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P U B L I C H E A L T H

A Department of Ventura County Health Care Agency



VENTURA COUNTY
PUBLIC HEALTH
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UNDERSTANDING CANCER(S) RISK

Ventura County Cancer(s)
Incidence and Mortality

Erin Slack, MPH

Maternal, Child, and Adolescent Health Epidemiologist

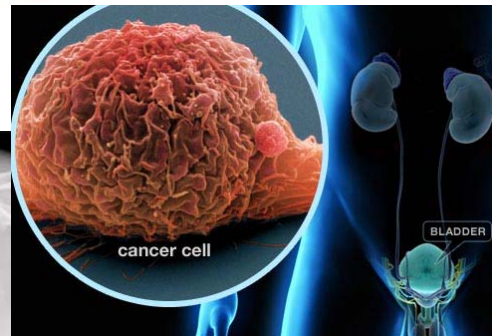
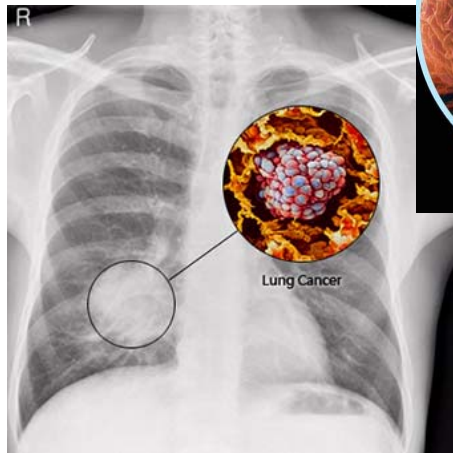
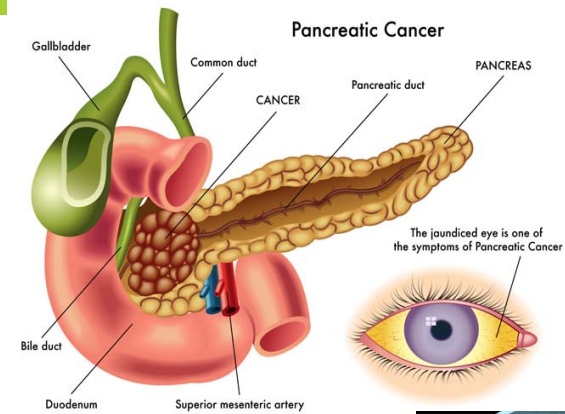
Overview of Presentation

- Epidemiology - Definition
- What Cancers Are
- Environmental and Other Causes of Cancer
- Detection of Increased Risk
- Ventura County Cancer Incidence Data
- Resources for More Information

Useful Definitions

Epidemiology – The study of the distribution and determinants of health-related states or events in human populations and the application of this study to the prevention and control of health problems.

What Cancers Are



- Hundreds of different malignancies – defined by different cell types and organ of origin
- Cancers should not be classified as one disease
- Carcinomas (surface of structures), Sarcomas (structural), Leukemias (blood-borne), Lymphomas (solid tumors – blood cells)

Environmental and Other Causes

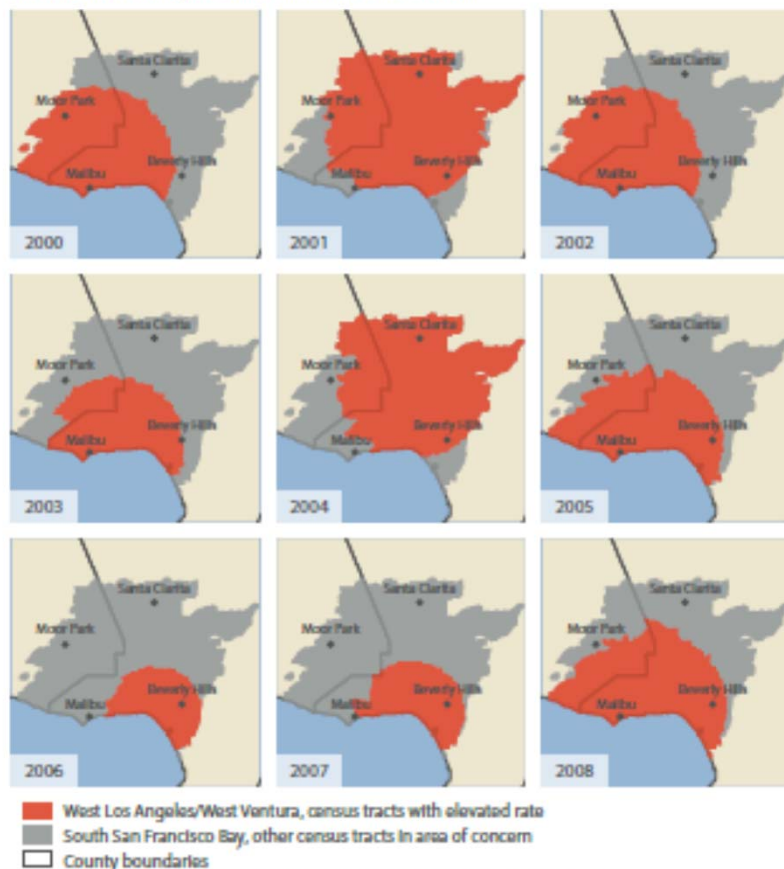
- Environment – quality of air, water, and soil
- Other “Environment” – Personal Lifestyle choices: food, alcohol intake, tobacco use, exposure to infections, workplace exposures
- Chemicals – Carcinogens – Mostly animal studies or highly exposed workers
- Very rare to find increased risk to the population around industrial site or dump

Demographic Markers for Increased Risk

- Lung cancer by tobacco, education (SES)
- Oropharynx cancer by tobacco, alcohol intake
- Cervical cancer by failure to participate in PAP testing
- Kaposi sarcoma by immune compromised
- Prostate cancer by age, race/ethnicity, access to care
- Stomach cancer by H. Pylori – smoldering common bacterial infection
- Liver cancer by Hep B carrier status
- Thyroid cancer by access to healthcare
- Mesothelioma by occupational exposure to asbestos
- Melanoma by race (burn during childhood) and education
- Breast cancer by education (SES), occupation

Detection of Increased Risk – Cancer Clusters

Figure 23. Time-series maps of census tracts with elevated rates of invasive breast cancer within West Los Angeles/East Ventura area of concern



