

Status of Breast Cancer in Different Populations

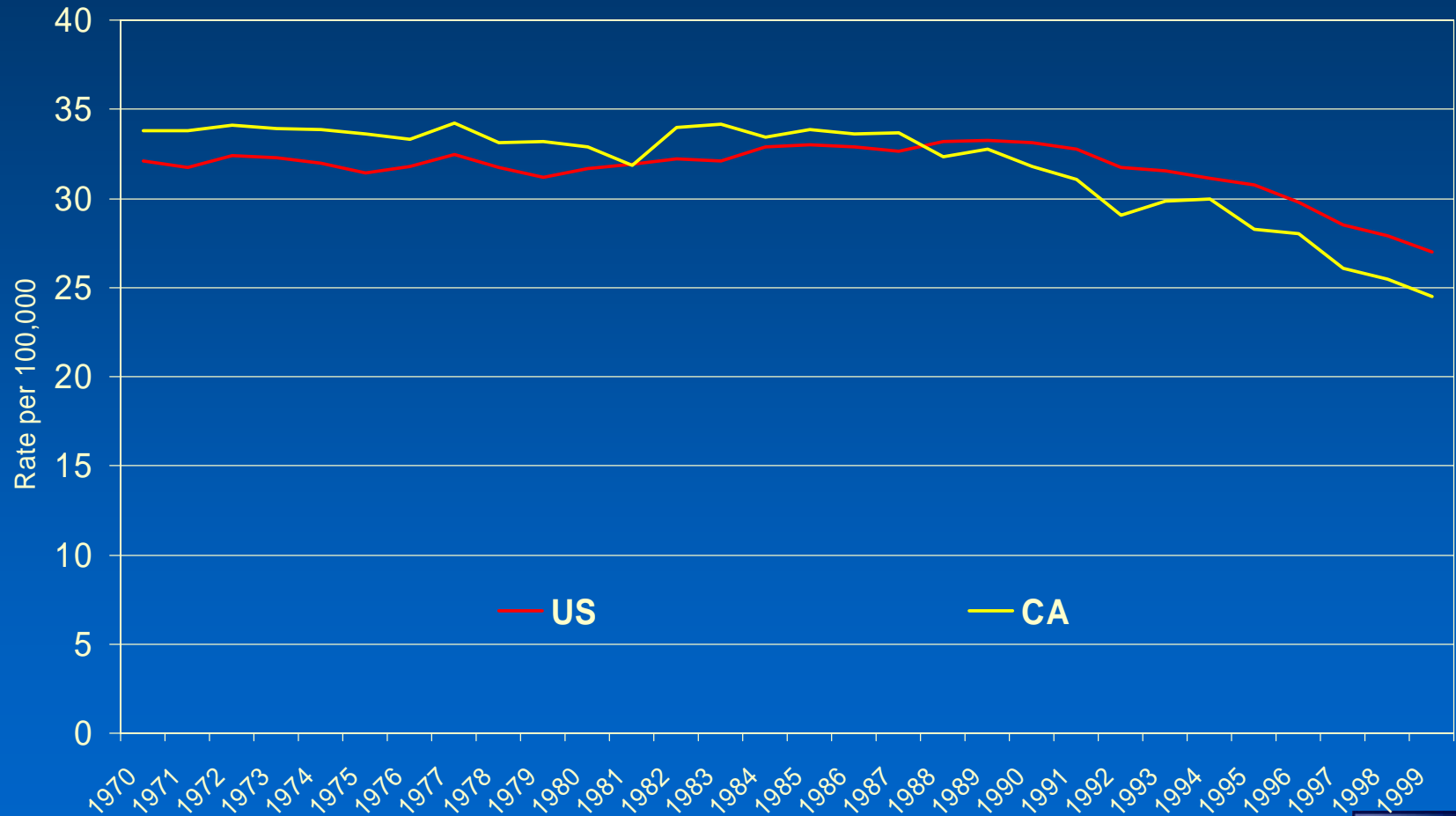
Research to Action: Seeking Solutions

UCBCRP Symposium

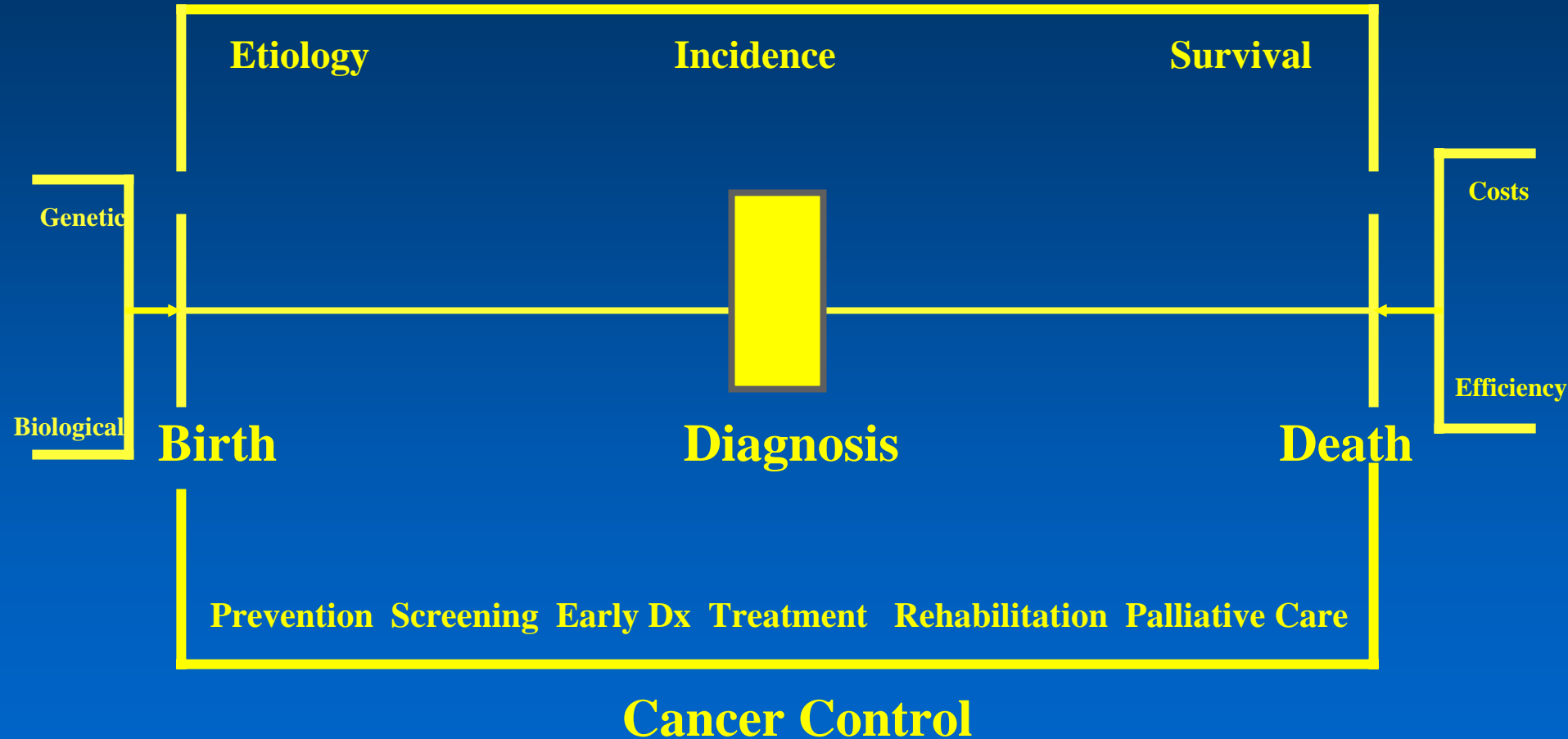
Sacramento, CA

September 10, 2005

Trends in Female Breast Cancer Age-Adjusted Mortality Rates, California and U.S., 1970-1999



CANCER SURVEILLANCE AND CONTROL DATA NEEDS



The California Cancer Registry

- Data Collected
 - Over 100 coded fields
 - Race
 - Type of Reporting Source
 - Primary Site
 - Histology
 - Stage at diagnosis
 - Follow-up for survival
 - Cause of death

California Cancer Registry

- Data Collected
 - Over 20 text fields
 - Physical exam
 - X-rays, scopes, lab results
 - Operative & pathology findings
 - Treatment (surgery, radiation, chemotherapy, immunotherapy, etc.)

CCR does not collect:

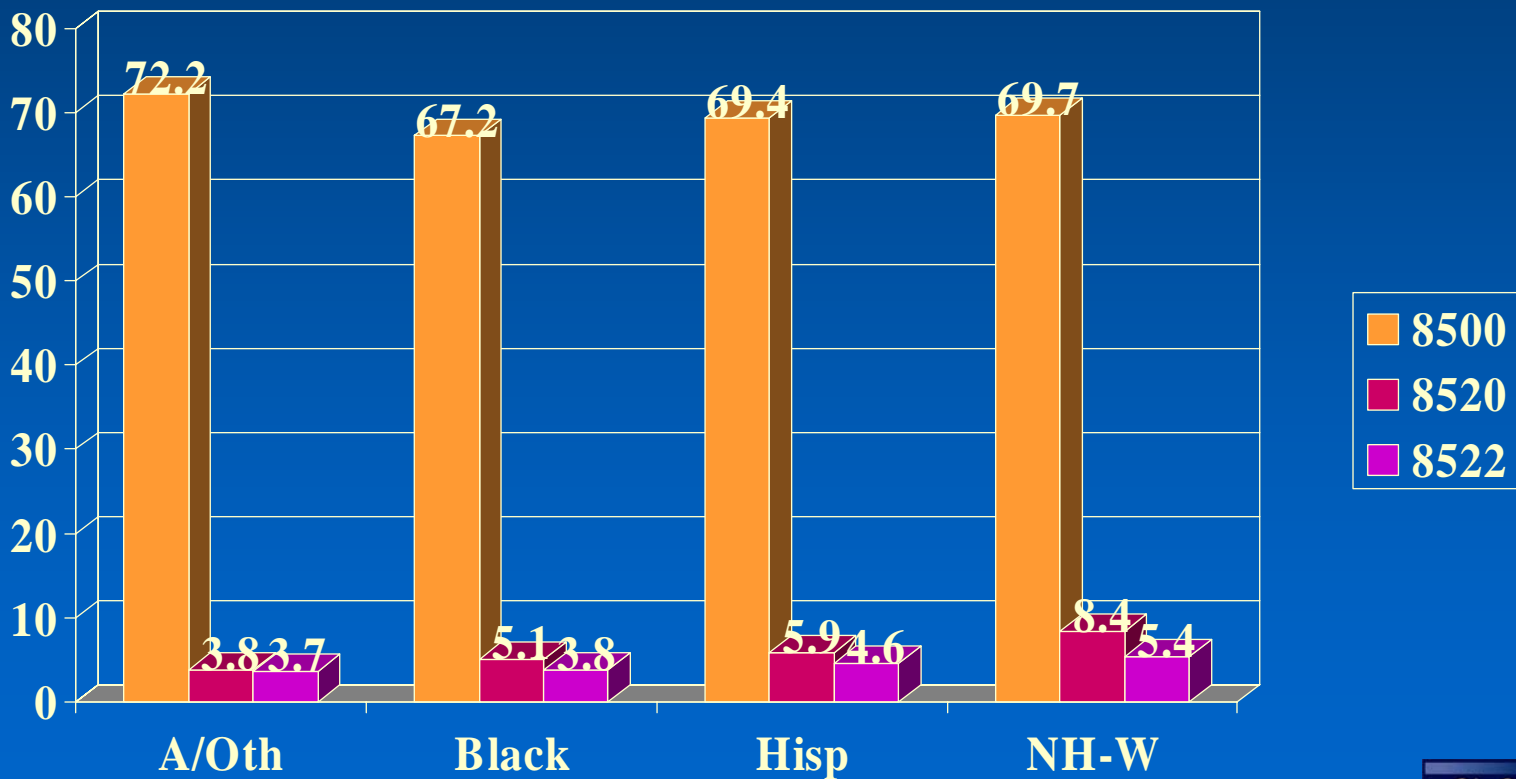
- Recurrence
- Residential History
- Income, education, social status
- Environmental Exposure History
- Occupational History
- Family History
- Genetic Profile
- Sexual Orientation
- Rehabilitation Treatment
- Quality of Life

Breast Cancer is not a single
disease.

