

Cardiovascular risk among Mexicans in the US and Mexico

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Background

- Cardiovascular disease (CVD) mortality in the US has declined 66% from 1950 to 2000, down from 1,446 deaths per 100,000 in 1950 to 777 deaths per 100,000 in 2000.
- CVD is the leading cause of death in the US., representing 33% of total mortality in 2007.
- Among Latinos, CVD is also the leading cause of death, representing 29% of all mortality.

Background

- In Mexico, rates of CVD have increased 90% since 1970.
- In 2008, CVD was the second leading cause of death in Mexico, representing 17% of total mortality.
- At least one CVD risk factor (smoking, obesity, hypertension, diabetes and high cholesterol) have been observed in 60.5% of adults in Mexico.

Study Objective

To compare CVD risk factors in a cohort of Mexican health workers with representative samples of US- and Mexican-born Mexican-Americans living in the US.

Methods

- Data for this study were obtained from two sources:
 1. The Mexican Health Worker Cohort Study (MHWCS), using data collected from 2004 to 2006.
 2. The National Health and Nutrition Examination Survey (NHANES) IV, using data collected from 1999 to 2006.

Mexican Health Worker Cohort Study

- A long-term study that began in the state of Morelos, in 1998.
- The purpose of this study is to investigate the role of certain lifestyle factors on the development of specific chronic diseases, including CVD.
- Approximately 10,000 health workers and their relatives are enrolled. Age range 8-85.

National Health and Nutrition Examination Survey

- NHANES is a continuous cross-sectional examination survey of the US population.
- Provides national estimates of nutritional, infectious, environmental, and chronic health conditions.
- NHANES uses a complex multistage probability study design, with oversamples of Hispanics and older adults.

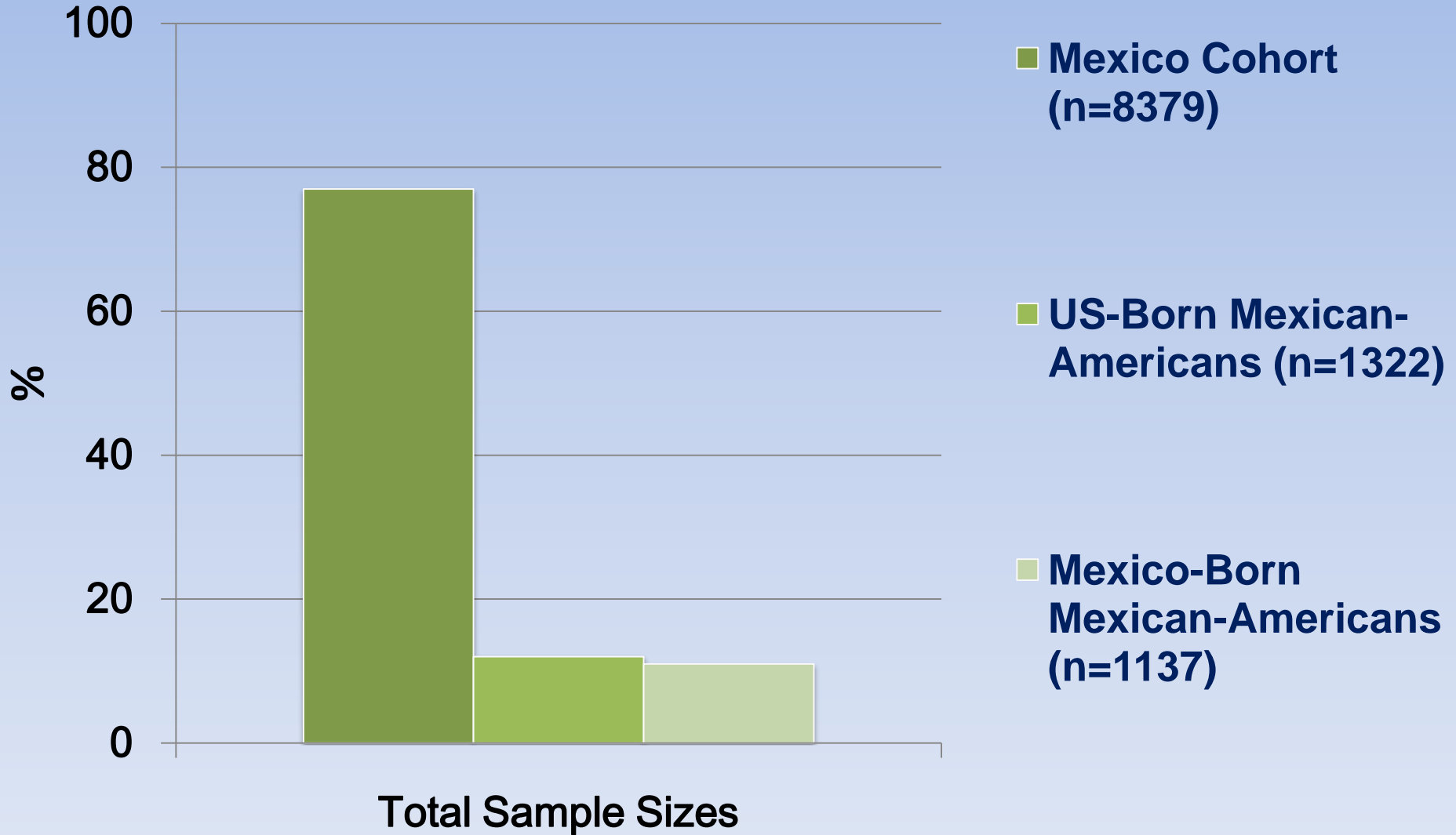
Methods

- Both studies collected the following from the participants:
 1. Health and lifestyle data obtained by standardized questionnaires.
 2. Physical examinations and laboratory tests.