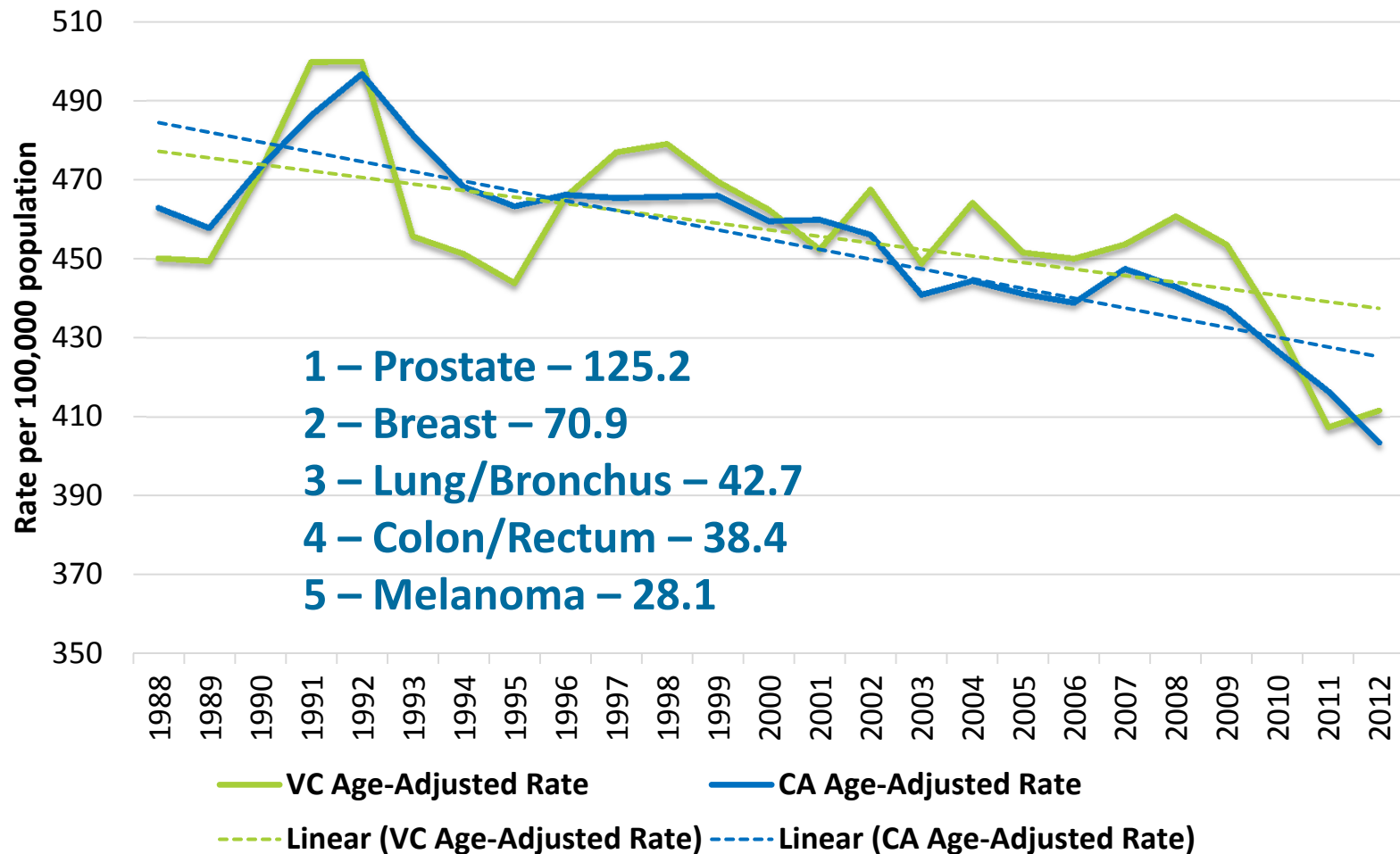
Data Source: California Cancer Registry, 2000-2008, prepared by the California Breast Cancer Mapping Project

- A **cancer cluster** is the occurrence of a greater than expected number of cancer cases among a group of people in a defined geographic area over a specific time period.

Challenges to Investigating Cancer Clusters

- Kind of cancer involved
- Number of cancers involved
- Determining Statistical Significance
- Relevant population and geographic area
- Identifying a cause for a cluster

