Cancer in Northern New Mexico

Epidemiological Data for Cancer Rates Downstream of LANL

Northern New Mexico Citizens' Advisory Board Meeting

The Lodge at Santa Fe

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HEALTH SCIENCES
NEW MEXICO TUMOR REGISTRY

What We'll Cover Today

- Cancer
- Public Health Surveillance for Cancer
- Measures and Methods
- Cancer Rates in Northern New Mexico
- Questions
- Concluding Remarks

Cancer

- The word ***cancer*** is commonly used to refer to over 100 different diseases that may share common characteristics or “hallmarks”

- Each type of cancer is associated with ***risk factors*** that influence the chances of developing the disease… but these factors are not the same for all types of cancer

- Methods of treatment often vary by type of cancer

- Among children born in the United States today, it is estimated that 1-in-3 females and 1-in-2 males will be diagnosed with cancer in their lifetime

10 Leading Causes of Death by Sex, New Mexico, 2016 and U.S. 2015 (Ranked by number of NM deaths)

	New Mexico	United States
1	Heart Disease	Heart Disease
2	Cancer (Malignant)	Cancer (Malignant)
3	Unintentional injuries	Chronic Lower Respiratory Diseases
4	Chronic Lower Respiratory Diseases	Unintentional injuries
5	Stroke	Stroke
6	Diabetes Mellitus	Alzheimer's Disease
7	Alzheimer's Disease	Diabetes Mellitus
8	Chronic Liver Disease and Cirrhosis	Influenza and Pneumonia
9	Suicide	Kidney Disease
10	Influenza and Pneumonia	Suicide

SOURCE: New Mexico Department of Health

In 2018, an estimated 9,730 New Mexicans will be newly diagnosed with cancer, and approximately 3,750 deaths from cancer will occur.

SOURCE: American Cancer Society

Public Health Surveillance

Definition of Cancer Surveillance

The systematic collection

of information on cancer

- *and* –

Timely and effective use of such information

for the purposes of cancer prevention and control

Public Health Surveillance

Reportable Diseases and Conditions

- Considered a risk to the public health
- Monitored to assist in prevention and control
- Designated and enforced by state government
- Funded and administered by local, state, and federal agencies

Public Health Surveillance

Reportable Diseases and Conditions

- Cancer is a reportable disease in New Mexico
- Collection of cancer data is mandated under state law (New Mexico Administrative Code: Title 7; Chapter 4; Part 3)
- NMTR is the NM Department of Health's Designee for conducting Public Health Surveillance for Cancer

Public Health Surveillance

Health Insurance Portability and Accountability Act (HIPAA)

- Public Health Surveillance is allowed under HIPAA

  § 164.512 Uses and disclosures for which consent, an authorization or opportunity to agree or object is not required

- NMTR is excluded from the UNM-HSC HIPAA Hybrid Covered Entity

  "A covered entity may use or disclose protected health information to the extent that such use or disclosure is required by law and the use or disclosure complies with and is limited to the relevant requirements of such law."

Cancer Surveillance in New Mexico

New Mexico Tumor Registry

- Population-based, central cancer registry
- Established in 1966
- Area of Coverage:

  -New Mexico Statewide
  -Arizona American Indians
  …in collaboration with the Arizona Cancer Registry

- Founding member of the National Cancer Institute's SEER Program (1973)
- Collect and provide high quality cancer surveillance data to support scientific research and a broad spectrum of cancer control activities

Cancer Surveillance in New Mexico

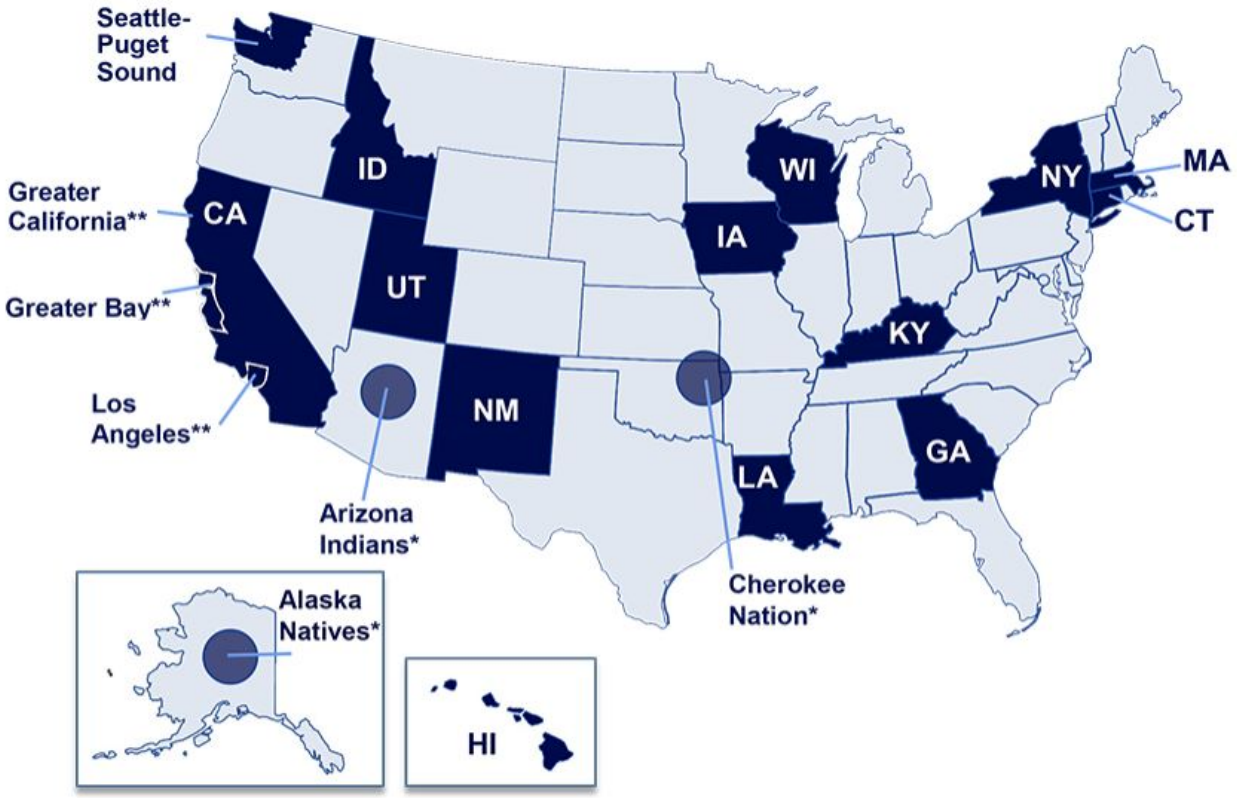
New Mexico Tumor Registry

Cancer surveillance in New Mexico is conducted in accordance with standards set by:

- Surveillance, Epidemiology and End Results Program
- Centers for Disease Control and Prevention
- North American Association of Central Cancer Registries
- American College of Surgeons

NATIONAL CANCER INSTITUTE

Surveillance, Epidemiology, and End Results Program



*Subcontract under New Mexico

**Three regions represent the state of California: Greater Bay, Los Angeles, and Greater California

The SEER Program provides information on cancer statistics in an effort to reduce the cancer burden among the U.S. population. SEER is supported by the Surveillance Research Program in National Cancer Institute's Division of Cancer Control and Population Sciences. This is the funding agency of the NMTR.

The New Mexico Tumor Registry documents a variety of characteristics for each cancer case

Patient

- Personal identifiers, sex, ancestry, age, place of residence

Cancer

- Anatomic site, histology, behavior, grade, stage, selected markers

Therapy

- Surgery, radiation, chemotherapy, hormones, other modalities

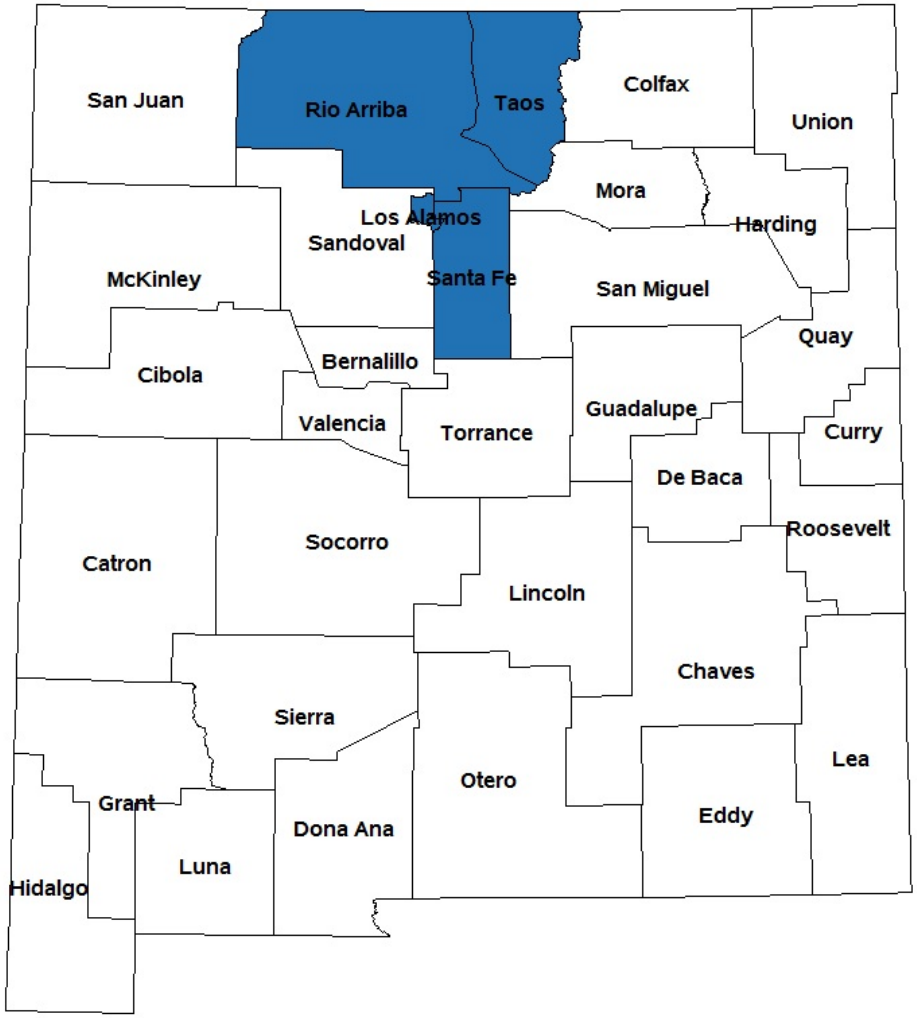
Care Provider

- Physicians, hospitals

Outcome

- Vital status, survival time, cause-of-death

Focus on Four Northern New Mexico Counties

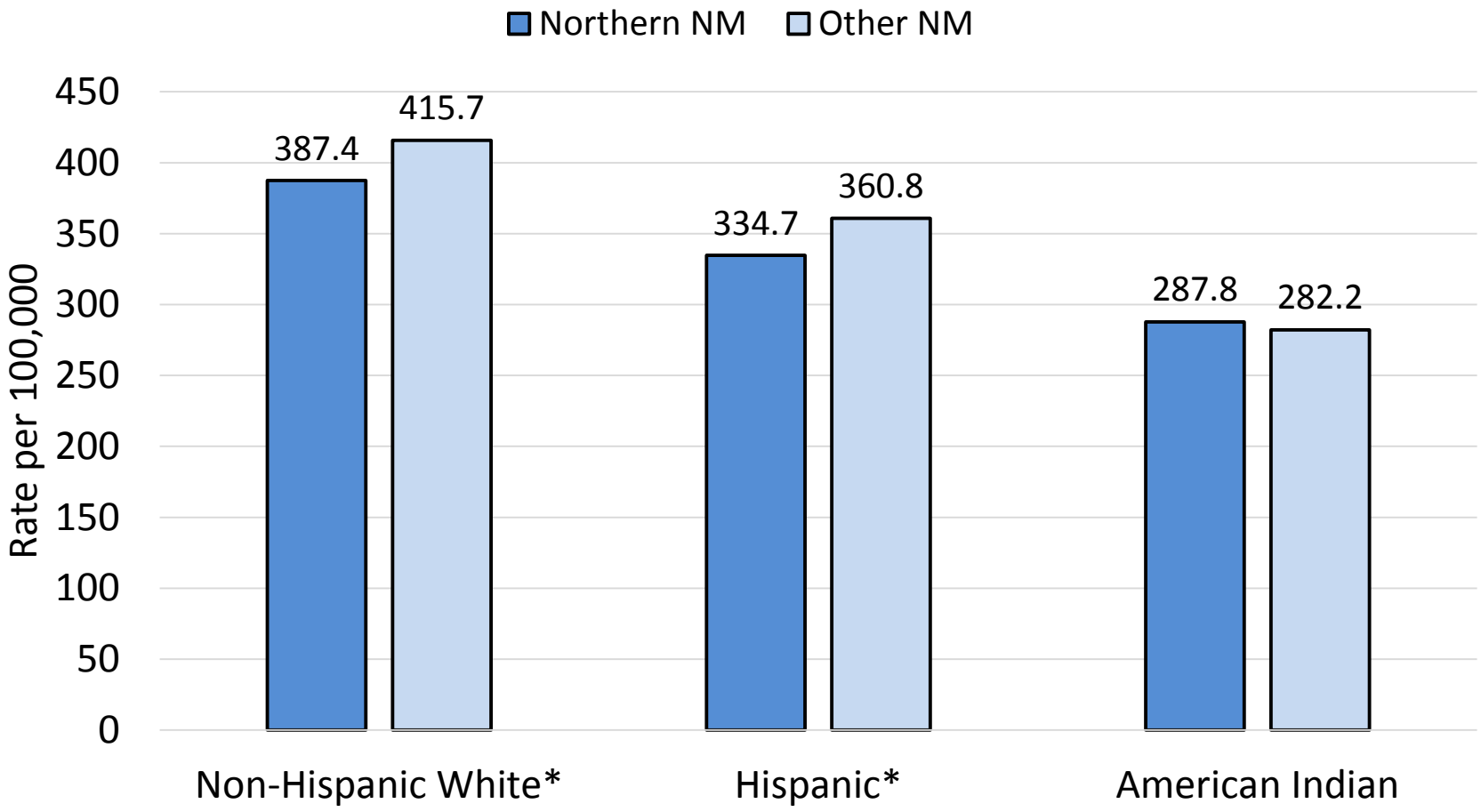


Incidence Rates

- ***Incidence rates*** measure of how quickly new cancer cases are being diagnosed among New Mexico residents
- Relates newly-diagnosed cancer cases to the size of the resident population during a specified time period
- Today's presentation focuses on average annual incidence rates for the time period 2005-2016
- All rates were age-adjusted to the distribution of the US 2000 population
- The role of chance was assessed with conventional methods for assessing "statistical significance"

All Types of Cancer - Combined

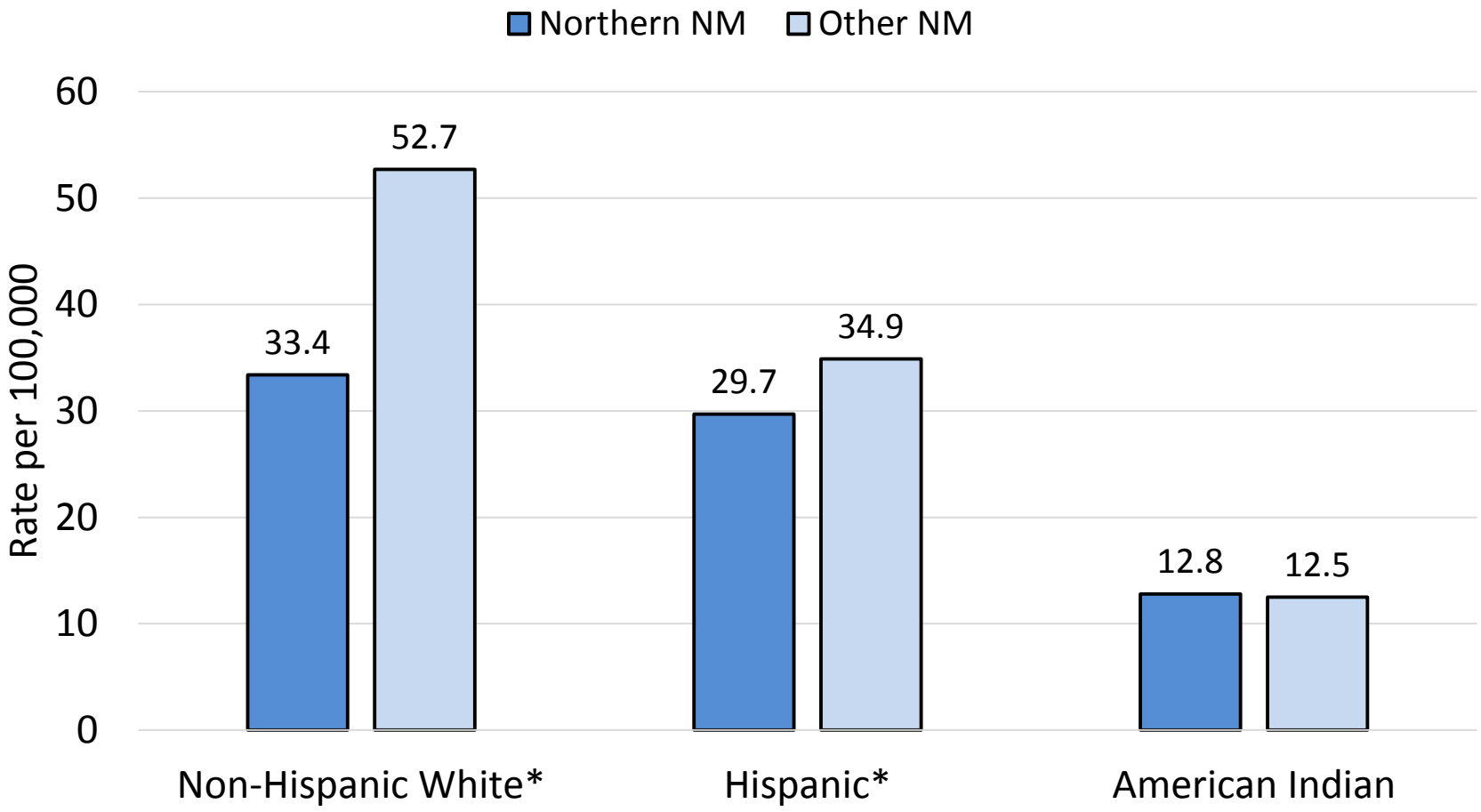
Average Annual Age-Adjusted Incidence Rates, 2005-2016



