

PREVALENCE OF THE METABOLIC SYNDROME AND ITS INDIVIDUAL COMPONENTS IN THE ADULT POPULATION OF THE SAN JUAN METROPOLITAN AREA, PUERTO RICO

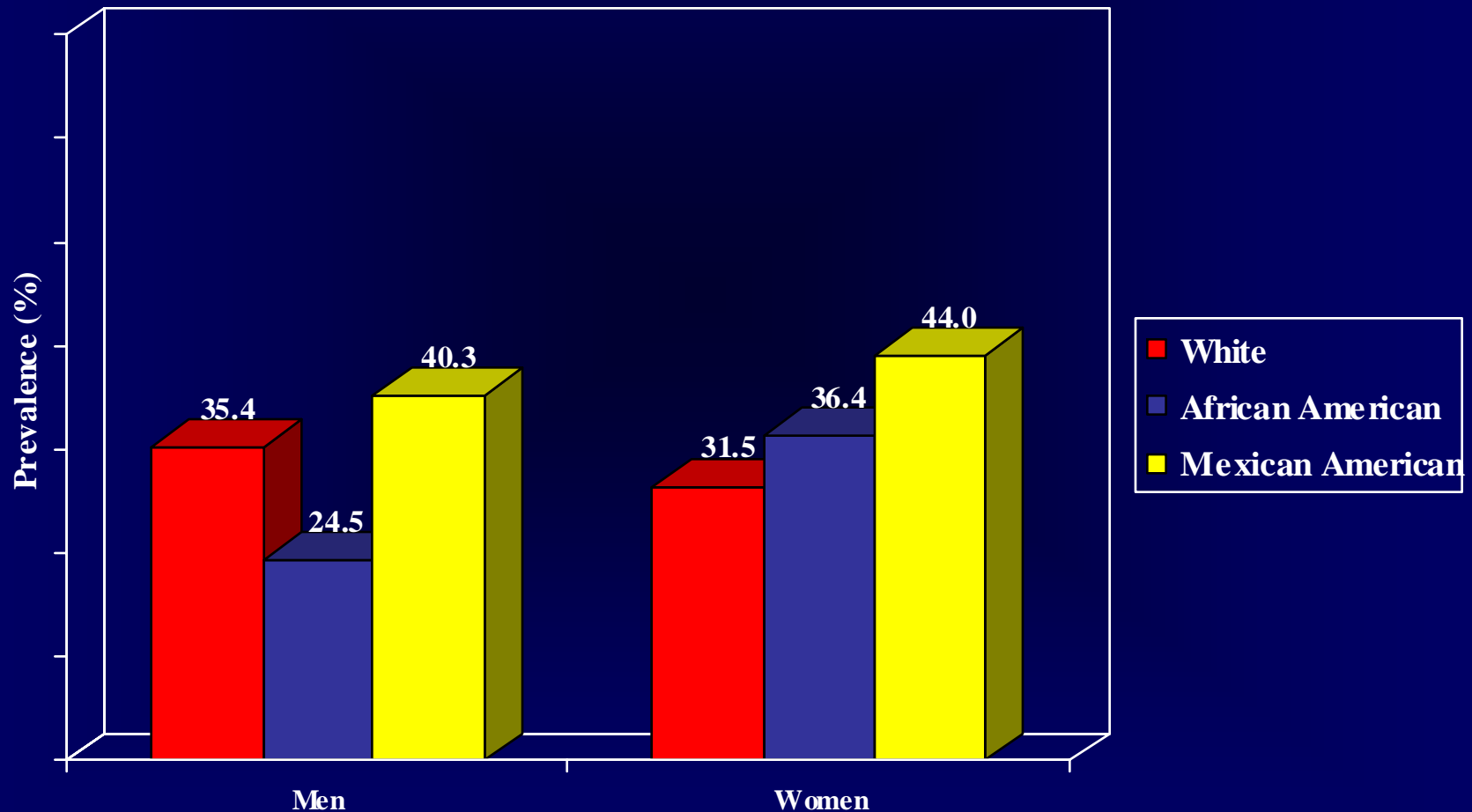


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DEFINITION

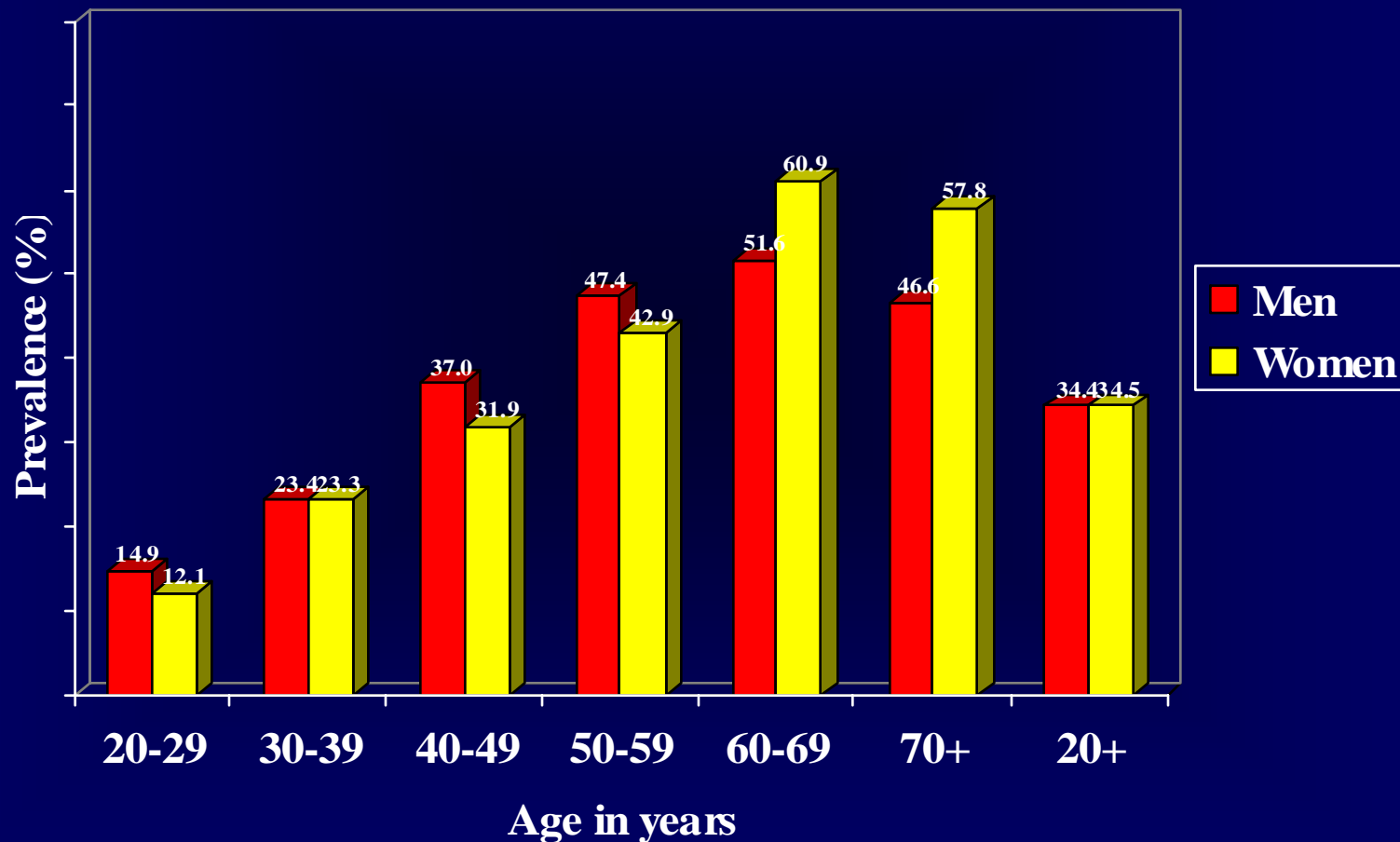
- Constellation of interrelated risk factors that appear to directly promote the development of cardiovascular disease and type 2 diabetes.
- In an effort to introduce the metabolic syndrome into clinical practice, several organizations have attempted to formulate criteria for its diagnosis:
 - World Health Organization, 1998/1999
 - European Group for Study of Insulin Resistance, 1999
 - National Cholesterol Education Program-Adult Treatment Panel III, 2001
 - American Association of Clinical Endocrinologists, 2003
 - International Diabetes Federation, 2005
 - American Heart Association/National Heart, Lung, and Blood Institute, 2005

AGE-ADJUSTED PREVALENCE OF THE NCEP METABOLIC SYNDROME BY SEX AND RACE/ETHNICITY AMONG US ADULTS: NHANES 1999-2002 (N=3,601)