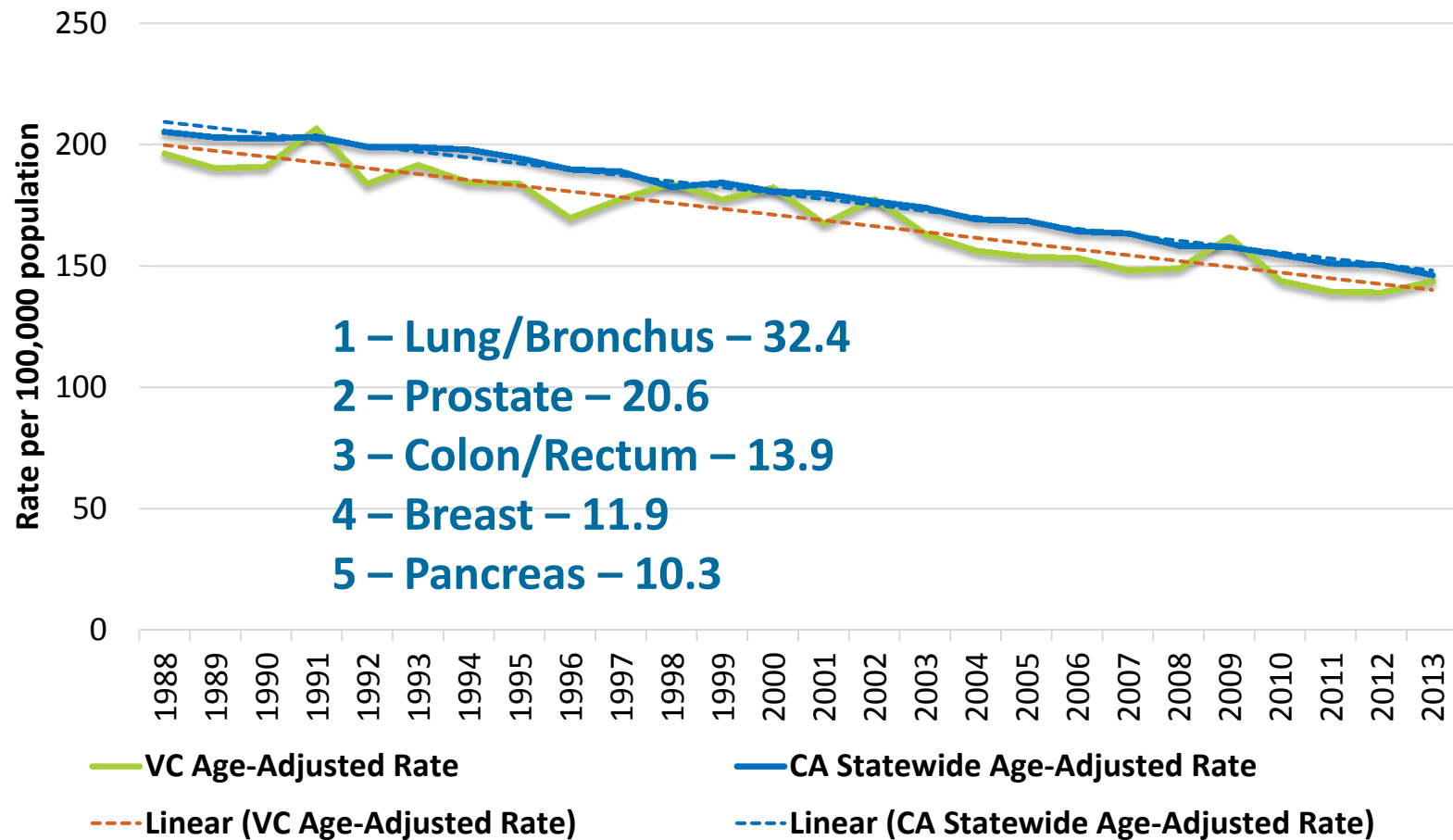
Invasive Cancer(s) Rate, 1988-2012



Invasive Cancer Rates by Gender, 2008-2012

Female			Male		
Site	Cases	AA Rate		Cases	AA Rate
Breast	2999	132.8	Prostate	2463	125.2
Lung and Bronchus	909	40.6	Lung and Bronchus	804	45.7
Colon & Rectum	745	32.3	Colon & Rectum	854	45.5
In Situ Breast	738	32	Melanoma of the Skin	725	38
Corpus Uteri	577	24.6	Urinary Bladder	569	31.8

