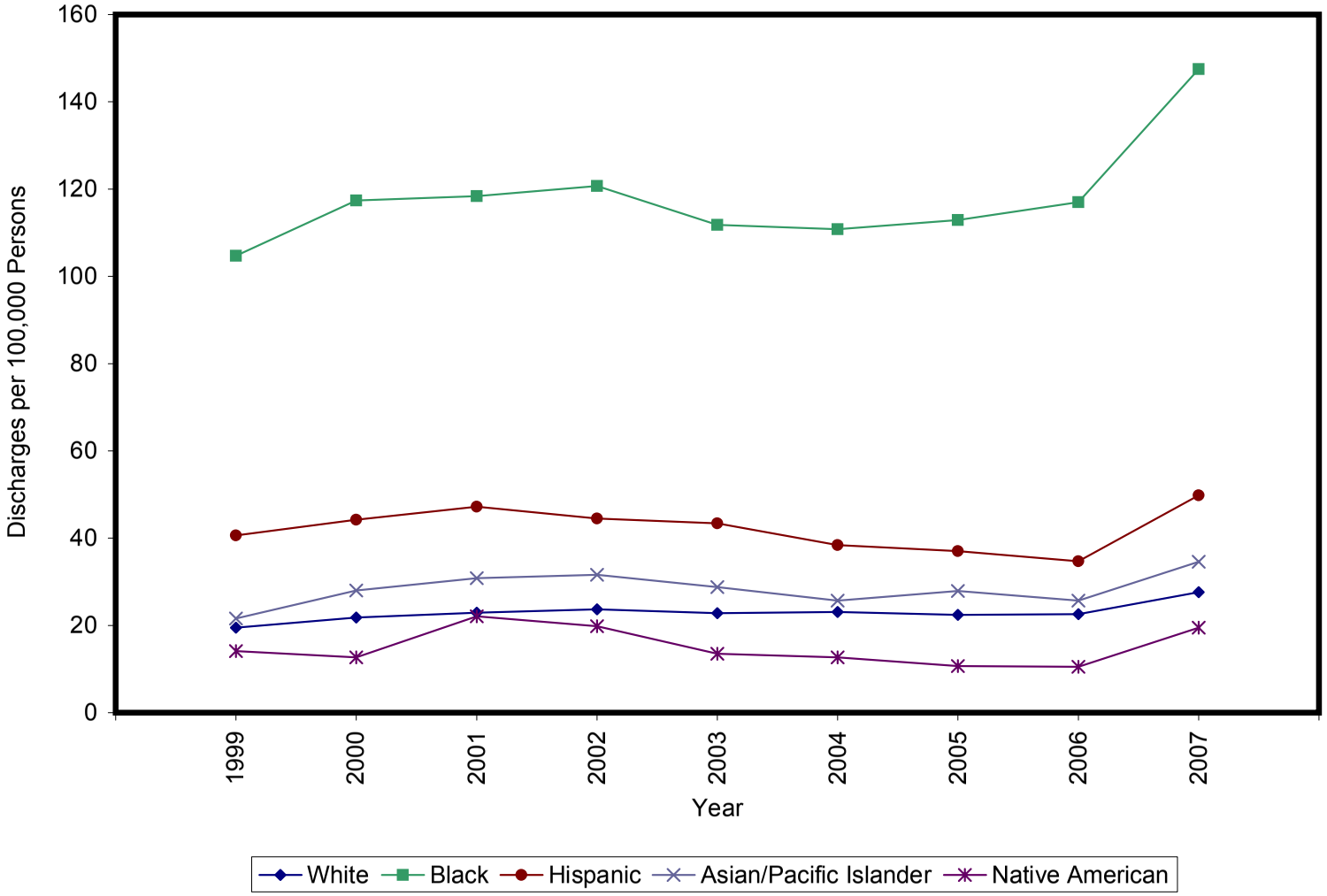
RESULTS:

The average hospitalization rate for pediatric gastroenteritis was higher for Hispanic (144.9) and White children (137.3) than for Black children (106.2), but only significantly different for Blacks, Asian/Pacific Islanders and Native Americans, compared to Whites. Asian/Pacific Islanders (78.2) and Native Americans (55.2) had the lowest rates. There was a downward trend in hospitalizations for this condition for all groups.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Hypertension Admission Rate (PQI 07)
[high blood pressure]

FIGURE 1-7: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Hypertension Admission Rate (PQI 07)
[high blood pressure]

TABLE 1-7: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	19.5	104.7	40.6	21.6	14.1
2000	21.8	117.4	44.2	28.0	12.7
2001	22.9	118.4	47.2	30.8	22.1
2002	23.7	120.7	44.5	31.6	19.8
2003	22.8	111.8	43.4	28.8	13.5
2004	23.1	110.8	38.4	25.7	12.7
2005	22.4	112.9	37.0	27.9	10.7
2006	22.6	117.0	34.7	25.7	10.5
2007	27.6	147.5	49.8	34.6	19.5
9-year Mean Rate (i.e., Average)	22.9	117.9	42.2	28.3	15.1
Range (Annual Cases)	2,443-3,572	1,346-2,036	1,335-2,342	439-942	11-23
Total Cases	26,167	14,011	15,223	6,071	137

RESULTS:

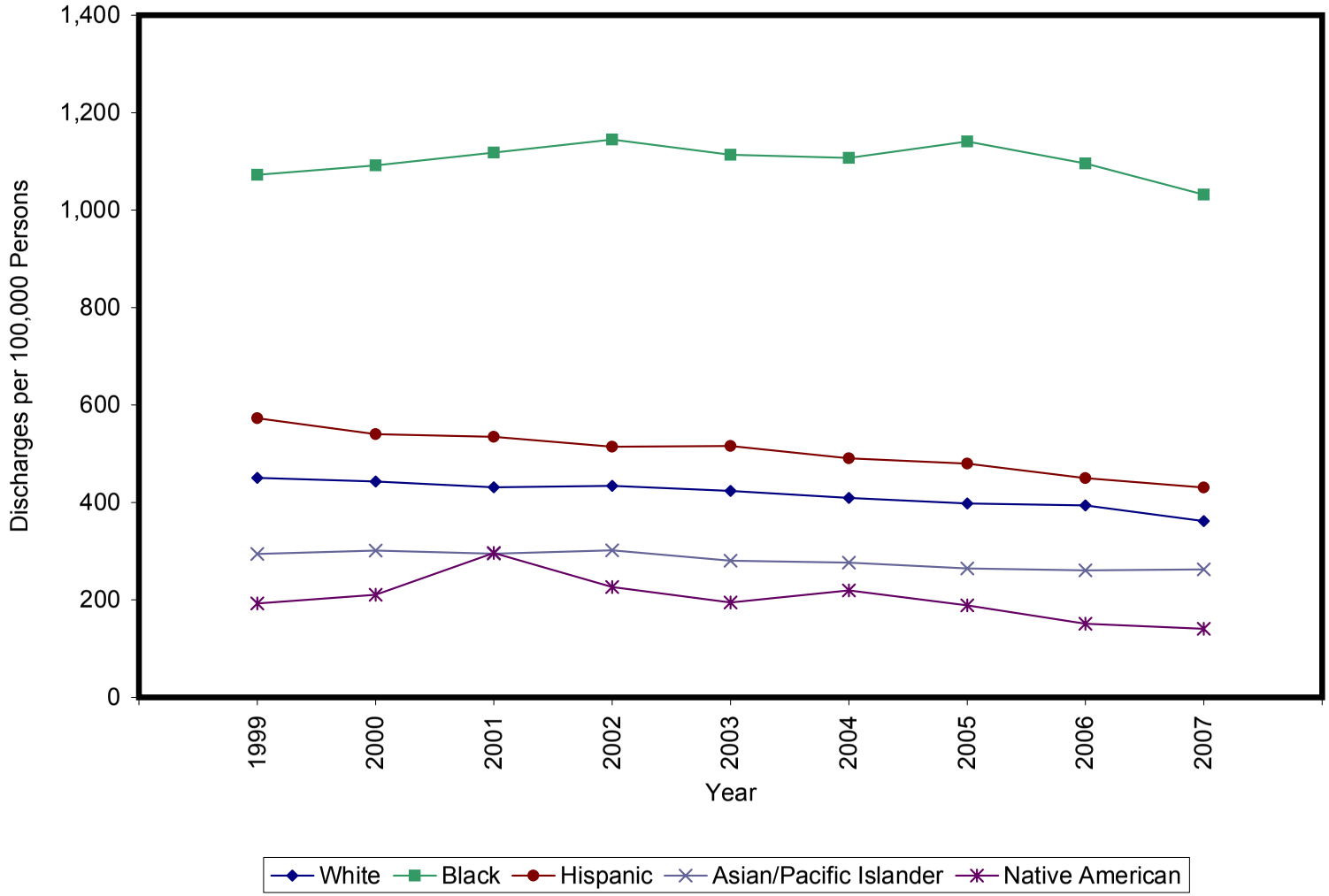
The average hospitalization rate for hypertension was more than two and a half times higher for Blacks (117.9) than for Hispanics (42.2), both of which were significantly higher compared to Whites. The rates for Whites (22.9), Asian/Pacific Islanders (28.3) and Native Americans (15.1) were all lower than for Blacks and Hispanics. There was a slight upward trend in hospitalizations for this condition among White and Black patients, a slight downward trend for Hispanics and a flat trend for Asian/Pacific Islanders, but for Native Americans the trend was not statistically significant. For all groups the rate increased in 2007.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Congestive Heart Failure (CHF) Admission Rate (PQI 08)

[heart failure]

FIGURE 1-8: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Congestive Heart Failure (CHF) Admission Rate (PQI 08)

[heart failure]

TABLE 1-8: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	450.3	1,072.3	572.8	294.2	193.0
2000	443.1	1,091.8	540.2	301.2	210.7
2001	431.2	1,118.0	534.7	295.1	296.6
2002	434.0	1,144.8	514.5	301.6	226.5
2003	423.6	1,113.8	516.0	280.5	194.9
2004	409.2	1,107.1	490.8	276.5	219.5
2005	397.7	1,140.9	479.8	264.8	188.9
2006	393.8	1,095.8	450.1	260.5	151.2
2007	361.7	1,031.7	430.7	262.7	140.6
9-year Mean Rate (i.e., Average)	416.1	1,101.8	503.3	281.9	202.4
Range (Annual Cases)	46,614-55,990	11,578-13,708	14,153-17,450	5,044-6,533	155-236
Total Cases	472,252	114,221	143,727	53,103	1,639

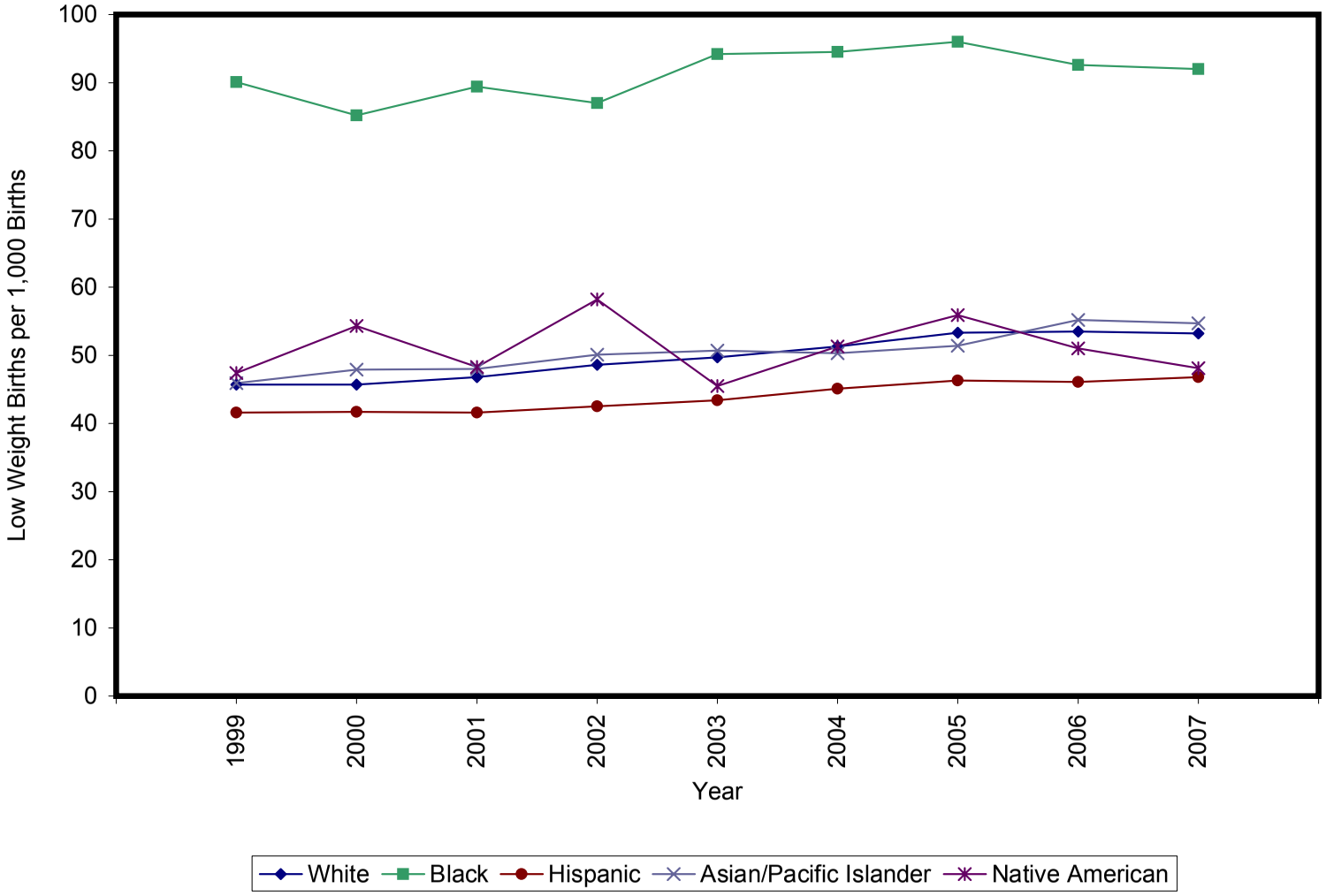
RESULTS:

The average hospitalization rate for CHF was more than twice as high for Blacks (1,101.8) as for Hispanics (503.3) and nearly three times that of Whites (416.1). Asian/Pacific Islanders (281.9) and Native Americans (202.4) had the lowest rates and significantly lower compared with Whites. There was a downward trend in hospitalizations for this condition for Hispanics, and to a lesser degree for White and Asian/Pacific Islander patients. The trend in hospitalizations for Blacks was flat.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Low Birth Weight (PQI 09)

FIGURE 1-9: Observed Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Low Birth Weight (PQI 09)

TABLE 1-9: Observed Values, 1999-2007 (Low Weight Births per 100,000 Births)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	45.7	90.1	41.6	45.9	47.4
2000	45.7	85.2	41.7	47.9	54.3
2001	46.8	89.4	41.6	48.0	48.3
2002	48.6	87.0	42.5	50.1	58.2
2003	49.7	94.2	43.4	50.7	45.5
2004	51.3	94.5	45.1	50.3	51.3
2005	53.3	96.0	46.3	51.4	55.9
2006	53.5	92.6	46.1	55.2	51.0
2007	53.2	92.0	46.8	54.7	48.1
9-year Mean Rate (i.e., Average)	49.8	91.2	43.9	50.5	51.1
Range (Annual Cases)	8,585-9,561	2,461-2,794	9,293-12,577	2,049-3,134	59-75
Total Cases	81,694	23,704	96,462	23,460	597

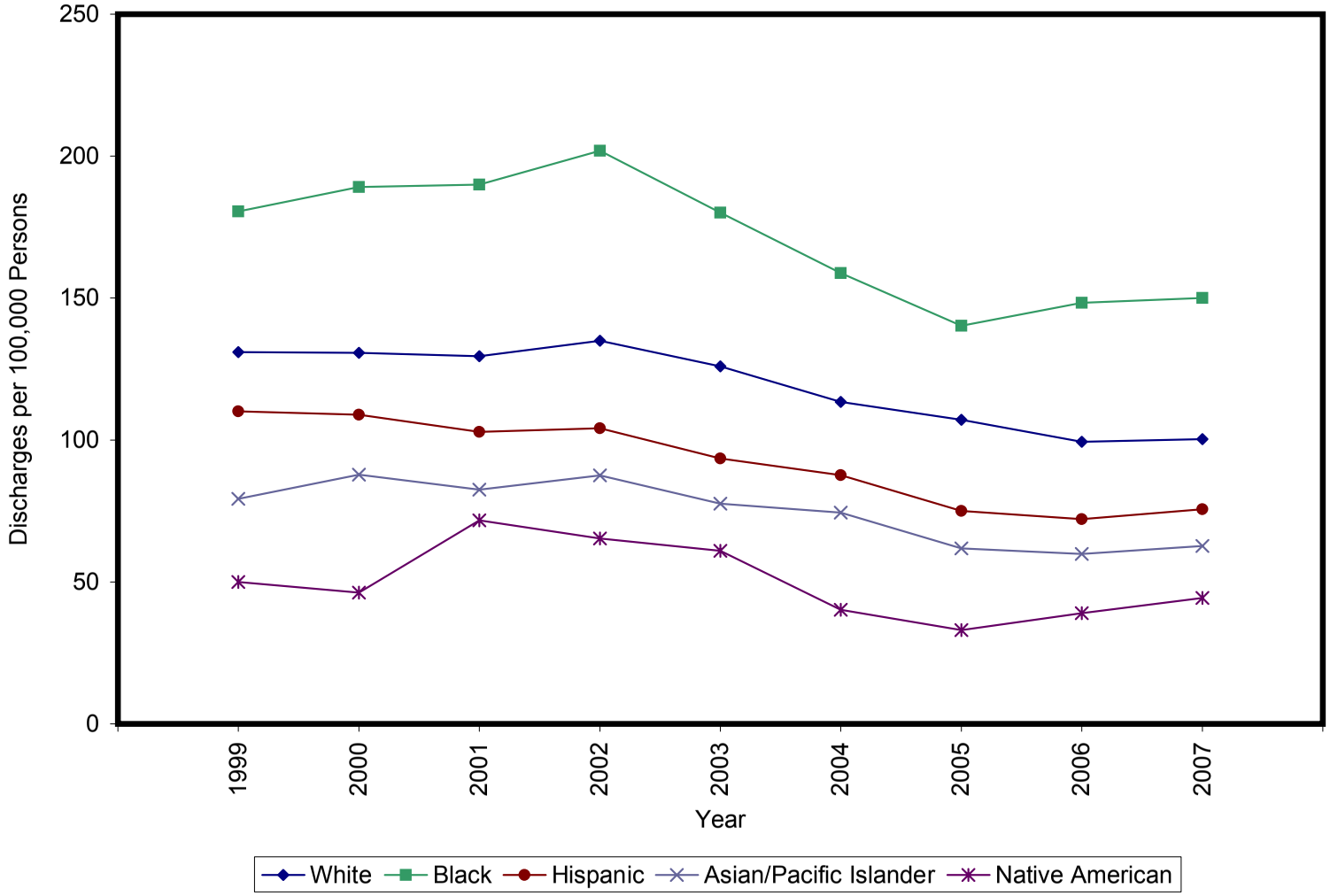
RESULTS:

The average rate of babies born with low birth weight was nearly twice as high for Blacks (91.2) as for Native Americans (51.1), Asian/Pacific Islanders (50.5), and Whites (49.8), and more than twice as high as that for Hispanics (43.9). There was an upward trend in hospitalizations for this condition among White, Asian/Pacific Islander, and Hispanic patients, a flat trend among Blacks and no statistically significant overall trend for Native Americans.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Dehydration Admission Rate (PQI 10)