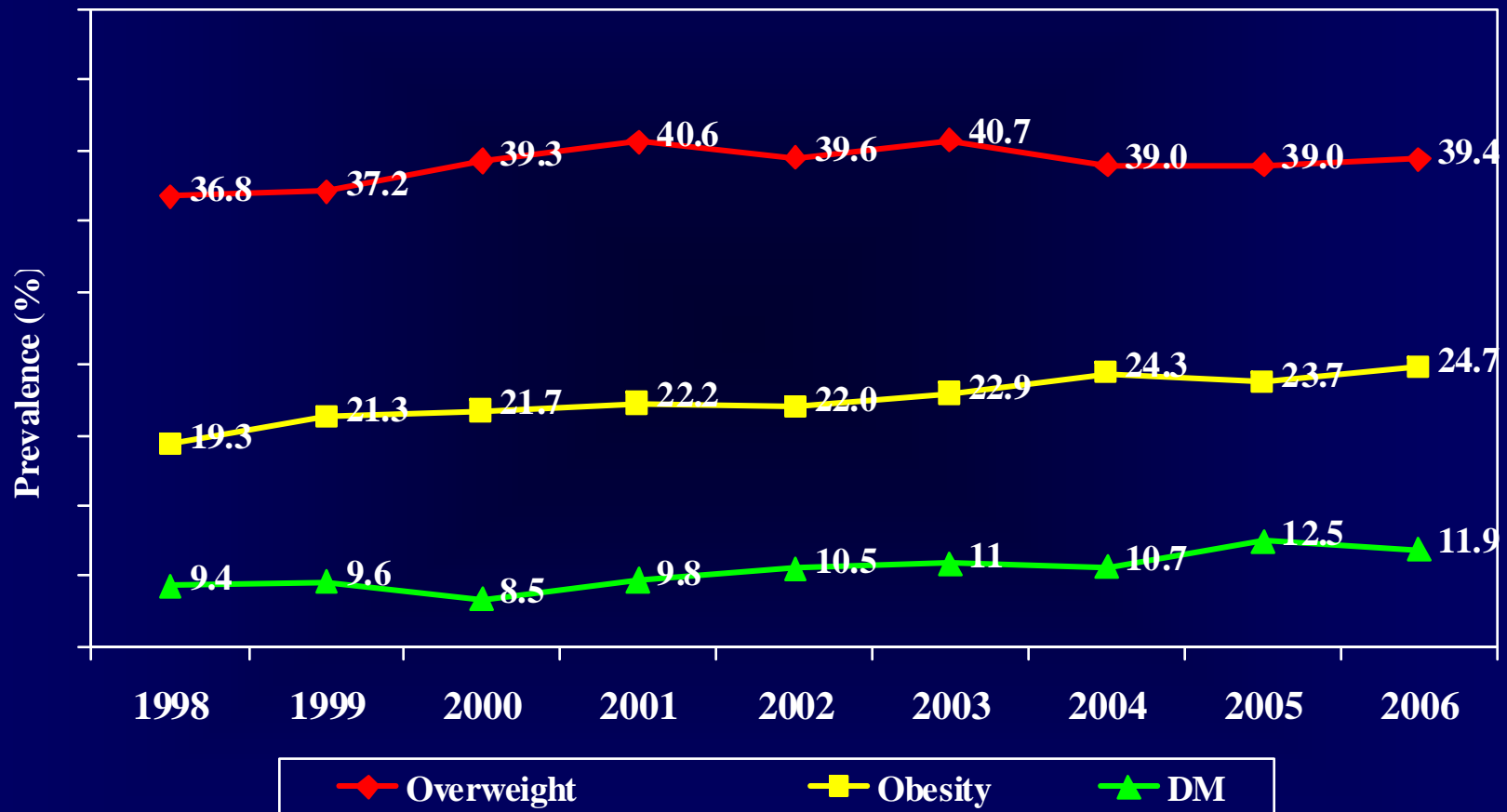
Source: Ford ES. Prevalence of the metabolic syndrome defined by the International Diabetes Federation among adults in the U.S. *Diabetes Care* 2005; 28: 2745-2749.

AGE-SPECIFIC PREVALENCE OF THE NCEP METABOLIC SYNDROME AMONG US ADULTS: NHANES 1999-2002 (N=3,601)



Source: Ford ES. Prevalence of the metabolic syndrome defined by the International Diabetes Federation among adults in the U.S. *Diabetes Care* 2005; 28: 2745-2749.

PREVALENCE OF SELF-REPORTED DM AND OVERWEIGHT/OBESITY AMONG PUERTO RICAN ADULTS, BRFSS 1998-2006*



*CDC. Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, CDC, 1998-2006.

STUDY AIMS

To estimate the prevalence of the metabolic syndrome and its components by age and sex in the adult population residing in the San Juan Metropolitan Area of Puerto Rico.