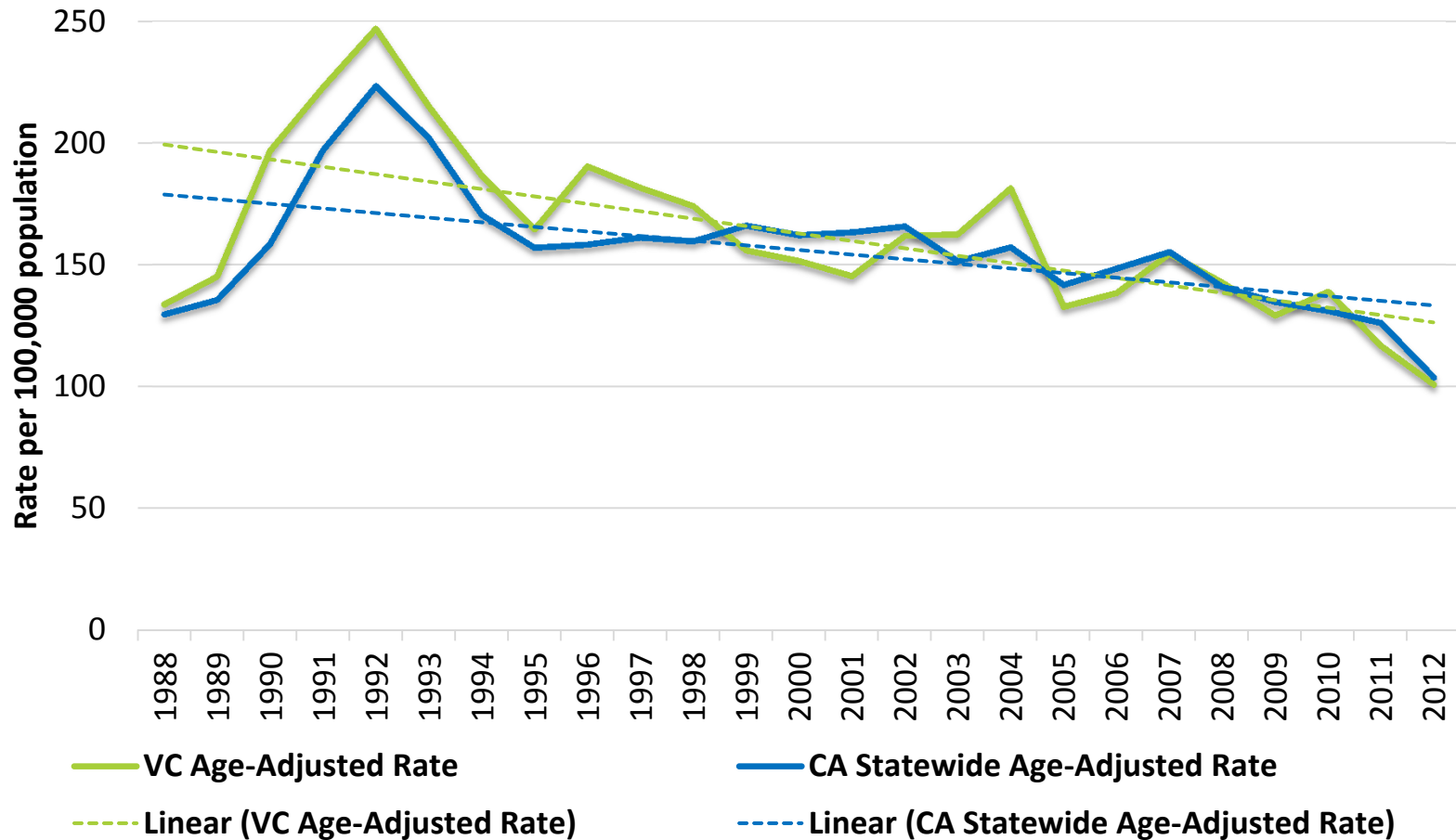
Cancer(s) Mortality Rate, 1988-2013



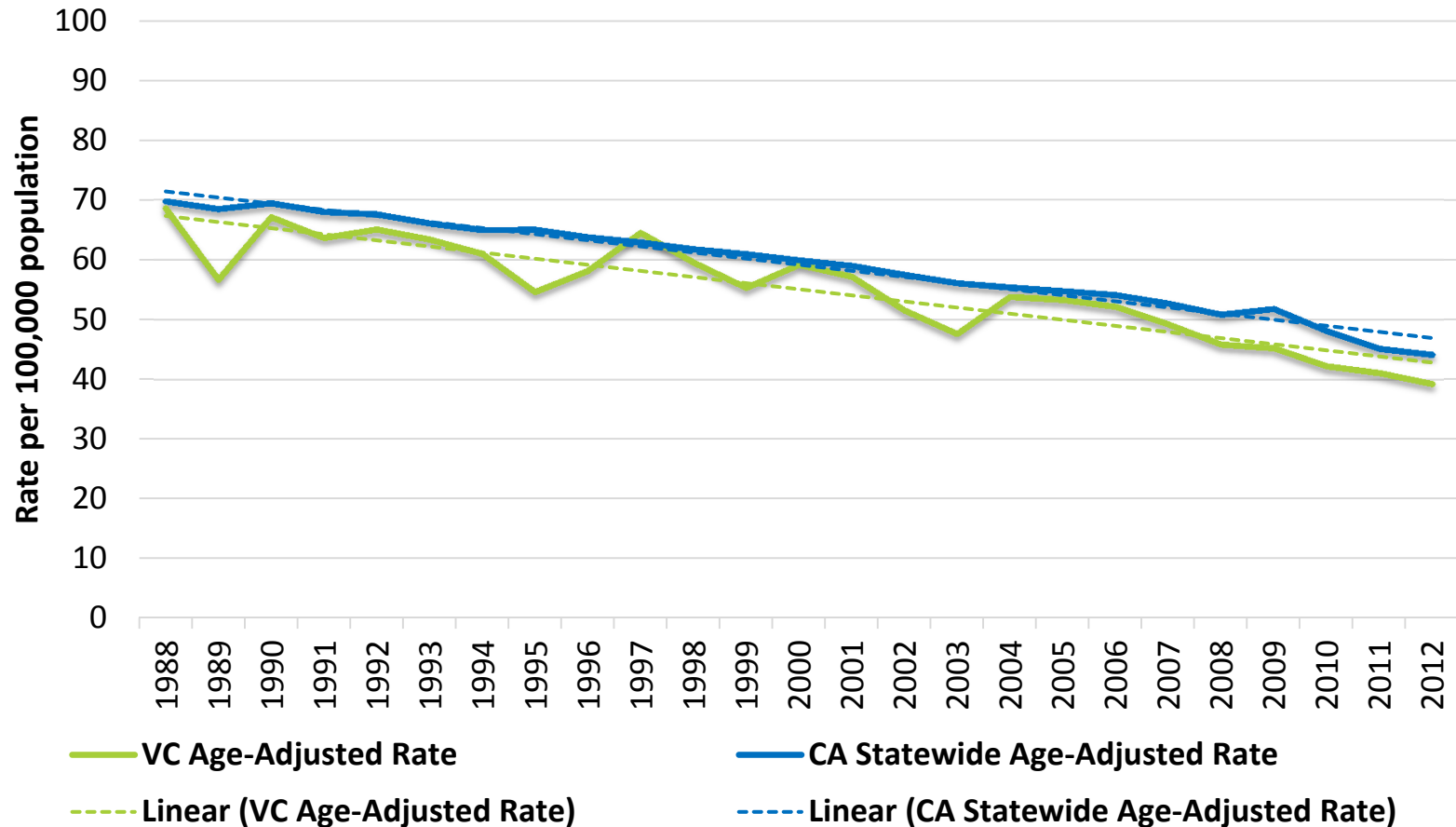
Cancer Mortality Rates by Gender, 2008-2012

Female			Male		
Site	Cases	AA Rate	Site	Cases	AA Rate
Lung and Bronchus	668	29.7	Lung and Bronchus	632	36
Breast	501	21.6	Prostate	338	20.6
Colon & Rectum	281	11.8	Colon & Rectum	297	16.6
Miscellaneous	224	9.8	Miscellaneous	218	12.3
Pancreas	216	9.6	Pancreas	203	11.1
Ovary	179	7.8	Liver and Intrahepatic Bile Duct	154	8

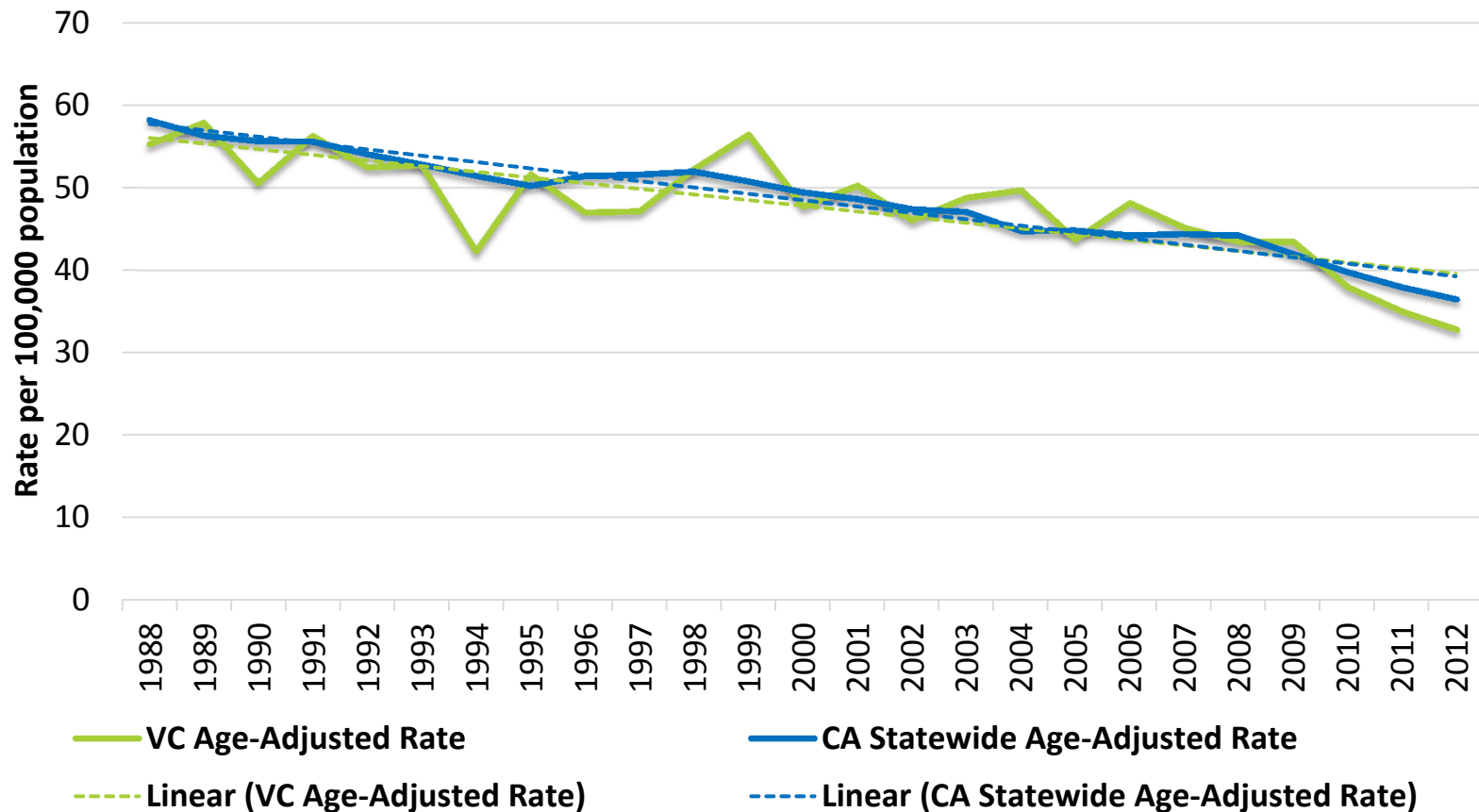
Invasive Prostate Cancer Rate, 1988-2012