* Asterisk denotes statistically significant difference ($p<0.05$)

Cancers of the Lung and Bronchus

Average Annual Age-Adjusted Incidence Rates, 2006-2015



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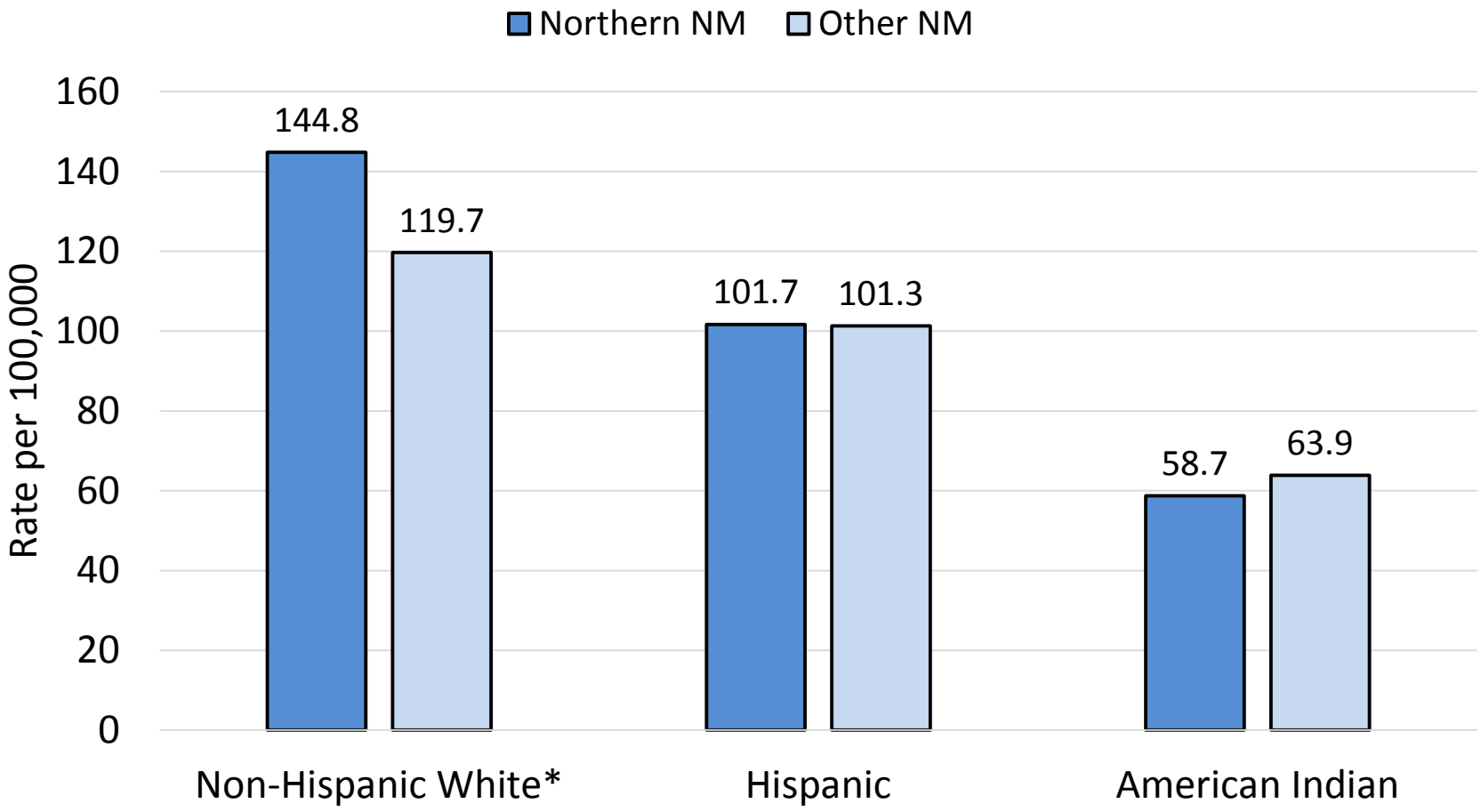
Cancers of the Female Breast