FIGURE 1. STUDY DESIGN AND SAMPLING SCHEME

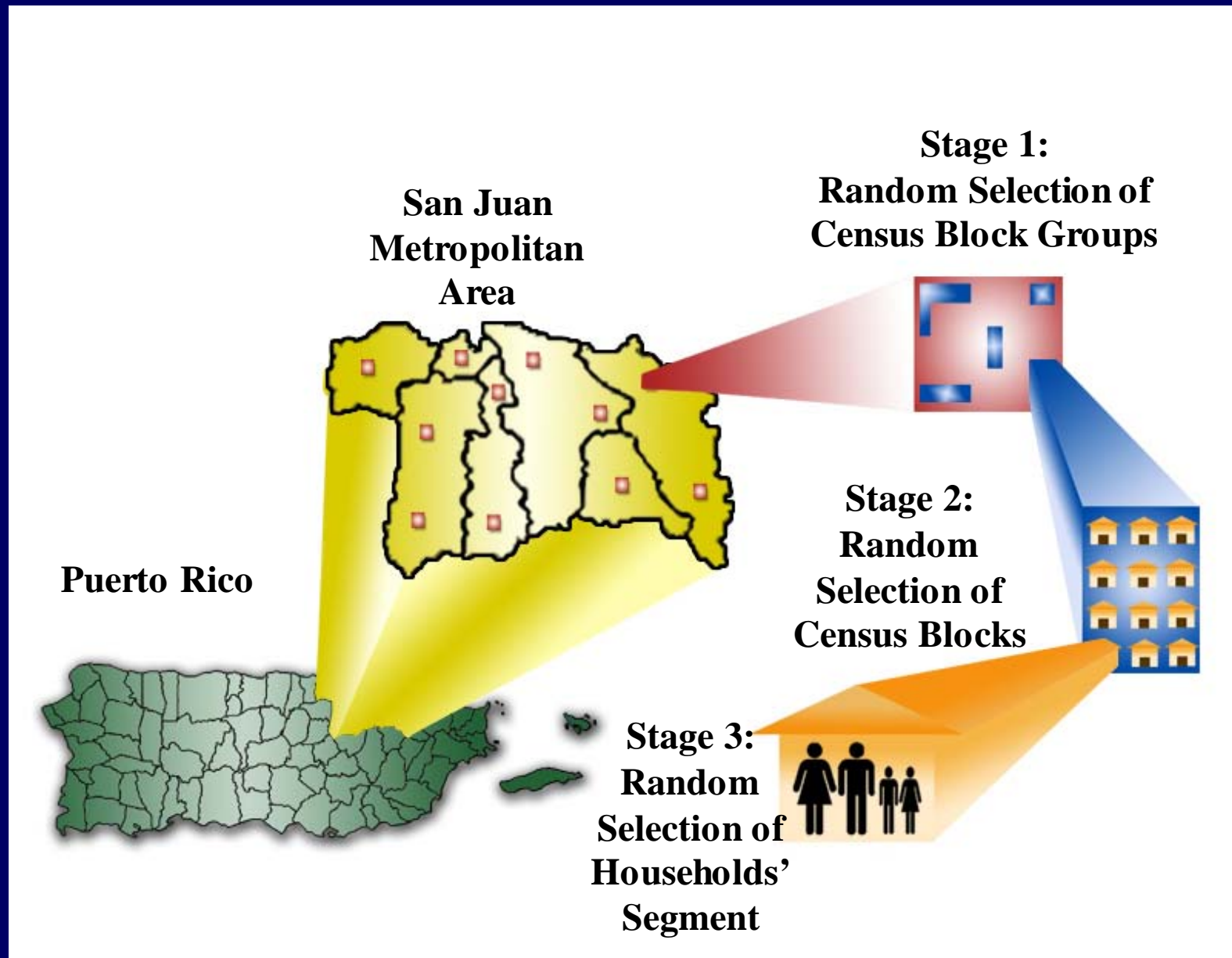
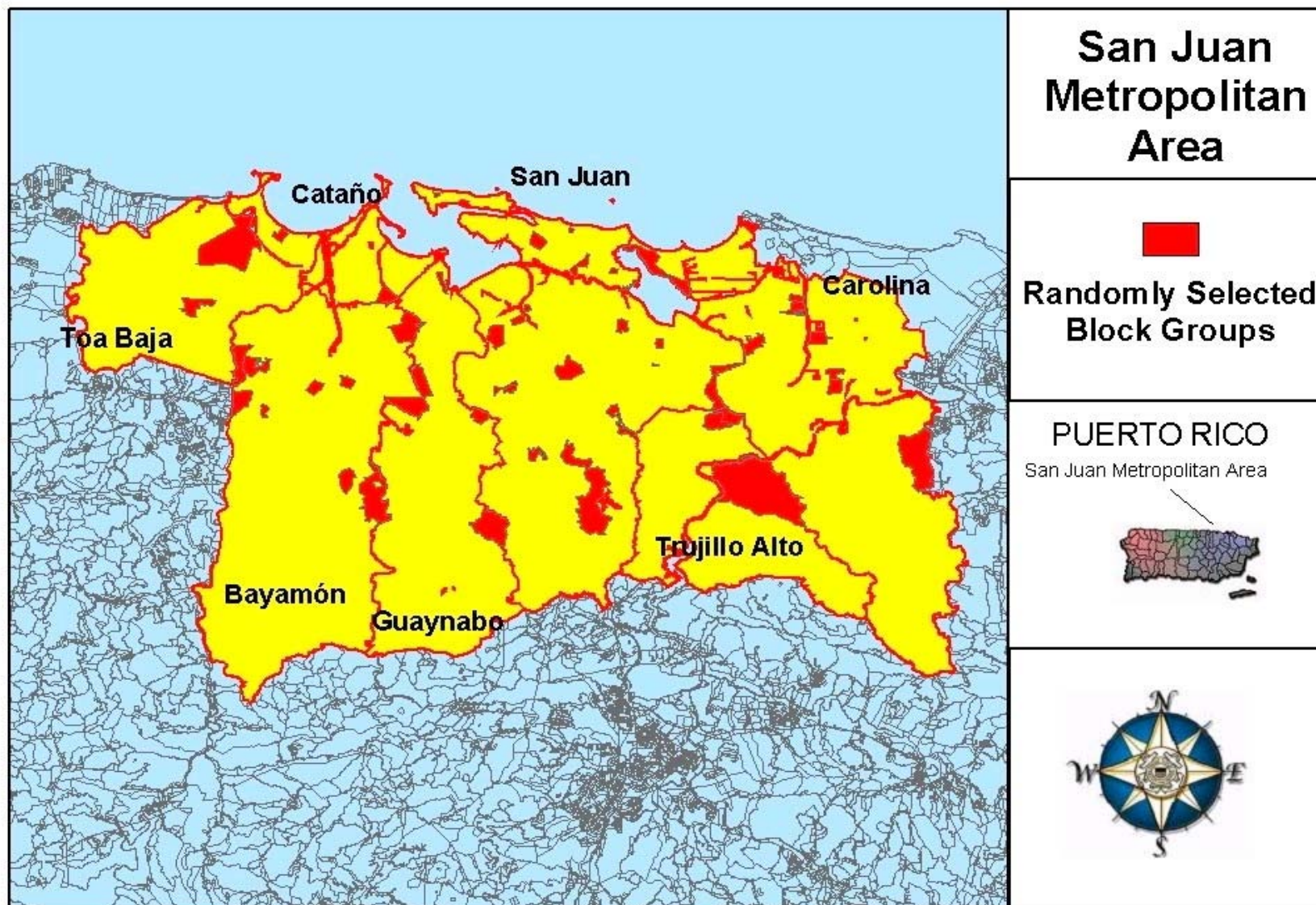