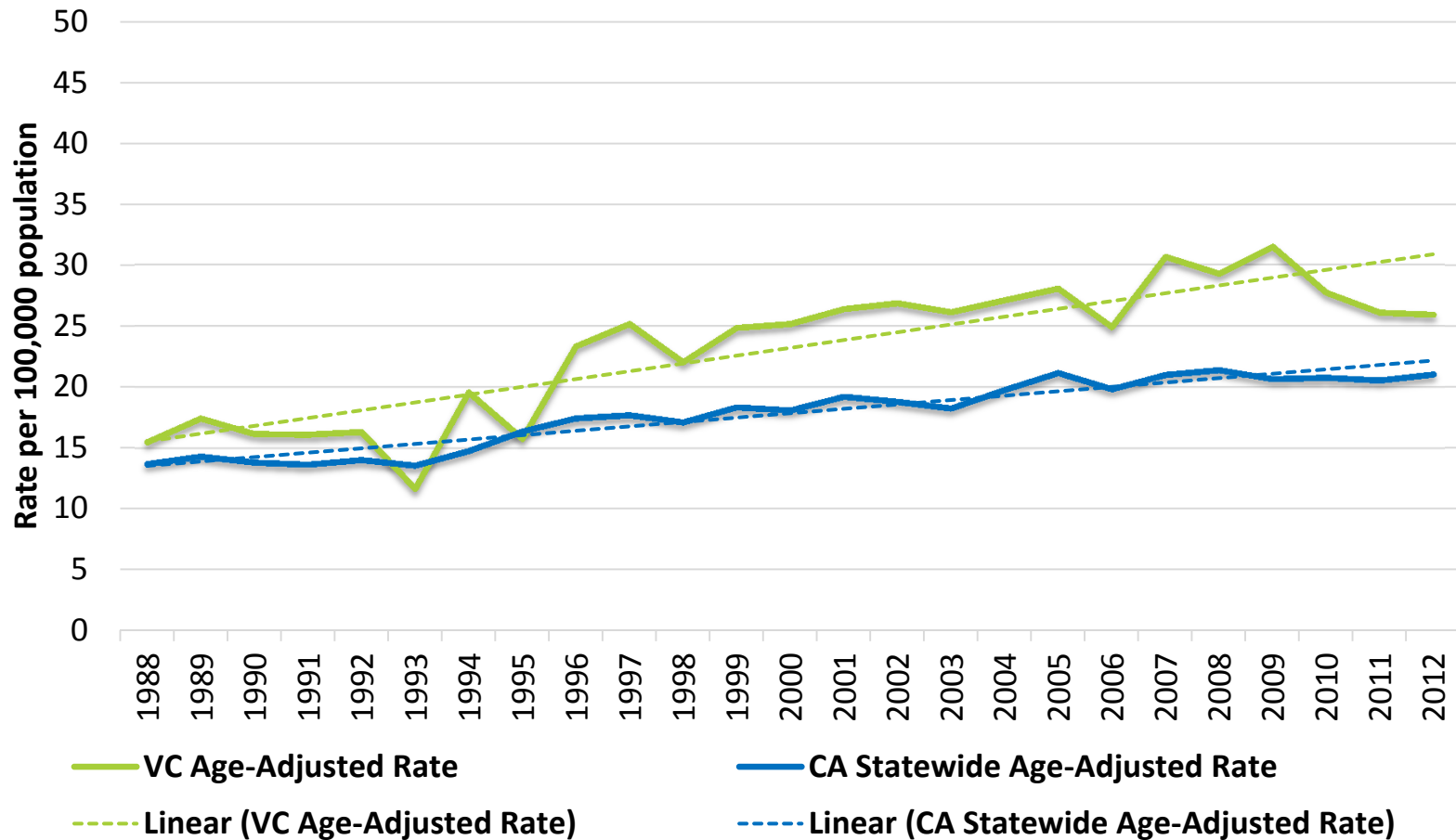
Invasive Lung/Bronchus Cancer Rate, 1988-2012



Invasive Colon/Rectum Cancer Rate, 1988-2012



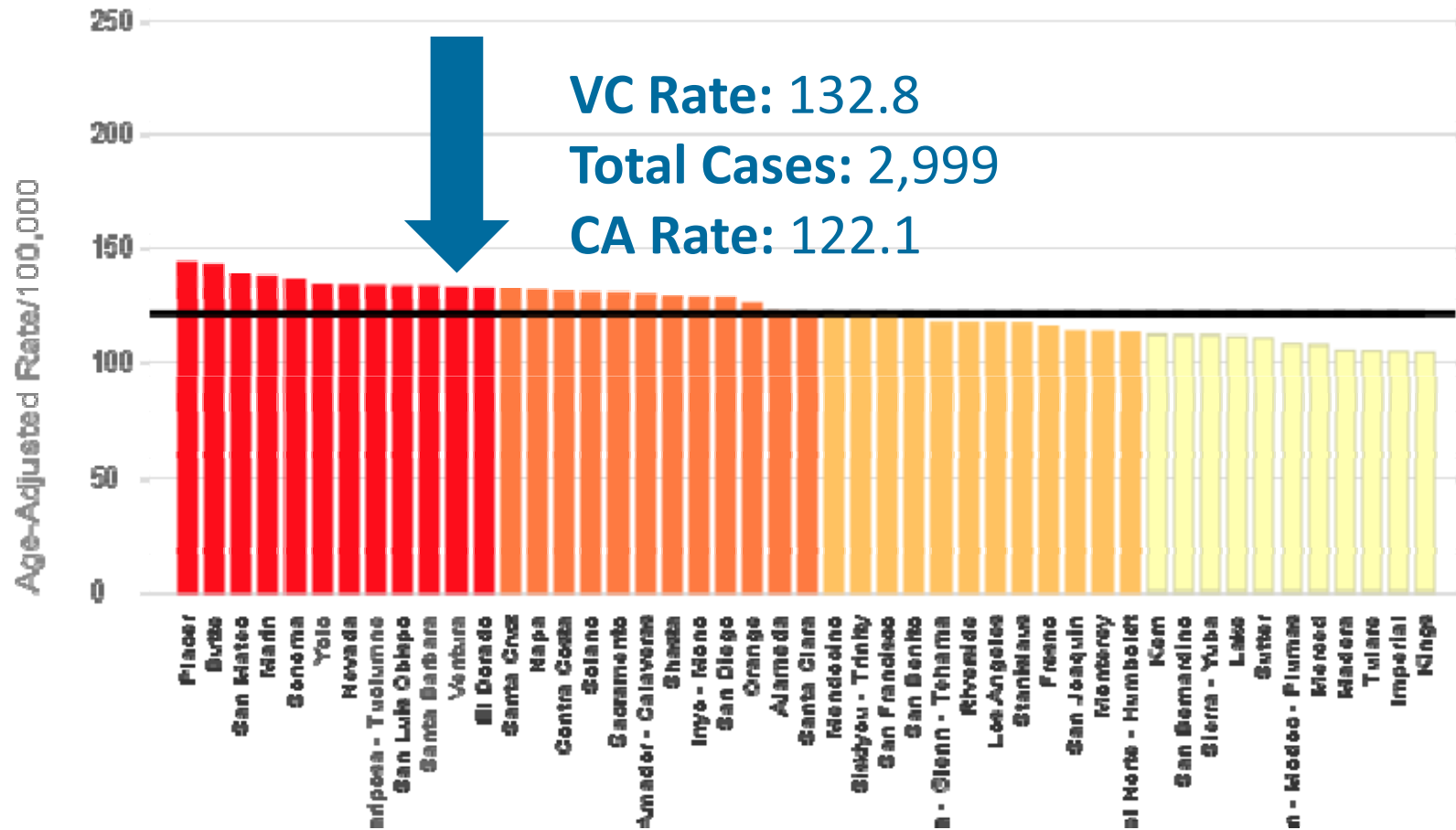
Invasive Melanoma Cancer Rate, 1988-2012