Average Annual Age-Adjusted Incidence Rates, 2006-2015



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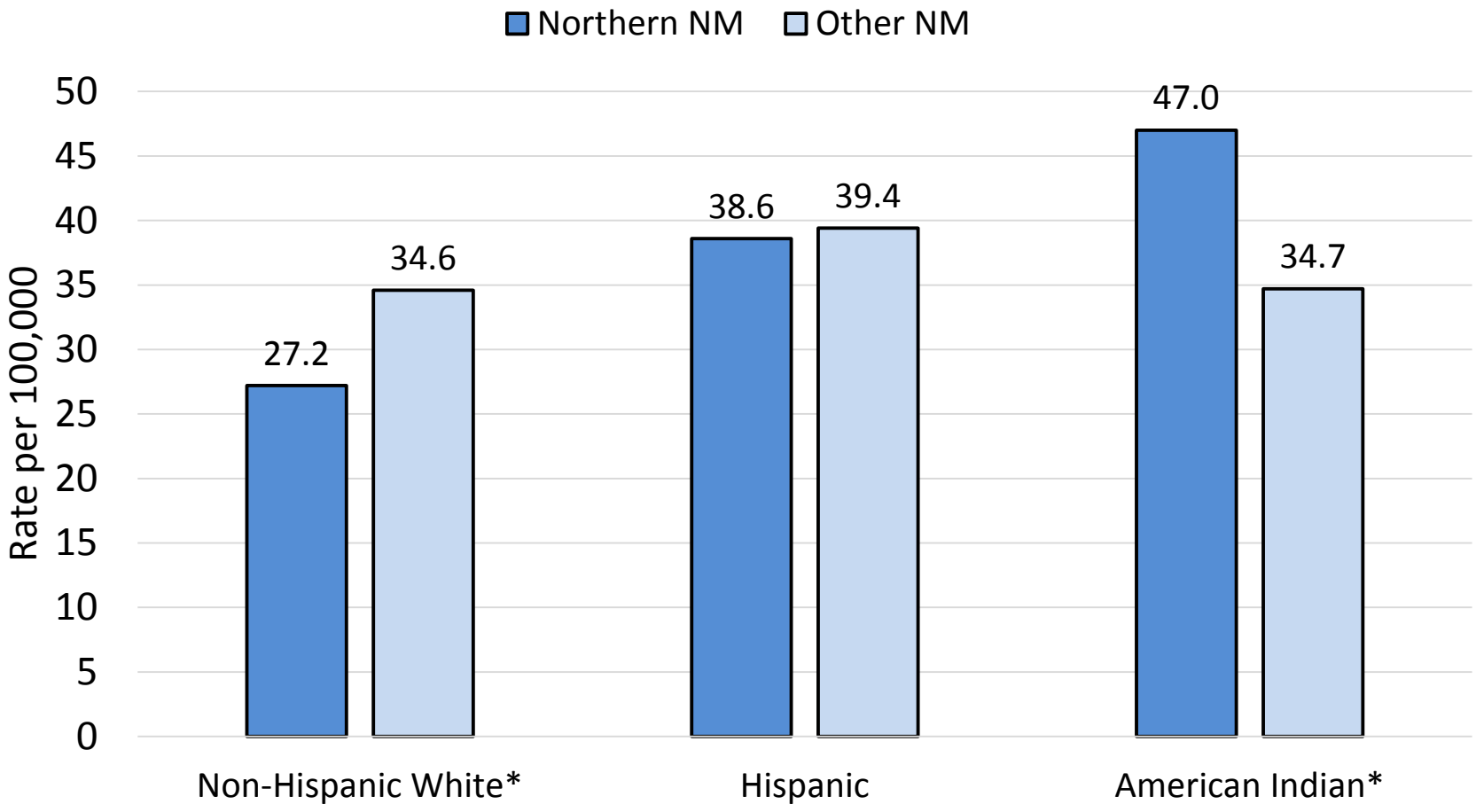
Cancers of the Colon and Rectum

Average Annual Age-Adjusted Incidence Rates, 2006-2015



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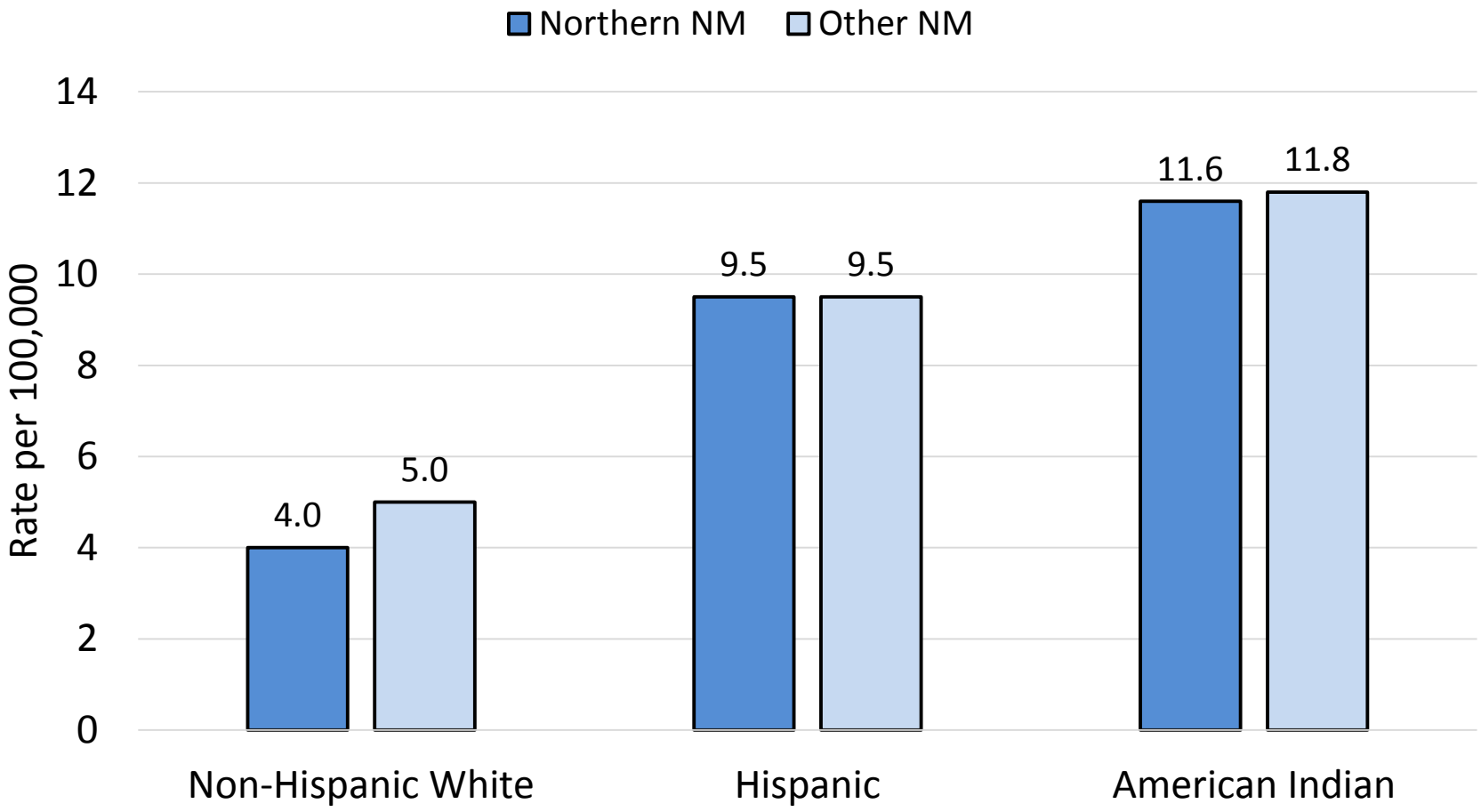
Cancers of the Stomach