% Cases by Histological Subtypes

<u>Code</u> <u>Type</u>	<u>%</u>
8500 Infiltrating ductal	69.6
8520 Lobular	7.6
8522 Mixed Lobular & ductal	5.1
8501 Comedocarcinoma nos	3.2
8140 Adenocarcinoma nos	2.4
8480 Mucinous adenocarcinoma	2.4
801-804 Epithelial neoplasms	1.7
8510 Medullary carcinoma	1.6
8530 Inflammatory carcinoma	1.4
8211 Tubular adenocarcinoma	1.4
All others (60+)	3.6

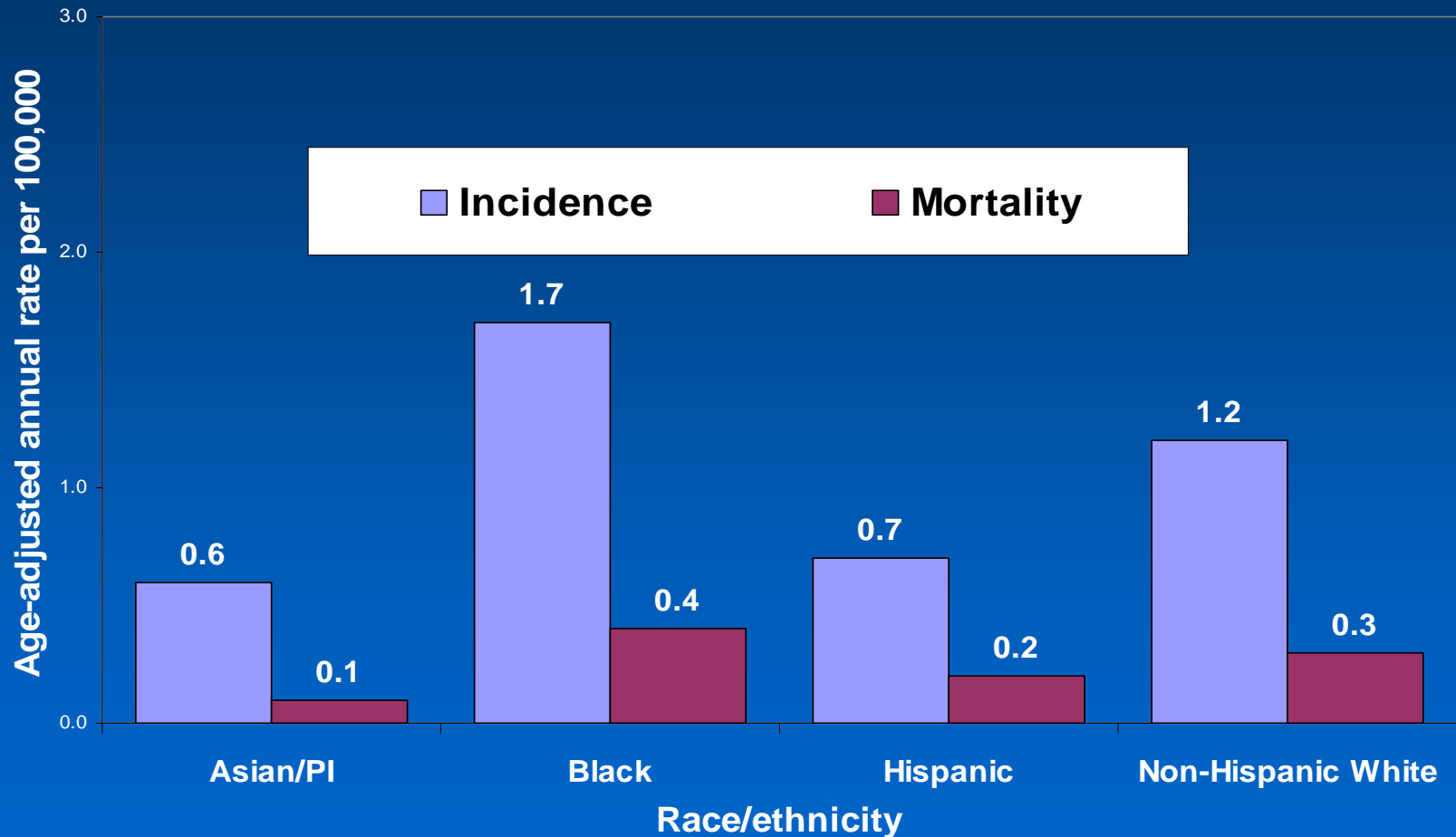
Percent Histologic Site, female breast cancer by Race/Ethnicity: California, 1990-1994



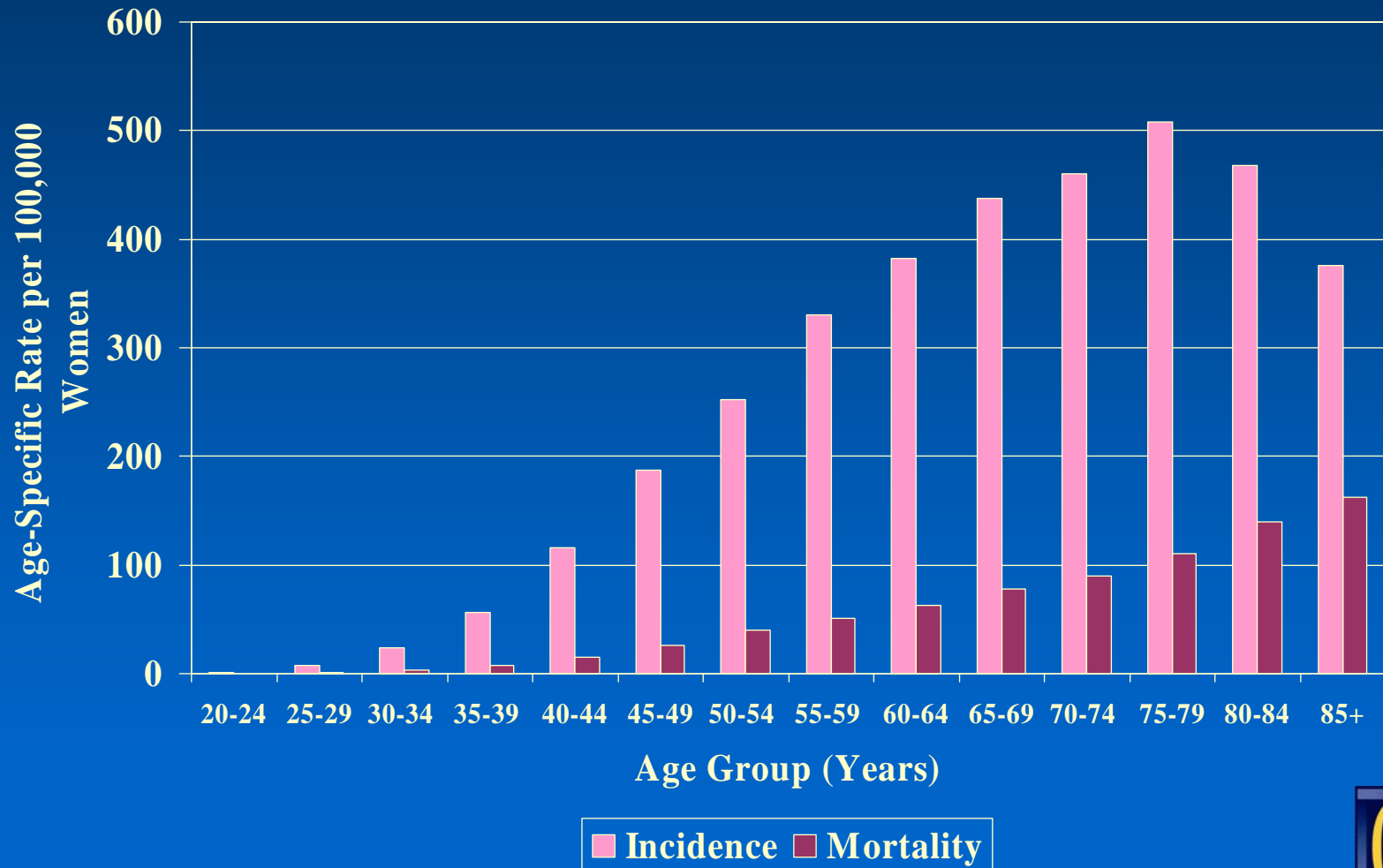
Reynolds P, Hurley S, Quach A, et al. Regional variations in breast cancer incidence among California women, 1988-1997. *Cancer Causes and Control* 16: 139-150, 2005

Regional differences in neighborhood SES and urbanization appear to largely explain rate differences in California for . . . ductal carcinomas but do not fully explain . . . cancer with a lobular component.

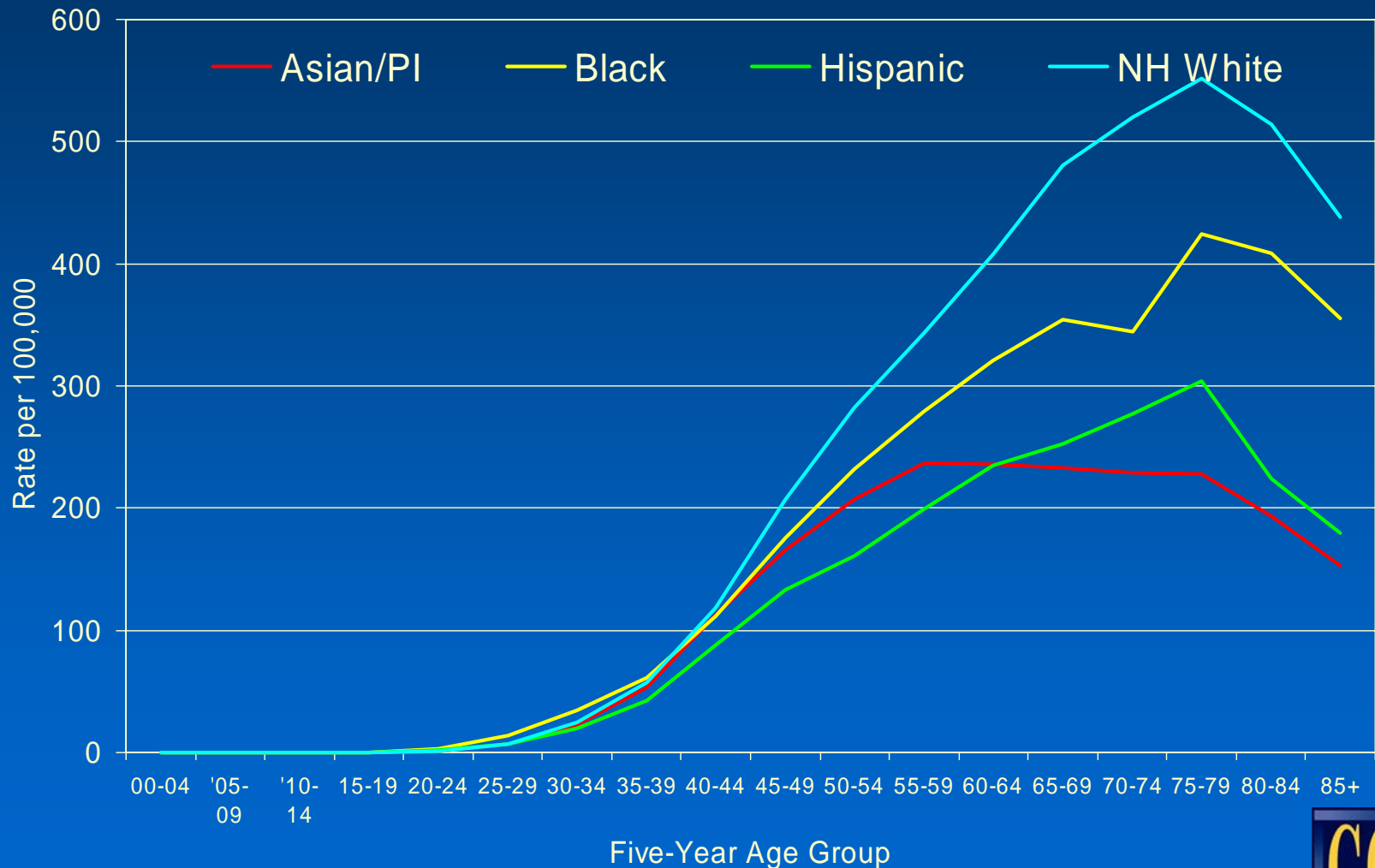
Male breast cancer in California: Five-year average annual age-adjusted (2000 US population) incidence and mortality by race/ethnicity, 1998-2002