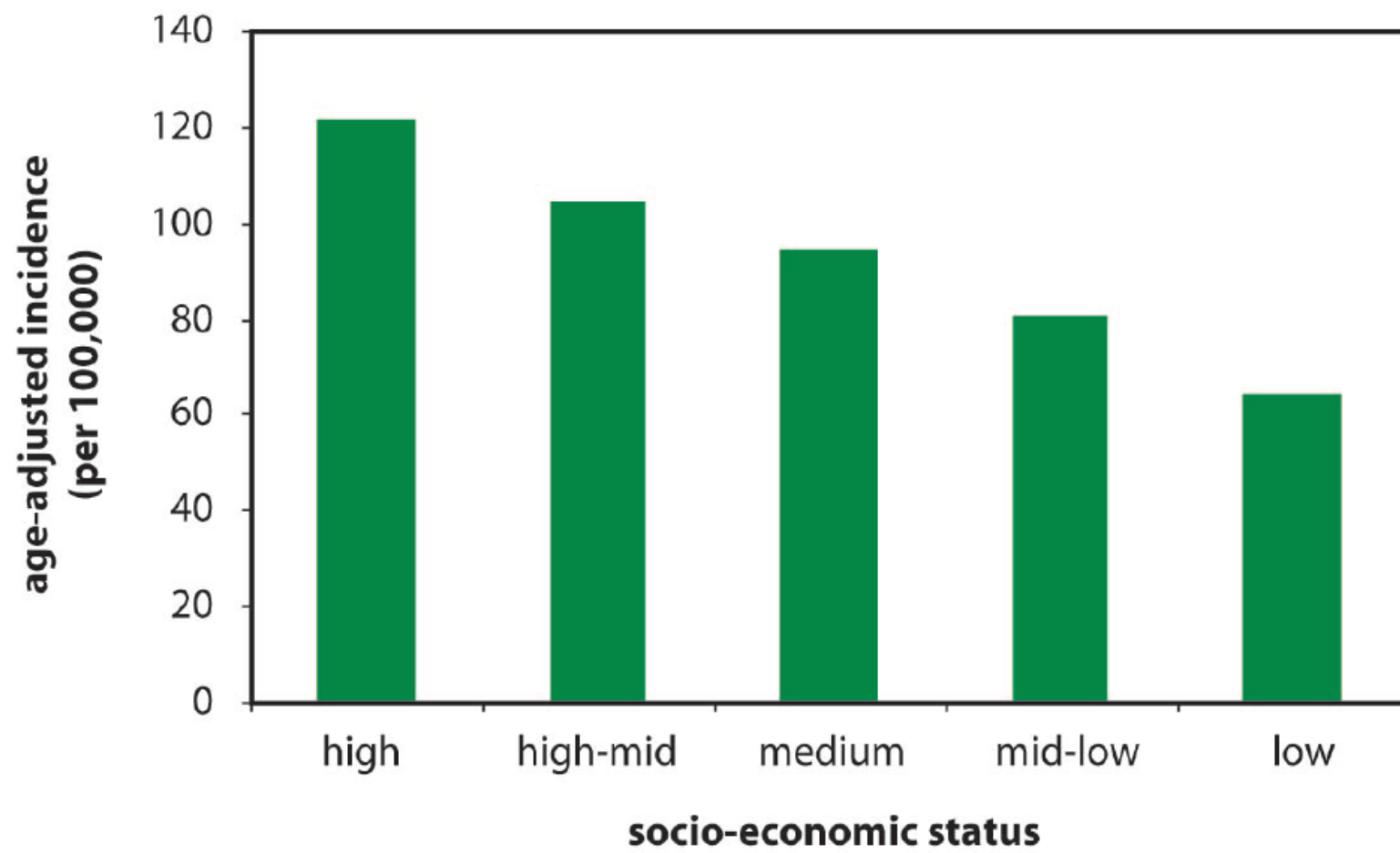
Risk Factors (Non-Genetic) Associated with Breast Cancer

- Early first menstrual period
- Few or no pregnancies
- Late 1st full-term pregnancy
- Late age at menopause
- Long-term hormone replacement therapy
- Alcohol use
- Obesity
- Exposure to ionizing radiation and chemicals early in life (even fetuses)
- Whites and African-Americans higher risk than Hispanics and Asians
- High socioeconomic status