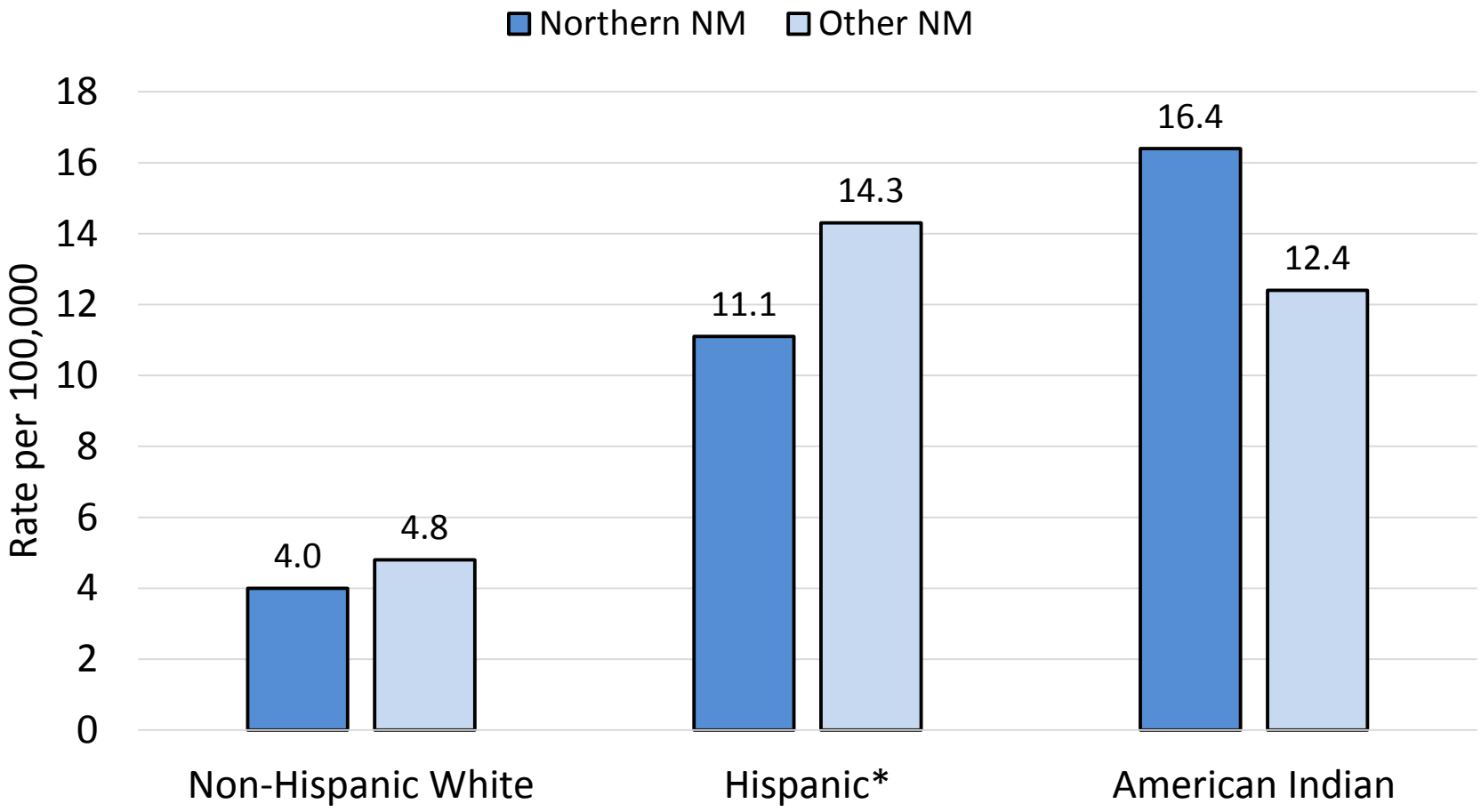
Average Annual Age-Adjusted Incidence Rates, 2006-2015