FIGURE 2. SAN JUAN METROPOLITAN AREA



STUDY SAMPLE

- **Estimated sample size**
 - **1,000 adults aged 21-79 years**
 - **85.6% consented to participate**

DATA COLLECTION

- Participants were invited to attend a mobile examination unit, located near their homes, to:
 - Complete a personal interview
 - Undergo a physical exam
 - Provide blood samples



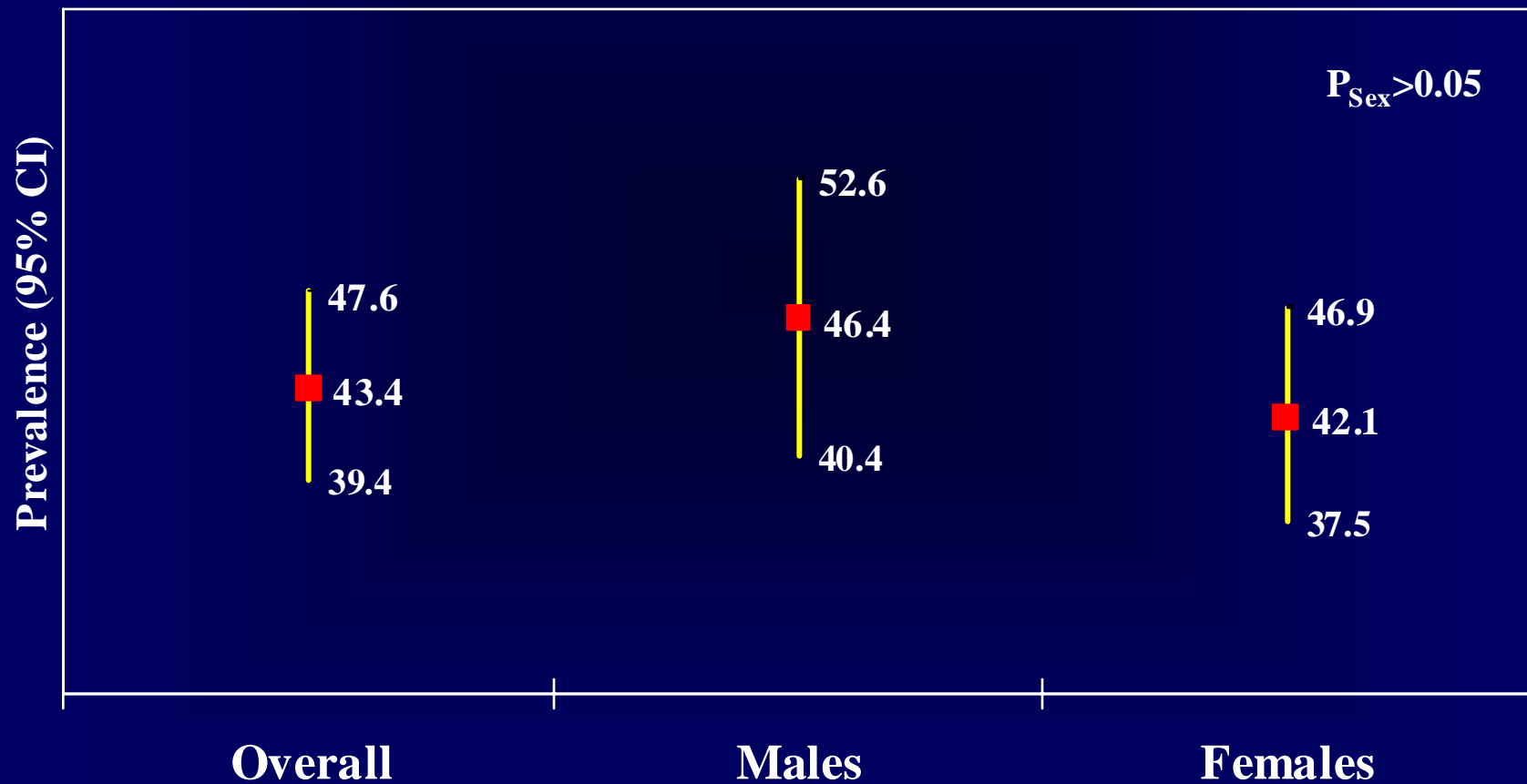
DATA COLLECTION

- After signing the informed consent, a standardized health questionnaire was completed by specially-trained interviewers.
- A physical exam was performed to measure height, weight and waist-hip circumferences.
- Blood pressure was measured three times with the participant in the sitting position after 5 minutes of rest.
- Following an overnight fast of at least 8 hours, blood samples were drawn for determination of plasma glucose, triglycerides and HDL-C.