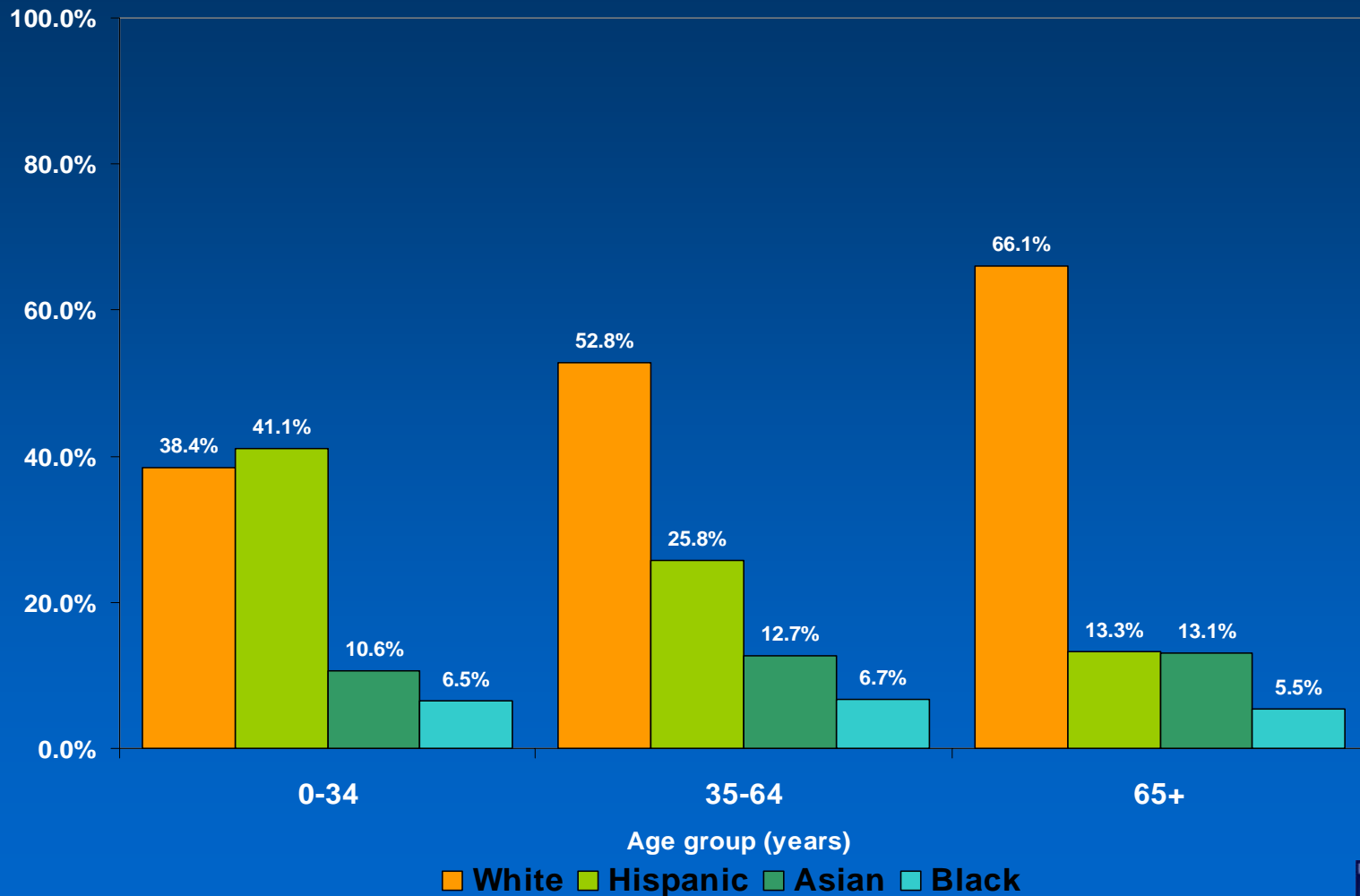
Age-Specific Rates of Invasive Breast Cancer and Breast Cancer Mortality, California, 1998-2002



Age-Specific Female Invasive Breast Cancer Incidence Rate by Race/Ethnicity, California, 1995-1999



California's female population distribution by age group and race/ethnicity, 2003



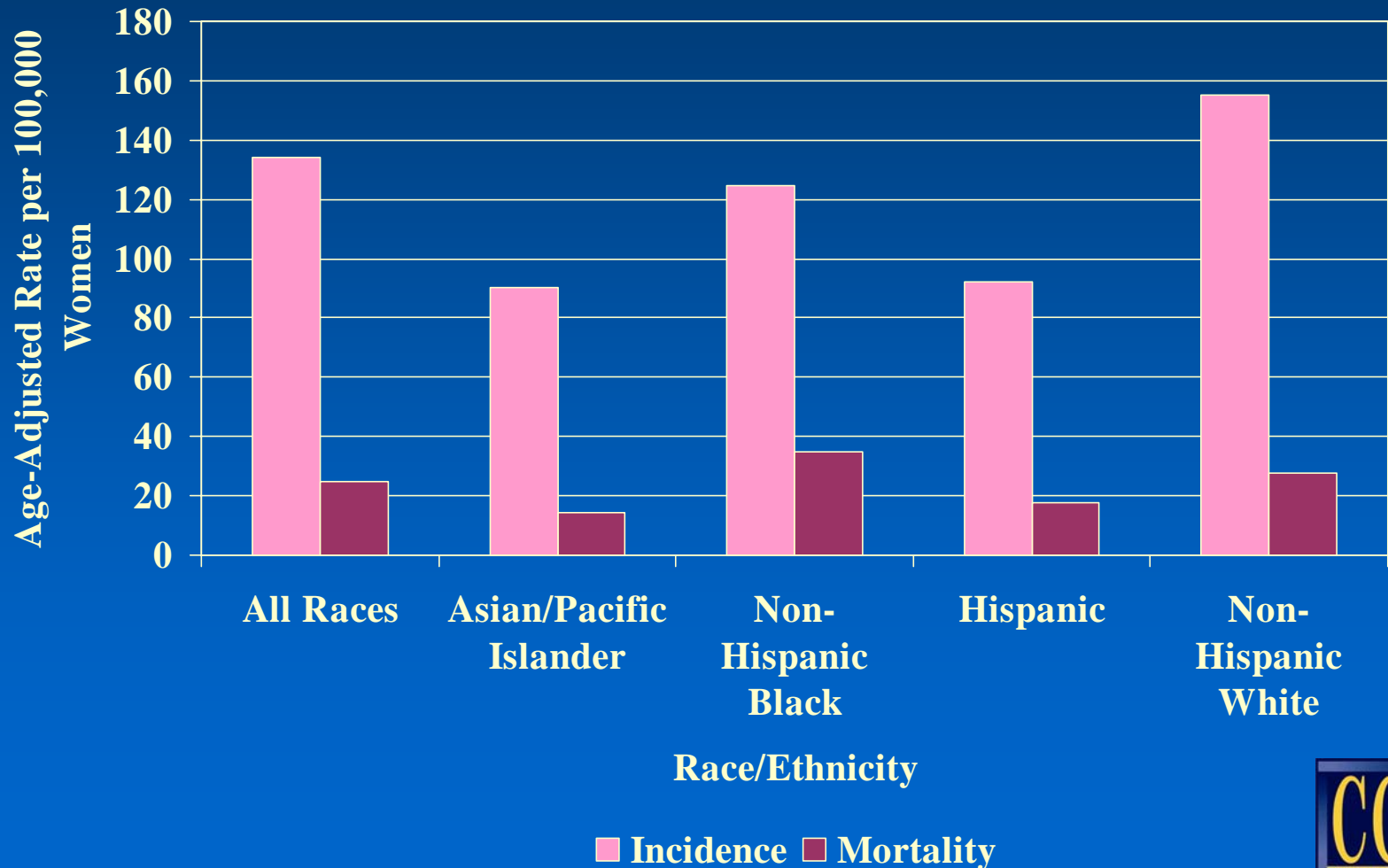
Source: Current Population Survey Report, March 2003: California California State Department of finance, Demographic Research Unit
http://www.dof.ca.gov/HTML/DEMOGRAP/Reports/CPS/CPS_Extended_3-03.pdf



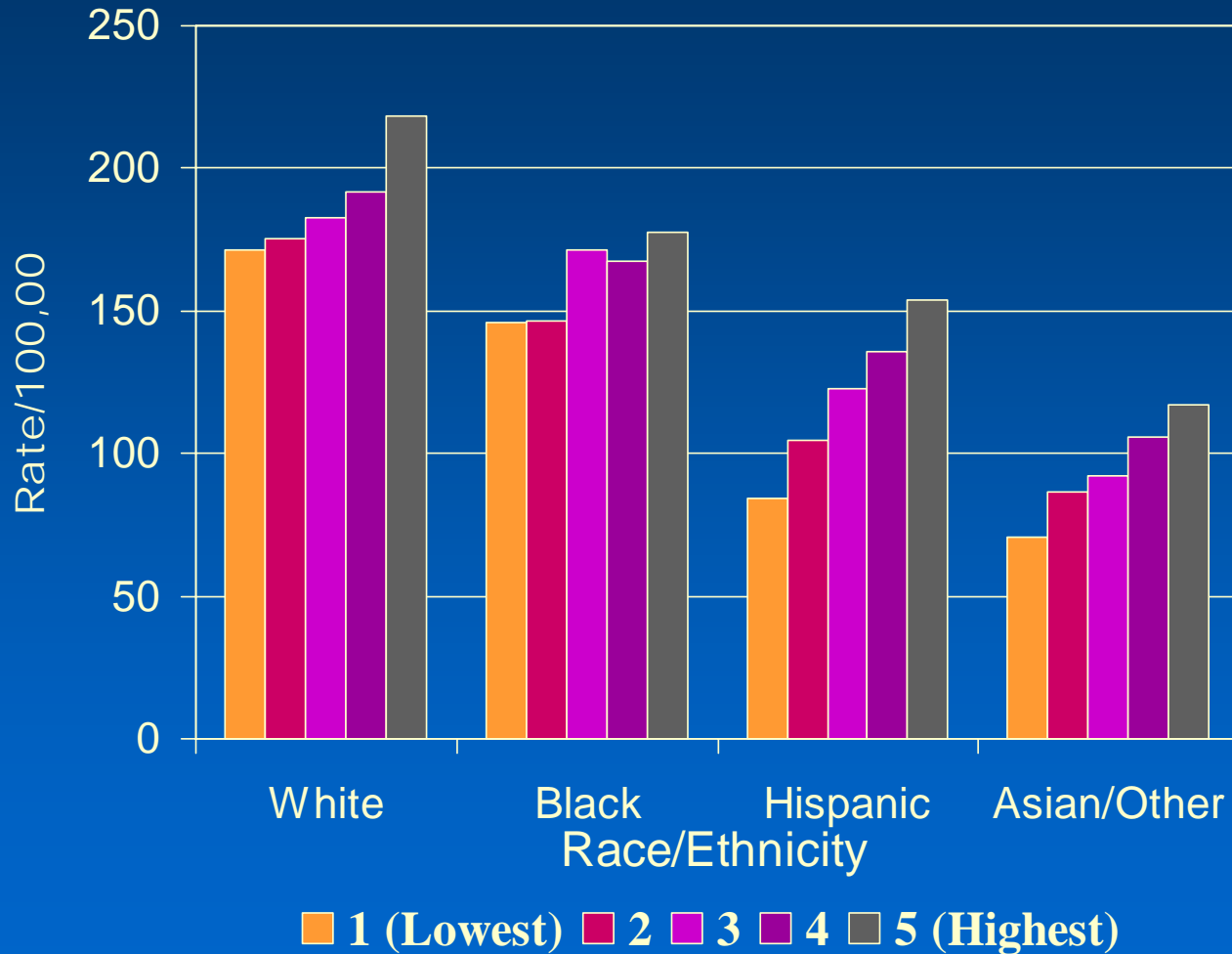
**Female Breast Cancer Population Burden:
Average Number of New Cases/Year
(California, 1988-2002)
by Race/Ethnicity**

Asian/PI	1,761	8.1 %
Black	1,233	5.7 %
Hispanic	2,821	13.0 %
N-H White	15,861	73.2 %

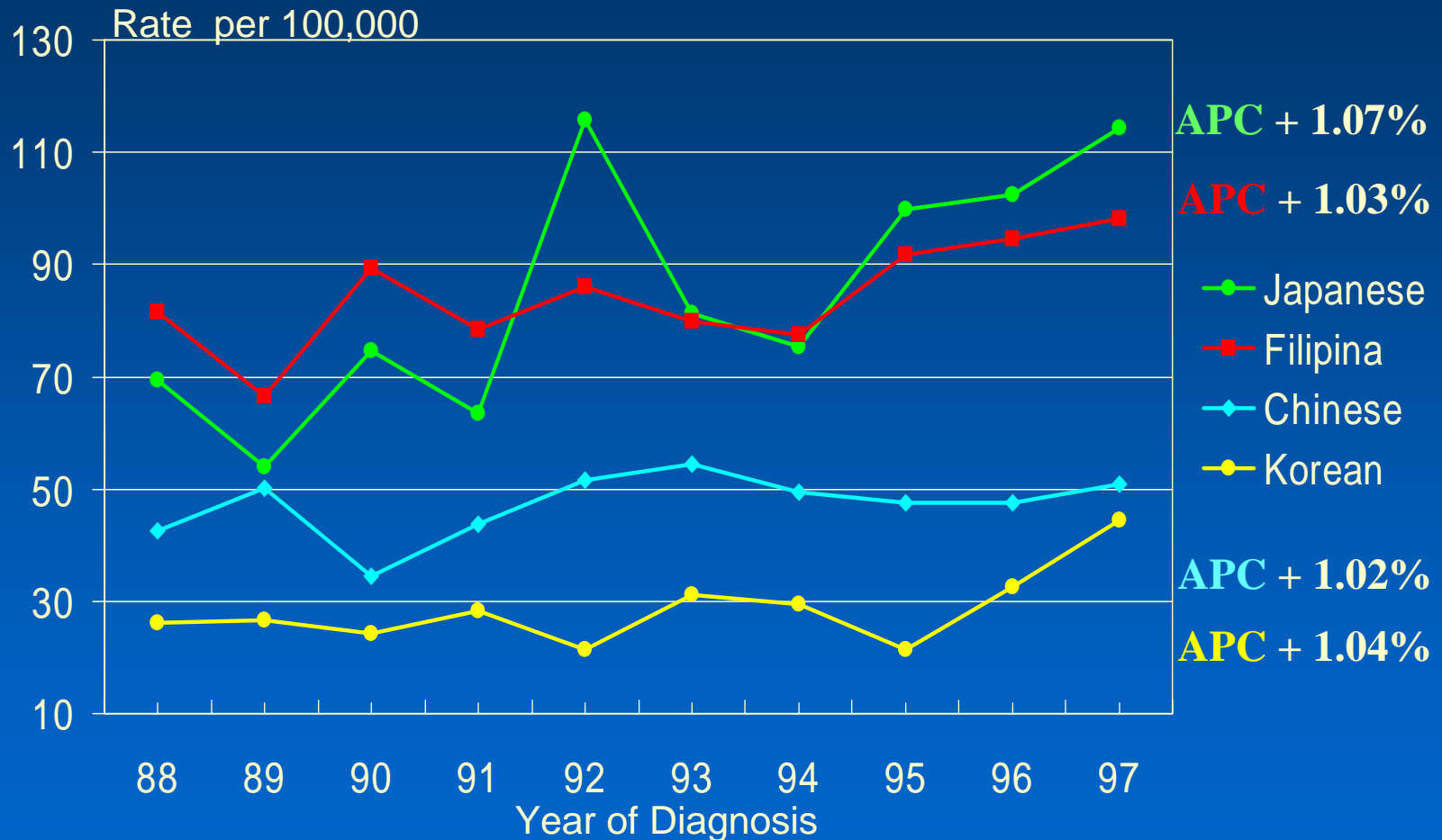
Invasive Breast Cancer Incidence Rates and Breast Cancer Mortality Rates by Race/Ethnicity, California, 1998-2002