No statistically significant differences observed

Cancers of the Liver

Average Annual Age-Adjusted Incidence Rates, 2006-2015



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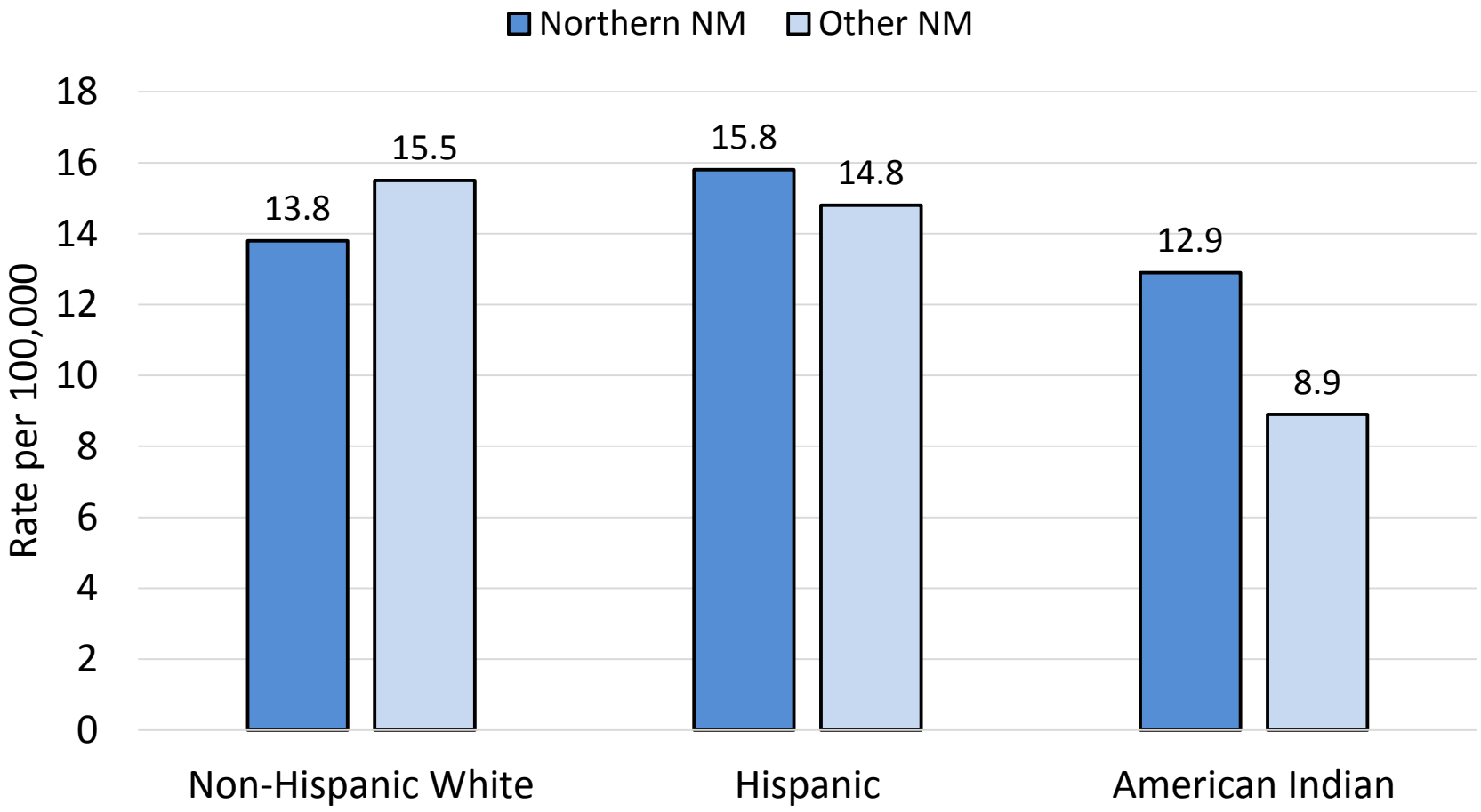
Cancers of the Thyroid

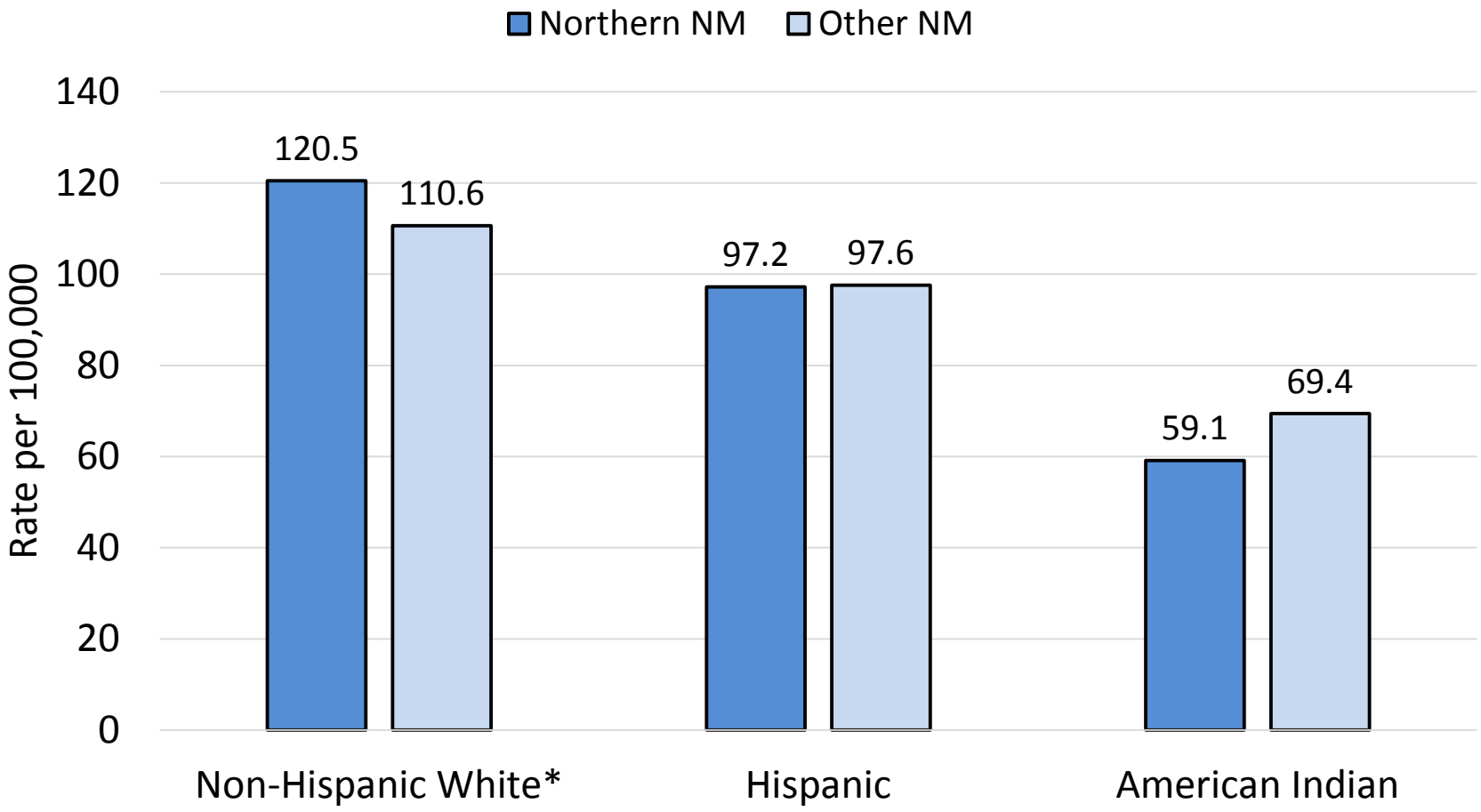
Average Annual Age-Adjusted Incidence Rates, 2006-2015