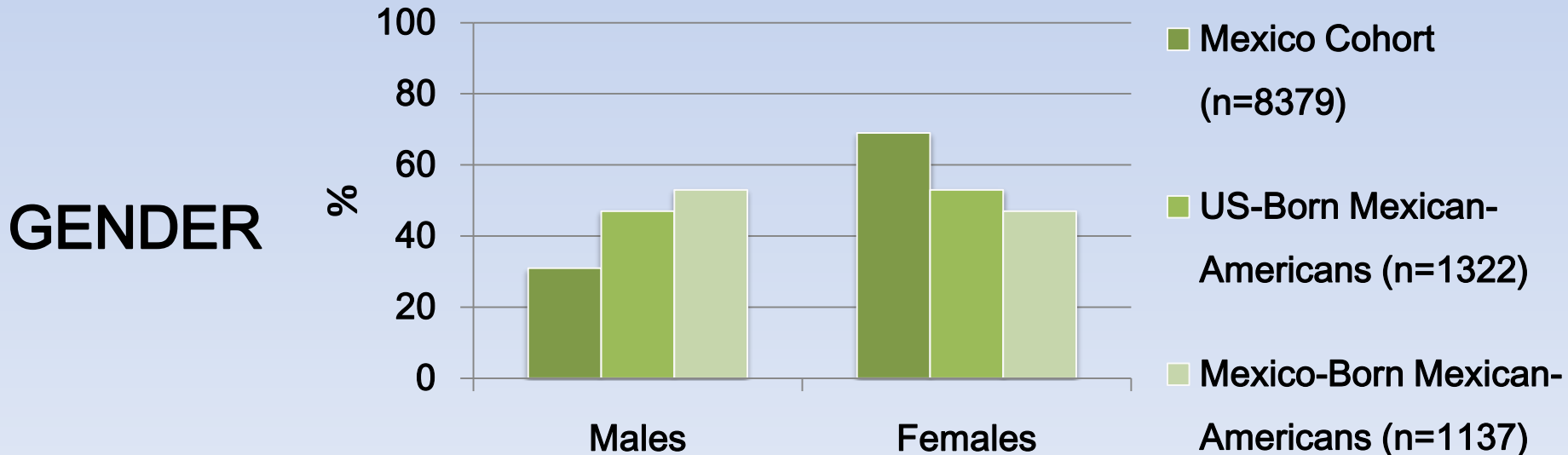
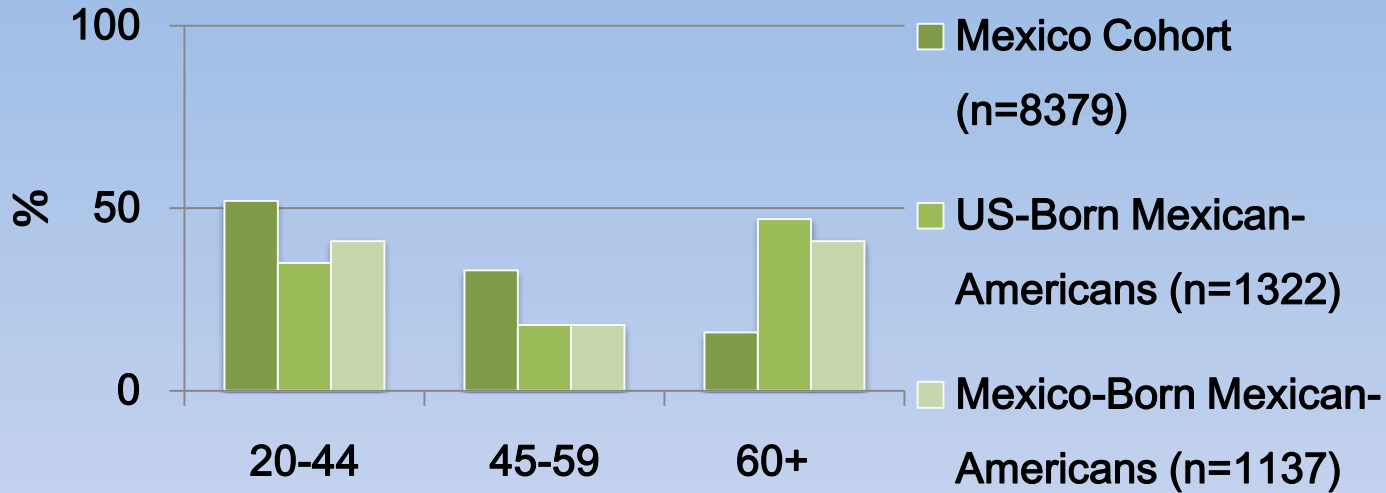
Mexico and US Study Samples

- Inclusion criteria: (1) age 20 years or older, (2) not pregnant, (3) health insurance, (4) complete questionnaire and lab data.
- Final sample (n= 10,838)
- 8,379 MHWCS participants in Mexico
- 1,322 US born Mexican-Americans who live in the US
- 1,137 Mexican-Americans who were born in Mexico and now live in the US