Female Invasive Breast Cancer Incidence Rates by Race/Ethnicity & SES, California, 1998-2002



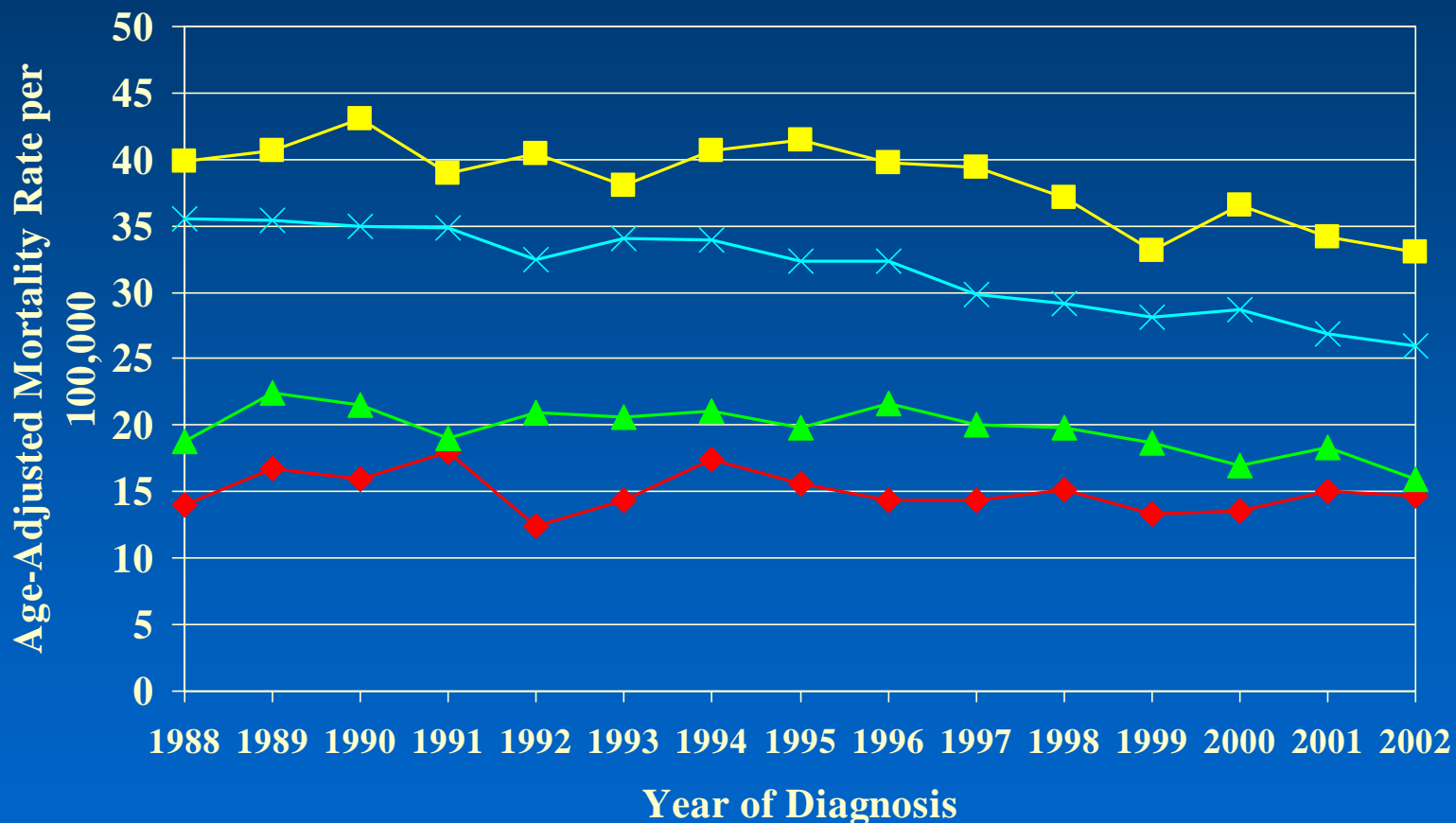
Ten-Year Trends in Invasive Female Breast Cancer Incidence by Asian Ethnicity, Los Angeles County, 1988-1997



Source: Cancer Surveillance Program of Los Angeles.

APC = Average Annual Percent Change. Percents in red are statistically significant ($p < 0.05$). All rates are age-adjusted to the 1970 US population.

Trends in Invasive Female Breast Cancer Age-Adjusted Mortality Rates by Race/Ethnicity, California, 1988-2002

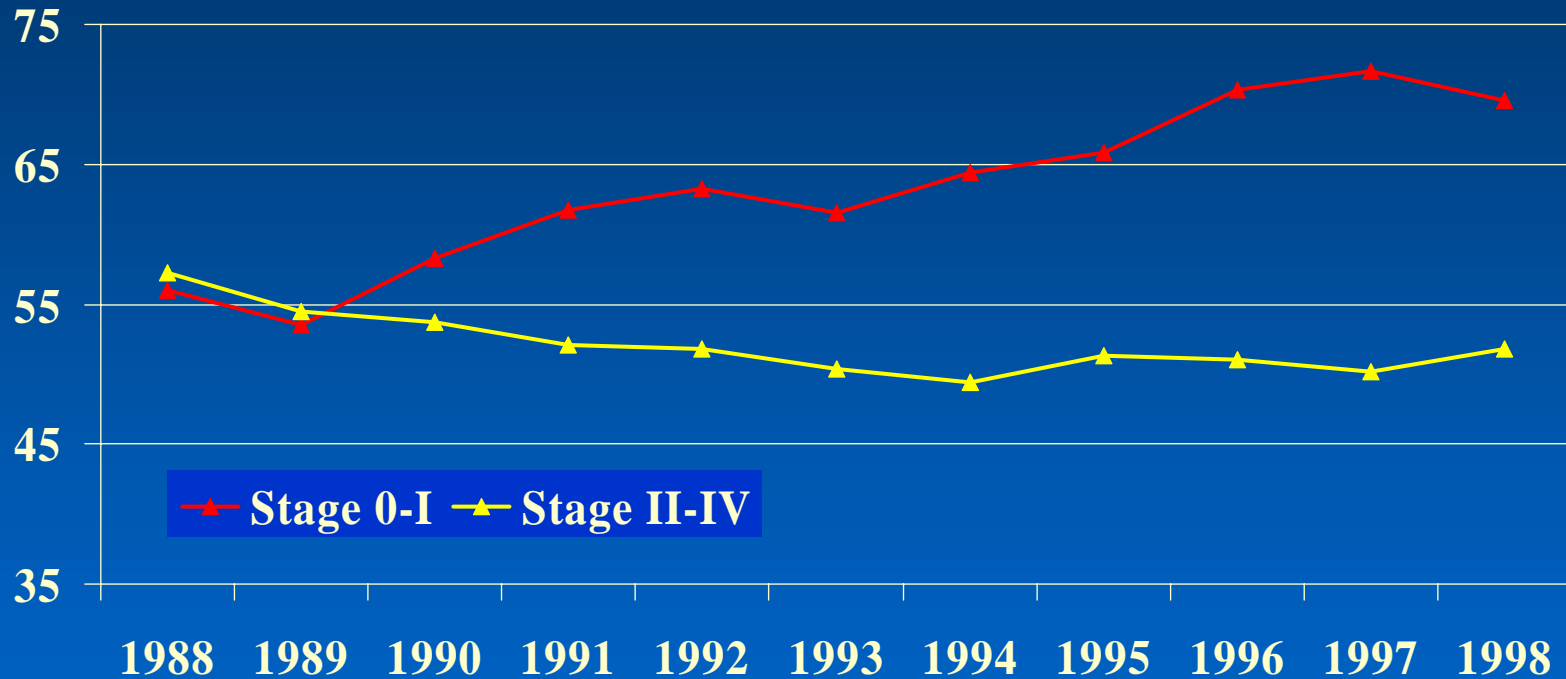


◆ Asian/Pacific Islander ■ Black ▲ Hispanic ✕ Non-Hispanic White



Trends in Female Breast Cancer Incidence by Stage at Diagnosis in California, 1988-1998

Rate per 100,000

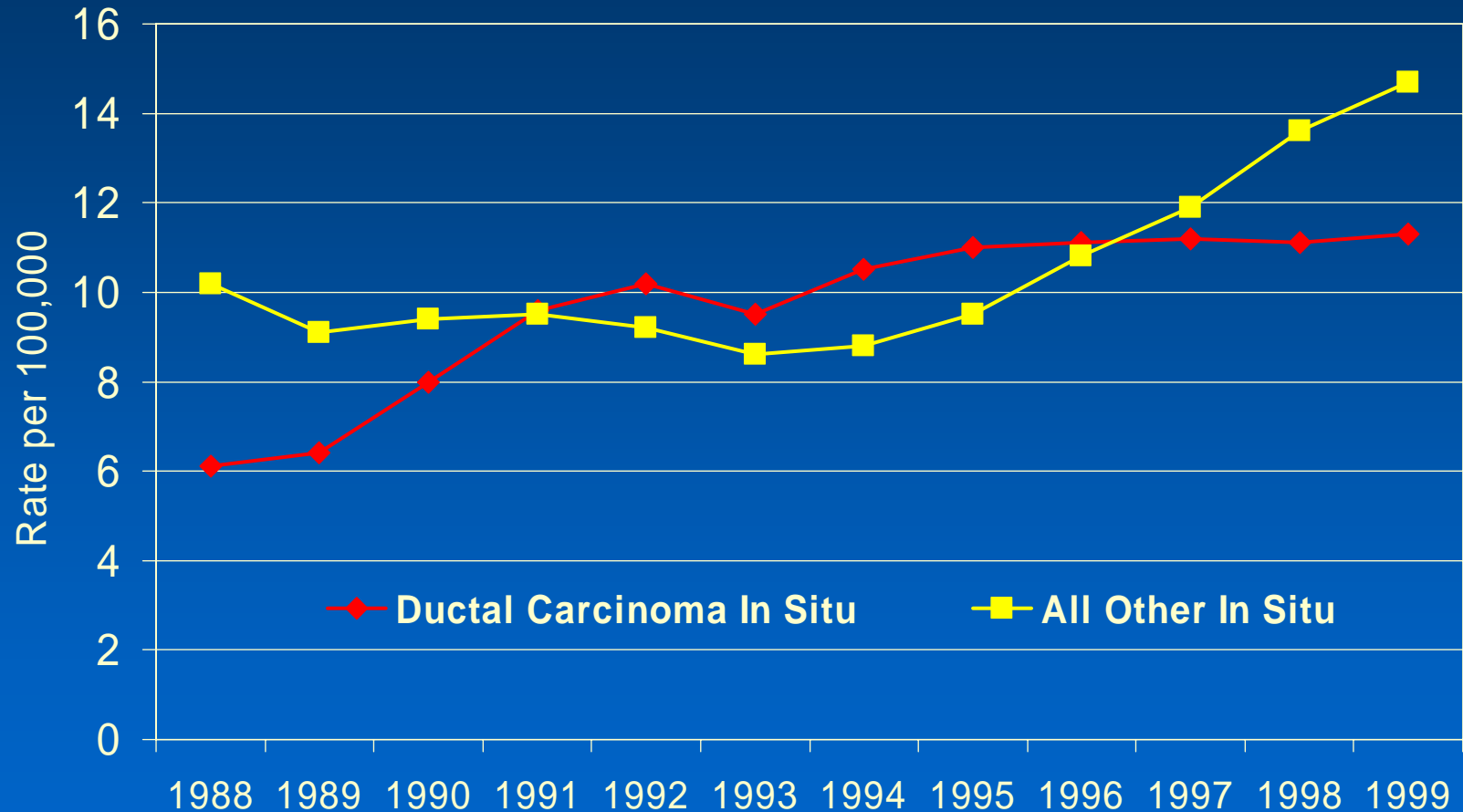


Note: Rates are age-adjusted to the 1970 US population. Stage 0-I cancers are *in situ* or less than 2 cm in size with no lymph nodes involved. Stage II-IV are more advanced cancers.