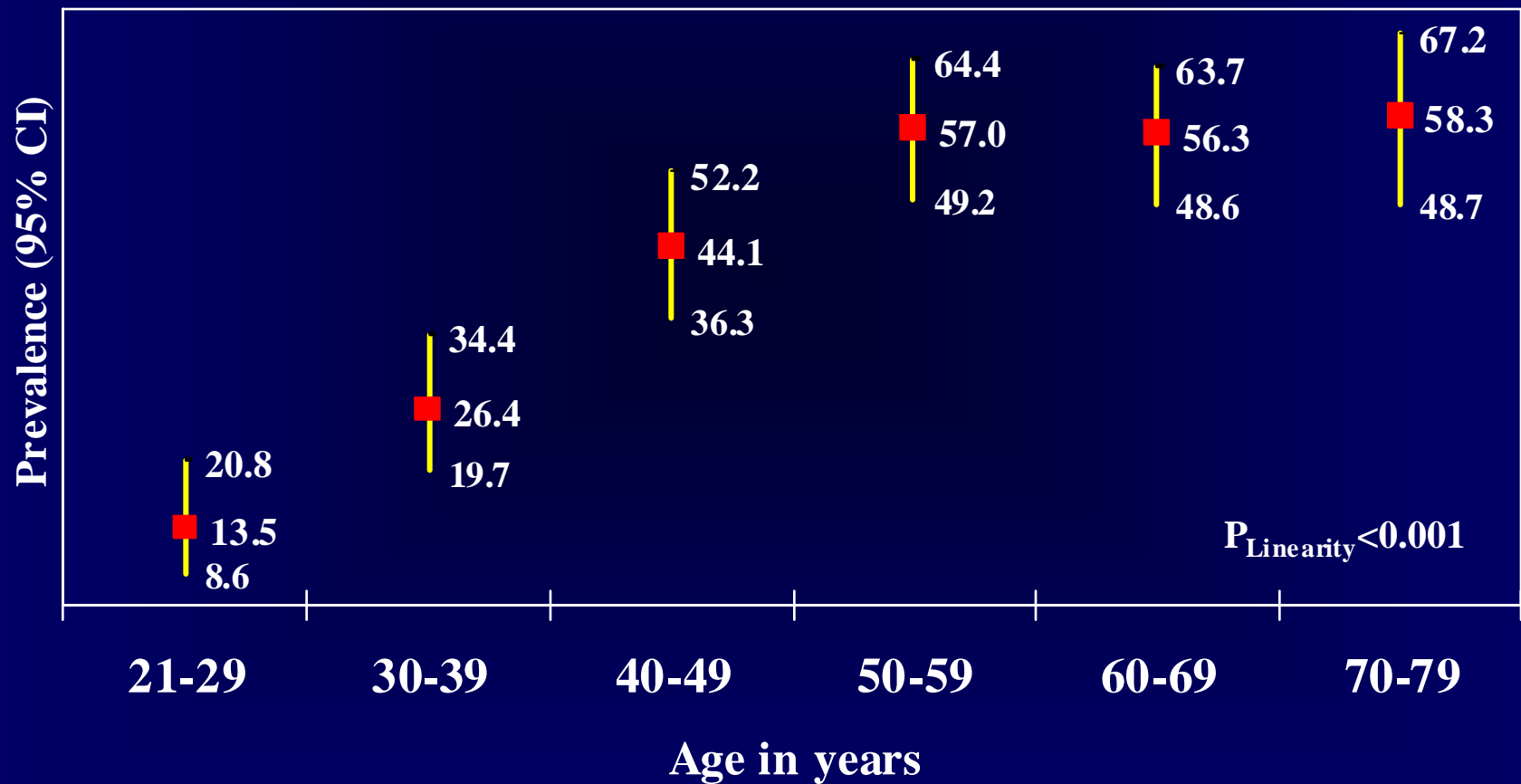
AHA/NHLBI CLINICAL IDENTIFICATION OF THE METABOLIC SYNDROME, 2005

Component	Defining level
Abdominal obesity, given as waist circumference Men Women	≥ 40 inches ≥ 35 inches
Triglycerides	≥ 150 mg/dL
HDL-C Men Women	< 40 mg/dL < 50 mg/dL
Blood pressure	$\geq 130/85$ mm Hg
Fasting glucose	≥ 100 mg/dL