FIGURE 1-10: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Dehydration Admission Rate (PQI 10)

TABLE 1-10: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	131.0	180.5	110.1	79.3	50.0
2000	130.7	189.1	108.9	87.8	46.2
2001	129.5	190.0	102.9	82.5	71.7
2002	135.0	201.9	104.1	87.5	65.3
2003	125.9	180.1	93.5	77.6	61.0
2004	113.4	158.8	87.6	74.4	40.2
2005	107.1	140.2	75.0	61.8	33.0
2006	99.4	148.3	72.1	59.9	39.0
2007	100.3	150.0	75.6	62.7	44.4
9-year Mean Rate (i.e., Average)	119.2	171.0	92.2	74.8	50.1
Range (Annual Cases)	12,596-17,092	1,565-2,077	2,887-3,348	1,384-1,734	37-62
Total Cases	135,697	16,394	27,763	14,134	437

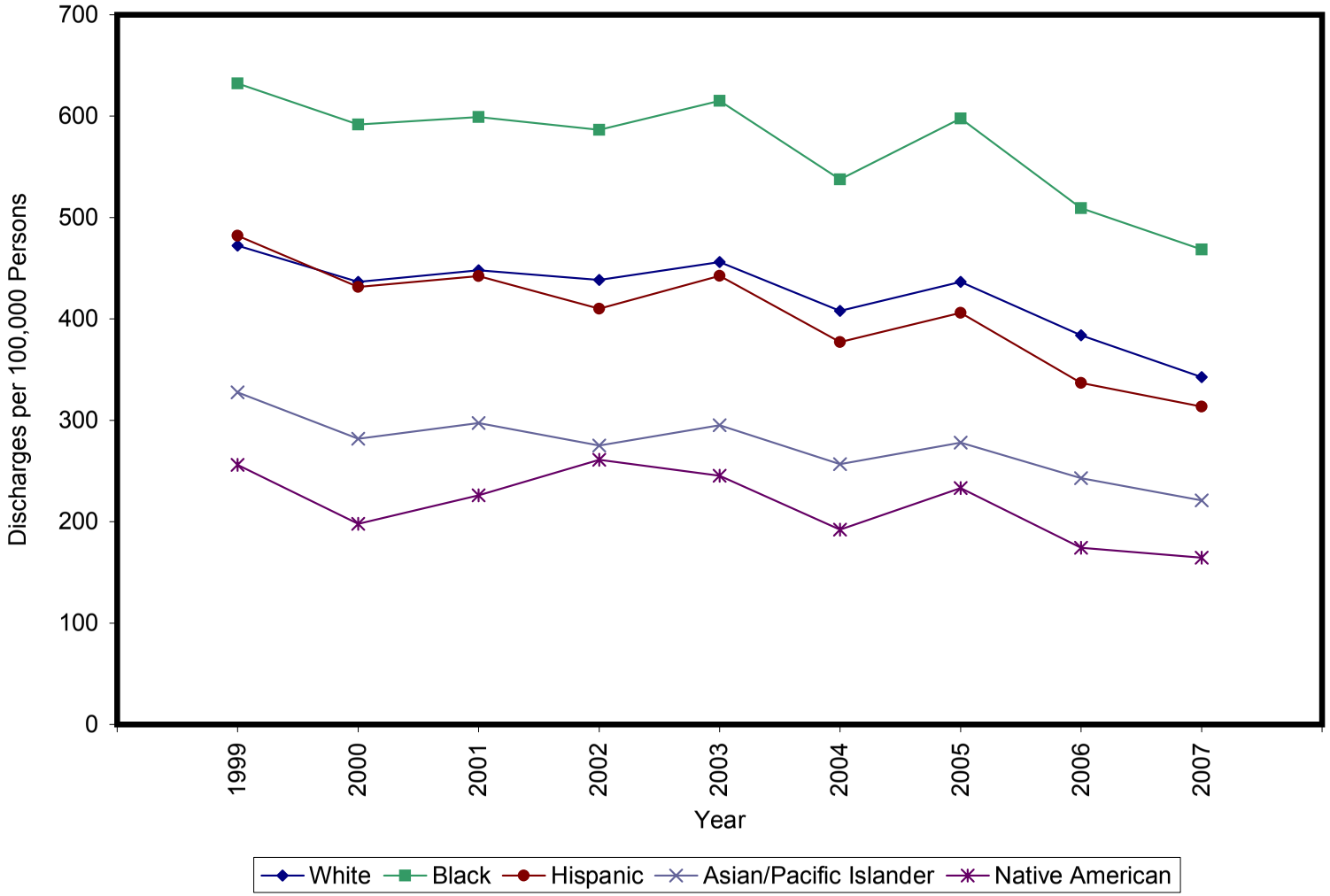
RESULTS:

The average hospitalization rate for dehydration was about 50% higher for Blacks (171.0) than for Whites (119.2) and nearly twice that of Hispanics (92.2). Asian/Pacific Islanders (74.8) and Native Americans (50.1) had the lowest rates, compared with all groups. There was a downward trend in hospitalizations for this condition for all groups except Native Americans, for whom there was no significant trend.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Bacterial Pneumonia Admission Rate (PQI 11)

FIGURE 1-11: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Bacterial Pneumonia Admission Rate (PQI 11)

TABLE 1-11: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	472.4	632.4	482.2	327.6	256.1
2000	436.5	591.8	431.5	281.8	197.8
2001	448.0	599.2	442.3	297.3	226.1
2002	438.5	586.5	410.1	275.1	261.1
2003	456.1	615.1	442.4	295.2	245.4
2004	408.0	537.7	377.2	256.8	192.2
2005	436.5	597.7	406.1	278.1	233.2
2006	383.8	509.3	336.8	242.9	174.4
2007	342.7	468.4	313.6	220.9	164.5
9-year Mean Rate (i.e., Average)	424.7	570.9	404.7	275.1	216.8
Range (Annual Cases)	44,202-58,931	5,782-7,137	11,992-15,277	5,003-6,508	163-245
Total Cases	482,722	59,398	119,891	51,646	1,868

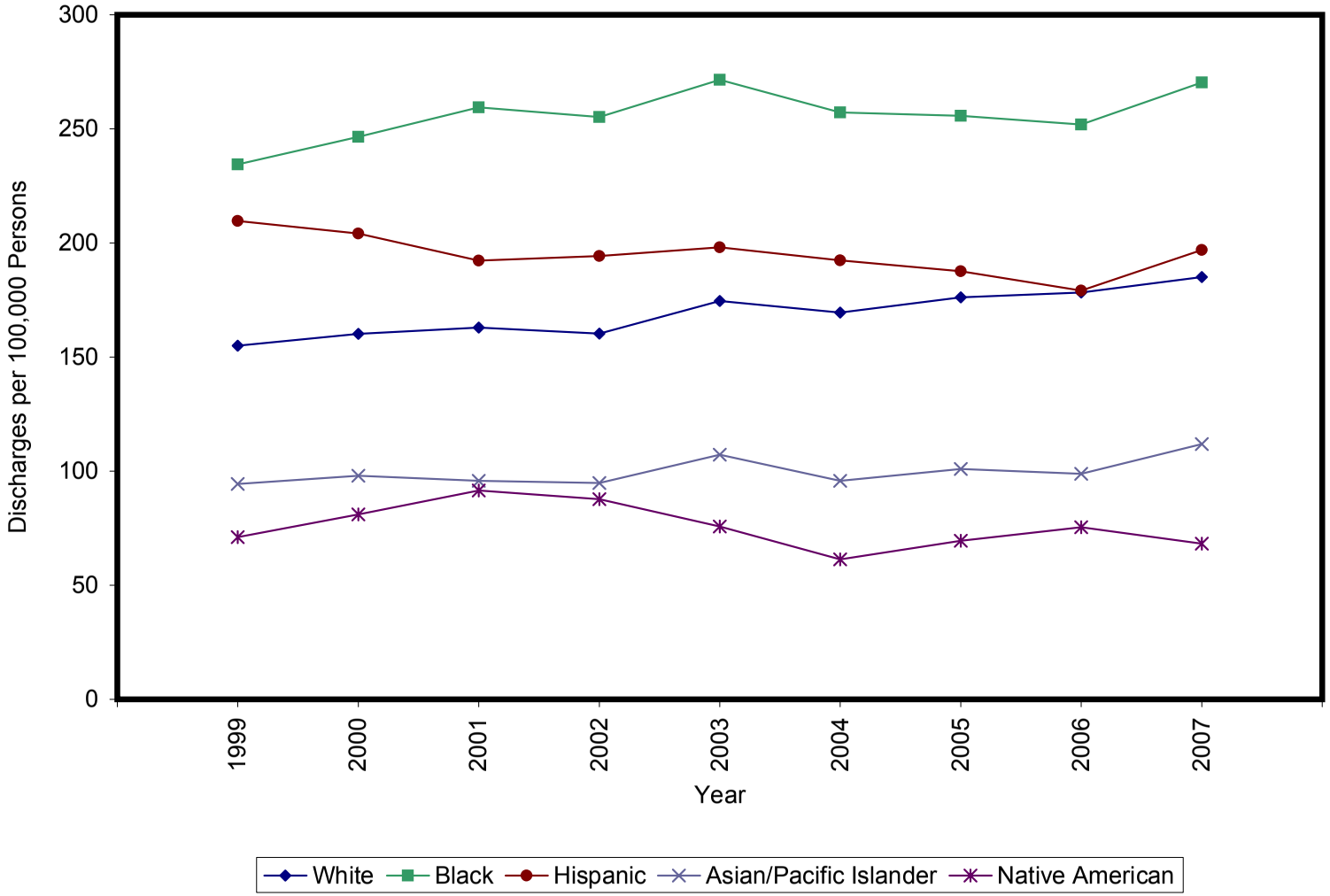
RESULTS:

The average hospitalization rate for bacterial pneumonia was about 30% higher for Blacks (570.9) than for Whites (424.7) or Hispanics (404.7). Asian/Pacific Islanders (275.1) and Native Americans (216.8) had the lowest rates, compared with all groups and were significantly lower compared with Whites. There was a clear downward trend in hospitalizations for this condition for all groups.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Urinary Tract Infection Admission Rate (PQI 12)

FIGURE 1-12: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Urinary Tract Infection Admission Rate (PQI 12)

TABLE 1-12: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	155.0	234.4	209.6	94.4	71.1
2000	160.2	246.5	204.1	98.0	81.0
2001	162.9	259.4	192.3	95.8	91.5
2002	160.3	255.2	194.3	94.8	87.7
2003	174.6	271.5	198.1	107.2	75.7
2004	169.5	257.2	192.4	95.8	61.3
2005	176.2	255.7	187.6	101.0	69.5
2006	178.3	251.9	179.1	98.8	75.4
2007	185.1	270.3	196.9	111.9	68.2
9-year Mean Rate (i.e., Average)	169.1	255.8	194.9	99.7	75.7
Range (Annual Cases)	19,493-23,825	2,561-3,132	6,652-9,100	1,772-2,892	69-87
Total Cases	193,063	25,657	69,530	20,257	712

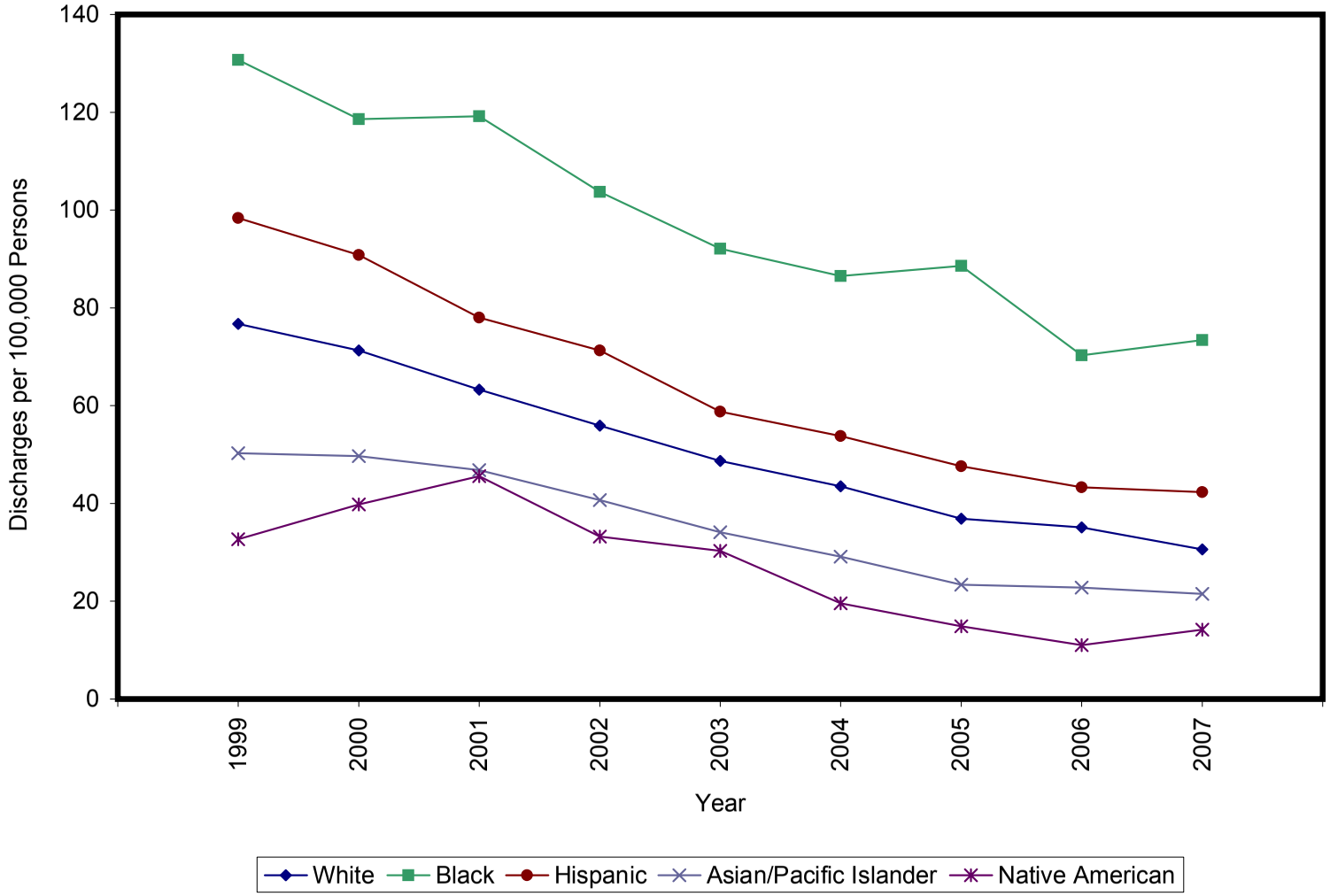
RESULTS:

Compared with Whites (169.1), the average hospitalization rate for urinary tract infection was markedly higher for Blacks (255.8) and Hispanics (194.9). Asian/Pacific Islanders (99.7) and Native Americans (75.7) had the lowest rates, significantly lower compared with Whites. There was a slight upward trend in hospitalizations for this condition among Whites and slight downward trend among Hispanics. For Blacks and Asian/Pacific Islanders the trend was flat and there was no statistically significant overall trend for Native Americans.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Angina without Procedure Admission Rate (PQI 13)
[chest pain]

FIGURE 1-13: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Angina without Procedure Admission Rate (PQI 13)
[chest pain]

TABLE 1-13: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	76.7	130.7	98.4	50.3	32.7
2000	71.3	118.6	90.8	49.7	39.8
2001	63.3	119.2	78.0	46.8	45.6
2002	55.9	103.7	71.3	40.7	33.2
2003	48.7	92.1	58.8	34.1	30.3
2004	43.5	86.5	53.8	29.1	19.6
2005	36.9	88.6	47.6	23.4	14.9
2006	35.1	70.3	43.3	22.8	11.0
2007	30.6	73.4	42.3	21.5	14.2
9-year Mean Rate (i.e., Average)	51.3	98.1	64.9	35.4	26.8
Range (Annual Cases)	3,973-9,528	954-1,547	2,012-3,044	600-1,003	14-45
Total Cases	58,183	11,130	22,372	7,302	270

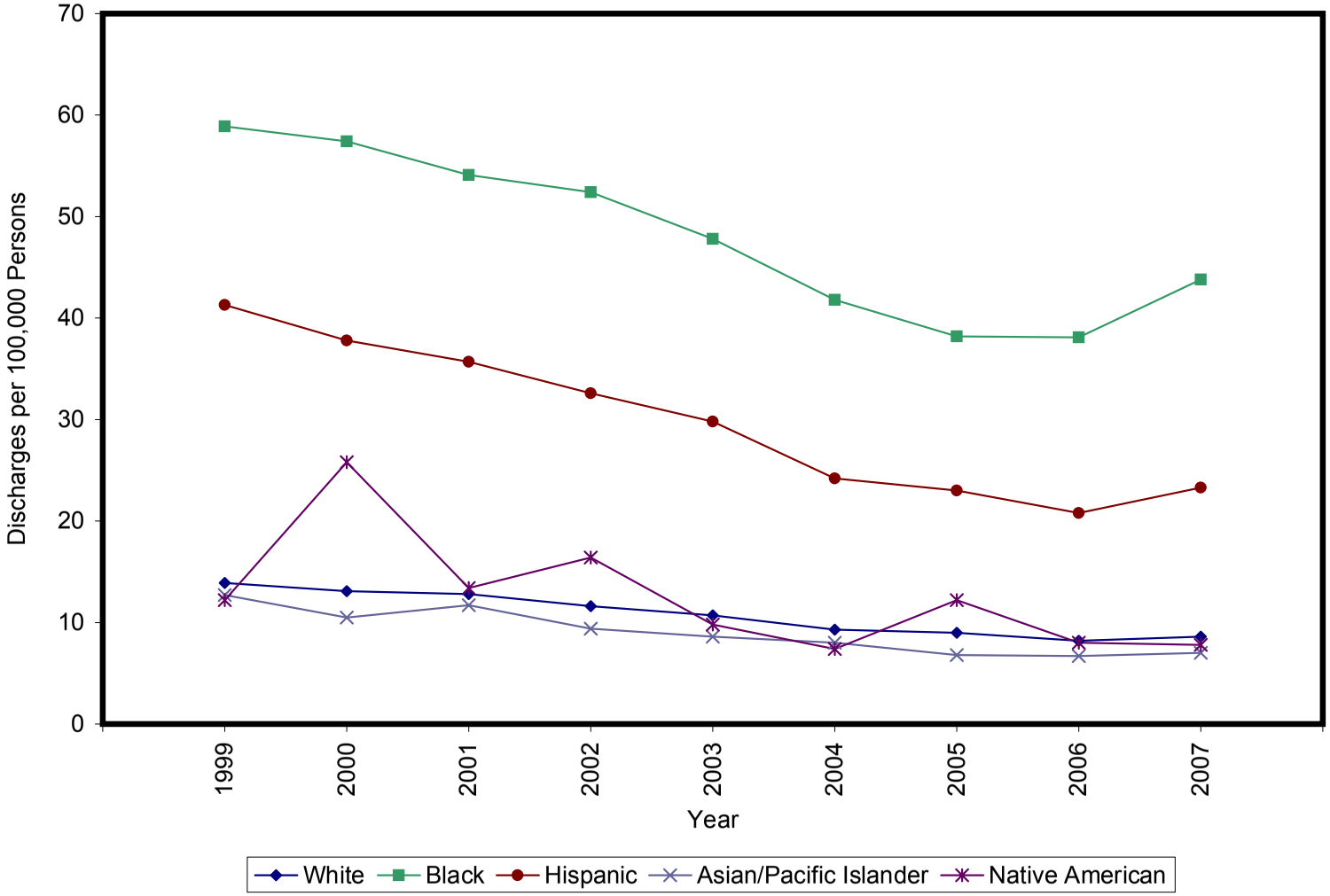
RESULTS:

The average hospitalization rate for angina in patients not receiving medical treatment was nearly twice as high for Blacks (98.1) as for Whites (51.3). The rate for Hispanics (64.9) was also higher than that of Whites. Asian/Pacific Islanders (35.4) and Native Americans (26.8) had the lowest rates, compared to all groups and significantly lower compared to Whites. There was a dramatic downward trend for all groups, with 2007 rates one-third to one-half of 1999 rates.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Uncontrolled Diabetes Admission Rate (PQI 14)

FIGURE 1-14: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Uncontrolled Diabetes Admission Rate (PQI 14)

TABLE 1-14: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	13.9	58.9	41.3	12.7	12.2
2000	13.1	57.4	37.8	10.5	25.8
2001	12.8	54.1	35.7	11.7	13.4
2002	11.6	52.4	32.6	9.4	16.4
2003	10.7	47.8	29.8	8.6	9.8
2004	9.3	41.8	24.2	8.0	7.4
2005	9.0	38.2	23.0	6.8	12.2
2006	8.2	38.1	20.8	6.7	8.0
2007	8.6	43.8	23.3	7.0	7.8
9-year Mean Rate (i.e., Average)	10.8	48.1	29.8	9.0	12.5
Range (Annual Cases)	1,047-1,752	553-772	1,141-1,569	174-252	8-25
Total Cases	12,344	5,964	12,114	1,872	132

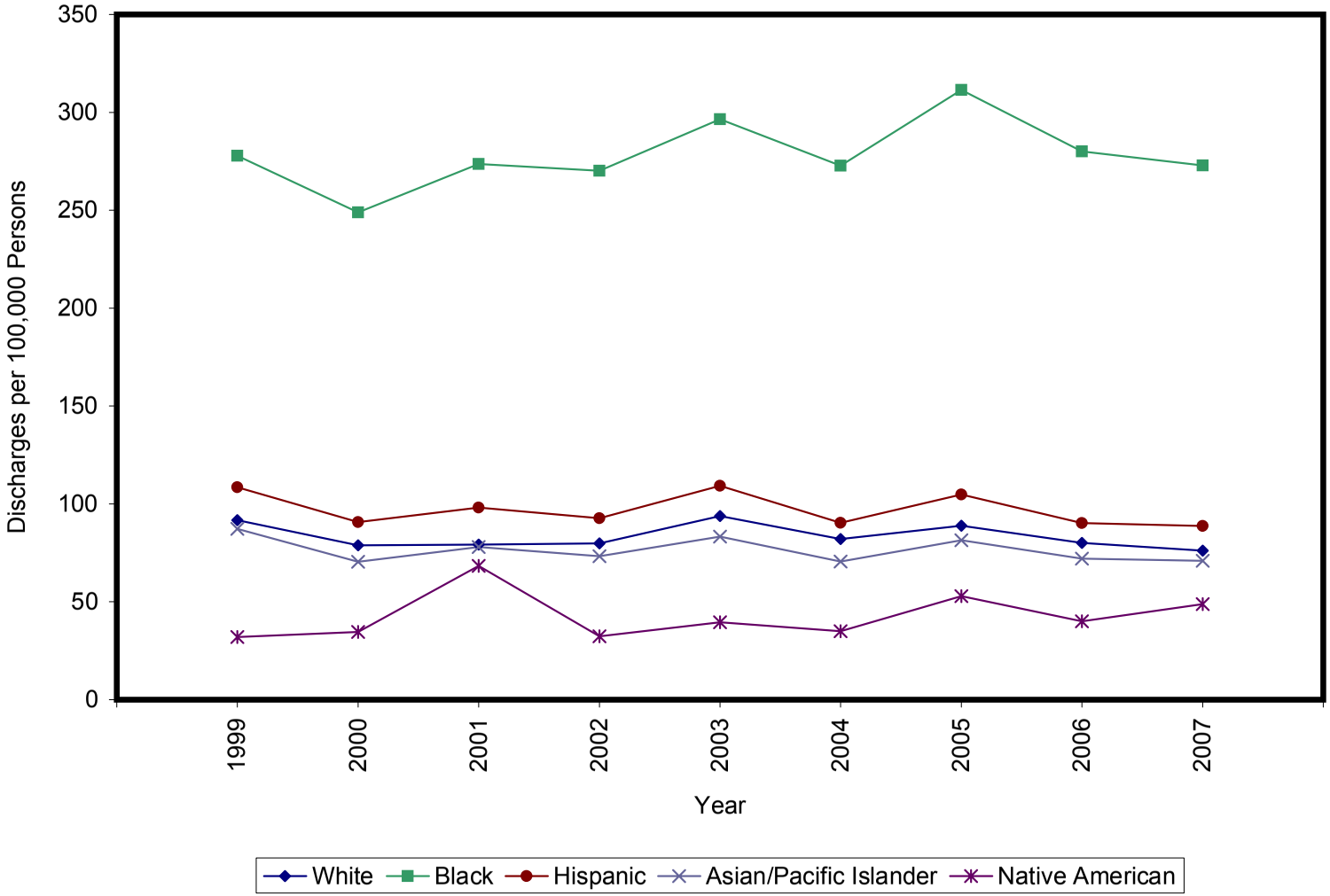
RESULTS:

The average hospitalization rate for patients with poorly controlled diabetes was nearly five times higher for Blacks (48.1) and three times higher for Hispanics (29.8) than for Whites (10.8). Native Americans (12.5) and Asian/Pacific Islanders (9.0) had rates about the same as for Whites. There was a clear downward trend in hospitalizations for this condition for Blacks and Hispanics and to a lesser degree among Whites and Asian/Pacific Islanders.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Adult Asthma Admission Rate (PQI 15)

FIGURE 1-15: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Adult Asthma Admission Rate (PQI 15)

TABLE 1-15: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	91.7	277.8	108.5	87.3	32.0
2000	78.9	248.9	90.7	70.5	34.6
2001	79.2	273.6	98.1	78.0	68.3
2002	79.8	270.2	92.7	73.3	32.4
2003	93.8	296.5	109.2	83.3	39.6
2004	82.1	272.7	90.4	70.6	35.0
2005	88.9	311.4	104.8	81.4	52.9
2006	80.1	280.1	90.2	72.0	40.0
2007	76.1	272.9	88.7	70.9	48.8
9-year Mean Rate (i.e., Average)	83.4	278.2	97.0	76.4	42.6
Range (Annual Cases)	9,847-11,972	3,657-4,565	4,098-5,154	1,514-2,048	42-83
Total Cases	95,793	36,912	41,377	16,337	497

RESULTS:

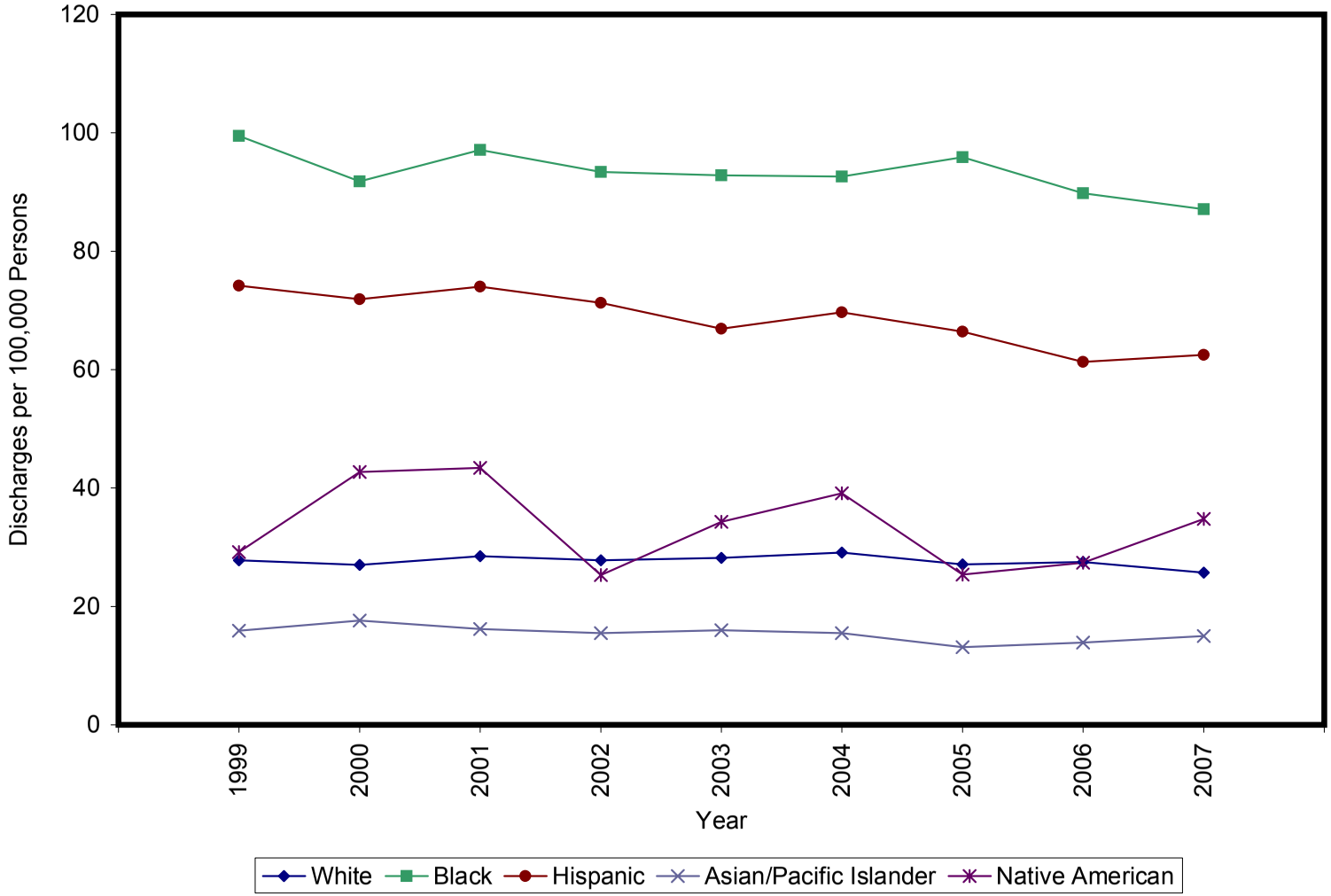
The average hospitalization rate for adults with asthma was about three times higher for Blacks (278.2) than for Hispanics (97.0) and Whites (83.4), and almost four times that of Asian/Pacific Islanders (76.4). Native Americans (42.6) had the lowest rates, compared with all groups. There was a flat overall trend in hospitalization rates for this condition in all of the groups.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Lower-Extremity Amputation among Patients with Diabetes (PQI 16)

[removal of leg or foot due to diabetes complications]

FIGURE 1-16: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Lower-Extremity Amputation among Patients with Diabetes (PQI 16)

[removal of leg or foot due to diabetes complications]

TABLE 1-16: Age-Sex Adjusted Values, 1999-2007 (Discharges per 100,000 Persons)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	27.8	99.5	74.2	15.9	29.2
2000	27.0	91.8	71.9	17.6	42.7
2001	28.5	97.1	74.0	16.2	43.4
2002	27.8	93.4	71.3	15.5	25.3
2003	28.2	92.8	66.9	16.0	34.3
2004	29.1	92.6	69.7	15.5	39.1
2005	27.1	95.9	66.4	13.1	25.4
2006	27.5	89.8	61.3	13.9	27.4
2007	25.7	87.1	62.5	15.0	34.8
9-year Mean Rate (i.e., Average)	27.6	93.3	68.7	15.4	33.5
Range (Annual Cases)	3,339-3,689	998-1,119	2,252-2,953	291-404	27-46
Total Cases	31,386	9,581	24,060	3,174	341

RESULTS:

Rates for Blacks, Hispanics and Native Americans were all significantly higher, compared with Whites. The average hospitalization rate for diabetes patients for the purpose of amputating a leg or foot was three times higher for Blacks (93.3) and two times higher for Hispanics (68.7) than for Whites (27.6) or Native Americans (33.5). Asian/Pacific Islanders (15.4) had the lowest rates compared with all groups. There was a downward trend in hospitalizations for this condition for Blacks, Hispanics, and Asian/Pacific Islanders. Among Native Americans and Whites there was no trend.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

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SECTION 2: INPATIENT QUALITY INDICATORS (IQIs), IN-HOSPITAL MORTALITY (DEATH), 1999-2007

This section presents 15 Inpatient Quality Indicators (IQIs) measuring hospital mortality rates for selected procedures and conditions and the extent to which these rates differ by race and ethnicity. Whites, who make up the largest racial/ethnic group, are used as the baseline with which other groups are compared. The IQI numbers are not entirely sequential due to the exclusion of volume and utilization measures.

The IQIs (mortality rates) presented in this section are:

- IQI 08 – Esophageal Resection *[removal of all or part of the esophagus]*
- IQI 09 – Pancreatic Resection *[removal of all or part of the pancreas]*
- IQI 11 – Abdominal Aortic Aneurysm (AAA) Repair *[for ruptured or bulging aorta]*
- IQI 12 – Coronary Artery Bypass Graft (CABG) *[heart bypass surgery]*
- IQI 13 – Craniotomy *[operation through the skull, including brain surgery]*
- IQI 14 – Hip Replacement
- IQI 15 – Acute Myocardial Infarction (AMI) *[heart attack including transfers between healthcare facilities]*
- IQI 16 – Congestive Heart Failure (CHF) *[heart failure]*
- IQI 17 – Acute Stroke *[including hemorrhagic]*
- IQI 18 – Gastrointestinal Hemorrhage *[intestinal bleeding]*
- IQI 19 – Hip Fracture
- IQI 20 – Pneumonia
- IQI 30 – Percutaneous Transluminal Coronary Angioplasty (PTCA) *[non-surgical coronary artery disease treatment, may include insertion of a stent]*
- IQI 31 – Carotid Endarterectomy *[surgery on the carotid artery in neck]*
- IQI 32 – Acute Myocardial Infarction (AMI) without Transfer Cases *[heart attack without transfers between healthcare facilities]*

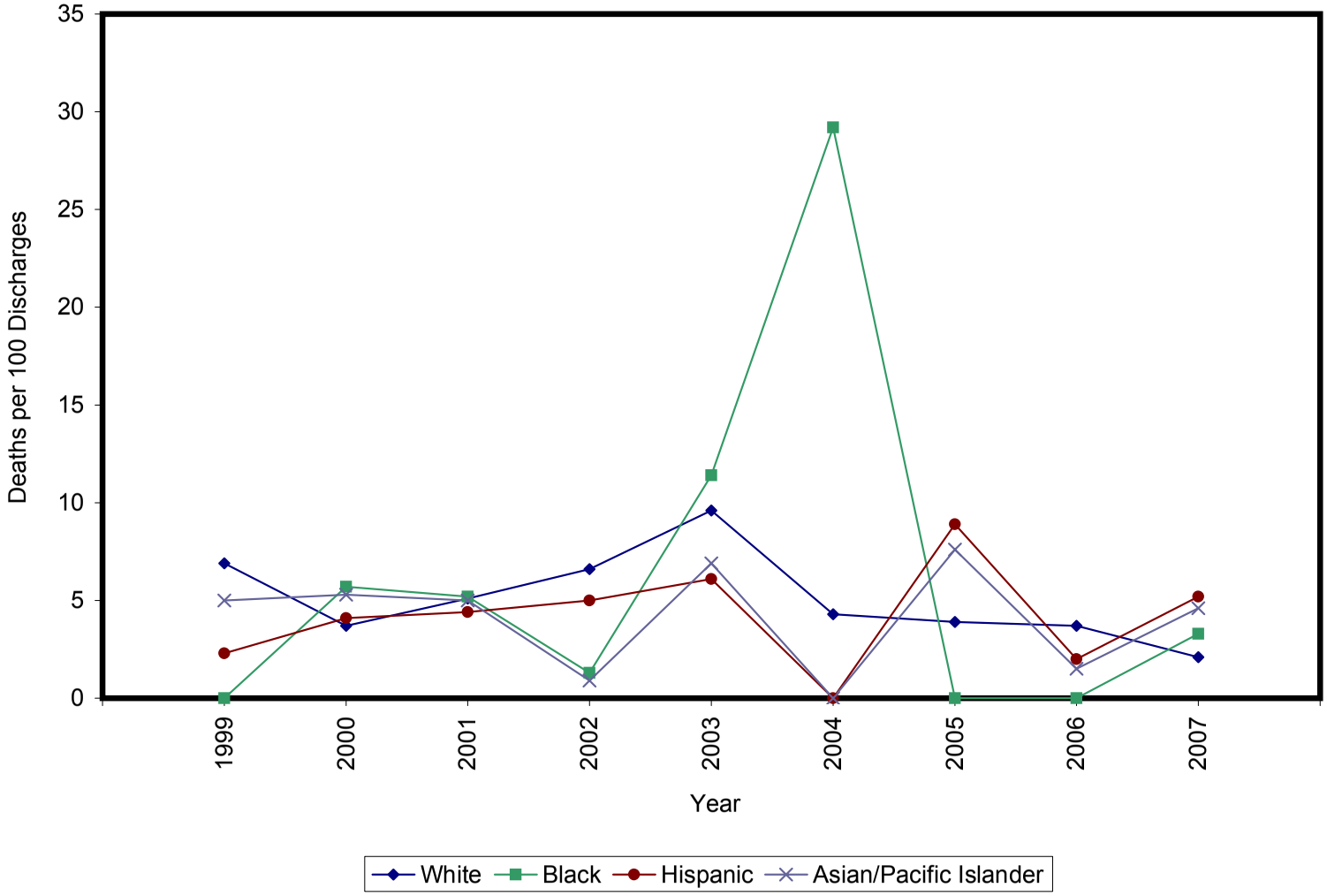
These conditions *"include procedures for which mortality has been shown to vary across institutions and for which there is evidence that high mortality may be associated with poorer quality of care,"* or *"include conditions for which mortality has been shown to vary substantially across institutions and for which evidence suggests that high mortality may be associated with deficiencies in the quality of care."*[1] For this report, death is defined as mortality that occured in the hospital.