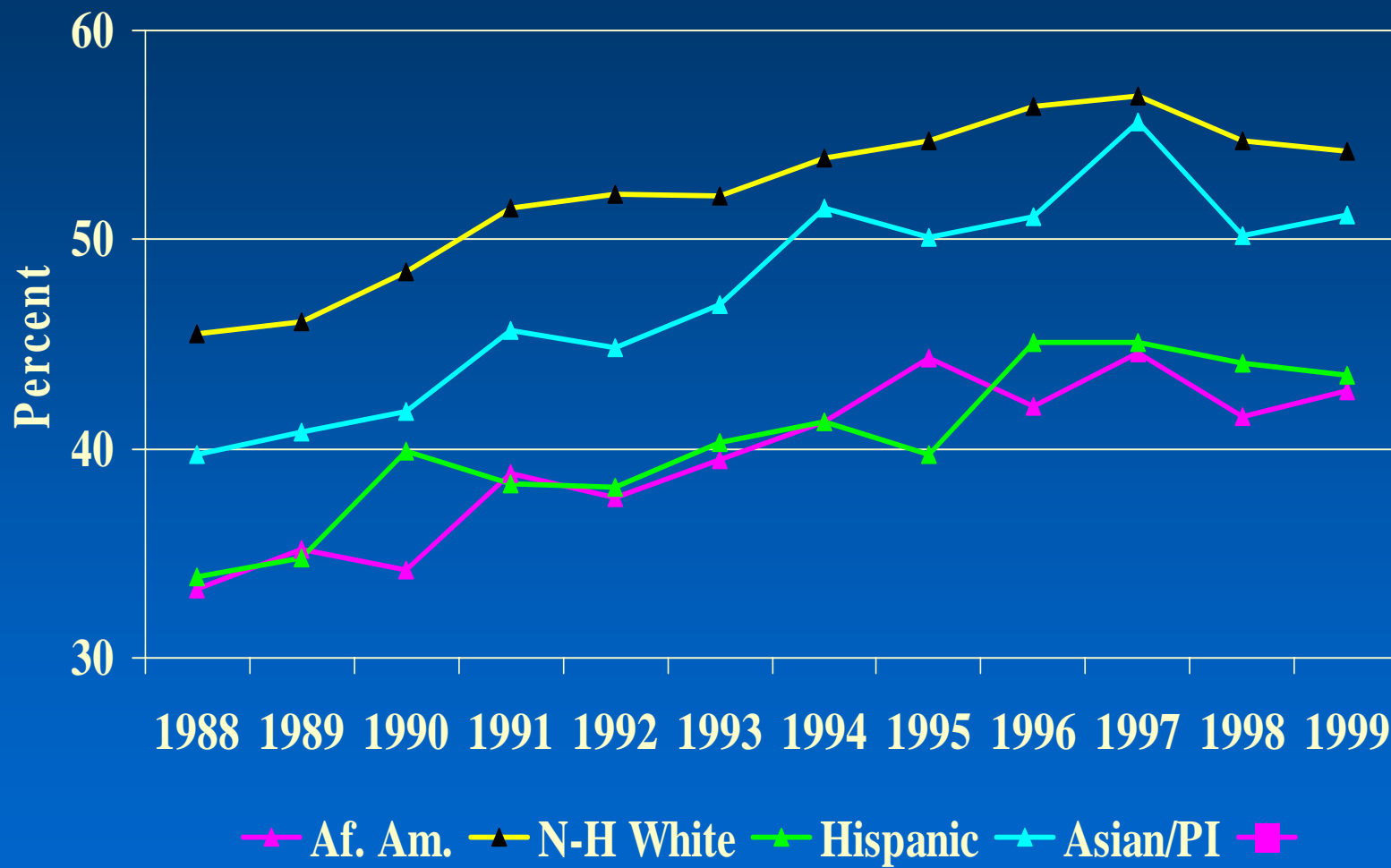
Source: *Cancer in California, 2001*. California Department of Health Services, December 2000.



Trends in Ductal Carcinoma In Situ and All Other In Situ Breast Cancers, California, 1988-1999

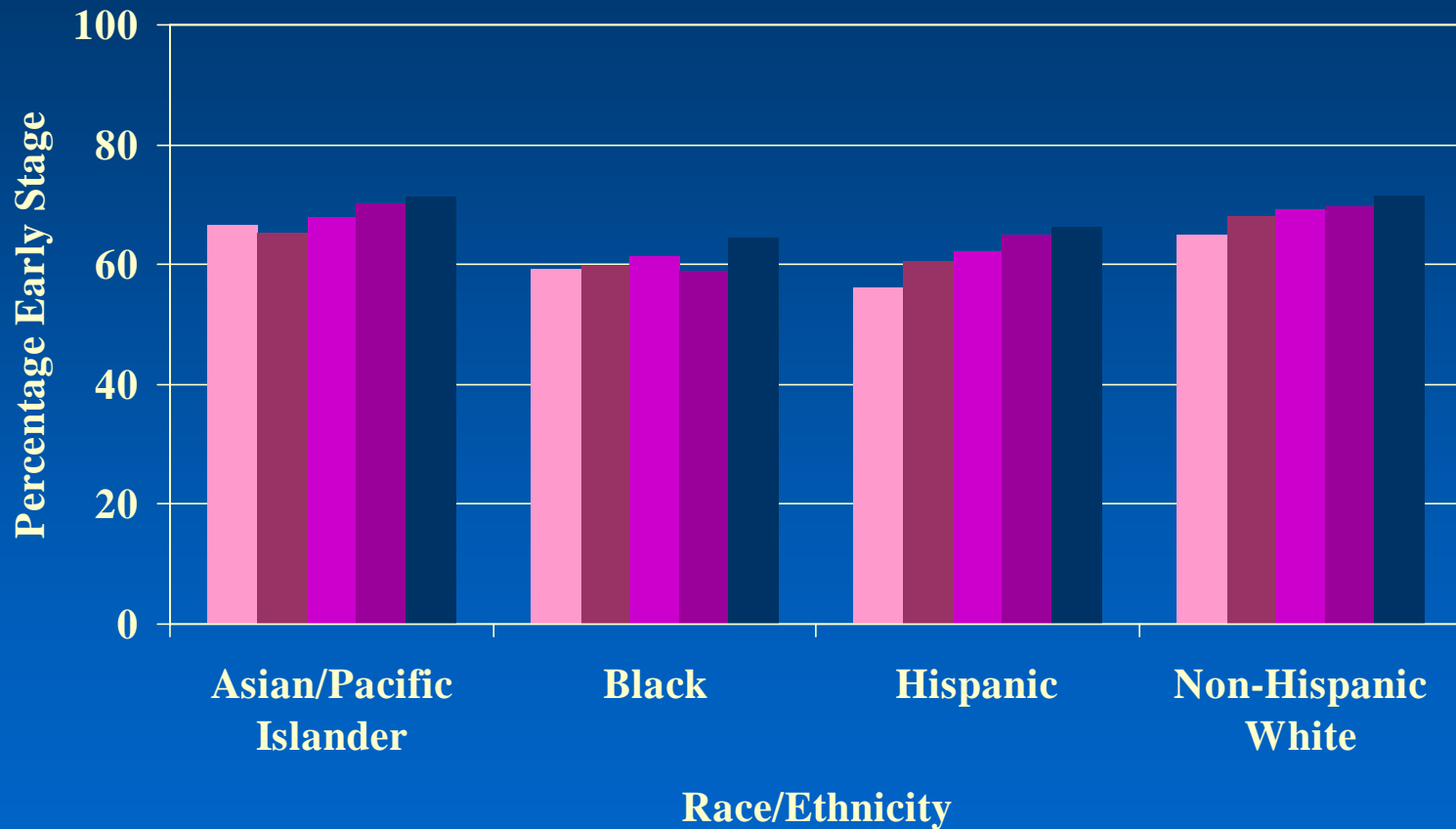


Trends in Percent Early-Stage Female Breast Cancer Incidence by Race/Ethnicity in California, 1988-1999



Source: *Cancer in California, 1988-1999*. California Department of Health Services, December 2001.

Percentage of Breast Cancers Diagnosed at Early Stage (In Situ or Localized Tumors) by Socioeconomic Status and Race/Ethnicity, California, 1998-2002



■ SES 1 Low ■ SES 2 ■ SES 3 ■ SES 4 ■ SES 5 High

Figure 2. Geographic Variation in Late-Stage Breast Cancer Among Women 40 Years Old and Older, by MSSA, 1998-2002

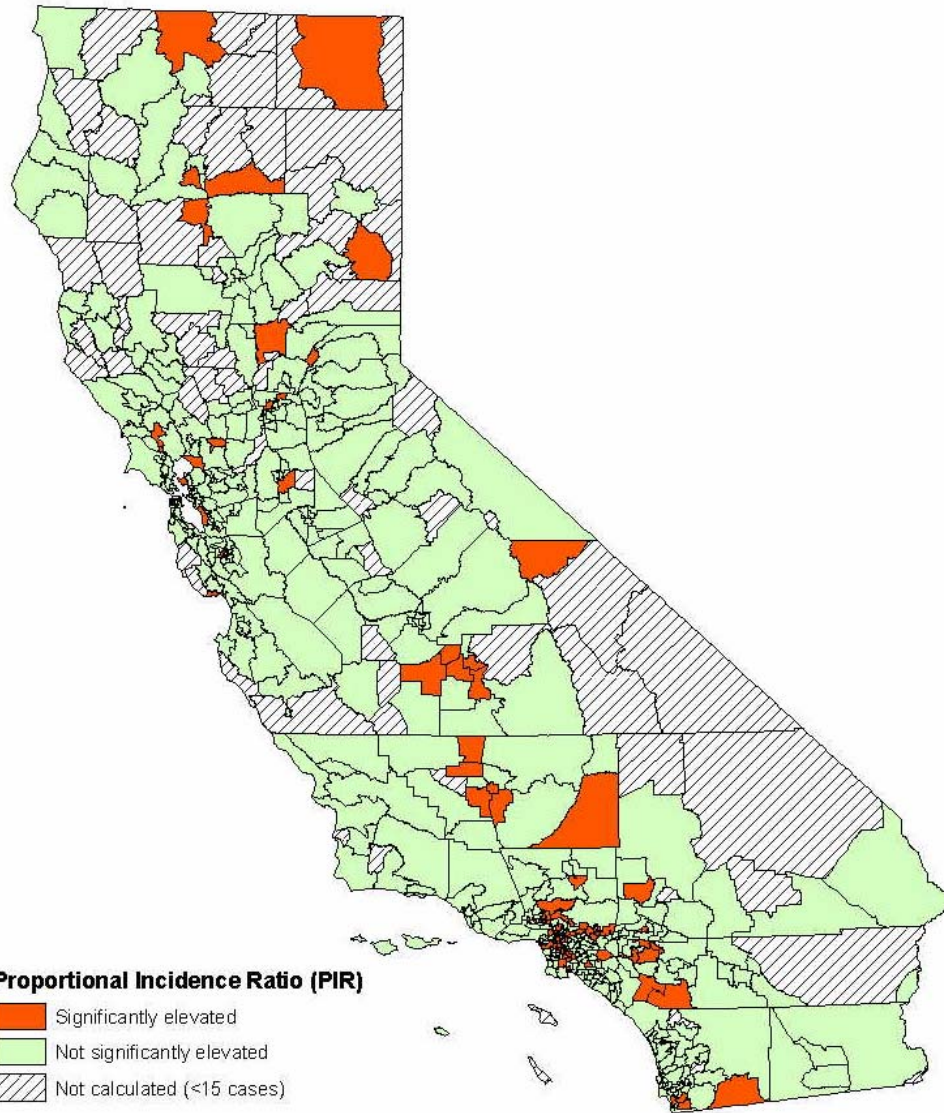
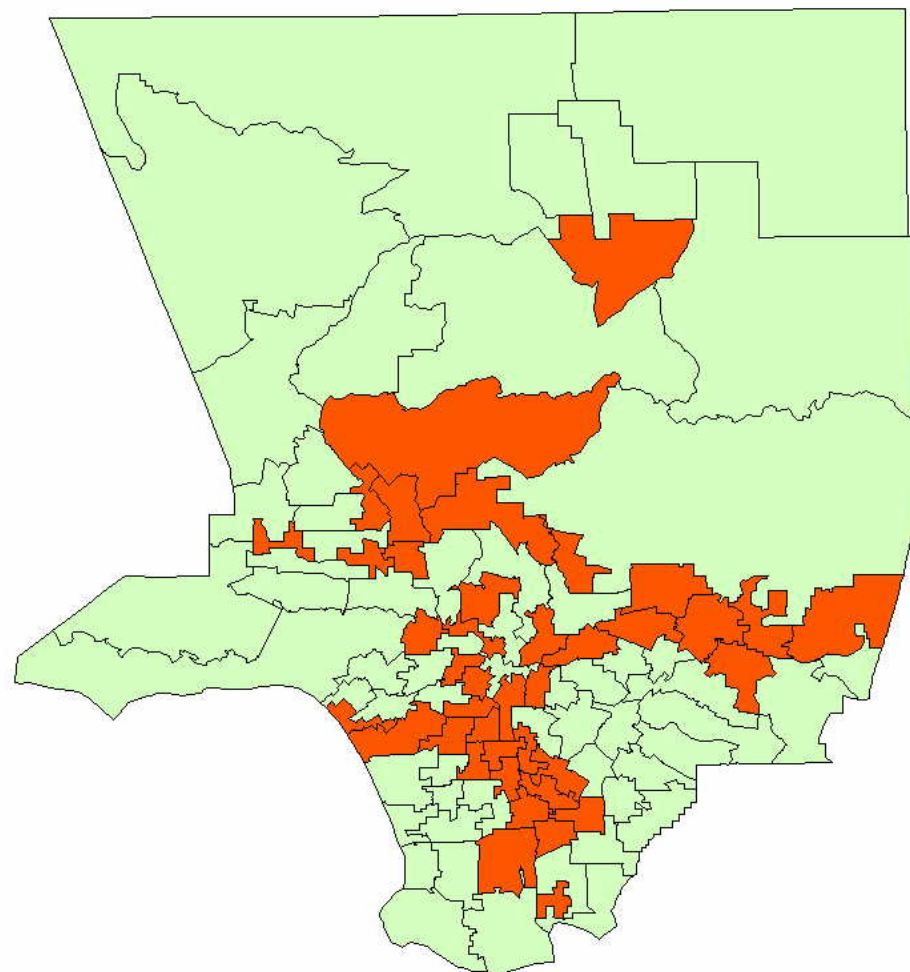