Invasive Breast (Female) Cancer Incidence by County 2008-2012



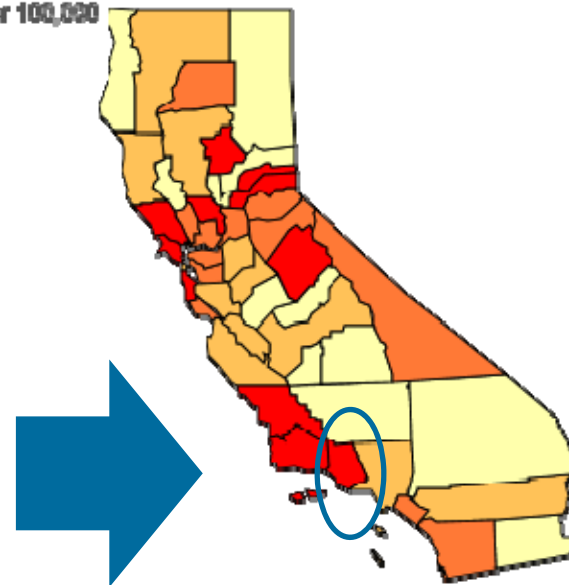
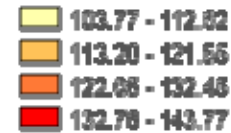
Age-adjusted incidence by socio-economic status (females)



Mapping – Breast Cancer Incidence

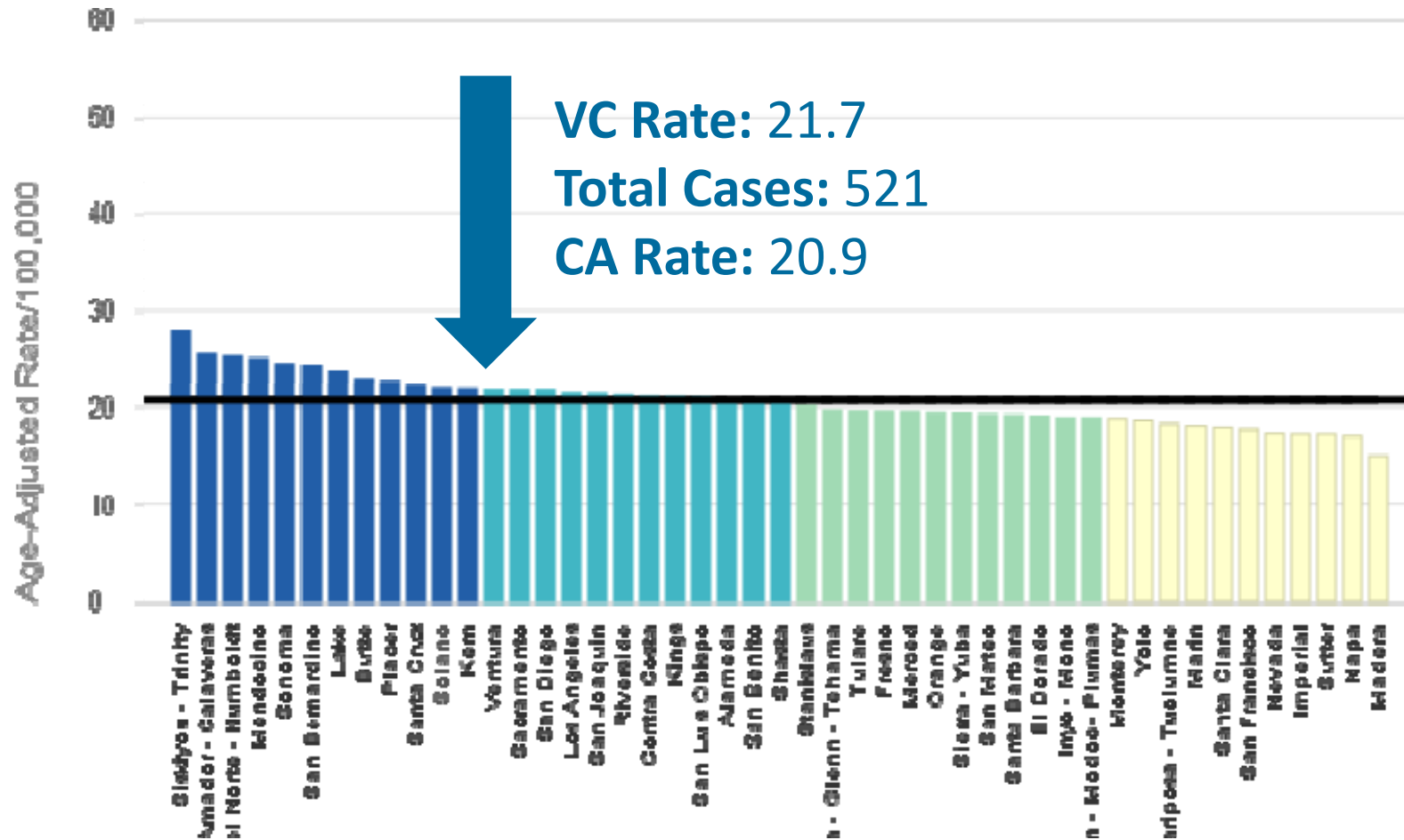
Age-Adjusted Invasive Cancer Incidence Rates in California
Breast, Female, 2008 - 2012
By County
Age-Adjusted to the 2000 U.S. Standard Population