1 AHRQ Quality Indicators Guide to Inpatient Quality Indicators, 2007, http://www.qualityindicators.ahrq.gov/downloads/iqi/iqi_guide_v31.pdf

Esophageal Resection Mortality Rate (IQI 08)

[removal of all or part of the esophagus]

FIGURE 2-1: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Esophageal Resection Mortality Rate (IQI 08)

[removal of all or part of the esophagus]

TABLE 2-1: Age-Sex Adjusted Values, 1999-2007 (Deaths per 100 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	6.9	0.0	2.3	5.0	--
2000	3.7	5.7	4.1	5.3	0.0
2001	5.1	5.2	4.4	5.0	--
2002	6.6	1.3	5.0	0.9	0.0
2003	9.6	11.4	6.1	6.9	--
2004	4.3	29.2	0.0	0.0	0.0
2005	3.9	0.0	8.9	7.6	--
2006	3.7	0.0	2.0	1.5	--
2007	2.1	3.3	5.2	4.6	--
9-year Mean Rate (i.e., Average)	5.1	6.2	4.2	4.1	0.0
Total Deaths	113	8	15	13	0
Total Discharges	1,378	64	143	101	3

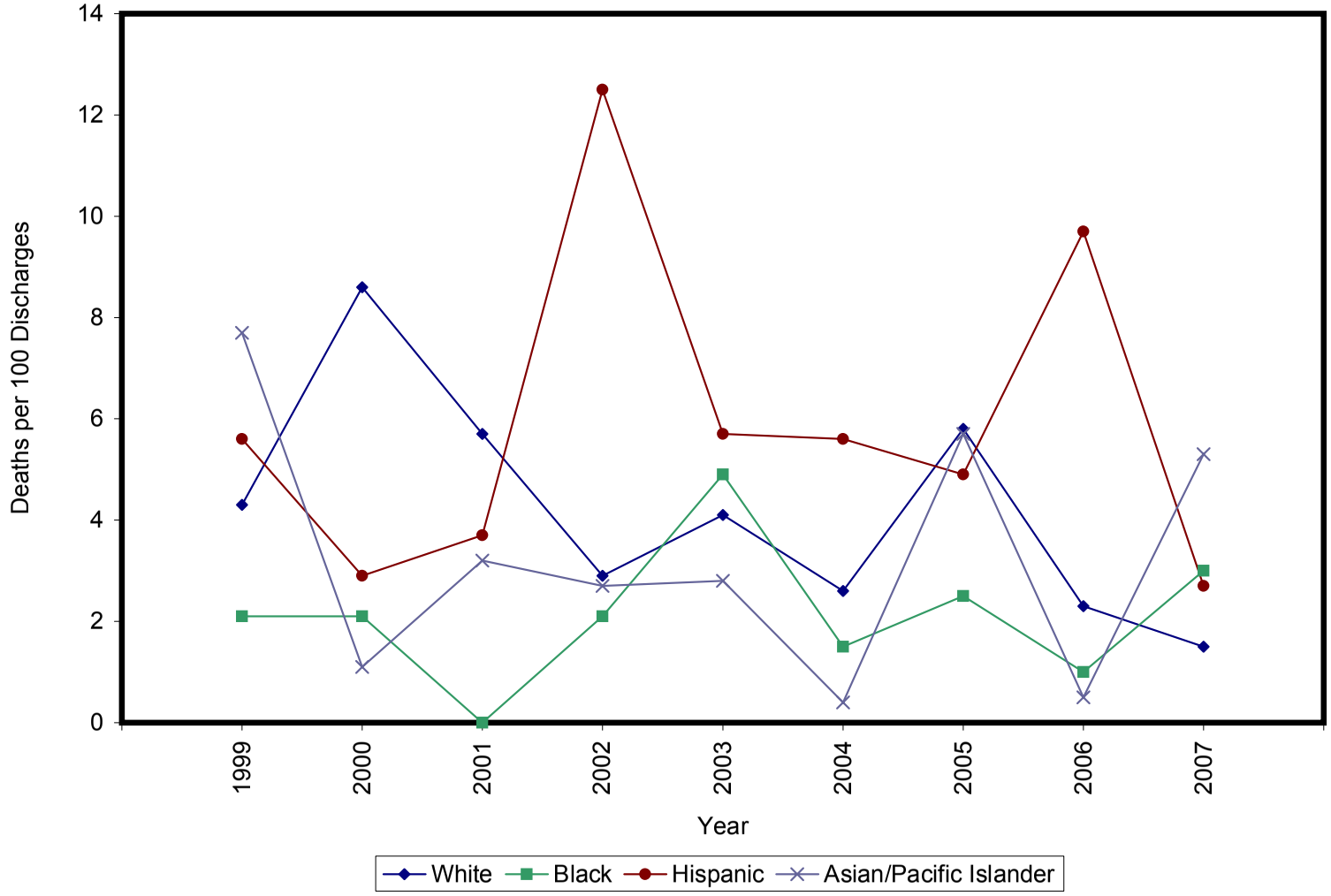
RESULTS:

The number of esophageal resection cases was very small and the mortality rate was variable from year to year for all groups. There was no overall trend in mortality rates for patients receiving this type of surgery in any of the groups.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Pancreatic Resection Mortality Rate (IQI 09)
[removal of all or part of the pancreas]

FIGURE 2-2: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Pancreatic Resection Mortality Rate (IQI 09)
[removal of all or part of the pancreas]

TABLE 2-2: Age-Sex Adjusted Values, 1999-2007 (Deaths per 100 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	4.3	2.1	5.6	7.7	0.0
2000	8.6	2.1	2.9	1.1	0.0
2001	5.7	0.0	3.7	3.2	0.0
2002	2.9	2.1	12.5	2.7	--
2003	4.1	4.9	5.7	2.8	0.0
2004	2.6	1.5	5.6	0.4	0.0
2005	5.8	2.5	4.9	5.7	0.0
2006	2.3	1.0	9.7	0.5	--
2007	1.5	3.0	2.7	5.3	--
9-year Mean Rate (i.e., Average)	4.2	2.1	5.9	3.3	0.0
Total Deaths	184	10	53	23	0
Total Discharges	3,144	269	736	465	0

RESULTS:

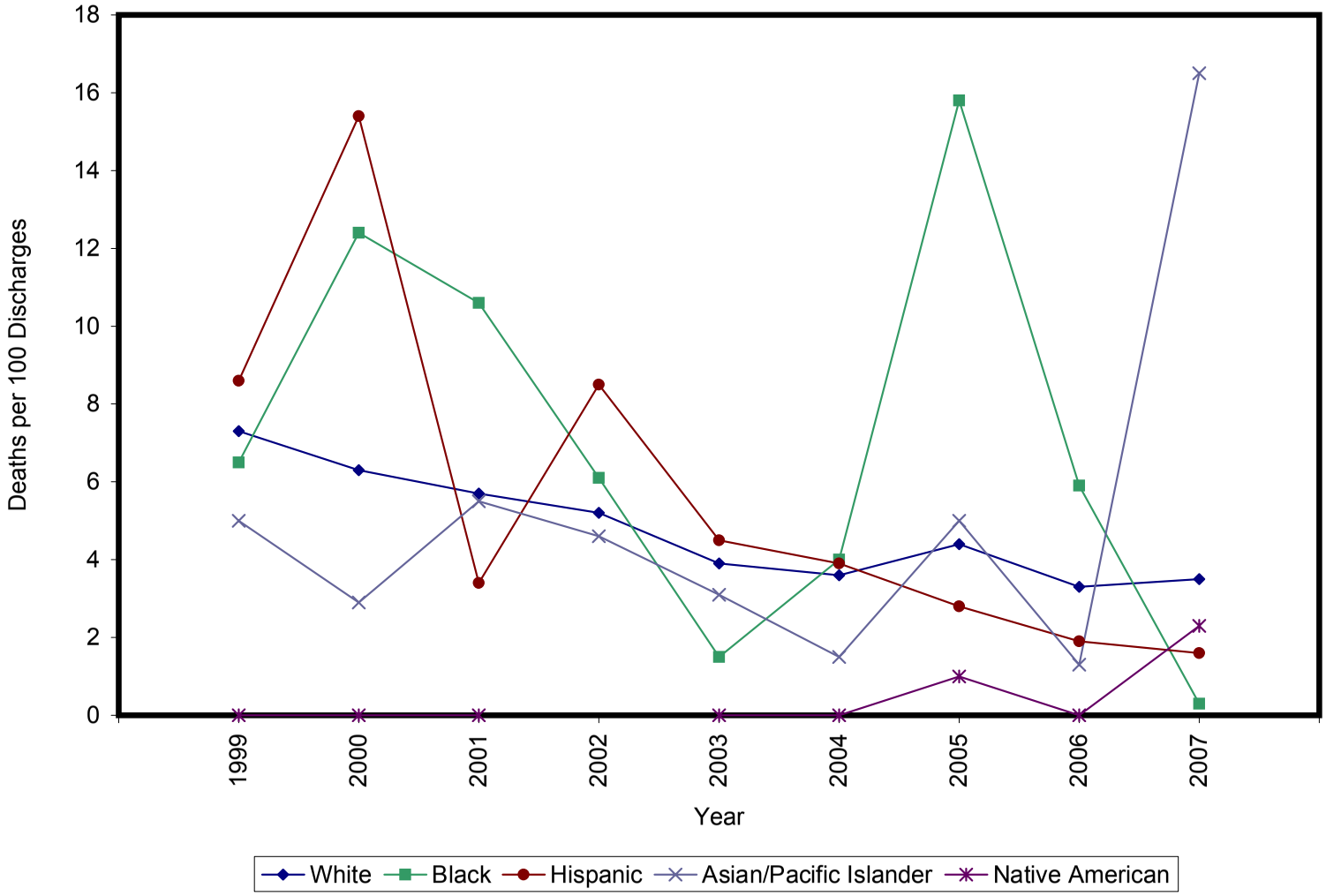
The number of pancreatic resection cases was very small for all groups. As a result, the mortality rate appears to be highly variable from year to year for all groups. There was no consistent trend in the rates for any of the groups.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate (IQI 11)

[for ruptured or bulging aorta]

FIGURE 2-3: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate (IQI 11)

[for ruptured or bulging aorta]

TABLE 2-3: Age-Sex Adjusted Values, 1999-2007 (Deaths per 100 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	7.3	6.5	8.6	5.0	0.0
2000	6.3	12.4	15.4	2.9	0.0
2001	5.7	10.6	3.4	5.5	0.0
2002	5.2	6.1	8.5	4.6	--
2003	3.9	1.5	4.5	3.1	0.0
2004	3.6	4.0	3.9	1.5	0.0
2005	4.4	15.8	2.8	5.0	1.0
2006	3.3	5.9	1.9	1.3	0.0
2007	3.5	0.3	1.6	16.5	2.3
9-year Mean Rate (i.e., Average)	4.8	7.0	5.6	5.0	0.4
Total Deaths	1,799	75	173	147	2
Total Discharges	21,227	792	1,788	1,508	48

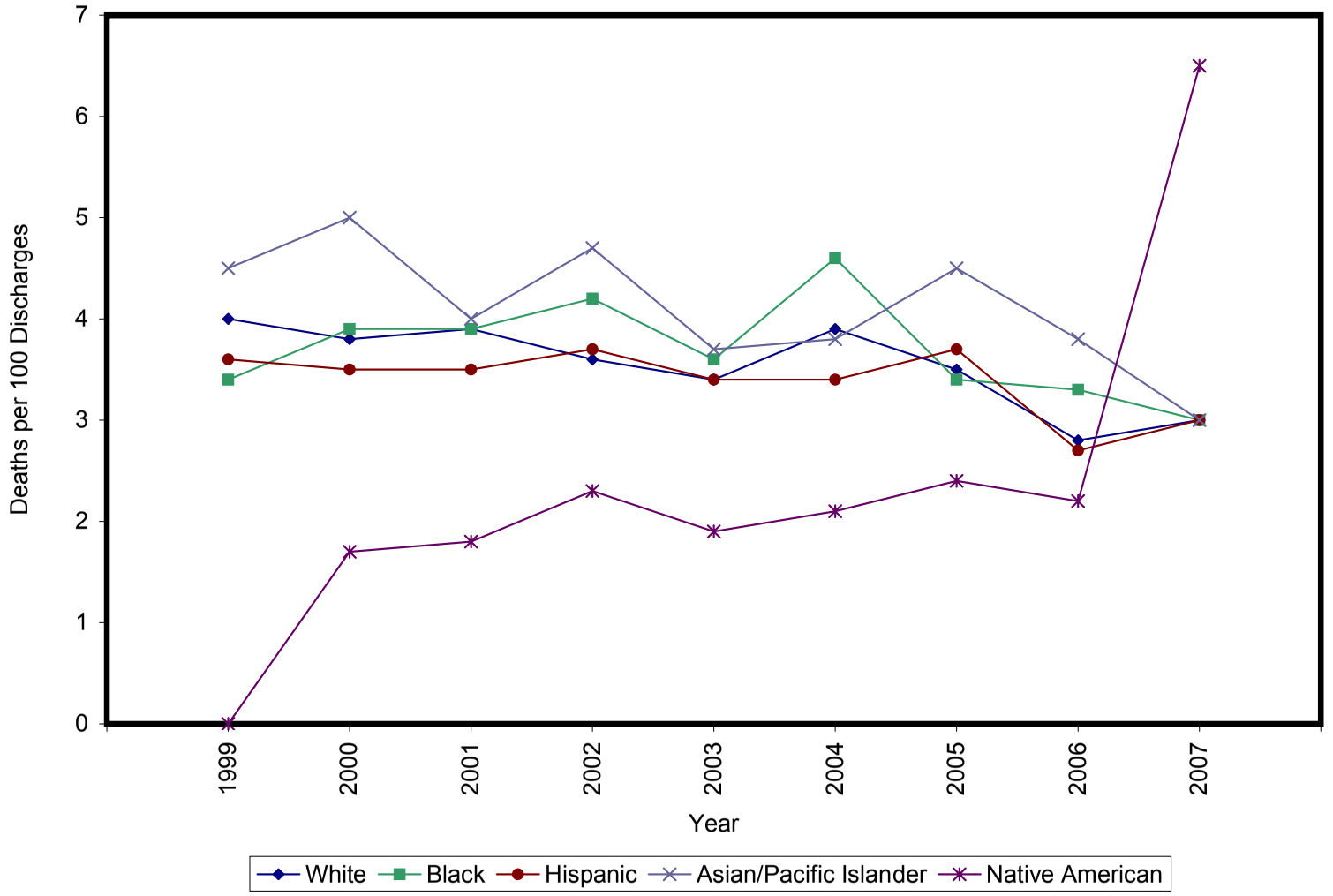
RESULTS:

The number of abdominal aortic aneurysm repair cases was very small and the mortality rate was variable from year to year for all groups. There was a slight downward trend in mortality rates for Hispanic and White patients that had this type of surgery, but no consistent trend for any of the other groups. The large amount of variation across time is due to the small numbers of patients receiving this procedure.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Coronary Artery Bypass Graft (CABG) Mortality Rate (IQI 12)
[heart bypass surgery]

FIGURE 2-4: Observed Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Coronary Artery Bypass Graft (CABG) Mortality Rate (IQI 12)
[heart bypass surgery]

TABLE 2-4: Observed Values, 1999-2007 (Deaths per 100 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	4.0	3.4	3.6	4.5	0.0
2000	3.8	3.9	3.5	5.0	1.7
2001	3.9	3.9	3.5	4.0	1.8
2002	3.6	4.2	3.7	4.7	2.3
2003	3.4	3.6	3.4	3.7	1.9
2004	3.9	4.6	3.4	3.8	2.1
2005	3.5	3.4	3.7	4.5	2.4
2006	2.8	3.3	2.7	3.8	2.2
2007	3.0	3.0	3.0	3.0	6.5
9-year Mean Rate (i.e., Average)	3.5	3.7	3.4	4.1	2.3
Total Deaths	5,749	294	1,035	755	9
Total Discharges	159,201	7,858	30,300	18,257	447

RESULTS:

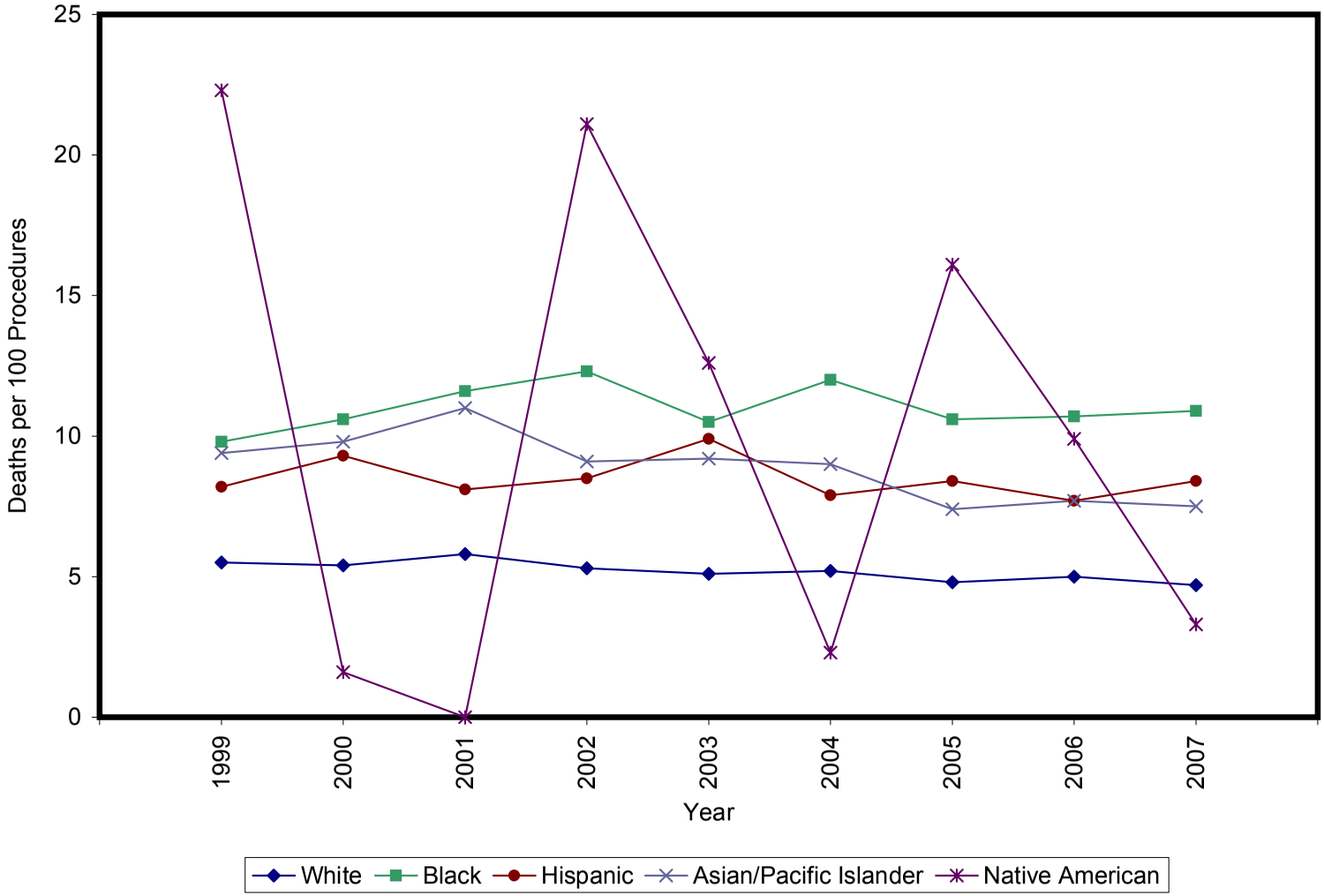
For patients undergoing CABG surgery, the average mortality rate was slightly higher for Asian/Pacific Islanders (4.1) and lower for Native Americans (2.3), compared to other groups (range 3.4 to 3.7). There was a slight downward trend in mortality rates for Hispanic, White, and Asian/Pacific Islander patients that had this type of surgery, but no consistent trend for Blacks. The large amount of variation in rates for Native Americans reflects the small numbers receiving CABG surgery in this group.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Craniotomy Mortality Rate (IQI 13)

[operation through the skull, including brain surgery]

FIGURE 2-5: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Craniotomy Mortality Rate (IQI 13)

[operation through the skull, including brain surgery]

TABLE 2-5: Age-Sex Adjusted Values, 1999-2007 (Deaths per 100 Procedures)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	5.5	9.8	8.2	9.4	22.3
2000	5.4	10.6	9.3	9.8	1.6
2001	5.8	11.6	8.1	11.0	0.0
2002	5.3	12.3	8.5	9.1	21.1
2003	5.1	10.5	9.9	9.2	12.6
2004	5.2	12.0	7.9	9.0	2.3
2005	4.8	10.6	8.4	7.4	16.1
2006	5.0	10.7	7.7	7.7	9.9
2007	4.7	10.9	8.4	7.5	3.3
9-year Mean Rate (i.e., Average)	5.2	11.0	8.5	8.9	9.9
Total Deaths	4,181	735	1,719	952	24
Total Discharges	67,863	6,401	20,137	9,260	234