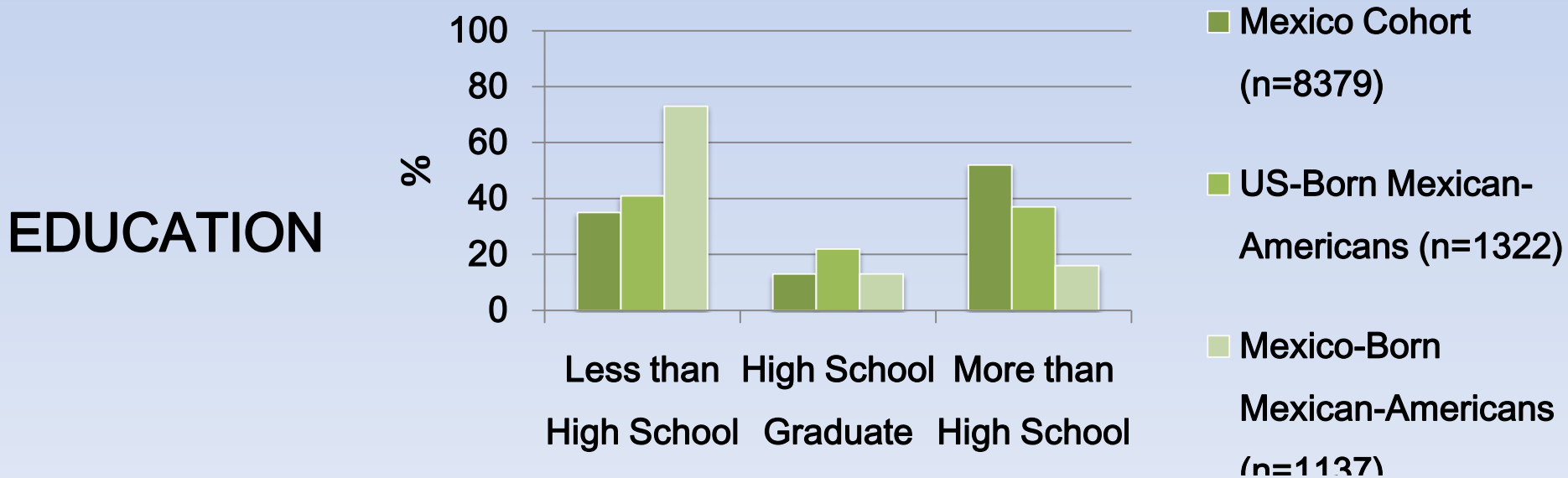
Total Study Population



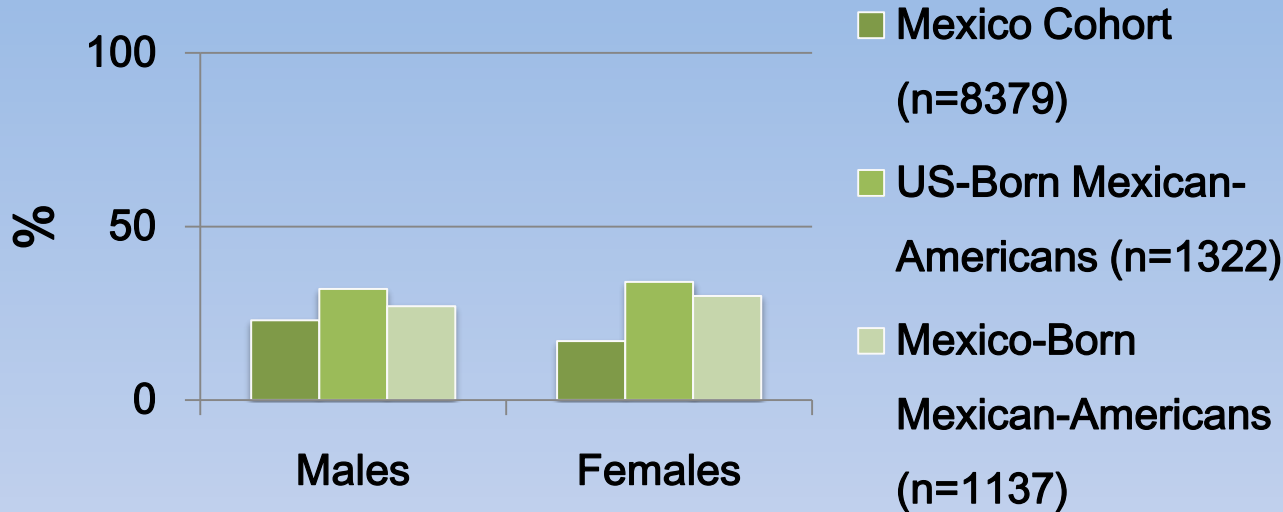
Socio-Demographic Characteristics



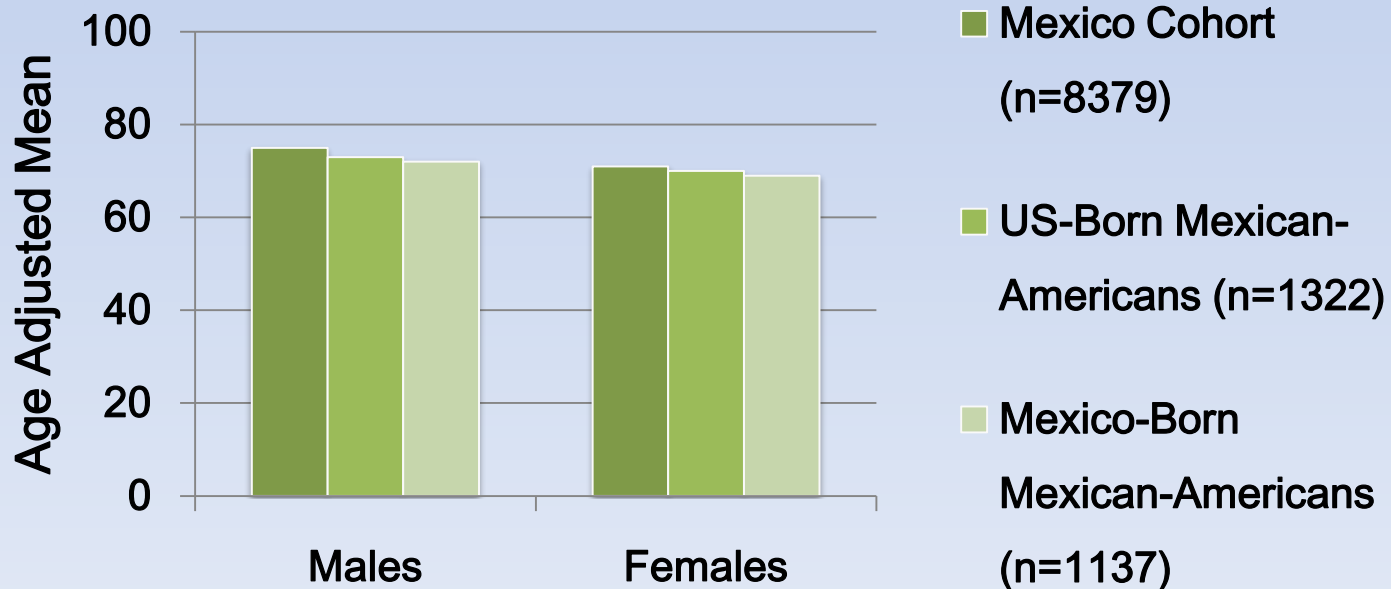