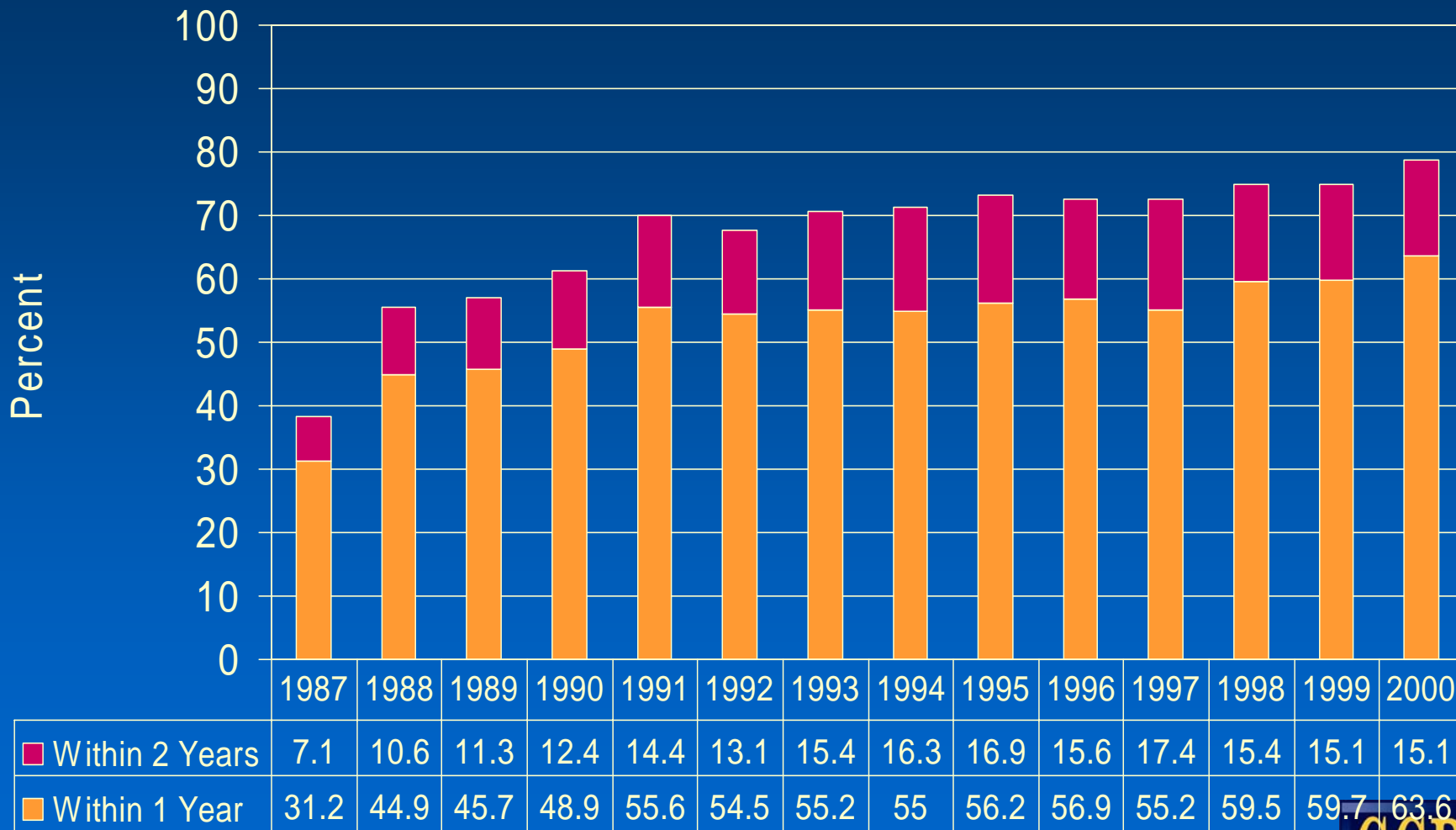
Figure 3. Geographic Variation in Late-Stage Breast Cancer Among Women 40 Years Old and Older, by MSSA, Los Angeles County, 1998-2002



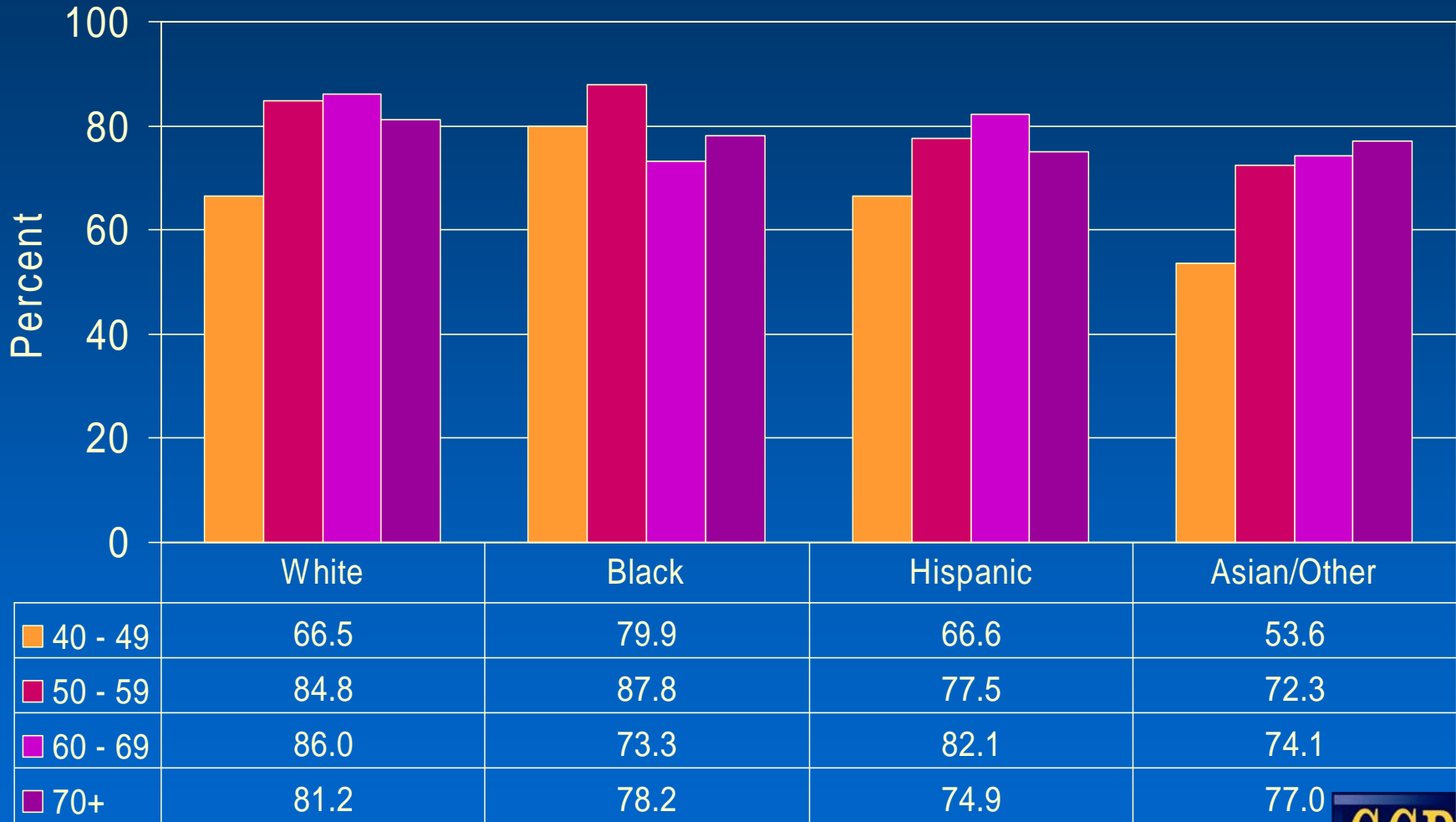
Proportional Incidence Ratio (PIR)

- Significantly elevated
- Not significantly elevated

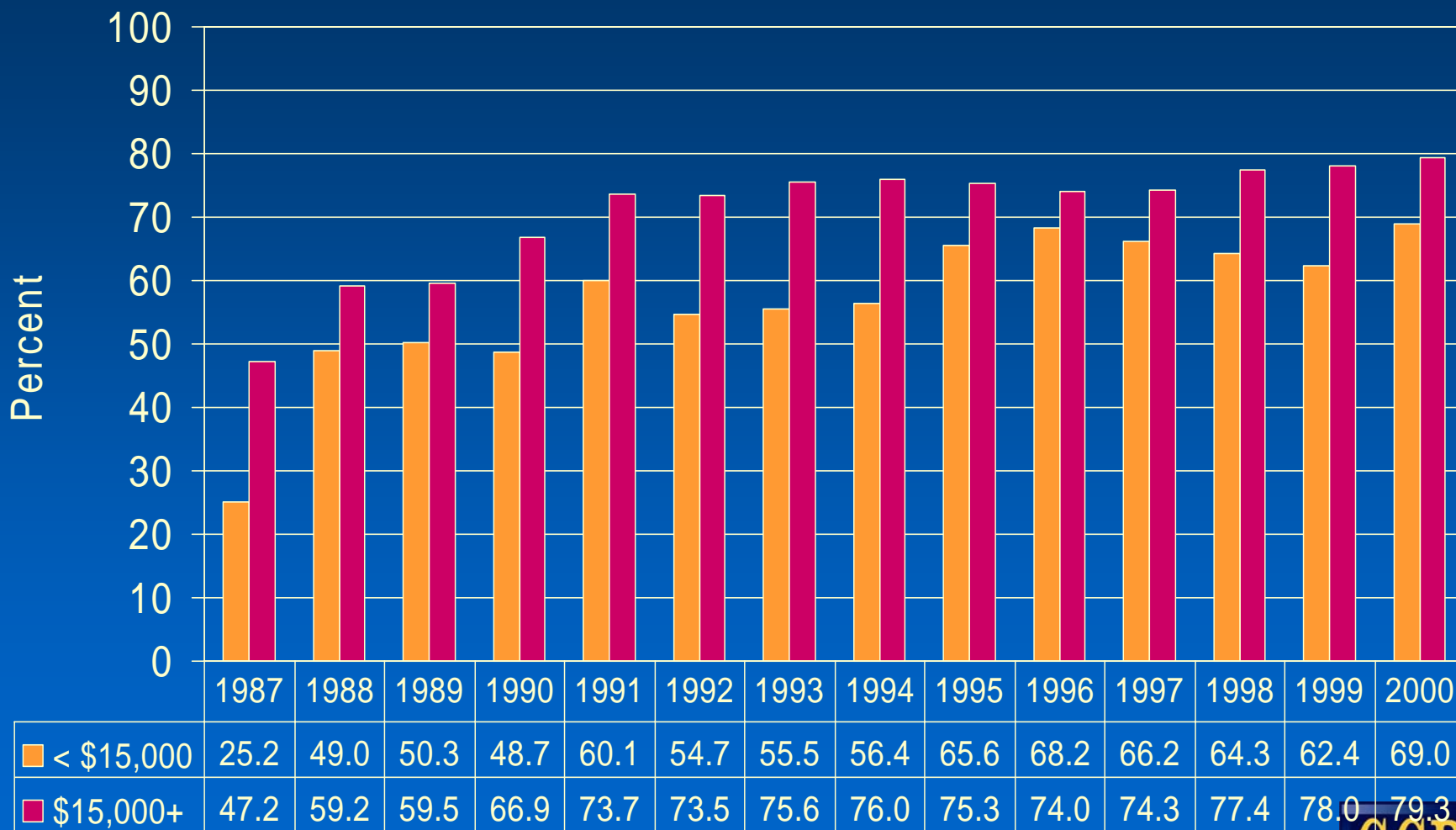
Percent Women Aged 40 and Over Who Reported Having a Mammogram, California, 1987 - 2000