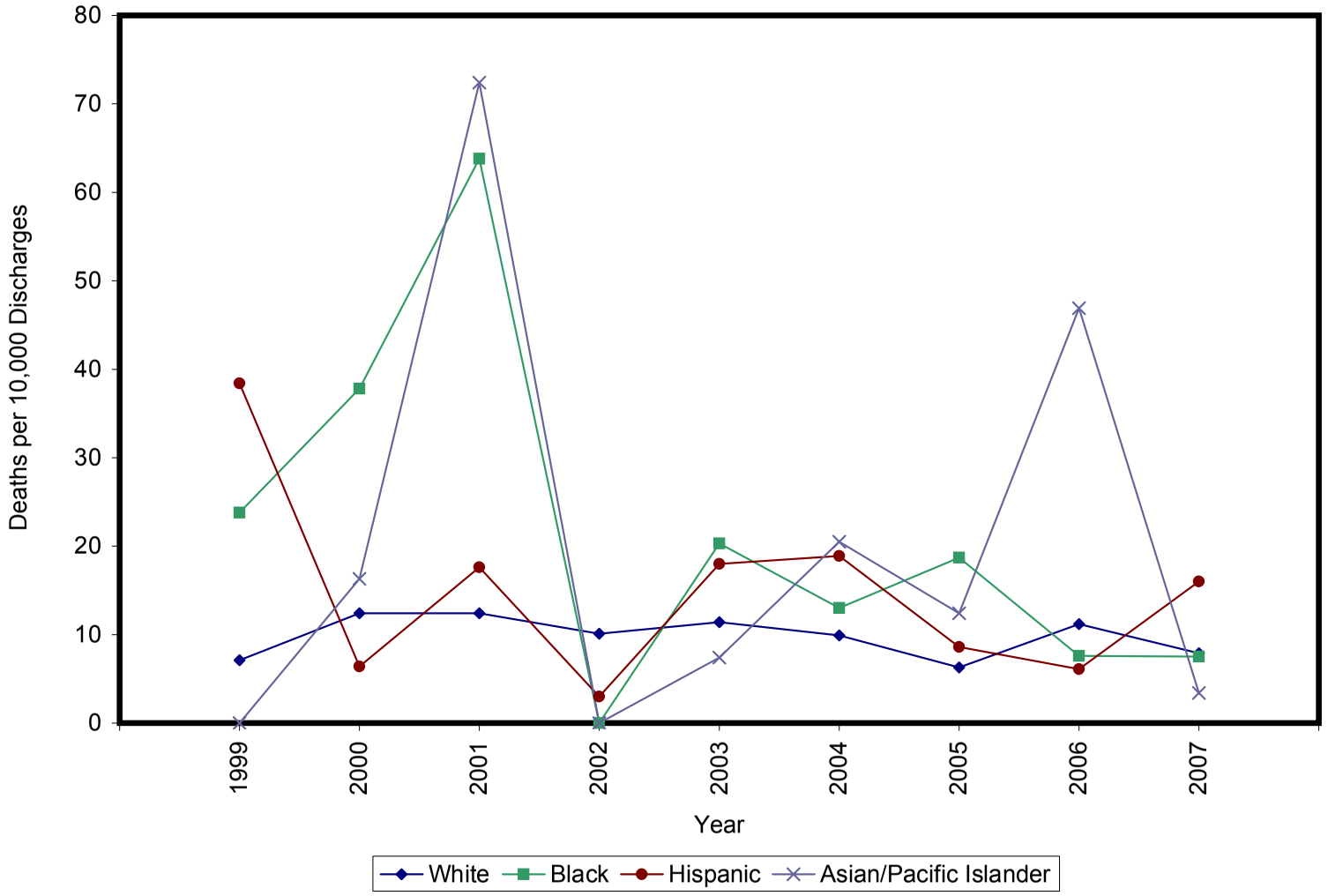
RESULTS:

For patients undergoing craniotomy, the average mortality rate was higher for Blacks (11.0) and lower for Native Americans (9.9), Asian/Pacific Islanders (8.9) and Hispanics (8.5), compared with Whites (5.2). There was a slight downward trend in mortality rates for Asian/Pacific Islander and White patients, but no consistent trend for the other groups. The large amount of variation in rates for Native Americans reflects the small numbers receiving craniotomy surgery in this group.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Hip Replacement Mortality Rate (IQI 14)

FIGURE 2-6: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Hip Replacement Mortality Rate (IQI 14)

TABLE 2-6: Age-Sex Adjusted Values, 1999-2007 (Deaths per 10,000 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	7.1	23.8	38.4	0.0	0.0
2000	12.4	37.8	6.4	16.3	0.0
2001	12.4	63.8	17.6	72.4	0.0
2002	10.1	0.0	3.0	0.0	0.0
2003	11.4	20.3	18.0	7.4	0.0
2004	9.9	13.0	18.9	20.5	0.0
2005	6.3	18.7	8.6	12.4	0.0
2006	11.2	7.6	6.1	46.9	0.0
2007	7.9	7.5	16.0	3.4	0.0
9-year Mean Rate (i.e., Average)	9.9	21.4	14.8	19.9	0.0
Total Deaths	388	23	28	13	0
Total Discharges	142,932	7,385	11,727	4,159	235

RESULTS:

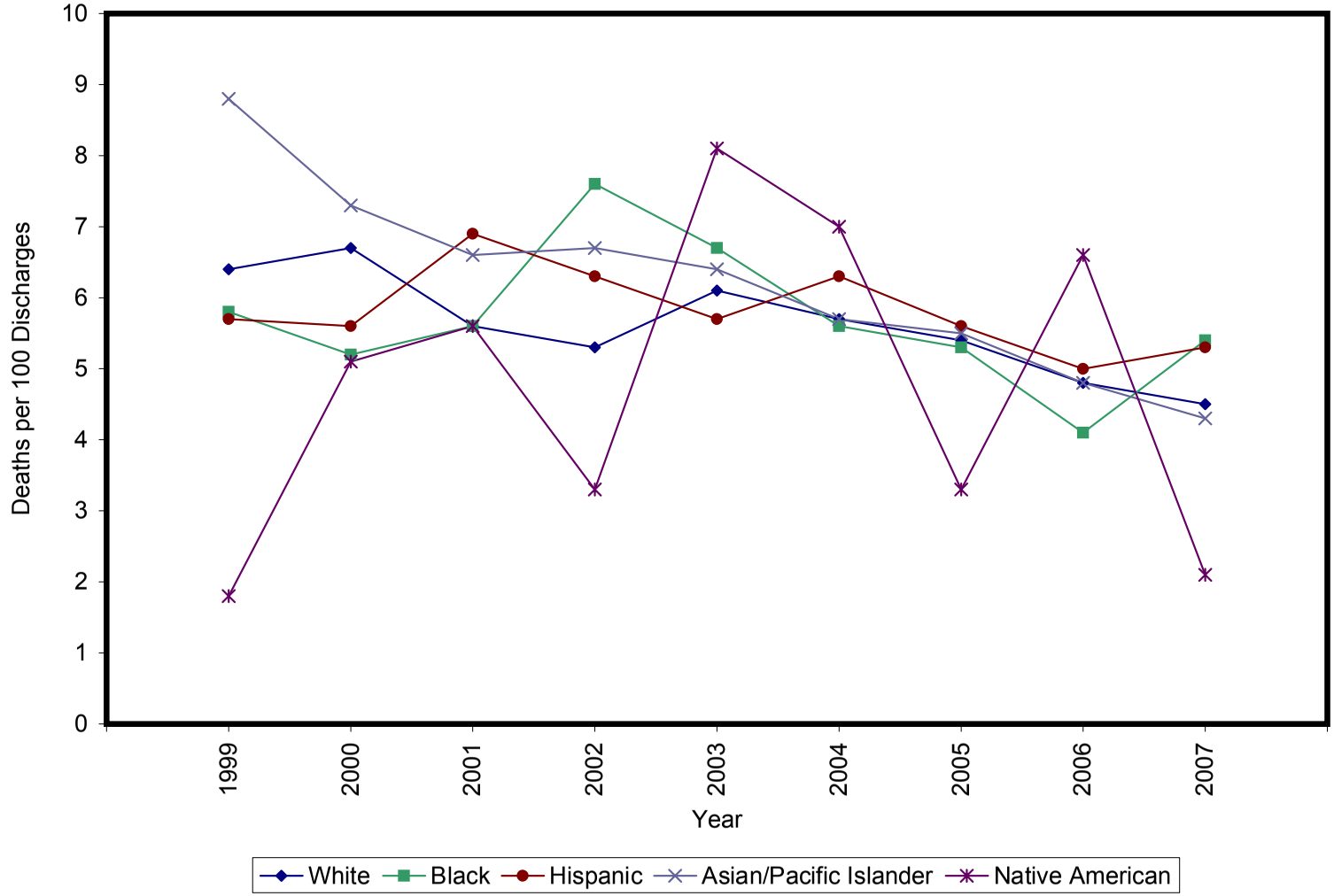
For all groups except Whites the number of hip replacement deaths was very small, making the mortality rates highly variable from year to year. There was no overall trend in mortality rates for patients receiving this type of surgery in any of the groups. No cases of hip replacement were reported for Native Americans.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Acute Myocardial Infarction (AMI) Mortality Rate (IQI 15)

[heart attack including transfers between healthcare facilities]

FIGURE 2-7: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Acute Myocardial Infarction (AMI) Mortality Rate (IQI 15)

[heart attack including transfers between healthcare facilities]

TABLE 2-7: Age-Sex Adjusted Values, 1999-2007 (Deaths per 100 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	6.4	5.8	5.7	8.8	1.8
2000	6.7	5.2	5.6	7.3	5.1
2001	5.6	5.6	6.9	6.6	5.6
2002	5.3	7.6	6.3	6.7	3.3
2003	6.1	6.7	5.7	6.4	8.1
2004	5.7	5.6	6.3	5.7	7.0
2005	5.4	5.3	5.6	5.5	3.3
2006	4.8	4.1	5.0	4.8	6.6
2007	4.5	5.4	5.3	4.3	2.1
9-year Mean Rate (i.e., Average)	5.6	5.7	5.8	6.2	4.8
Total Deaths	29,177	2,343	5,757	3,367	66
Total Discharges	294,246	26,812	63,590	31,173	758

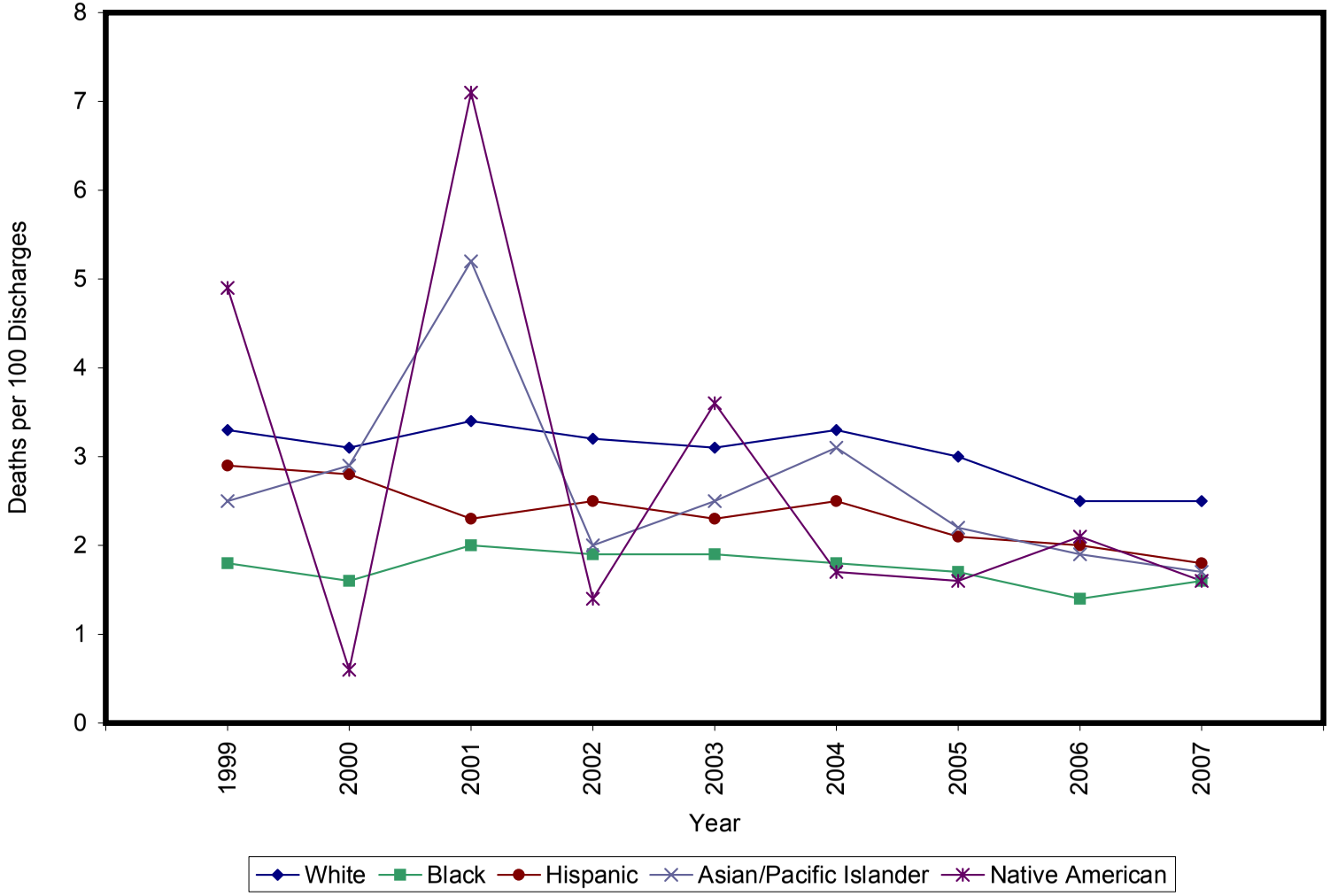
RESULTS:

For patients admitted to the hospital with acute myocardial infarction, the average mortality rate was slightly higher for Asian/ Pacific Islanders (6.2) and lower for Hispanics (5.8), Blacks (5.7) and Whites (5.6). Native Americans (4.8) appear to have the lowest average mortality rate for this condition (see footnote). There was a slight downward trend in mortality rates for Asian/ Pacific Islander and White patients, but no consistent trend for the other groups. The large amount of variation in rates for Native Americans reflects the small numbers of patients in this group, hospitalized for this condition.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Congestive Heart Failure (CHF) Mortality Rate (IQI 16)
[heart failure]

FIGURE 2-8: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Congestive Heart Failure (CHF) Mortality Rate (IQI 16)

[heart failure]

TABLE 2-8: Age-Sex Adjusted Values, 1999-2007 (Deaths per 100 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	3.3	1.8	2.9	2.5	4.9
2000	3.1	1.6	2.8	2.9	0.6
2001	3.4	2.0	2.3	5.2	7.1
2002	3.2	1.9	2.5	2.0	1.4
2003	3.1	1.9	2.3	2.5	3.6
2004	3.3	1.8	2.5	3.1	1.7
2005	3.0	1.7	2.1	2.2	1.6
2006	2.5	1.4	2.0	1.9	2.1
2007	2.5	1.6	1.8	1.7	1.6
9-year Mean Rate (i.e., Average)	3.0	1.7	2.4	2.7	2.7
Total Deaths	24,441	2,656	4,978	2,193	55
Total Discharges	499,315	118,042	149,036	55,870	1,695

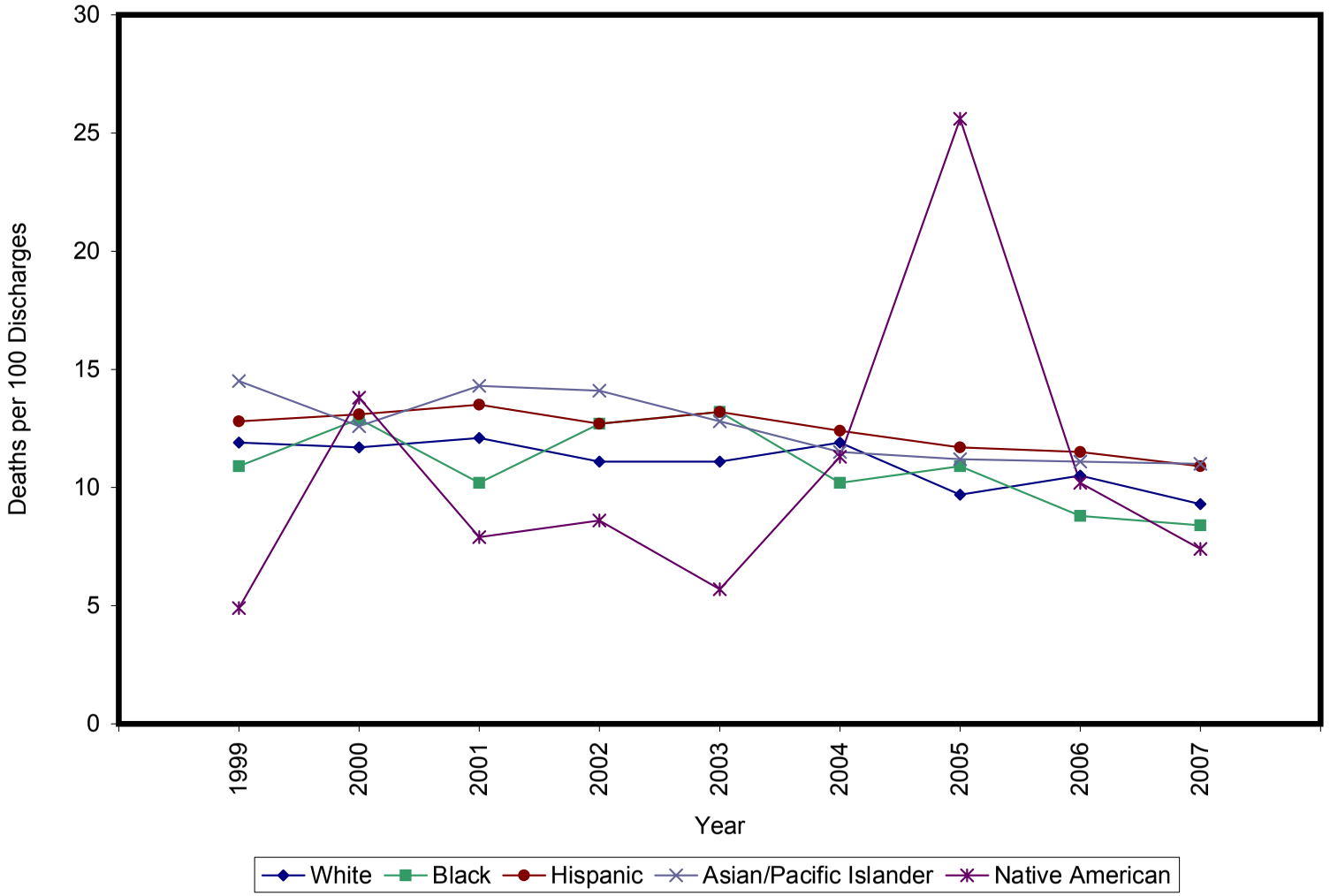
RESULTS:

For patients admitted to the hospital with CHF, the average mortality rate was slightly higher for Whites (3.0) and Asian/Pacific Islanders and Native Americans (2.7 for both). Hispanics (2.4) and Blacks (1.7) had slighly lower average mortality rates for this condition. The large amount of variation reflects the small numbers of patients in these groups hospitalized for heart failure. There was a slight downward trend for Whites and Hispanics, and no significant trend for Blacks or Asian/Pacific Islanders.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Acute Stroke Mortality Rate (IQI 17)
[including hemorrhagic]

FIGURE 2-9: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Acute Stroke Mortality Rate (IQI 17)
[including hemorrhagic]

TABLE 2-9: Age-Sex Adjusted Values, 1999-2007 (Deaths per 100 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	11.9	10.9	12.8	14.5	4.9
2000	11.7	12.9	13.1	12.6	13.8
2001	12.1	10.2	13.5	14.3	7.9
2002	11.1	12.7	12.7	14.1	8.6
2003	11.1	13.2	13.2	12.8	5.7
2004	11.9	10.2	12.4	11.5	11.3
2005	9.7	10.9	11.7	11.2	25.6
2006	10.5	8.8	11.5	11.1	10.2
2007	9.3	8.4	10.9	11.0	7.4
9-year Mean Rate (i.e., Average)	11.0	10.9	12.4	12.6	10.6
Total Deaths	32,882	4,141	8,964	5,773	109
Total Discharges	278,474	43,687	76,891	45,742	924

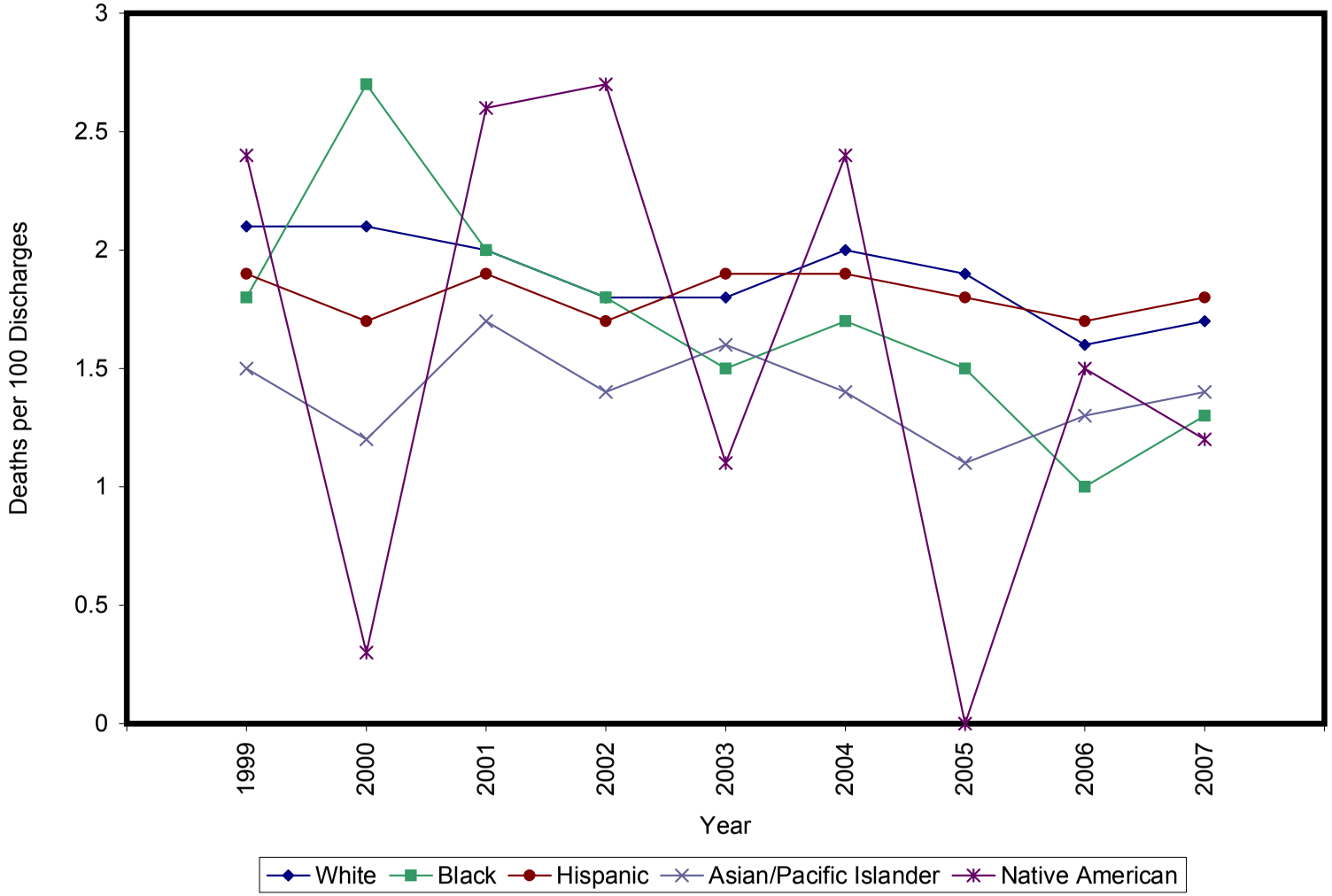
RESULTS:

For patients admitted to the hospital with a diagnosis of stroke, the average mortality rate was higher for Asian/Pacific Islanders (12.6) and Hispanics (12.4), compared with Whites (11.0), Blacks (10.9) and Native Americans (10.6). There was a slight downward trend in mortality rates for Black, Hispanic, Asian/Pacific Islander and White patients that had this condition, but no consistent trend for Native Americans. The large amount of variation for Native Americans reflects the small number of patients hospitalized for stroke in this group.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Gastrointestinal Hemorrhage Mortality Rate (IQI 18)
[intestinal bleeding]

FIGURE 2-10: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Gastrointestinal Hemorrhage Mortality Rate (IQI 18)
[intestinal bleeding]

TABLE 2-10: Age-Sex Adjusted Values, 1999-2007 (Deaths per 100 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	2.1	1.8	1.9	1.5	2.4
2000	2.1	2.7	1.7	1.2	0.3
2001	2.0	2.0	1.9	1.7	2.6
2002	1.8	1.8	1.7	1.4	2.7
2003	1.8	1.5	1.9	1.6	1.1
2004	2.0	1.7	1.9	1.4	2.4
2005	1.9	1.5	1.8	1.1	0.0
2006	1.6	1.0	1.7	1.3	1.5
2007	1.7	1.3	1.8	1.4	1.2
9-year Mean Rate (i.e., Average)	1.9	1.7	1.8	1.4	1.6
Total Deaths	8,227	924	1,875	968	25
Total Discharges	267,653	39,701	78,200	39,102	1,144

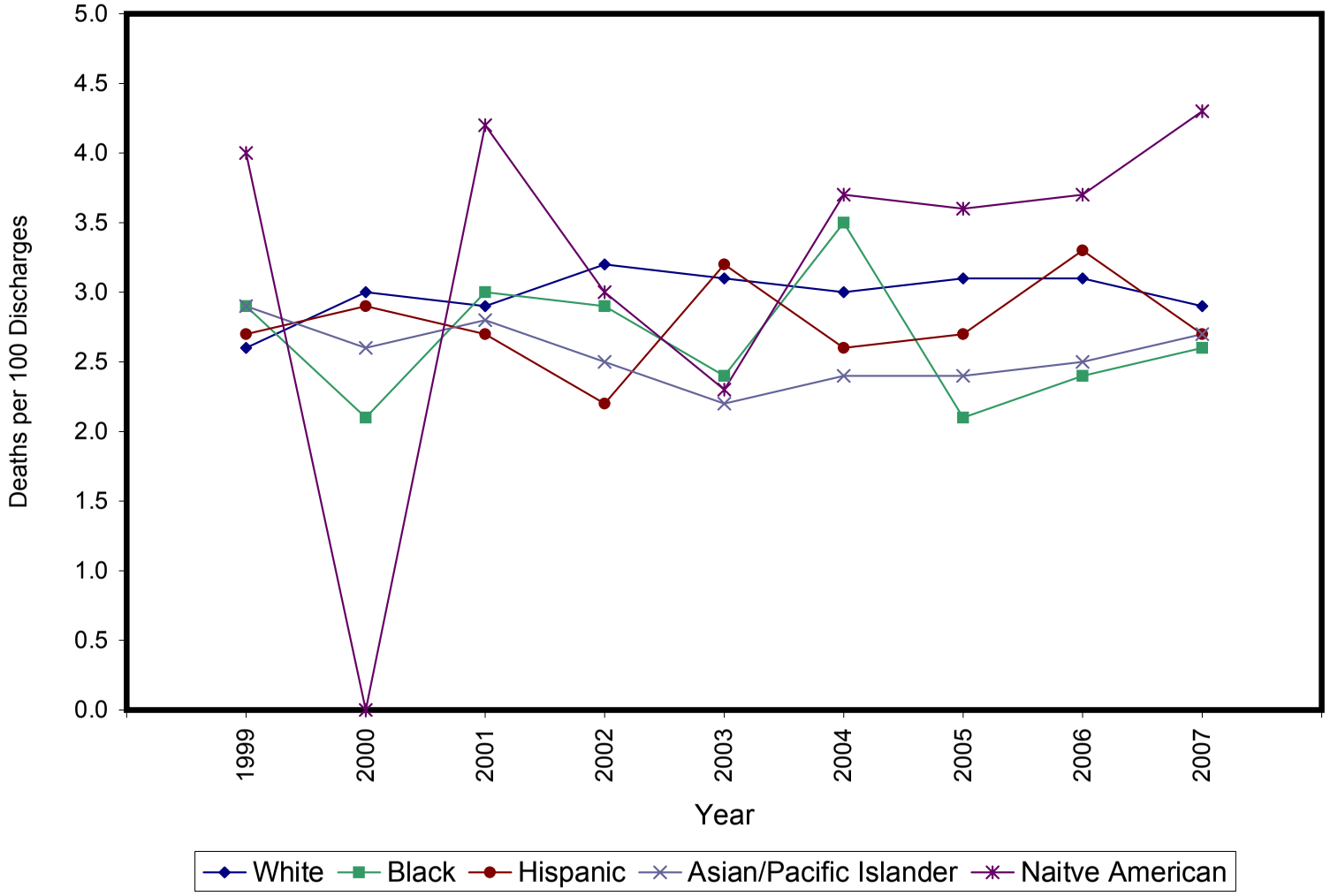
RESULTS:

The average in-hospital mortality rate for patients with gastrointestinal hemorrhage was virtually equal for all racial/ethnic groups. There was a slight downward trend in mortality rates for Black patients that had this condition, but no consistent trend for the other groups. The large amount of variation in mortality rates reflects the small number of patients hospitalized for this condition.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Hip Fracture Mortality Rate (IQI 19)

FIGURE 2-11: Observed Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Hip Fracture Mortality Rate (IQI 19)

TABLE 2-11: Observed Values, 1999-2007 (Deaths per 100 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	2.6	2.9	2.7	2.9	4.0
2000	3.0	2.1	2.9	2.6	0.0
2001	2.9	3.0	2.7	2.8	4.2
2002	3.2	2.9	2.2	2.5	3.0
2003	3.1	2.4	3.2	2.2	2.3
2004	3.0	3.5	2.6	2.4	3.7
2005	3.1	2.1	2.7	2.4	3.6
2006	3.1	2.4	3.3	2.5	3.7
2007	2.9	2.6	2.7	2.7	4.3
9-year Mean Rate (i.e., Average)	3.0	2.7	2.8	2.6	3.2
Total Deaths	5,261	137	508	262	8
Total Discharges	177,336	5,136	18,290	10,294	245

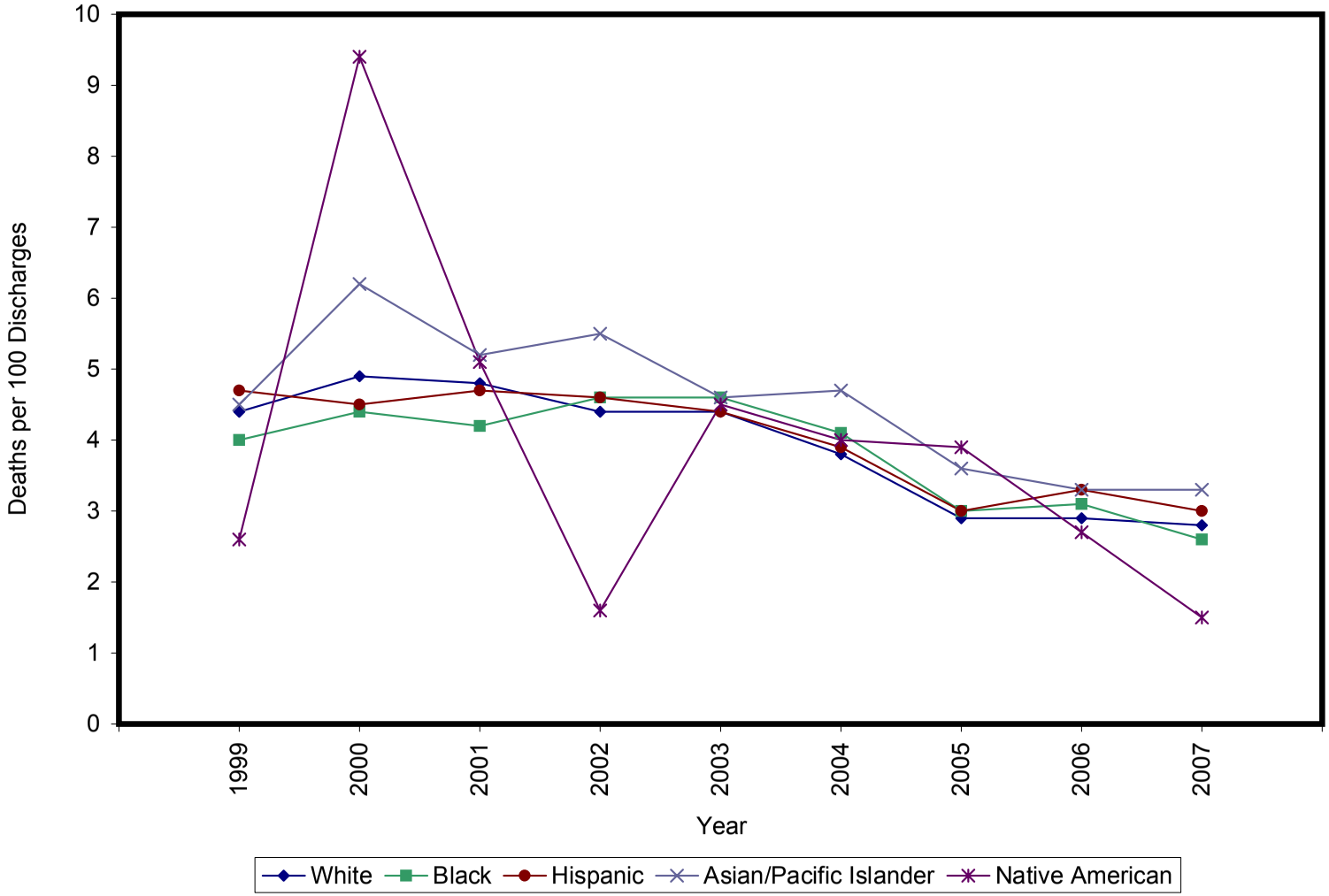
RESULTS:

The average mortality rate for patients admitted with hip fracture was very similar across the population groups (range: 2.6 to 3.2). There was no overall trend in mortality rates for patients with this condition in any of the groups. The large amount of variation in the mortality rates reflects the small number of patients hospitalized for hip fracture in some groups.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Pneumonia Mortality Rate (IQI 20)

FIGURE 2-12: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Pneumonia Mortality Rate (IQI 20)

TABLE 2-12: Age-Sex Adjusted Values, 1999-2007 (Deaths per 100 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	4.4	4.0	4.7	4.5	2.6
2000	4.9	4.4	4.5	6.2	9.4
2001	4.8	4.2	4.7	5.2	5.1
2002	4.4	4.6	4.6	5.5	1.6
2003	4.4	4.6	4.4	4.6	4.5
2004	3.8	4.1	3.9	4.7	4.0
2005	2.9	3.0	3.0	3.6	3.9
2006	2.9	3.1	3.3	3.3	2.7
2007	2.8	2.6	3.0	3.3	1.5
9-year Mean Rate (i.e., Average)	3.9	3.9	4.0	4.6	3.9
Total Deaths	40,294	4,000	7,975	4,522	101
Total Discharges	556,072	70,677	137,482	61,761	2,103

RESULTS:

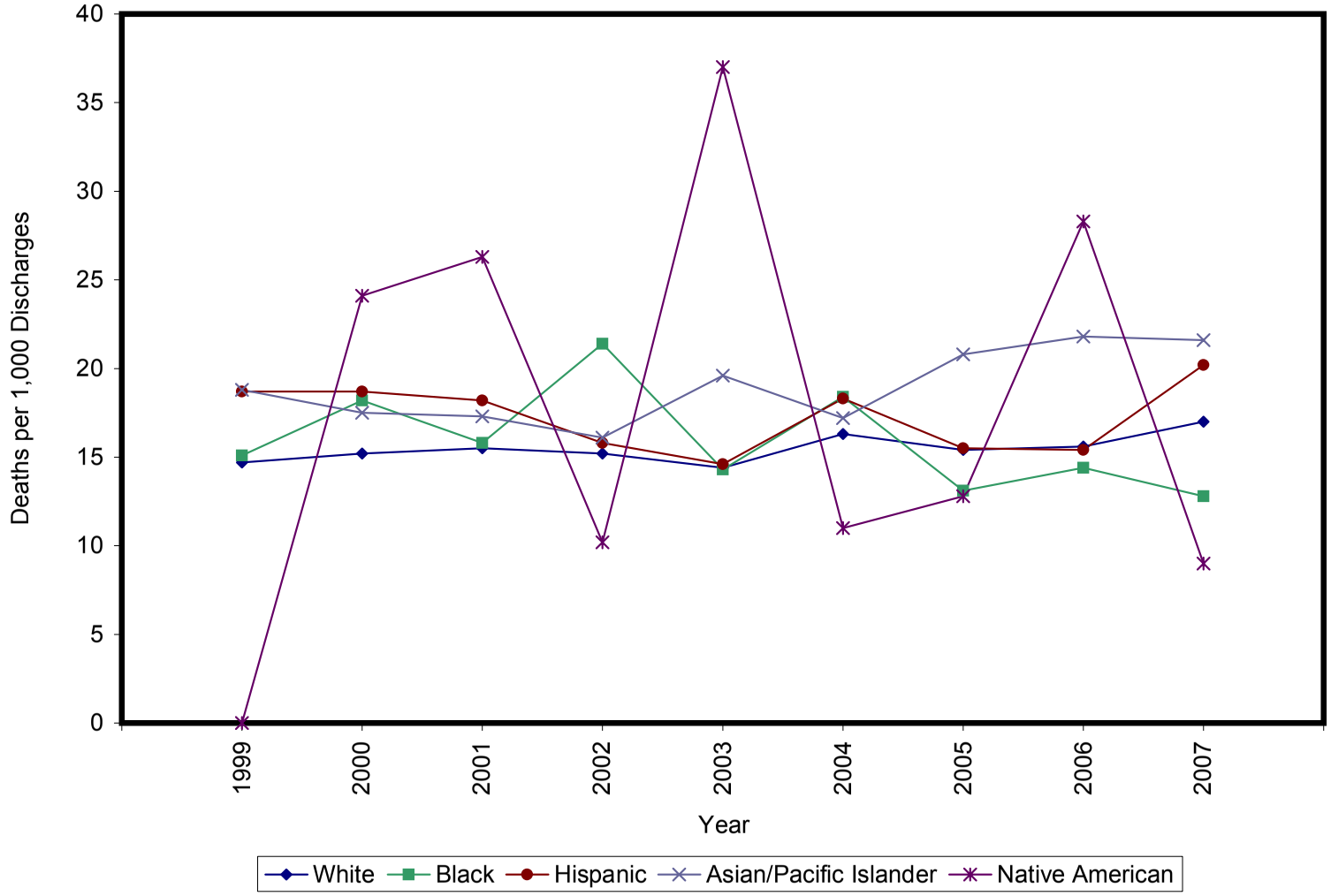
The average mortality rate for patients admitted with pneumonia was highest for Asian/Pacific Islanders (4.6) compared with the other groups (range: 3.9 to 4.0). There was a slight downward trend in mortality rates for patients hospitalized with pneumonia in all groups except Native Americans. The large amount of variation in mortality rates for this group reflects the small number of these patients hospitalized for pneumonia.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Percutaneous Transluminal Coronary Angioplasty (PTCA) Mortality Rate (IQI 30)