Socio-Demographic Characteristics



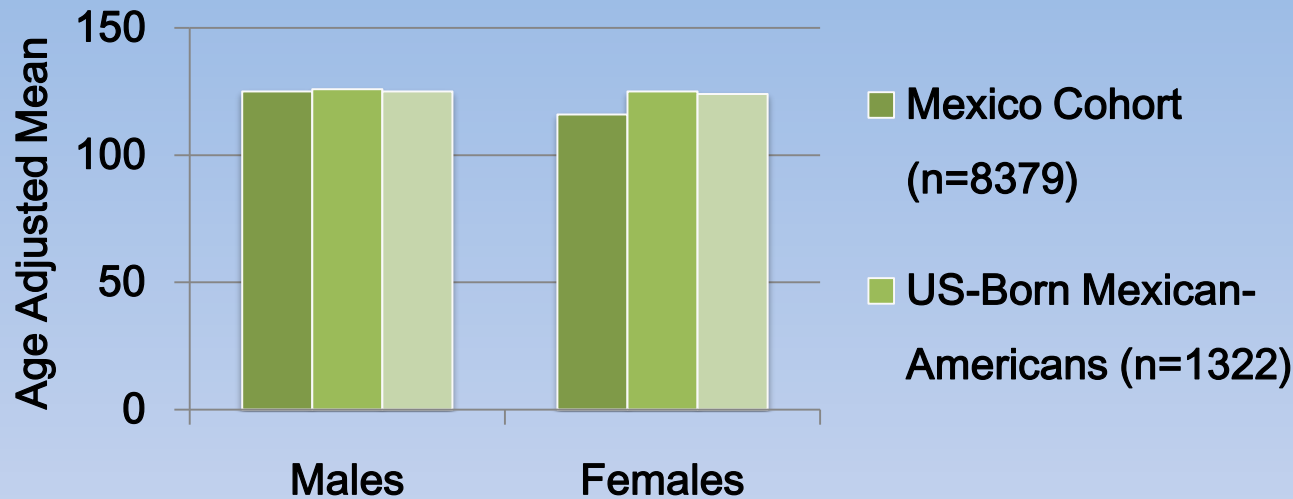
Prevalence of CVD Risk Factors



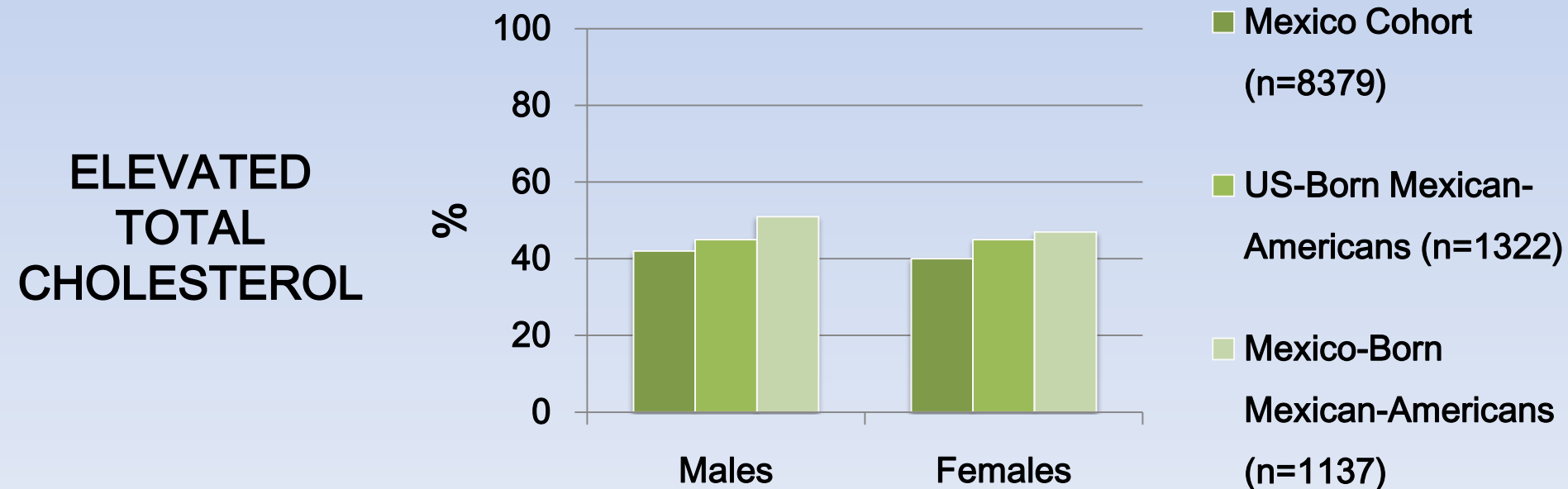
DIASTOLIC BLOOD PRESSURE