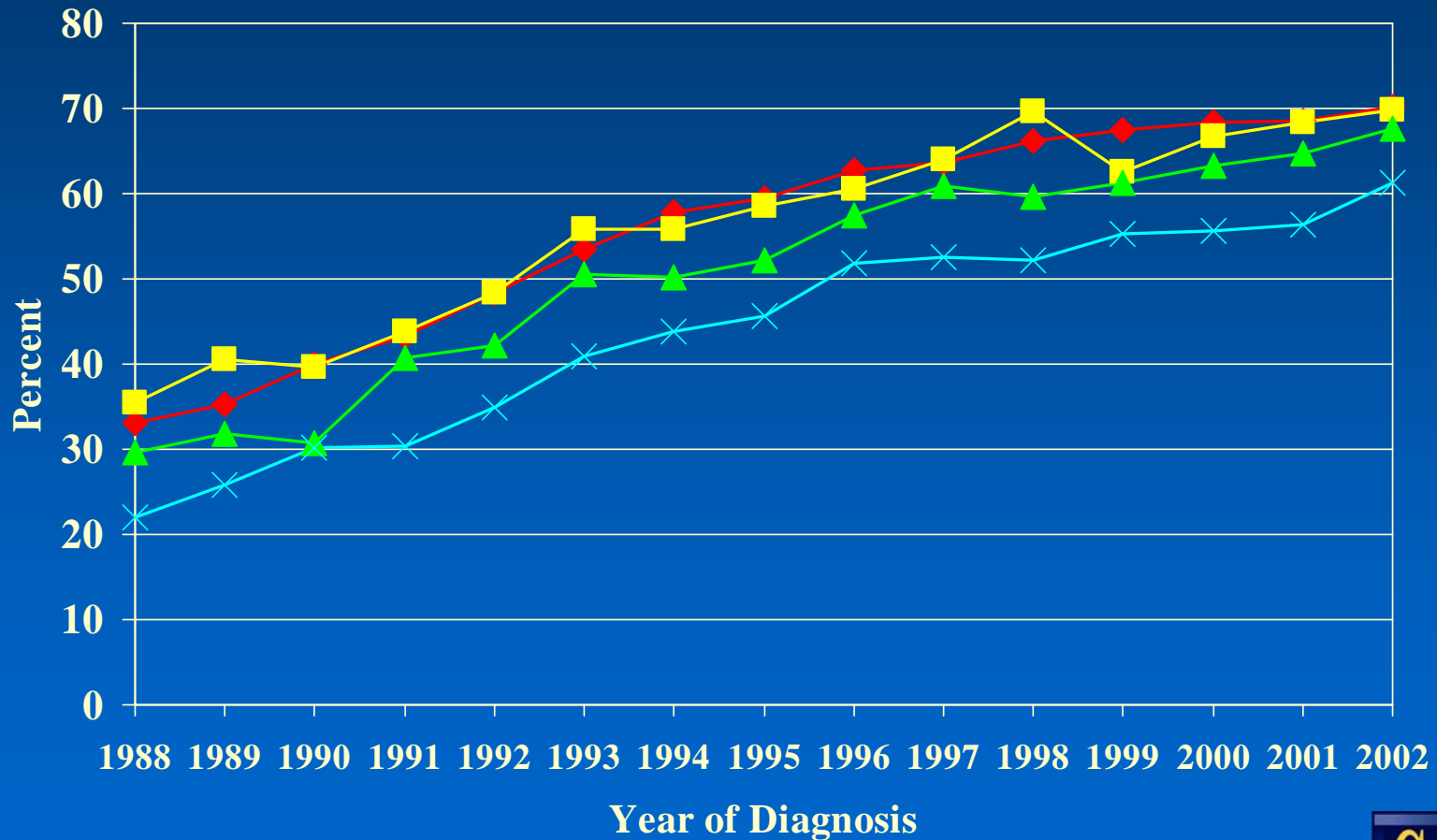
Women Who Reported Having a Mammogram in the Last Two Years by Age and Race/Ethnicity, California, 1999-2000



Women Age 40+ Who Reported Having a Mammogram in the Last Two Years by Income, California, 1987-2000



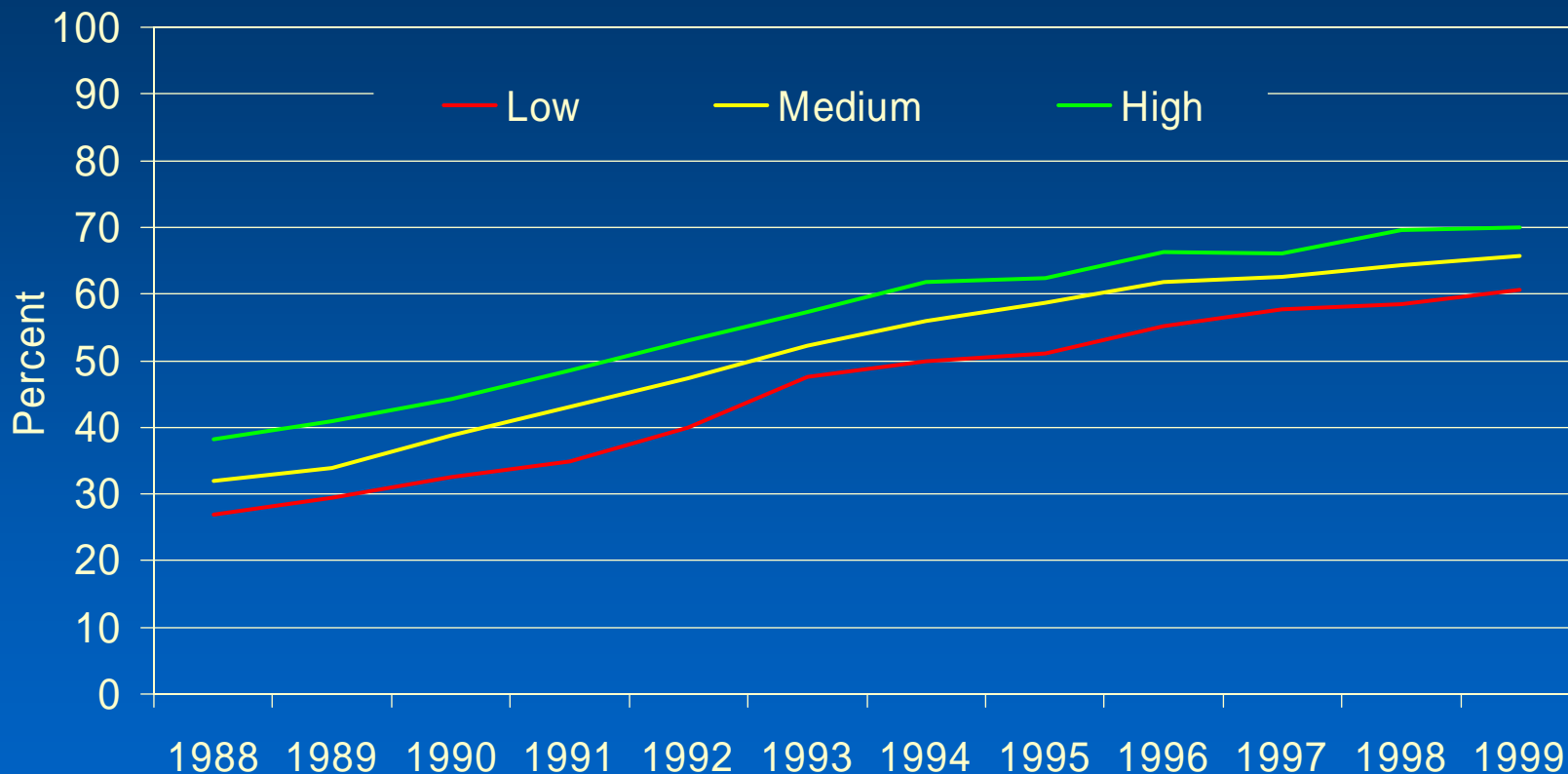
Breast Conserving Surgery in Women with Stage 0-II a Breast Cancer, by Race/Ethnicity and Year of Diagnosis, California, 1988-2002



◆ Asian/Pacific Islander
 ■ Black
 ▲ Hispanic
 × Non-Hispanic White



Percent BCS in Women with Stage 0-IIa¹ Breast Cancer by SES Index² and Year of Diagnosis, California, 1988-1999

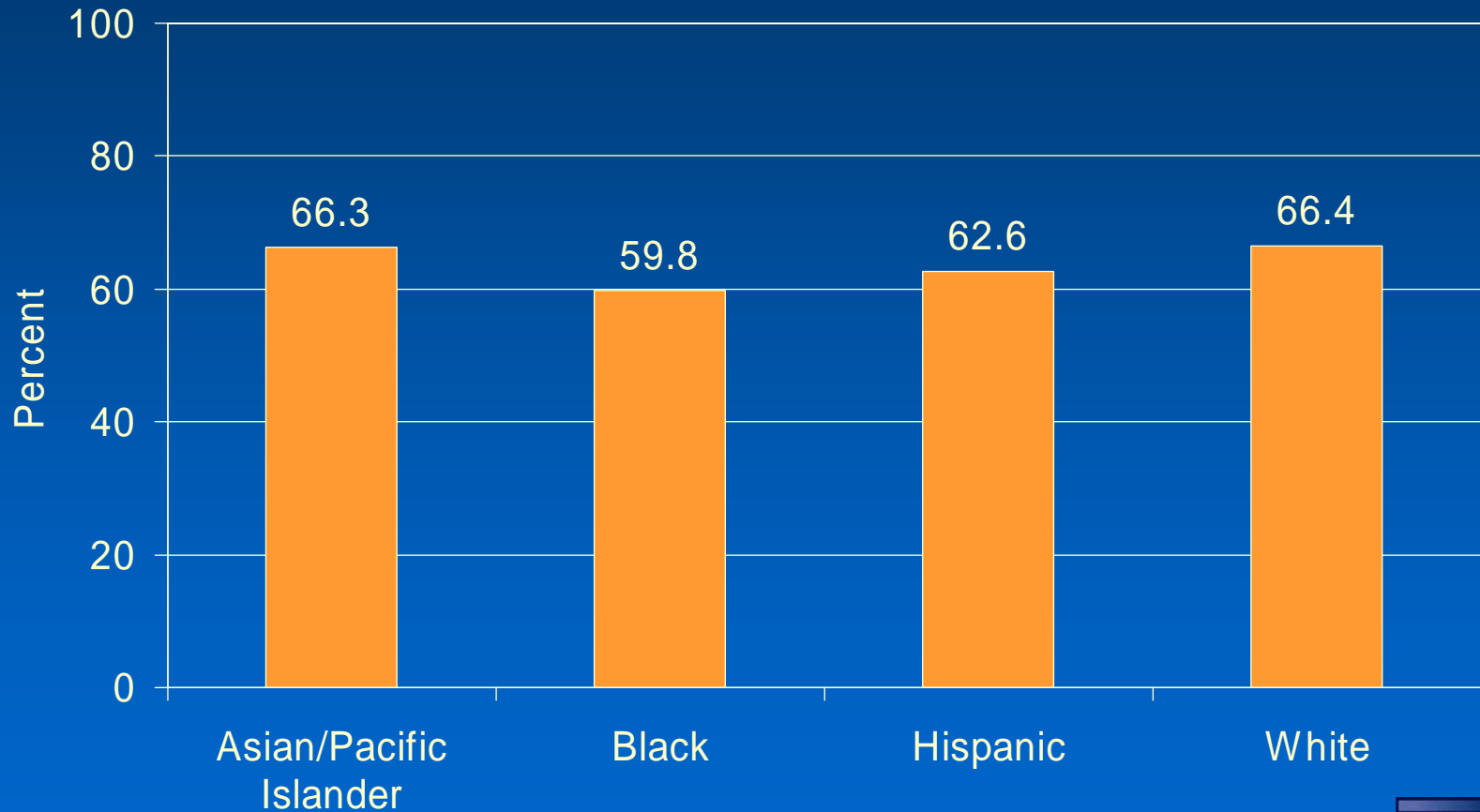


¹ Stage 0: *in situ* tumors; stage I: tumors up to 2 cm without lymph node involvement; stage IIa: tumors up to 2 cm with positive lymph nodes or tumors up to 5 cm, regardless of nodal status.