[non-surgical coronary artery disease treatment, may include insertion of a stent]

FIGURE 2-13: Observed Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Percutaneous Transluminal Coronary Angioplasty (PTCA) Mortality Rate (IQI 30)

[non-surgical coronary artery disease treatment, may include insertion of a stent]

TABLE 2-13: Observed Values, 1999-2007 (Deaths per 1,000 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	14.7	15.1	18.7	18.8	0.0
2000	15.2	18.2	18.7	17.5	24.1
2001	15.5	15.8	18.2	17.3	26.3
2002	15.2	21.4	15.8	16.1	10.2
2003	14.4	14.3	14.6	19.6	37.0
2004	16.3	18.4	18.3	17.2	11.0
2005	15.4	13.1	15.5	20.8	12.8
2006	15.6	14.4	15.4	21.8	28.3
2007	17.0	12.8	20.2	21.6	9.0
9-year Mean Rate (i.e., Average)	15.5	15.9	17.3	19.0	17.6
Total Deaths	5,394	316	1,050	667	15
Total Discharges	348,424	19,834	61,247	34,742	835

RESULTS:

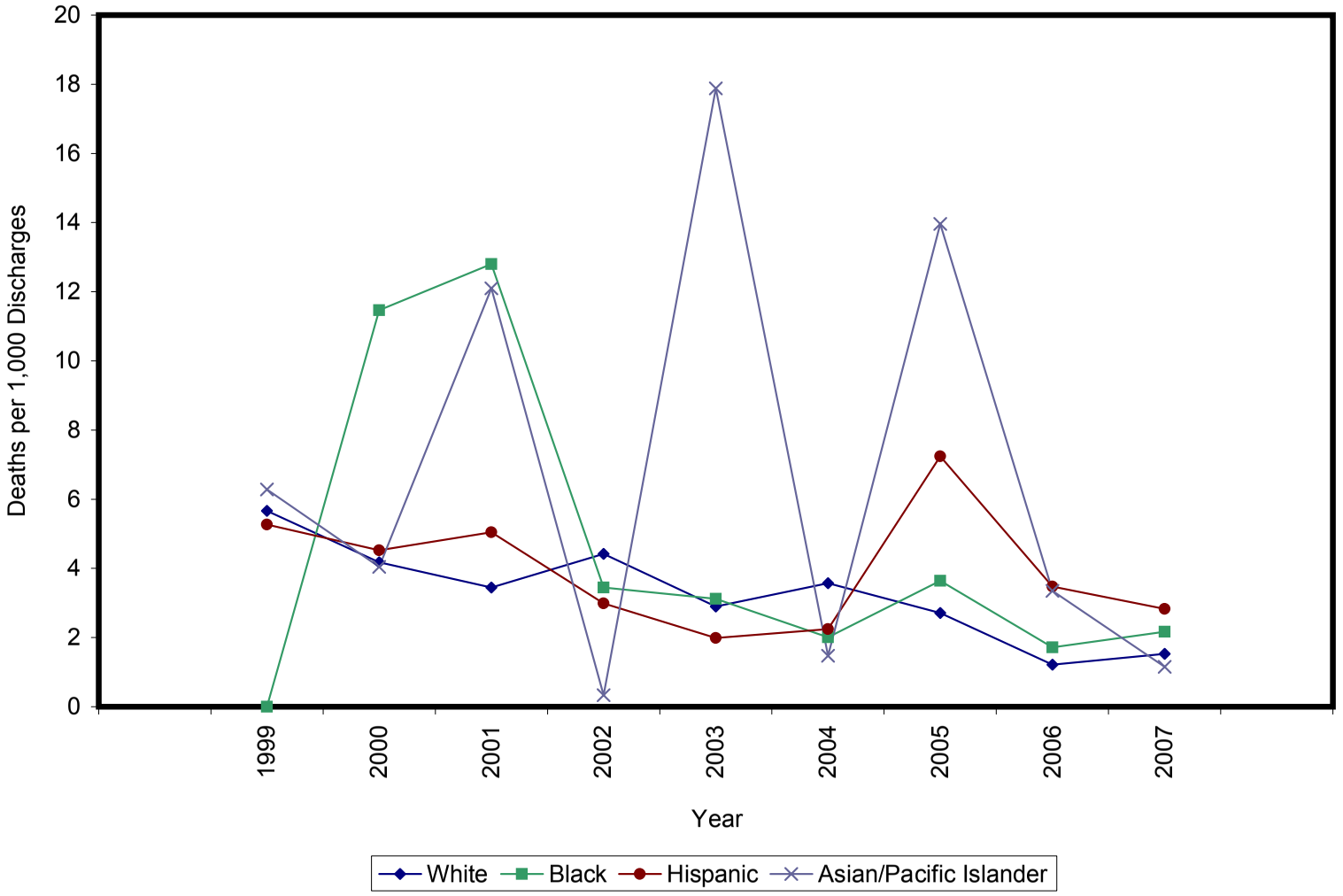
The average mortality rate for patients receiving PTCA was higher for Asian/Pacific Islanders (19.0) and lower for Native Americans (17.6), Hispanics (17.3) and Blacks (15.9) than for Whites (15.5). There was a slight downward trend in the mortality rate for Black patients receiving this procedure, but no discernable trend for the other groups. The large amount of variation in mortality rates for Native Americans reflects the small numbers of these patients receiving PTCA.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Carotid Endarterectomy Mortality Rate (IQI 31)

[surgery on the carotid artery in neck]

FIGURE 2-14: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Carotid Endarterectomy Mortality Rate (IQI 31)
[surgery on the carotid artery in neck]

TABLE 2-14: Age-Sex Adjusted Values, 1999-2007 (Deaths per 1,000 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	5.7	0.0	5.3	6.3	0.0
2000	4.2	11.5	4.5	4.0	0.0
2001	3.4	12.8	5.0	12.1	0.0
2002	4.4	3.4	3.0	0.3	0.0
2003	2.9	3.1	2.0	17.9	0.0
2004	3.6	2.0	2.2	1.5	0.0
2005	2.7	3.6	7.2	14.0	0.0
2006	1.2	1.7	3.5	3.4	0.0
2007	1.5	2.2	2.8	1.2	0.0
9-year Mean Rate (i.e., Average)	3.3	4.5	4.0	6.7	0.0
Total Deaths	487	22	79	41	0
Total Discharges	74,176	2,295	7,976	3,377	123

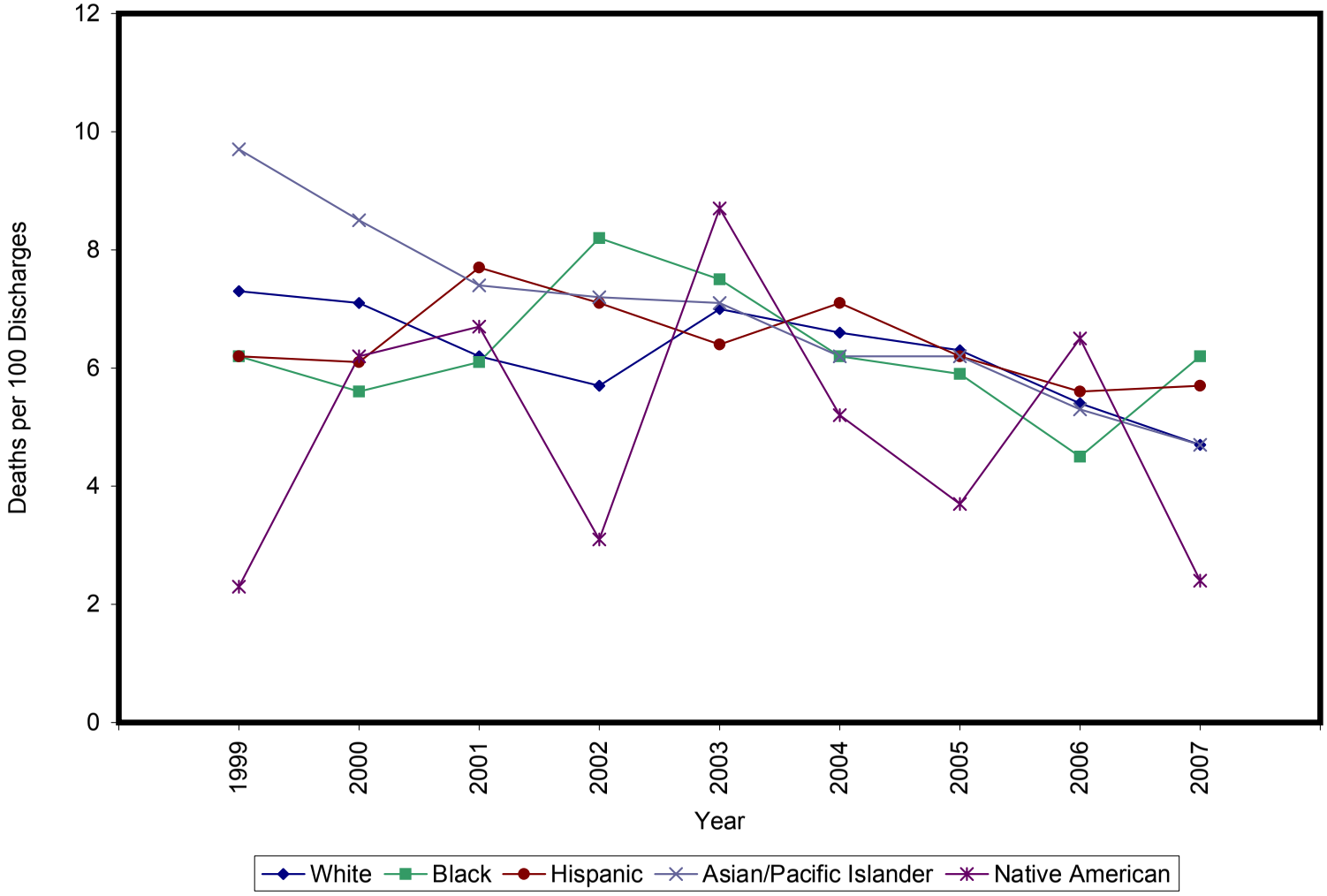
RESULTS:

The average mortality rate for carotid endarterectomy cases was higher for Asian/Pacific Islander patients (6.7) than it was for Blacks (4.5), Hispanics (4.0) or Whites (3.3). There was an overall downward trend in mortality for this procedure. *[Note: The number of carotid endarterectomy cases was very small, especially for those aged 18 to 39, and to make the mortality rate more consistent from year to year, this group was left out of the analysis.]*

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Acute Myocardial Infarction (AMI) Mortality Rate, without Transfer Cases (IQI 32) *[heart attack without transfers between healthcare facilities]*

FIGURE 2-15: Age-Sex Adjusted Values, 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Acute Myocardial Infarction (AMI) Mortality Rate, without Transfer Cases (IQI 32) *[heart attack without transfers between healthcare facilities]*

TABLE 2-15: Age-Sex Adjusted Values, 1999-2007 (Deaths per 100 Discharges)

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	7.3	6.2	6.2	9.7	2.3
2000	7.1	5.6	6.1	8.5	6.2
2001	6.2	6.1	7.7	7.4	6.7
2002	5.7	8.2	7.1	7.2	3.1
2003	7.0	7.5	6.4	7.1	8.7
2004	6.6	6.2	7.1	6.2	5.2
2005	6.3	5.9	6.2	6.2	3.7
2006	5.4	4.5	5.6	5.3	6.5
2007	4.7	6.2	5.7	4.7	2.4
9-year Mean Rate (i.e., Average)	6.3	6.3	6.5	6.9	5.0
Total Deaths	26,521	2,173	5,224	3,088	62
Total Discharges	241,589	22,775	52,054	26,196	640

RESULTS:

For patients admitted directly into the hospital with AMI, not transferred from a different hospital, the average mortality rate was slightly higher for Asian/Pacific Islanders (6.9) and Hispanics (6.5) than for Whites and Blacks (both 6.3). Native Americans (5.0) had the lowest average mortality rate for this condition. There was a slight downward trend in mortality rates for Asian/Pacific Islander and White patients who had this condition, but no trend for other groups. The large amount of variation in mortality rates for Native Americans reflects the small numbers of these patients treated for AMI without transfer.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

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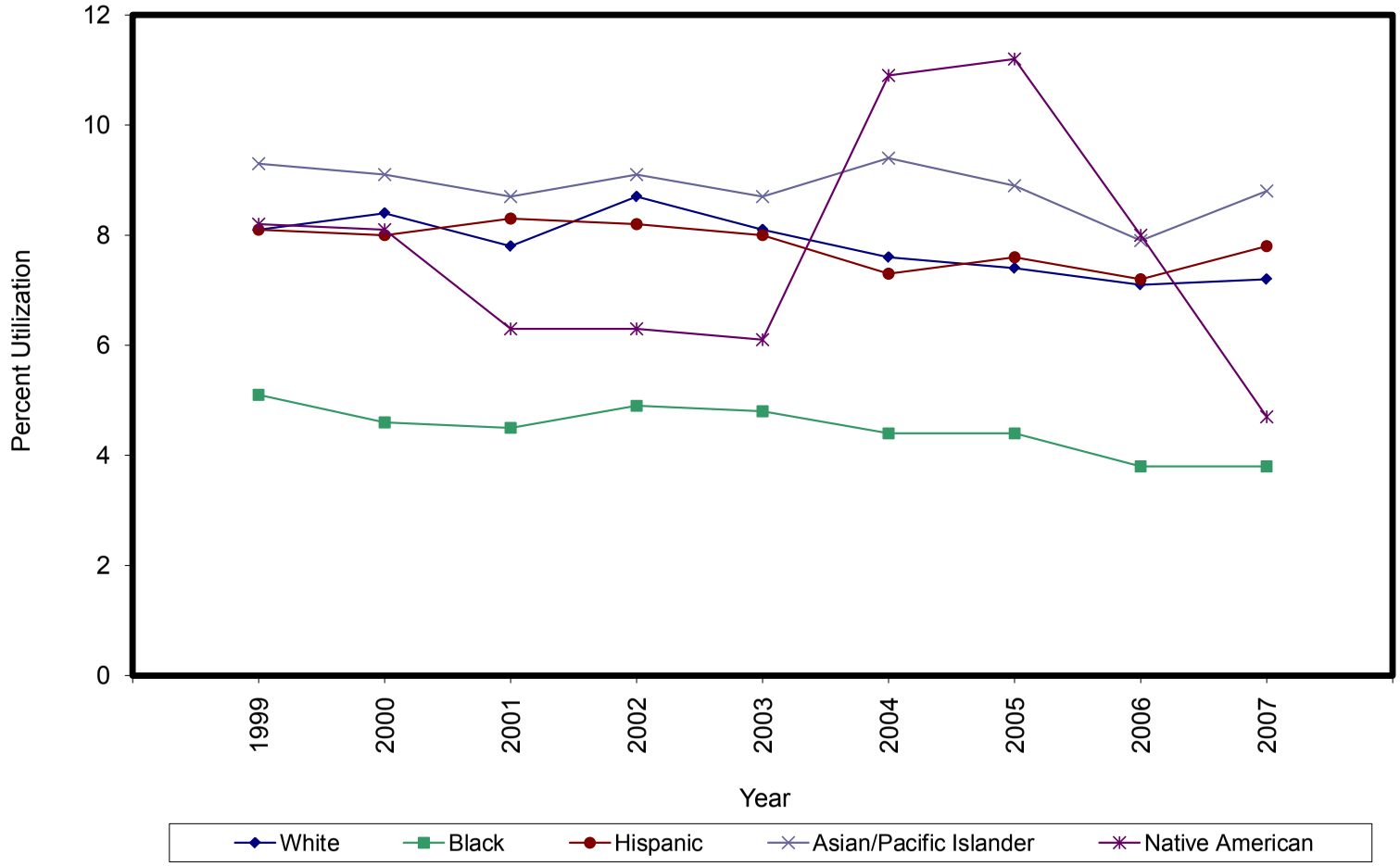
SECTION 3: CARDIOVASCULAR (HEART-RELATED) DISEASE INTERVENTION UTILIZATION, 1999-2007

The coronary artery bypass graft (CABG) [heart bypass] and percutaneous transluminal coronary angioplasty (PTCA) [non-surgical coronary artery disease treatment, may include insertion of a stent] utilization rates in this report reflect how often heart attack patients of each race/ethnic group received these procedures. They are calculated as the percent of heart attack patients aged 40 or older that received either procedure, for each race/ethnic population, statewide, each year from 1999 through 2007. The results show the extent to which the utilization rates for these leading treatments for coronary artery disease differ by race and ethnicity.