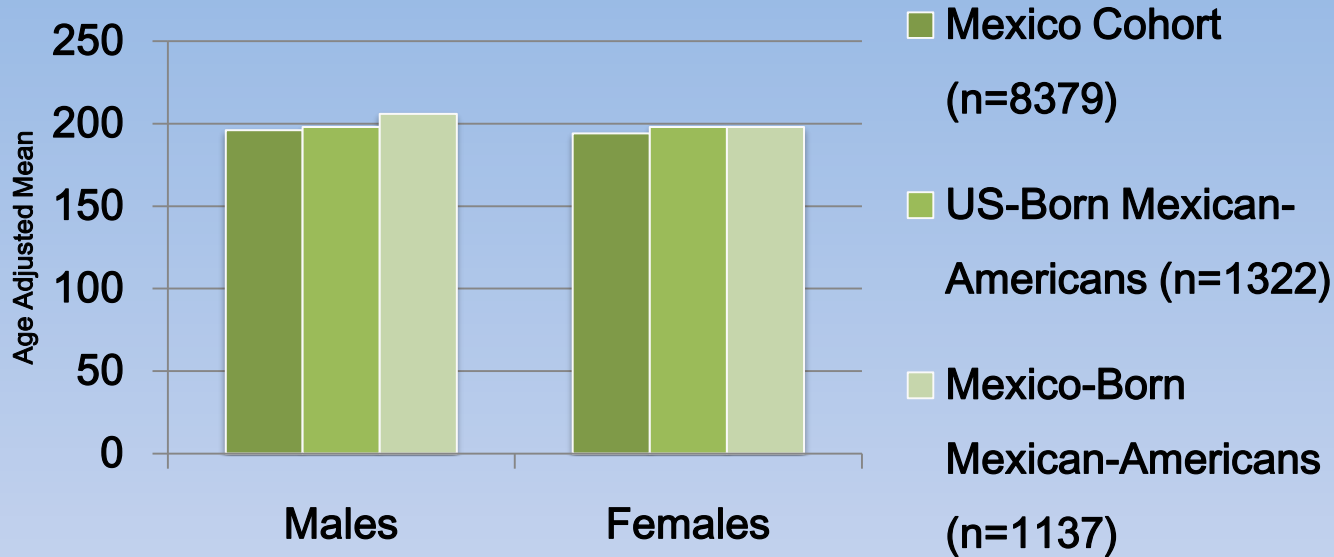
Prevalence of CVD Risk Factors



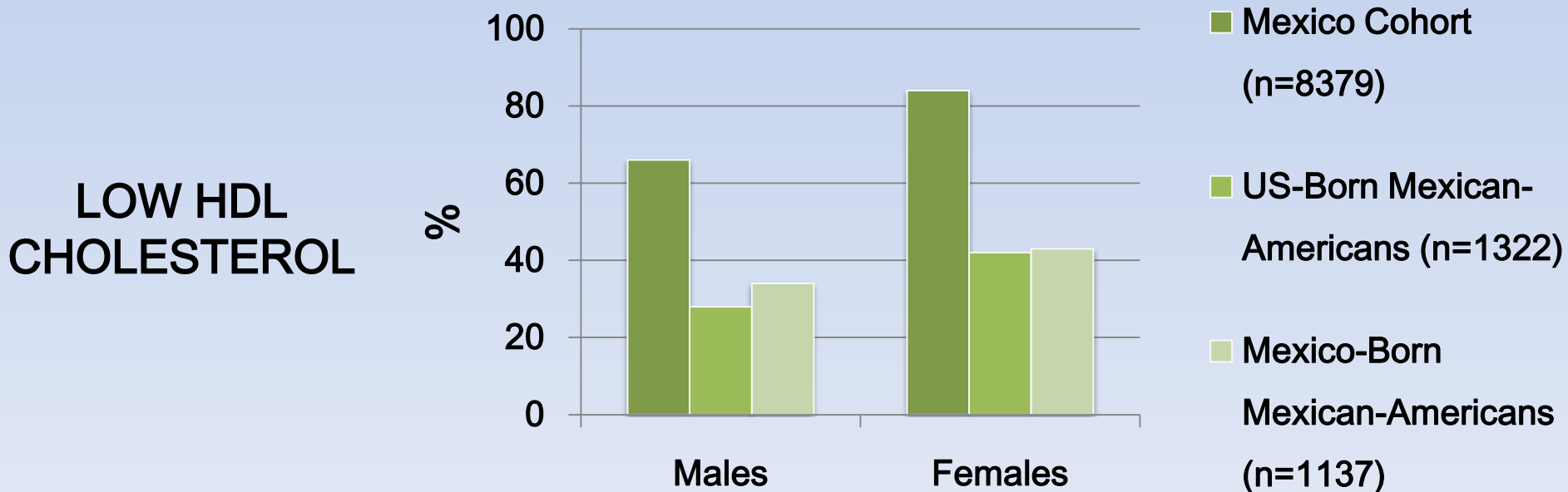
**SYSTOLIC
BLOOD
PRESSURE**



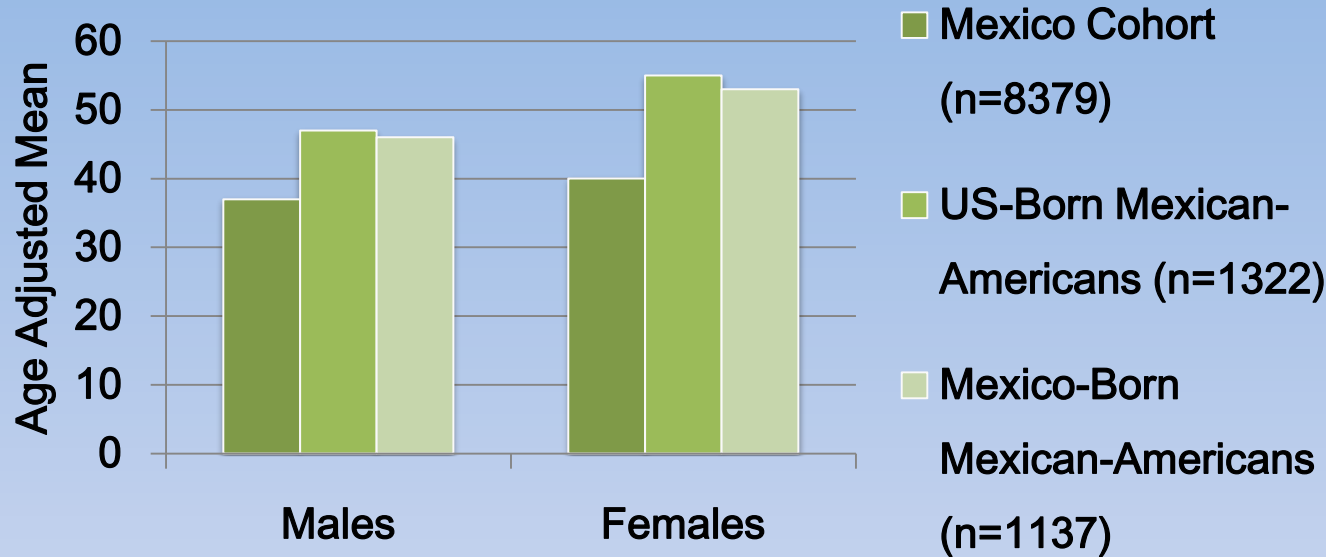
Prevalence of CVD Risk Factors