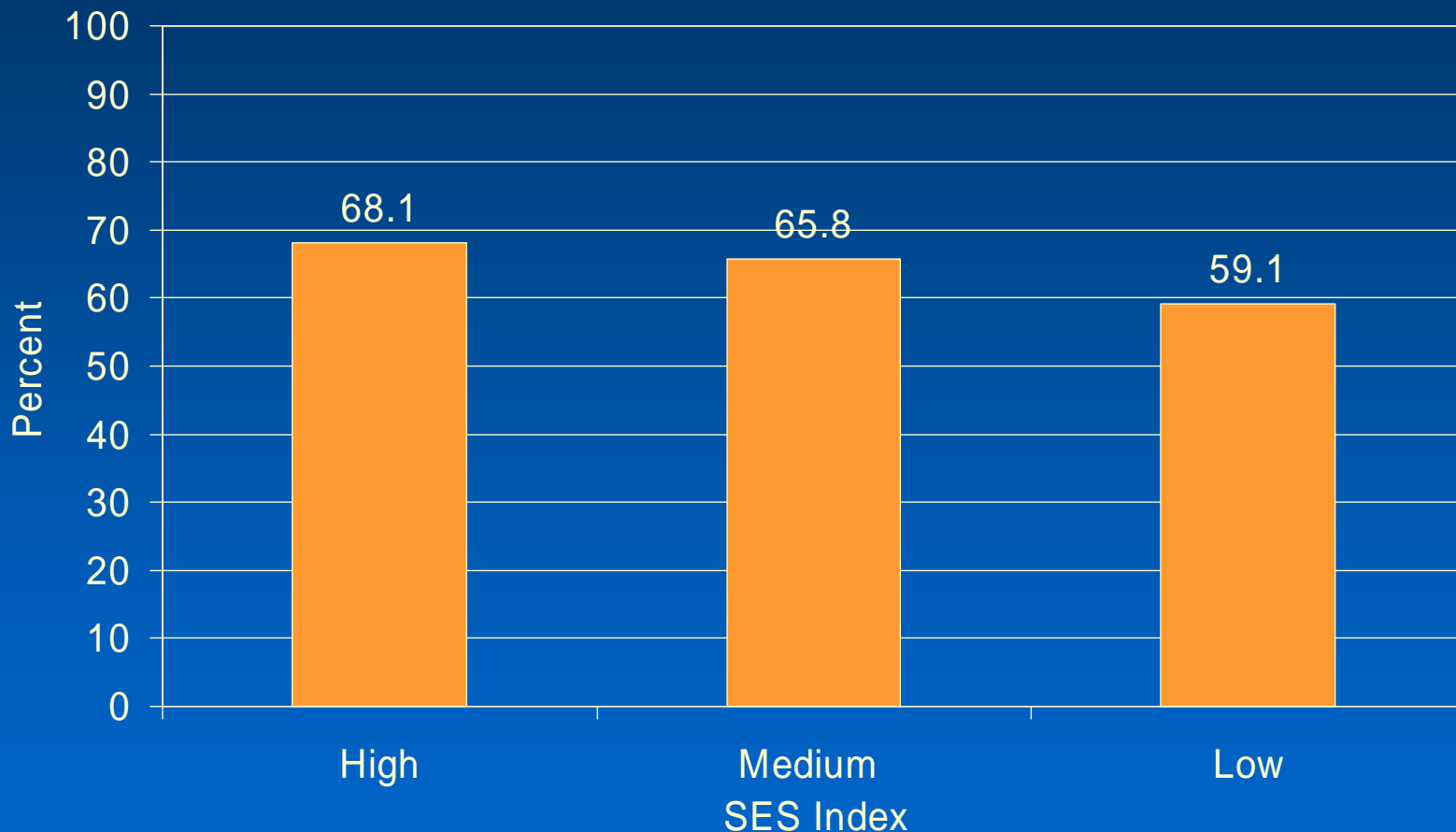
² SES level defined as an index combining seven Census 1990 block group measures of occupation, income, education, and cost of living.



Percent of BCS Patients Receiving Radiation During First Course of Treatment by Race/Ethnicity, California, 1995-1999



Percent of BCS Patients Receiving Radiation During First Course of Treatment by SES Index in Area of Residence¹, California, 1995-1999



¹ SES level defined as an index combining seven Census 1990 block group measures of occupation, income, education, and cost of living.



Percent of BCS Patients Receiving Radiation during First Course of Treatment by Age at Diagnosis, California, 1995-1999

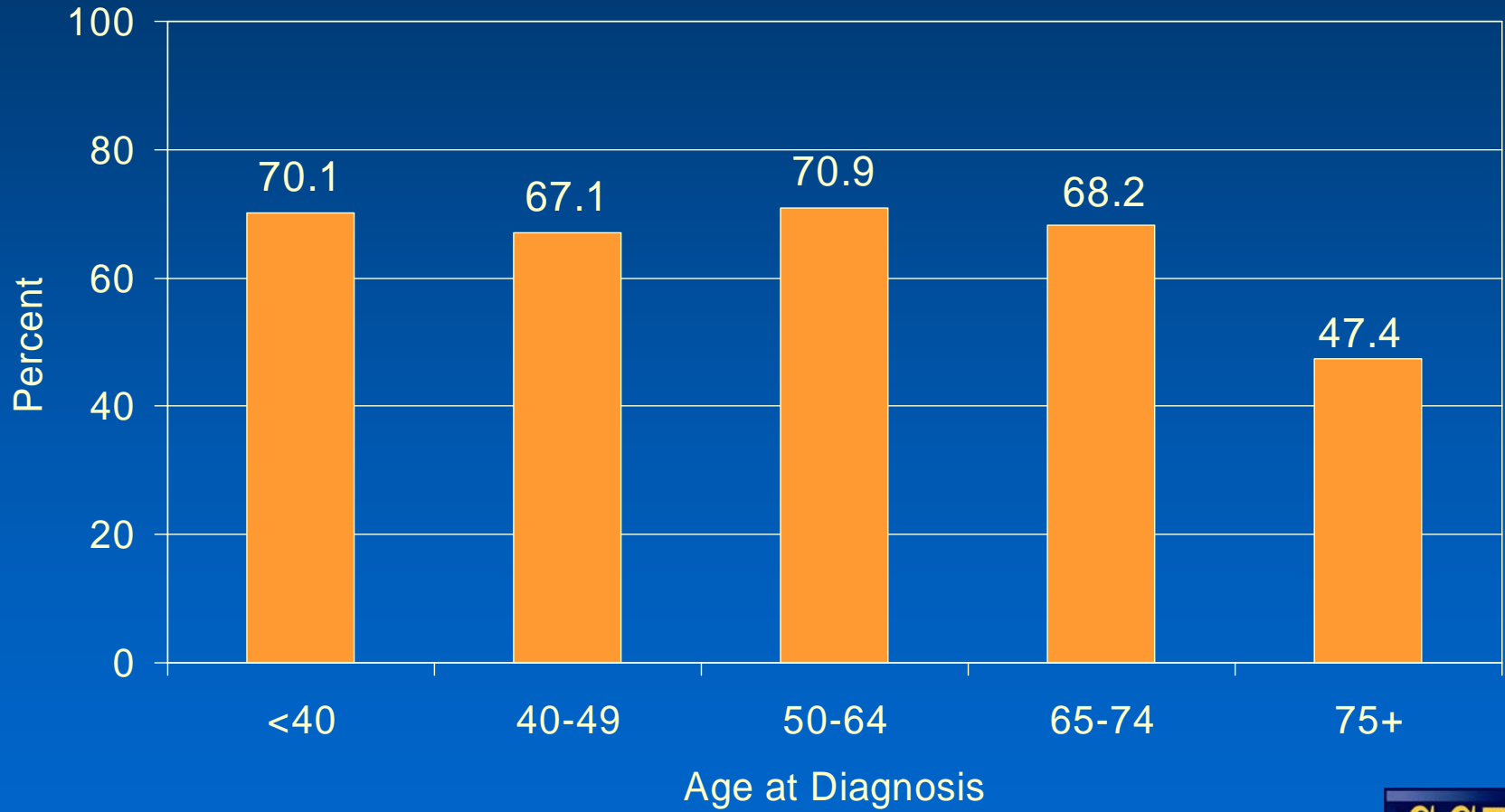
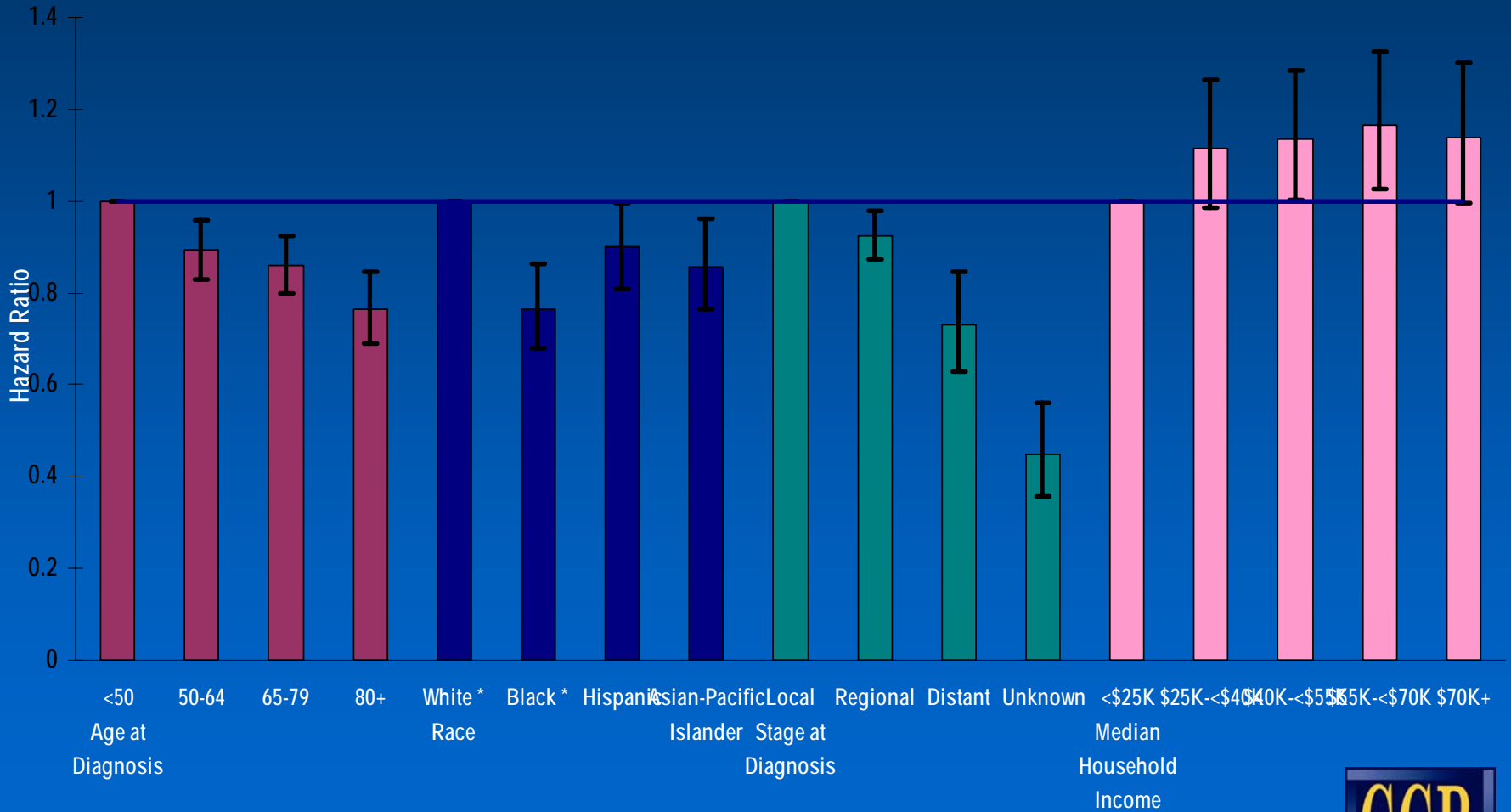


Figure 3: Predictors of Time Between Diagnosis and Treatment for Female Breast Cancer Cases Diagnosed 1998-2000, Hazard Ratios and 95% Confidence Intervals



* = Non-Hispanic



**Bigby J A & Holmes M D. Disparities
across the breast cancer continuum.
Cancer Causes and Control 16: 35-44, 2005.**

For several decades, researchers have documented disparities across several domains in breast cancer risk, incidence, screening, diagnosis, treatment, survival and mortality.

However, these efforts are unlikely to play a significant role in addressing disparities in risk, treatment, and mortality unless there is a better understanding and recognition of specific factors leading to disparities, and understanding of the populations most affected and why, and targeted approaches to addressing disparities.