California Rate: 122.69 / per 100,000

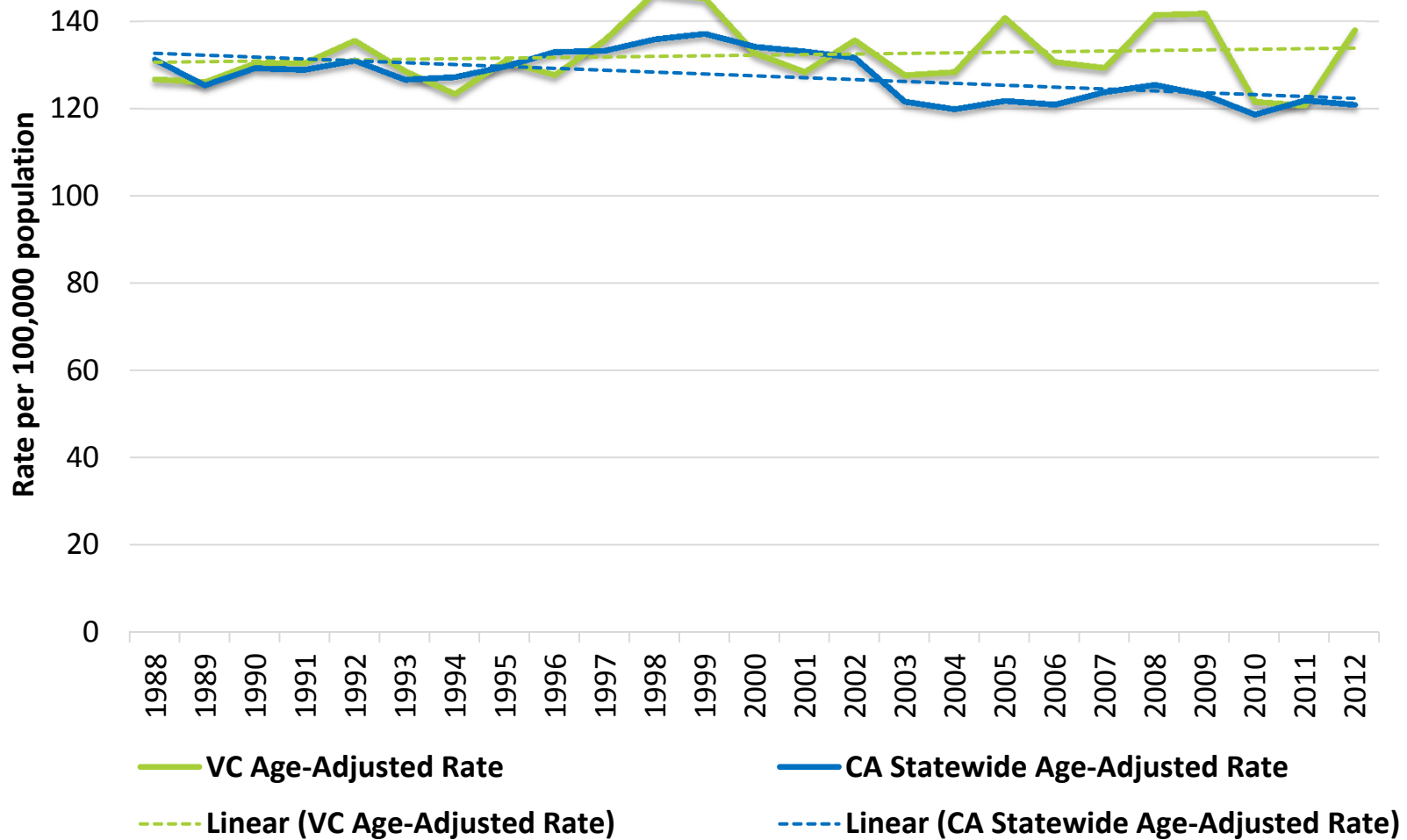


All rates per 100,000.
Data accessed October 26, 2016. Based on November 2014 Extract (Released November 21, 2014).
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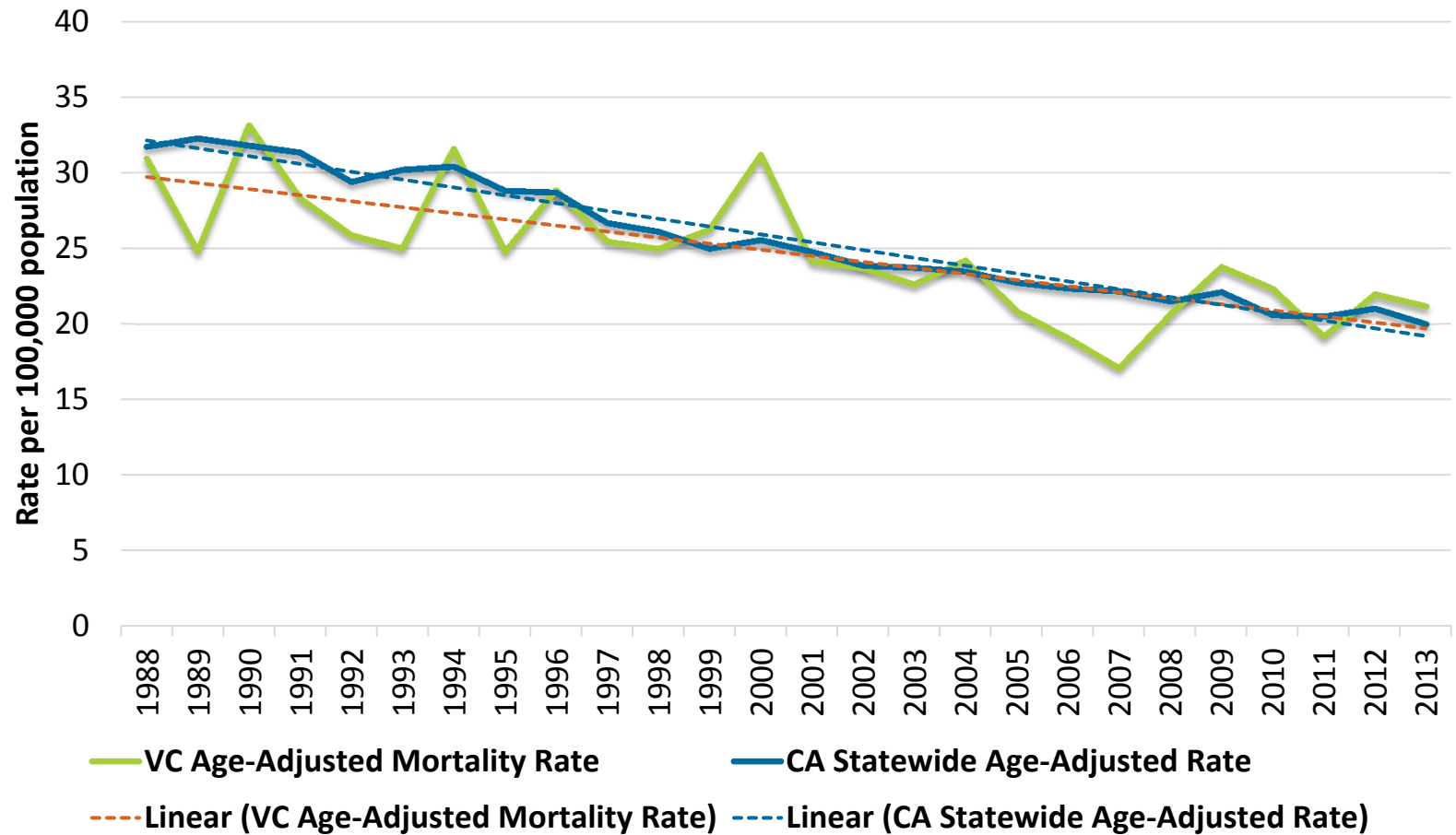
Breast (Female) Cancer Mortality by County 2009-2013



Invasive Breast Cancer Rate, 1988-2012



Breast Cancer Mortality Rate, 1988-2013



Resources Utilized for this Presentation

- American Cancer Society
- California Cancer Registry
- Cancers in the Urban Environment – Dr. Thomas Mack
- National Cancer Institute
- Population-Based Public Health Clinical Manual – The Henry Street Model for Nurses
- State of the Evidence – The Connection Between Breast Cancer and the Environment
- World Health Organization

Questions??

Erin Slack, MPH

MCAH Epidemiologist

Ventura County Public Health

Erin.slack@ventura.org

805-981-5383

Dr. John Morgan, Region 4 Cancer

Epidemiologist

909-558-6181