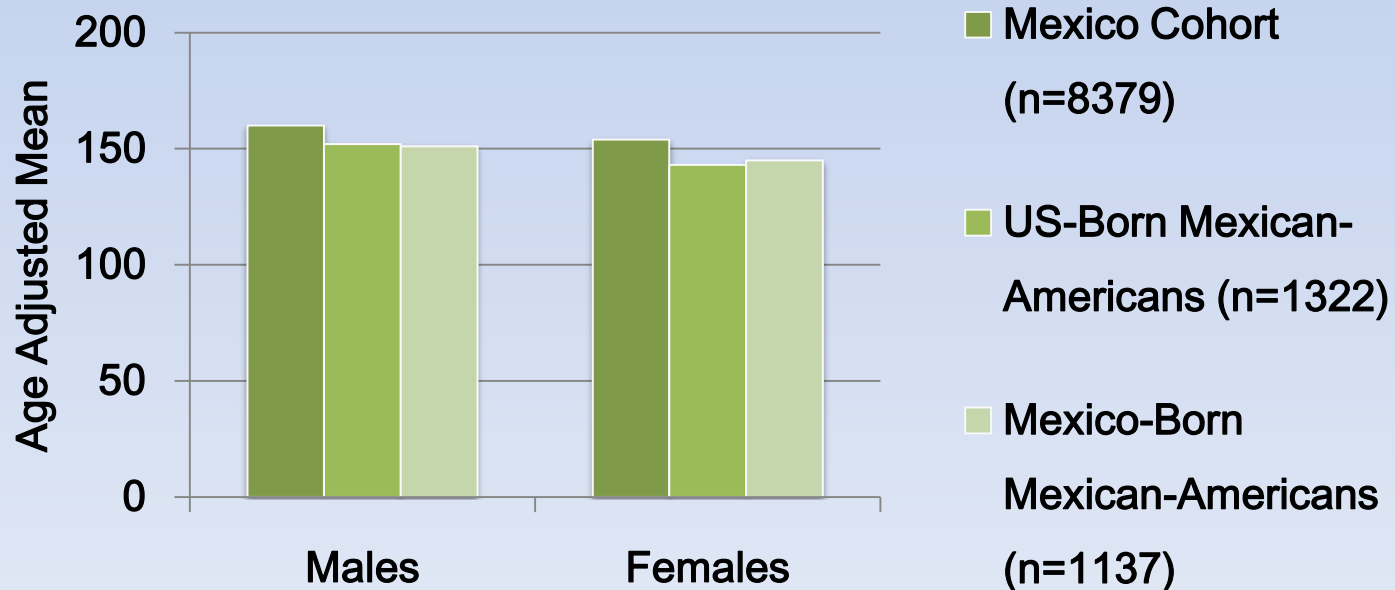
TOTAL CHOLESTEROL



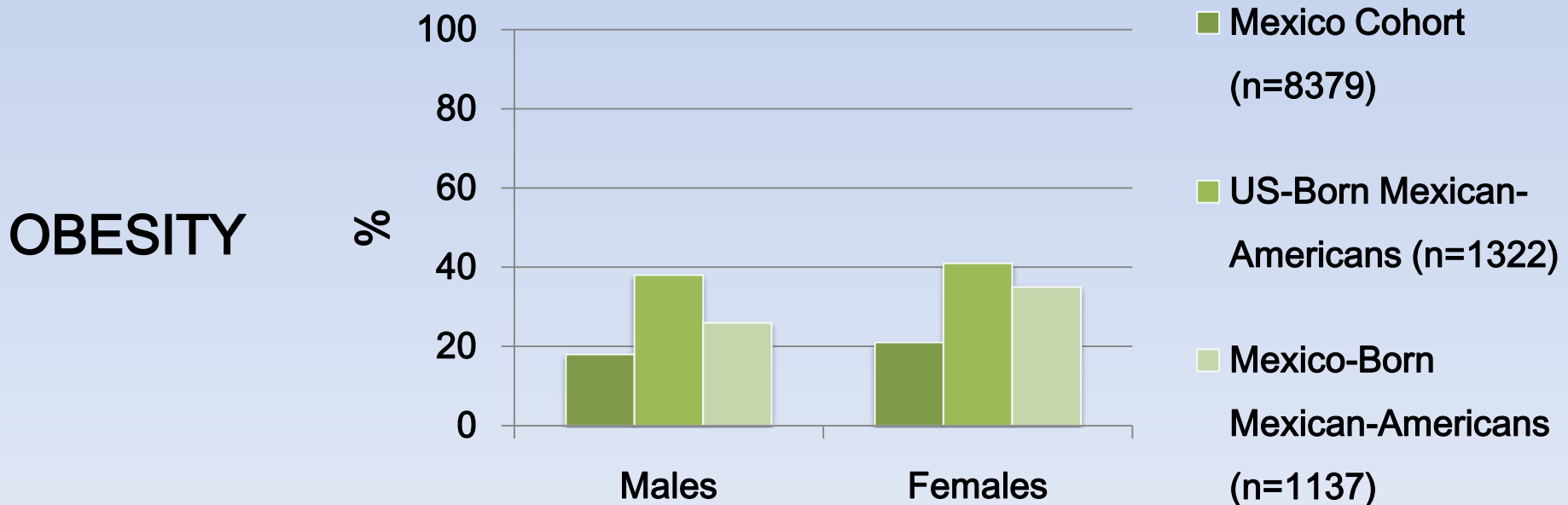
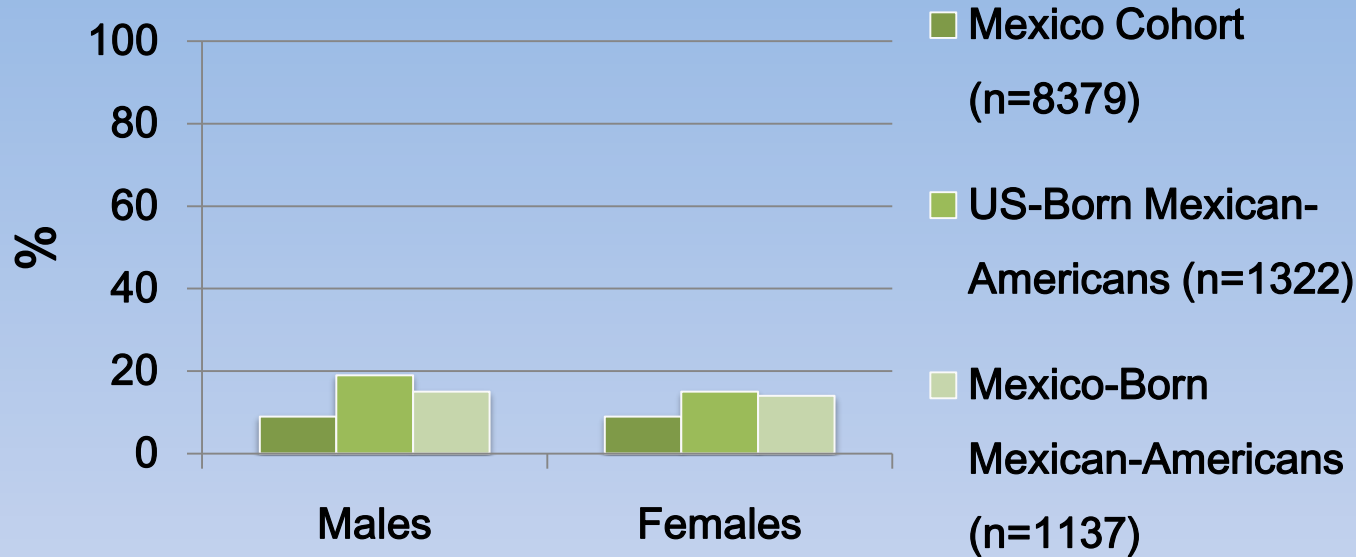
Prevalence of CVD Risk Factors