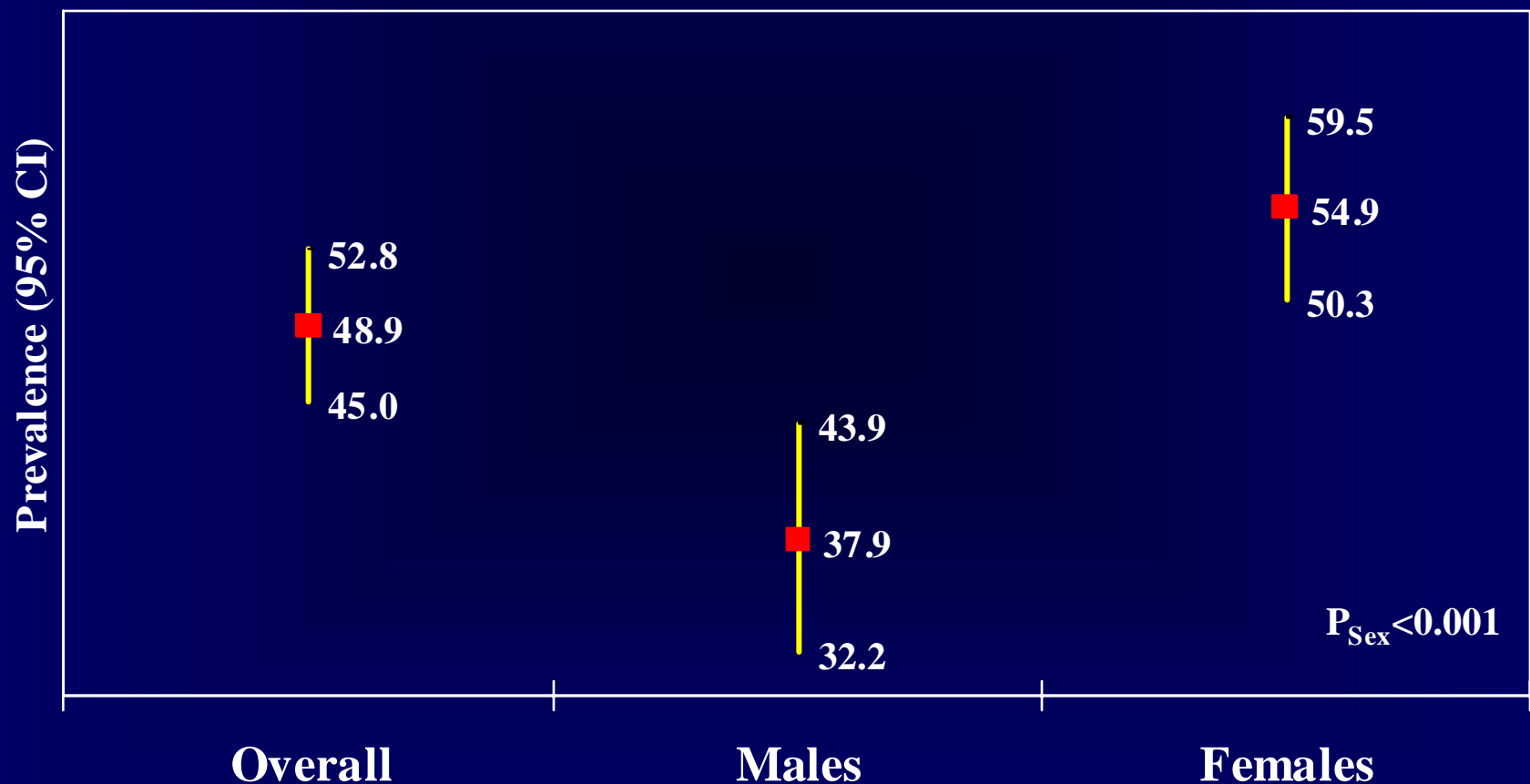
WEIGHTED PREVALENCE OF THE METABOLIC SYNDROME, BY SEX, ACCORDING TO AHA/NHLBI (N=865)



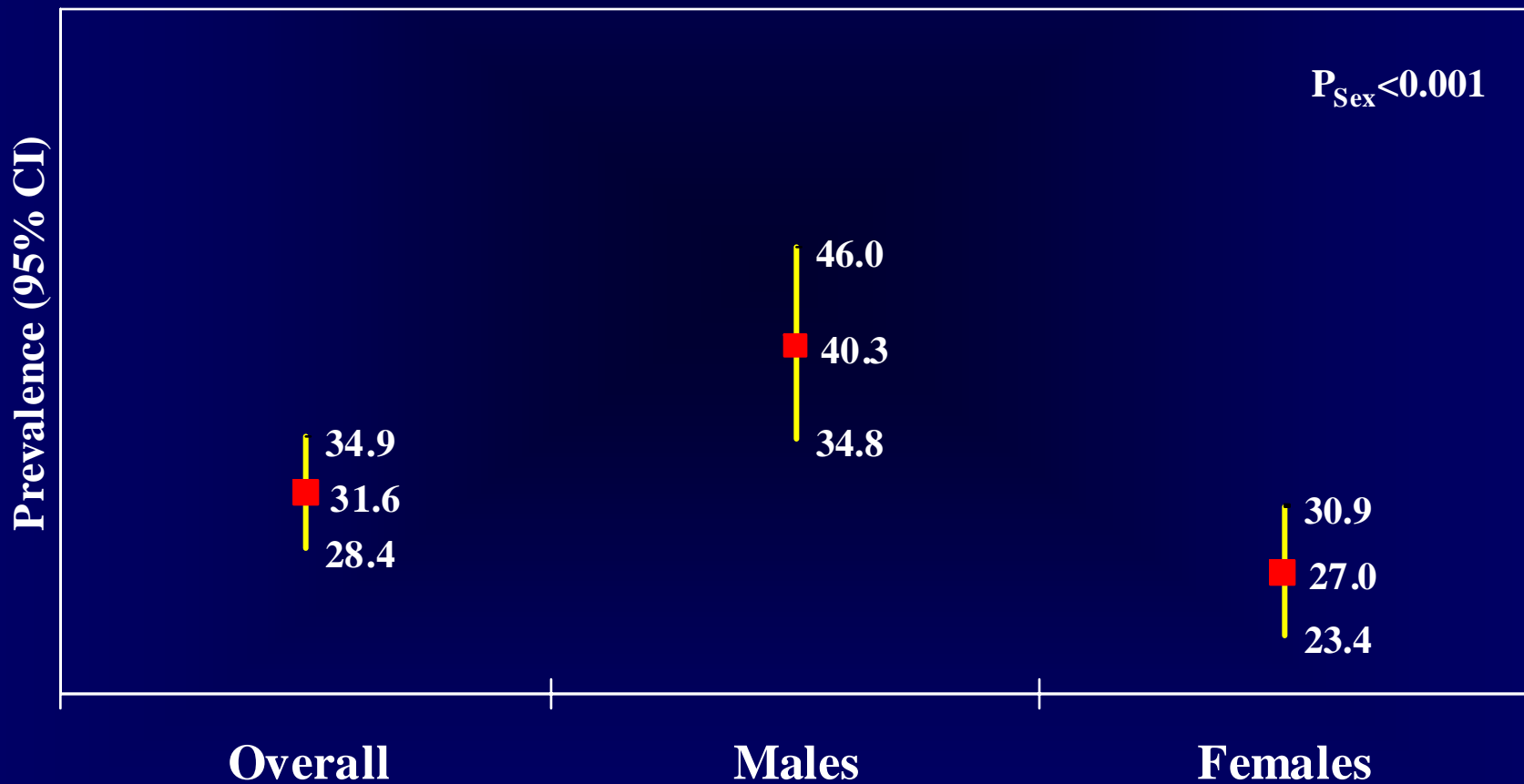
AGE-SPECIFIC PREVALENCE OF THE METABOLIC SYNDROME, ACCORDING TO AHA/NHBLI (N=865)