No statistically significant differences observed

Cancers of the Prostate

Average Annual Age-Adjusted Incidence Rates, 2006-2015



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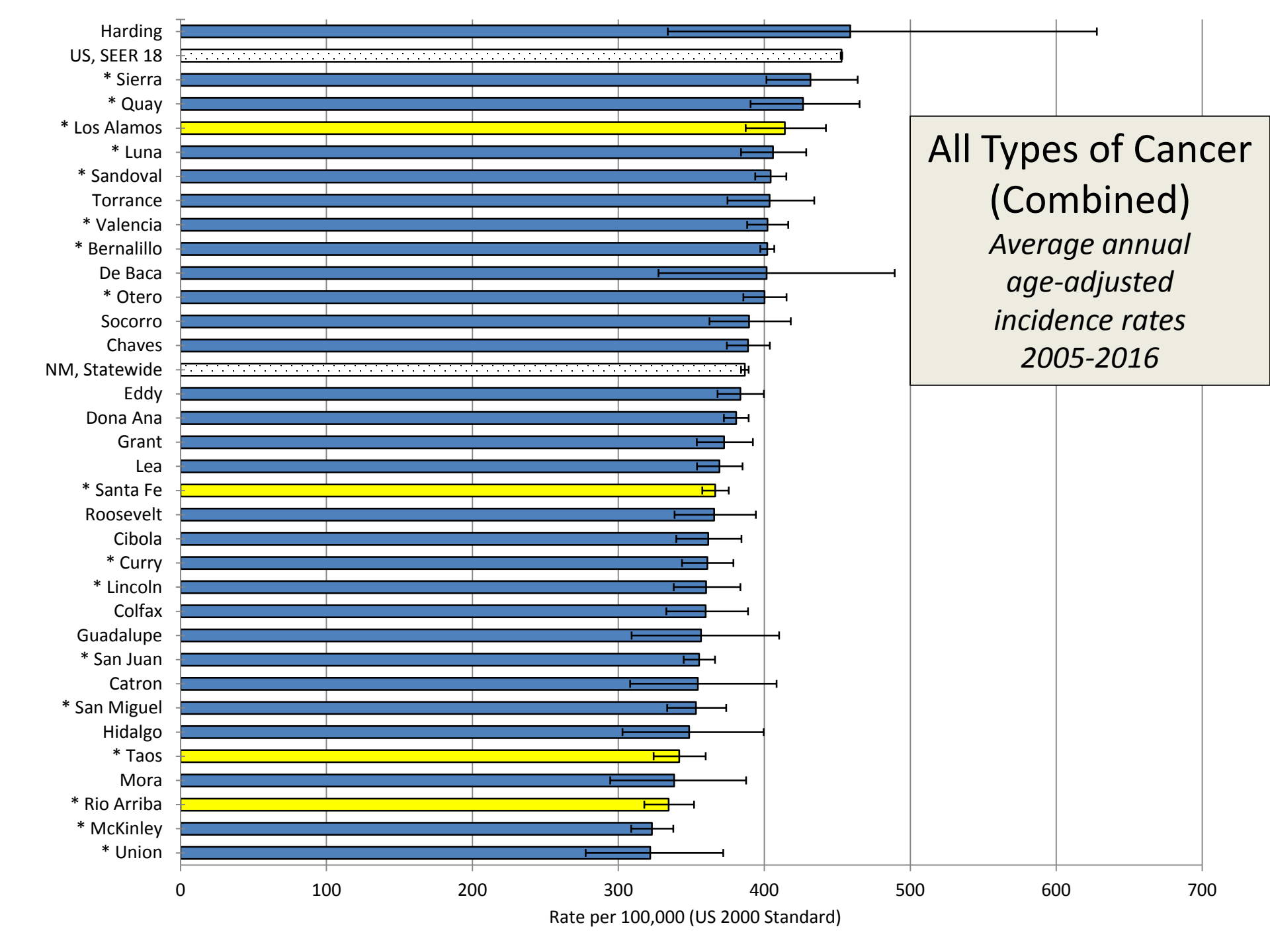
Concluding Remarks

- Cancer is a leading cause of illness and death in New Mexico
- Cancer rates vary by race/ethnicity
- With some exceptions, cancer rates in Northern New Mexico are generally similar to rates observed in other regions of the state
- Challenges:
  - *Constraints in compiling and interpreting reports based on a relatively small number of cases in some areas*
  - *Appropriate population estimates are not always readily available for such analyses*


All Types of Cancer (Combined)
Average annual age-adjusted incidence rates 2005-2016
Harding
US, SEER 18
* Sierra
* Quay
* Los Alamos
* Luna
* Sandoval
Torrance
* Valencia
* Bernalillo
De Baca
* Otero
Socorro
Chaves
NM, Statewide
Eddy
Dona Ana
Grant
Lea
* Santa Fe
Roosevelt
Cibola
* Curry
* Lincoln
Colfax
Guadalupe
* San Juan
Catron
* San Miguel
Hidalgo
* Taos
Mora
* Rio Arriba
* McKinley
* Union
0
100
200
300
400
500
600
700
Rate per 100,000 (US 2000 Standard)

Any Questions?

Thank you!

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