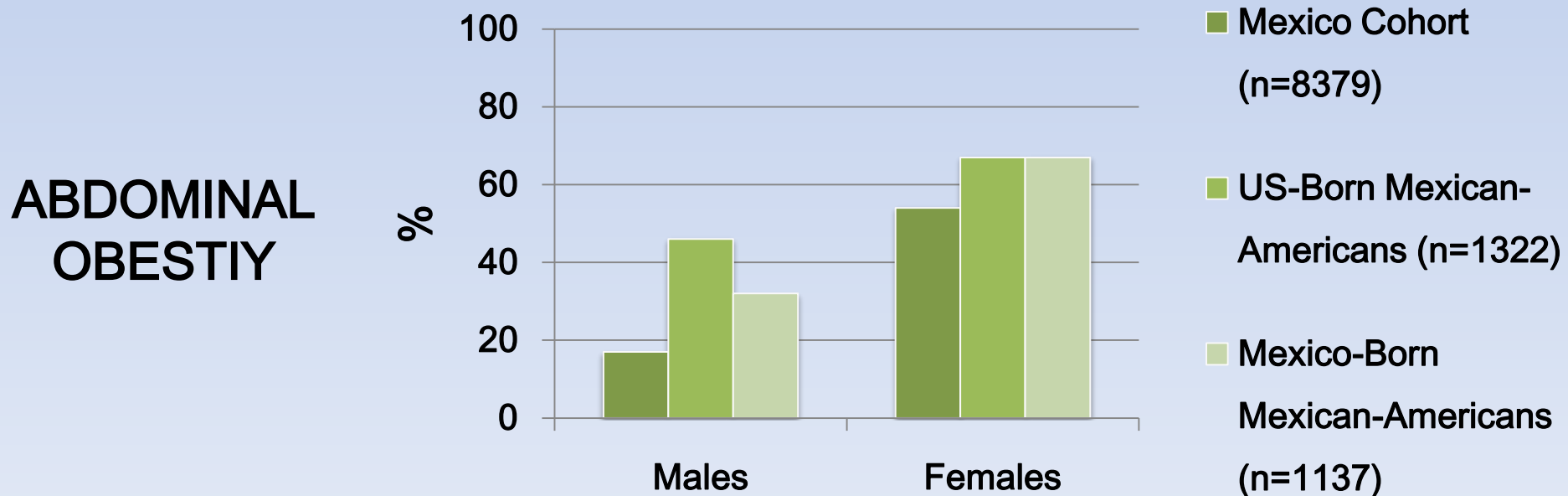
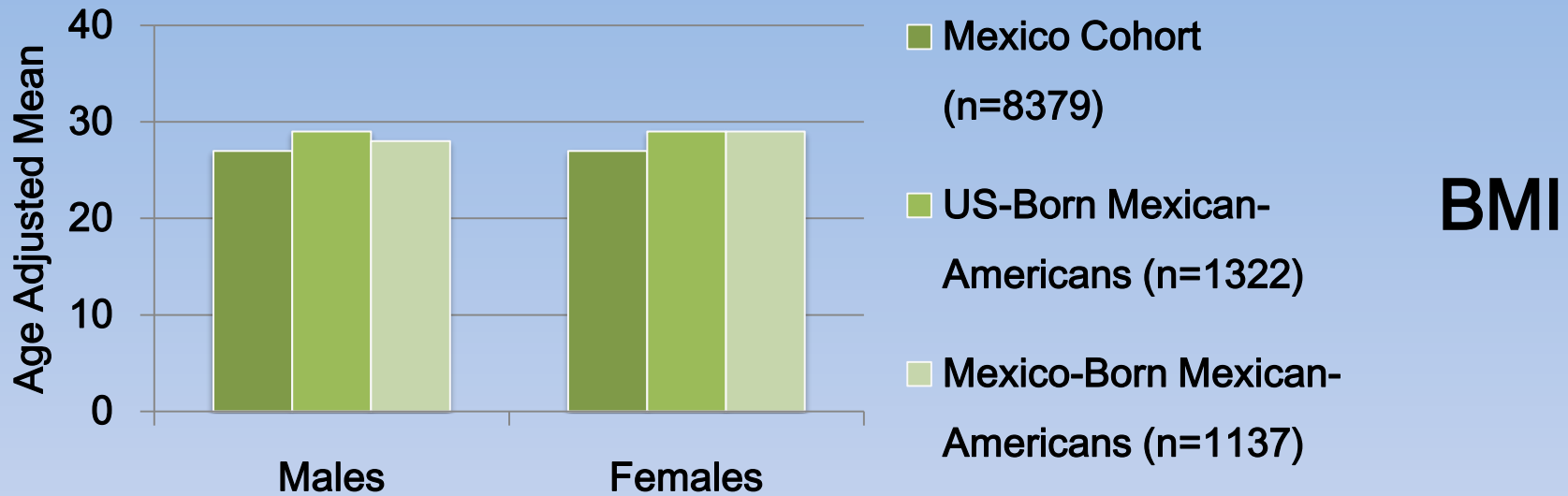
HDL CHOLESTEROL