Percent Utilization of Coronary Artery Bypass Graft (CABG)
[heart bypass surgery]

FIGURE 3-1: Percent of Heart Attack Patients Receiving Coronary Artery Bypass Graft (CABG), 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Percent Utilization of Coronary Artery Bypass Graft (CABG)

[heart bypass surgery]

TABLE 3-1: Percent of Heart Attack Patients Receiving Coronary Artery Bypass Graft (CABG), 1999-2007

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	8.1	5.1	8.1	9.3	8.2
2000	8.4	4.6	8.0	9.1	8.1
2001	7.8	4.5	8.3	8.7	6.3
2002	8.7	4.9	8.2	9.1	6.3
2003	8.1	4.8	8.0	8.7	6.1
2004	7.6	4.4	7.3	9.4	10.9
2005	7.4	4.4	7.6	8.9	11.2
2006	7.1	3.8	7.2	7.9	8.0
2007	7.2	3.8	7.8	8.8	4.7
9-year Mean Rate (i.e., Average)	7.8	4.5	7.8	8.9	7.7
Total CABGs	32,442	1,818	7,476	3,899	89
Total Cases (AMIs)	411,790	40,437	95,268	43,940	1,171

RESULTS:

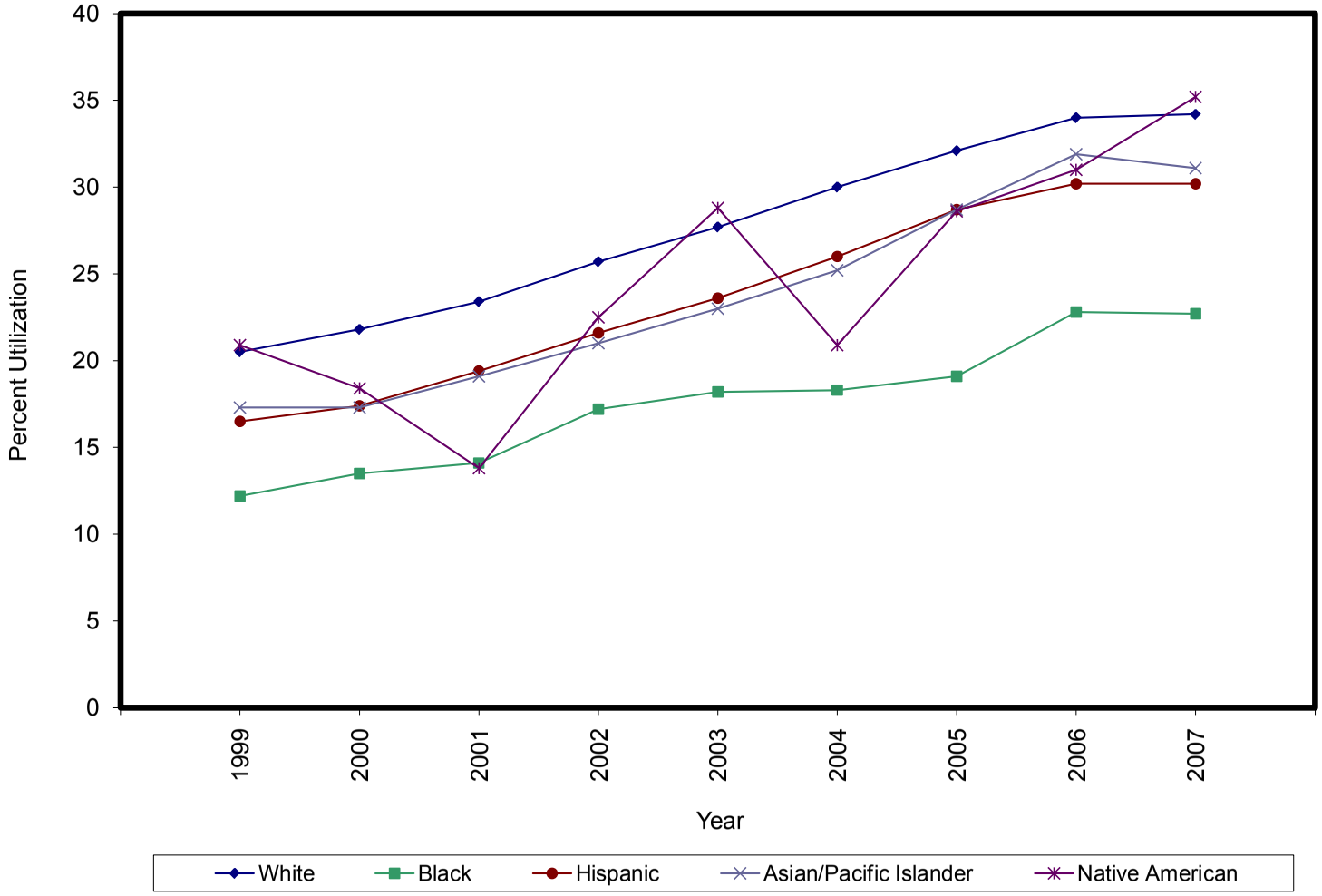
For people admitted to the hospital with a heart attack, Blacks received CABG surgery a little more than half the rate of other groups. There was a slight decrease in CABG surgeries in all groups over the time period. Rates for Native Americans were volatile as a result of a small number of cases.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Percent Utilization of Percutaneous Transluminal Coronary Angioplasty (PTCA)

[non-surgical coronary artery disease treatment, may include insertion of a stent]

FIGURE 3-2: Percent of Heart Attack Patients Receiving Percutaneous Transluminal Coronary Angioplasty (PTCA), 1999-2007



Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

Percent Utilization of Percutaneous Transluminal Coronary Angioplasty (PTCA)

[non-surgical coronary artery disease treatment, may include insertion of a stent]

TABLE 3-2: Percent of Heart Attack Patients Receiving Percutaneous Transluminal Coronary Angioplasty (PTCA), 1999-2007

Year	White	Black	Hispanic	Asian/Pacific Islander	Native American
1999	20.5	12.2	16.5	17.3	20.9
2000	21.8	13.5	17.4	17.3	18.4
2001	23.4	14.1	19.4	19.1	13.8
2002	25.7	17.2	21.6	21.0	22.5
2003	27.7	18.2	23.6	23.0	28.8
2004	30.0	18.3	26.0	25.2	20.9
2005	32.1	19.1	28.7	28.7	28.6
2006	34.0	22.8	30.2	31.9	31.0
2007	34.2	22.7	30.2	31.1	35.2
9-year Mean Rate (i.e., Average)	27.7	17.6	23.7	23.8	24.5
Total PTCAs	111,757	7,040	22,624	10,476	280
Total Cases (AMIs)	411,790	40,437	95,268	43,940	1,171

RESULTS:

For patients admitted to the hospital with a heart attack, the average percentage receiving PTCA was higher for Whites (27.7), nearly double the average for Blacks (17.6). There was a solid upward trend in PTCA utilization for heart attack patients in all groups. The large amount of variation in utilization rates for Native Americans reflects the small numbers receiving this procedure.

Note: Persons who identify with the Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut and may not represent an accurate count due to under-reporting. Also, due to the limitations on how the data is collected, the Asian/Pacific Islander category combines various populations that may differ in overall health characteristics.

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APPENDIX A: TECHNICAL NOTES

Data Sources

The Patient Discharge Data, 1999 through 2007, collected by the Office of Statewide Health Planning and Development (OSHPD) were used to calculate the healthcare quality indicators in this report. These data, reported to OSHPD by all California-licensed hospitals, reflect all patients admitted to hospitals.

Definitions of Race and Ethnicity

The OSHPD patient discharge data includes fields for both ethnicity (i.e., Hispanic or not Hispanic) and race (i.e., Black, White, Asian/Pacific Islander, Native American, or Other/Multiple races). For this analysis, these were combined to form a single category of "race/ethnicity." If ethnicity was reported as Hispanic then race/ethnicity was defined as Hispanic. Otherwise, race/ethnicity was defined as the patient's reported race. This grouping was utilized in order to match with that used by the US Census Bureau and California Department of Finance for calculation of population rates. This method may lead to undercounting Native Americans, since many of these patients may have been reported as Hispanic. Of all the measures in this report, PQIs are most sensitive to undercounting.

AHRQ Indicators of Medical Care Quality and Access

Prevention Quality Indicators (PQIs)

PQIs reflect the amount of "preventable hospitalization" among members of a population by considering hospital admission rates for health conditions thought to be avoidable if patients receive adequate care in outpatient settings, such as doctors' offices and clinics.

PQI rates are calculated by dividing the number of people hospitalized for a particular condition by a population's size. This report includes rates calculated separately for each race/ethnic group, statewide, for each year 1999 through 2007. For example, the Hispanic PQI for dehydration for 2005 is calculated as the number of hospitalizations for Hispanic adults with dehydration in 2005 per 100,000 adult Hispanics in the state population that year. There are some exceptions. For example, the rate for ruptured appendix is based on the number of appendicitis cases, and the rate for low birth weight is based on the number of newborns reported in hospital data.

Most PQI rates are calculated for adults, 18 years and older, and adjusted for age and sex to allow comparison of rates across the race/ethnic groups. The reference group for the adjustments was Non-Hispanic Whites, pooled for the years 1999-2007. However, rates for pediatric asthma are calculated for children 2 to 17 years and for pediatric gastroenteritis/dehydration are calculated for ages 3 months to 17 years. The low birth weight rates are calculated for newborns, younger than 28 days. These three indicators were not age-adjusted because they were specific to an age group.

Inpatient Quality Indicators (IQIs)

IQIs reflect quality of care for hospital patients. They include measures of mortality (percent of patients who died in the hospital) for selected treatments and selected illnesses and injuries. Mortality rates reflect both the quality of care received and how sick the patient was when hospitalized.

Two kinds of IQIs are used for this report. *IQI Diagnosis Mortality Indicators* show the percent of hospital patient deaths among persons admitted with certain illnesses, such as heart attack or congestive heart failure. *IQI Procedure Mortality Indicators* show the percent of hospital patient deaths among persons receiving certain treatments, such as hip replacement or heart surgery (e.g., Coronary Artery Bypass Graft or CABG).

Volume IQIs reflect how many times certain procedures are performed in a given hospital and *Utilization IQIs* reflect the frequency with which a recommended service was used. OSHPD reports all of these IQIs for California hospitals at http://www.oshpd.ca.gov/HID/DataFlow/index.html.

Most procedure and diagnosis mortality IQIs are calculated for adults, age 18 and older. However, for CABG and Percutaneous Transluminal Coronary Angioplasty (PTCA), both used to treat heart conditions, the mortality IQIs are calculated for adults, age 40 and older, and mortality in hip fracture patients is calculated for adults, ages 65 and older.

Each IQI rate is calculated separately for each race/ethnic group, statewide, for each year 1999 through 2007. Most are statistically adjusted for age and sex so that the rates for the different population groups can be compared. Due to the narrow age ranges, the IQI mortality indicators for CABG, PTCA and treatment for hip fractures, and the utilization rates for CABG and PTCA were not age-adjusted.

More Information

More information about the AHRQ IQIs, including more details about the definitions of the IQIs in this report, is available at http://www.qualityindicators.ahrq.gov/. Additional information is available on OSHPD's Quality of Care Web page (http://www.oshpd.ca.gov/HID/Products/quality.html), and in the "definitions" section of this report.

OSHPD Utilization Indicators of Cardiovascular Intervention

The coronary artery bypass graft (CABG) [heart bypass] and percutaneous transluminal coronary angioplasty (PTCA) [non-surgical coronary artery disease treatment, may include insertion of a stent] utilization rates in this report reflect how often heart attack patients of each race/ethnic group received these procedures. They are calculated as the percent of heart attack patients aged 40 or older that received either procedure, for each race/ethnic population, statewide, each year from 1999 through 2007. Patients who received the CABG and PTCA procedures were identified using the ICD-9-CM codes for AHRQ Area-Level Inpatient Quality Indicators definitions for CABG (IQI 26) and PTCA (IQI 27).

Statistical Calculations and Significance Tests

All calculations for indicators and all significance tests were performed using SAS Version 9.1 software. The statistical significance test for trends over time (1999 through 2007) were performed using linear regression. The test for statistical significance of differences between race/ethnic groups in hospitalization/mortality rates were calculated using Non-Hispanic White as the reference group.

Limitations of Data and Methods

The IQIs were developed by the AHRQ. They are used for assessment of healthcare access and quality by hospitals, as well as nationally and by states. OSHPD has applied the definitions without revision so that the rates calculated for California are comparable to rates reported by other agencies. Additional information about the methods for calculating these indicators, along with detailed technical explanations, is provided by AHRQ at http://www.qualityindicators.ahrq.gov/.

The indicators were calculated using patient data submitted electronically by the hospitals. OSHPD validated the data as part of its routine collection within a 5% error rate but did not conduct additional validation. As race and ethnic identities of patients reported to OSHPD have not been verified by review of the original medical records, it is possible there are systematic errors with how the data are reported by hospitals. In particular, hospitalization rates for Native Americans obtained from state hospital discharge data may underestimate actual hospitalization rates by more than half their actual values. About 60% of Native Americans are misclassified in other racial categories in state hospital discharge data used to determine the numerators of hospitalization rates, but not in population (US Census Bureau) data used to determine the denominators. For further information on hospitalization rates of Native Americans see “Disparities in hospitalizations of rural American Indians,” by Korenbrot CC, Ehlers S, Crouch J in Medical Care 2003; volume 41: pages 626-636.

Also, in this report the Asian/Pacific Islander patients have been combined into a single group. This was done because the population data used to calculate population rates are reported in this way (California Department of Finance, Demographic Research Unit). However, much evidence shows wide differences in health conditions, disease prevalence and healthcare utilization among the subgroups included in the Asian/Pacific Islander population.

A population group with a high percentage of older people might have higher mortality rates than a “younger” group, even if their health access and quality of care were similar. To make valid comparisons between groups, the rates in this report have been statistically adjusted for age and gender. However, there might be other, unmeasured, group characteristics that contributed to the rates and for which there was no adjustment.

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APPENDIX B: DEFINITION OF MEASURES

Section 1:
Prevention Quality Indicators (PQIs), Preventable Hospitalizations, 1999-2007

PQI 01 – Diabetes Short-Term Complications

Hospitalizations for diabetes with complications that may include ketoacidosis, hyperosmolarity, and coma, per 100,000, ages 18 and over, excluding those related to childbirth and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 02 – Perforated Appendix

Percent of hospitalizations for ruptured or inflamed appendix ages 18 and older, excluding those related to childbirth and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 03 – Diabetes Long-Term Complications

Hospitalizations for diabetes with complications that may include those related to kidney, eye, nervous system, and blood circulation, per 100,000, ages 18 and over, excluding those related to childbirth and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 04 – Pediatric Asthma

Hospitalizations for asthma per 100,000, ages 2 through 17, excluding those related to respiratory problems, such as cystic fibrosis, and transfers from other institutions. Reported rates are not age- and sex-adjusted.

PQI 05 – Chronic Obstructive Pulmonary Disease (COPD)

Hospitalizations for chronic bronchitis or emphysema per 100,000, ages 18 and over, excluding those related to childbirth and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 06 – Pediatric Gastroenteritis

Hospitalizations for inflammation of the stomach and small intestine resulting in severe vomiting and/or severe diarrhea, per 100,000, ages 3 months to 17 years, excluding transfers from another healthcare facility and cases with abnormalities of the stomach or intestines or with bacterial gastroenteritis. Reported rates are not age- and sex-adjusted.

PQI 07 – Hypertension

Hospitalizations for high blood pressure, per 100,000, ages 18 and over, excluding those related to childbirth or cardiac procedures, and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 08 – Congestive Heart Failure (CHF)

Hospitalizations for heart failure, per 100,000, ages 18 and over, excluding those related to childbirth or cardiac procedures, and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 09 – Low Birth Weight

Live born infants with birth weight less than 2,500 grams (about 5.5 lb.) per 1,000 live births, excluding transfers from other institutions. Reported rates are not age- and sex-adjusted.

PQI 10 – Dehydration

Hospitalizations for loss of water, per 100,000, age 18 and over, excluding those related to childbirth and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 11 – Bacterial Pneumonia

Hospitalizations for bacterial pneumonia, per 100,000, ages 18 and over, excluding those related to childbirth, sickle cell anemia with structurally abnormal hemoglobin (HbS), and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 12 – Urinary Tract Infection

Hospitalizations for urinary-related infections of kidney, bladder or related vessels, per 100,000, ages 18 and over, excluding those related to childbirth, immunocompromised conditions, and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 13 – Angina without Procedure

Hospitalizations for treatment of chest pain, per 100,000, ages 18 and over, excluding those related to childbirth, cardiac procedures, and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 14 – Uncontrolled Diabetes

Hospitalizations for diabetes with no complications per 100,000, ages 18 and over, excluding those related to childbirth and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 15 – Adult Asthma

Hospitalizations for treatment of asthma per 100,000, ages 18 and over, excluding those related to childbirth, other respiratory problems such as cystic fibrosis, and transfers from other institutions. Reported rates are age- and sex-adjusted.

PQI 16 – Lower Extremity Amputation among Patients with Diabetes

Hospitalizations for diabetes-related amputation of leg or foot, per 100,000, ages 18 and over, excluding those related to childbirth, trauma, and transfers from other institutions. Reported rates are age- and sex-adjusted.

Section 2:
Inpatient Quality Indicators (IQIs), In-Hospital Mortality (Death), 1999-2007

IQI 08 – Esophageal Resection

Deaths per 100 hospitalizations for removal of all or part of the esophagus, ages 18 and older, excluding hospitalizations related to childbirth and transfers to another short-term hospital.

IQI 09 – Pancreatic Resection

Deaths per 100 hospitalizations for removal of all or part of the pancreas, ages 18 and older, excluding hospitalizations related to childbirth and transfers to another short-term hospital.

IQI 11 – Abdominal Aortic Aneurysm (AAA) Repair

Deaths per 100 hospitalizations for repair of an aneurysm of the abdominal aortic artery, ages 18 and older, excluding hospitalizations related to childbirth and transfers to another short-term hospital.

IQI 12 – Coronary Artery Bypass Graft (CABG)

Deaths per 100 heart bypass surgeries, ages 40 and older, excluding hospitalizations related to childbirth and transfers to another short-term hospital, and not adjusted for age or sex.

IQI 13 – Craniotomy

Deaths per 100 hospitalizations for surgery inside the skull, including brain surgery, ages 18 and older, excluding hospitalizations related to childbirth, head trauma, and transfers to another short-term hospital.

IQI 14 – Hip Replacement

Deaths per 10,000 hospitalizations for surgery to replace upper end of the thighbone with a metal ball and resurface the hip socket in the pelvic bone with a metal shell and plastic liner, ages 18 and older, excluding those related to childbirth and transfers to another short-term hospital.

IQI 15 – Acute Myocardial Infarction (AMI) including Transfer Cases

Deaths per 100 hospitalizations where heart attack is the main reason for hospitalization, ages 18 and older, including transfers from another short-term hospital, but excluding transfers to another short-term hospital.

IQI 16 – Congestive Heart Failure (CHF)

Deaths per 100 hospitalizations, ages 18 and older, for the primary reason of heart failure, excluding transfers to another short-term hospital.

IQI 17 – Acute Stroke

Deaths per 100 hospitalizations, ages 18 and older, where a new stroke including hemorrhagic was the main reason for hospitalization, excluding hospitalizations related to childbirth and transfers to another short-term hospital.

IQI 18 – Gastrointestinal Hemorrhage

Deaths per 100 hospitalizations for gastrointestinal hemorrhage (intestinal bleeding), ages 18 and older, excluding hospitalizations related to childbirth and transfers to another short-term hospital.

IQI 19 – Hip Fracture (Observed Rates Only)

Deaths per 100 hospitalizations for fracture of the top of the long bone running through the thigh, near the hip joint, ages 65 and older, excluding hospitalizations related to childbirth and transfers to another short-term hospital.

IQI 20 – Pneumonia

Deaths per 100 hospitalizations for pneumonia, ages 18 and older, excluding hospitalizations related to childbirth and transfers to another short-term hospital.

IQI 30 – Percutaneous Transluminal Coronary Angioplasty (PTCA) (Observed Rates Only)

Deaths per 1,000 hospitalizations for this non-surgical treatment for heart (coronary artery) disease, ages 40 and older, excluding hospitalizations related to childbirth and transfers to another short-term hospital.

IQI 31 – Carotid Endarterectomy

Deaths per 1,000 hospitalizations for surgery to remove plaque from the lining of the carotid (artery in the neck), ages 18 and older, excluding hospitalizations related to childbirth and transfers to another short-term hospital.

IQI 32 – Acute Myocardial Infarction (AMI) without Transfer Cases

Deaths per 100 hospitalizations where heart attack is the main reason for hospitalization, ages 18 and older, excluding transfers from another short-term hospital as well as transfers to another short-term hospital.

Section 3:
Cardiovascular (Heart-Related) Disease Intervention Utilization, 1999-2007

Percent of Heart Attack Patients Receiving Coronary Artery Bypass Graft (CABG) Surgery, 1999-2007

Percent of hospitalizations for heart attack that had CABG surgery, ages 40 and older. Reported rates are not age- and sex-adjusted.

Percent of Heart Attack Patients Receiving Percutaneous Transluminal Coronary Angioplasty (PTCA), 1999-2007

Percent of hospitalizations for heart attack that had (non-surgical) PTCA, ages 40 and older. Reported rates are not age- and sex-adjusted.

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Additional copies of the Racial & Ethnic Disparities in Healthcare in California, California Fact Book can be obtained by contacting the Healthcare Information Resource Center at (916) 326-3802 or HIRCWeb@oshpd.ca.gov.