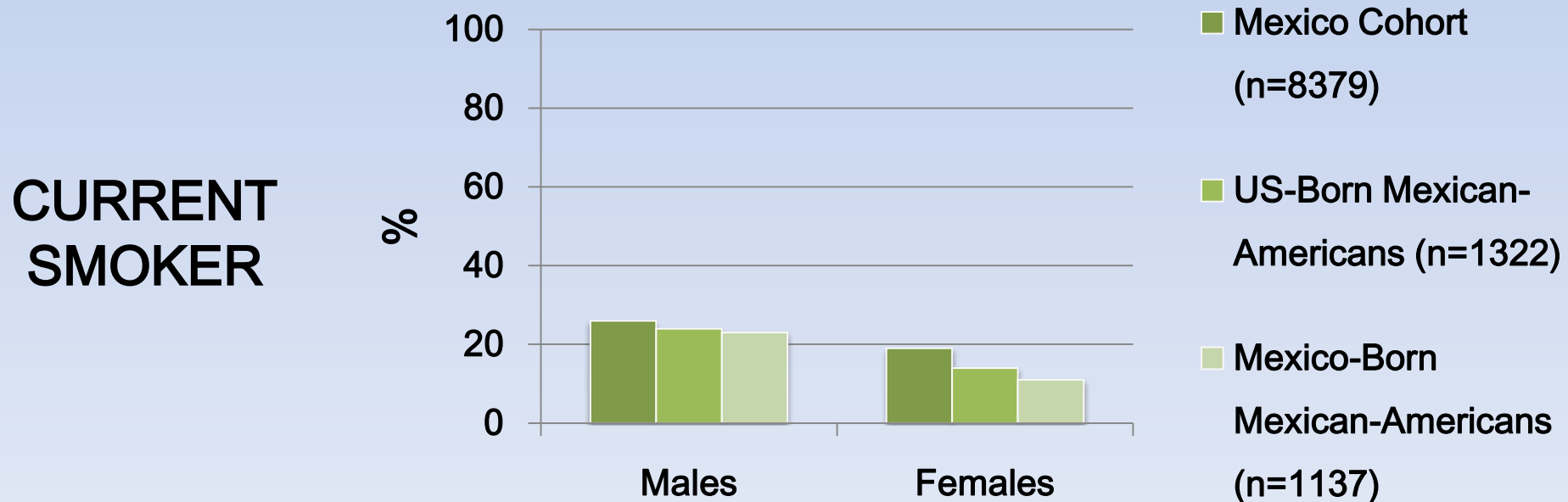
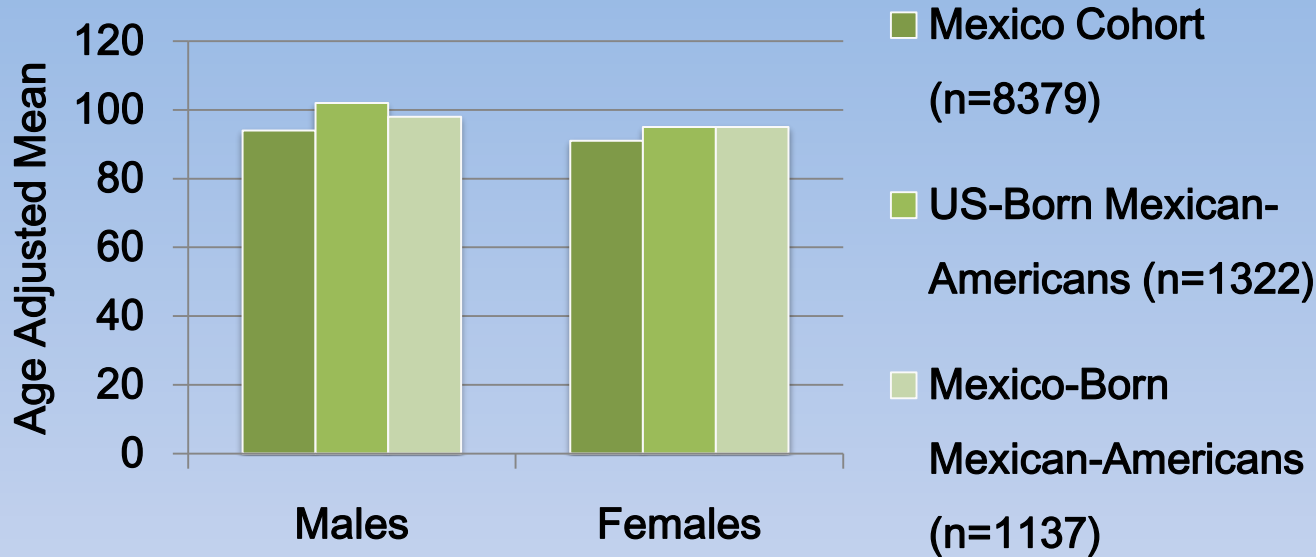
Prevalence of CVD Risk Factors



Prevalence of CVD Risk Factors



Prevalence of CVD Risk Factors



Main Results

- In adjusted analyses, NHANES participants were more likely than MHWCS participants to have hypertension, elevated total cholesterol, diabetes, obesity, and abdominal obesity, and were less likely to have low HDL cholesterol and smoke.
- Less educated men and women were more likely to have low HDL cholesterol, obesity, and abdominal obesity.

Conclusions

- In this bi-national study, men and women enrolled in the MHWCS appear to have fewer CVD risk factors than US-born and Mexico-born Mexican American men and women living in the US.
- Our findings are consistent with the hypothesis that Mexicans are at lower risk for CVD than their more acculturated counterparts living in the US.

Conclusions

- These results suggest that CVD risk factors may increase in Mexican immigrants and their descendants with exposure to US society.
- Acculturation to US society has been linked to higher rates of adverse behavioral risk factors including less heart healthy diets and higher rates of psychological distress.
- Further studies are needed.

Principal Collaborators

- Leo Morales, MD, PhD (Study Co-PI)
- Jorge Salmerón, MD, PhD
- Mei Leng, MS
- Katia Gallegos, MSc
- Noemié Sportiche, BA

Acknowledgements

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