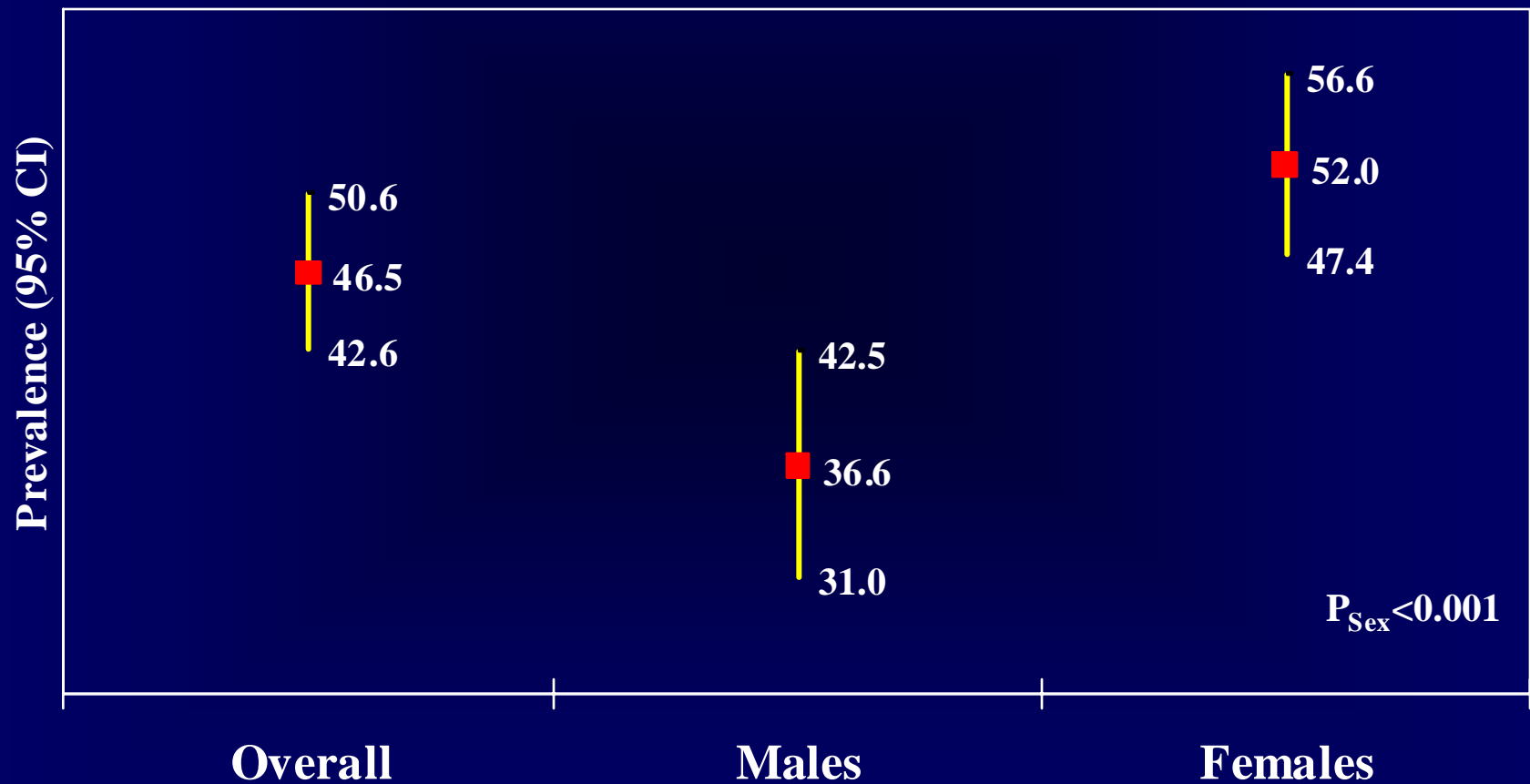
WEIGHTED PREVALENCE OF ABDOMINAL OBESITY, BY SEX, ACCORDING TO AHA/NHLBI (N=865)



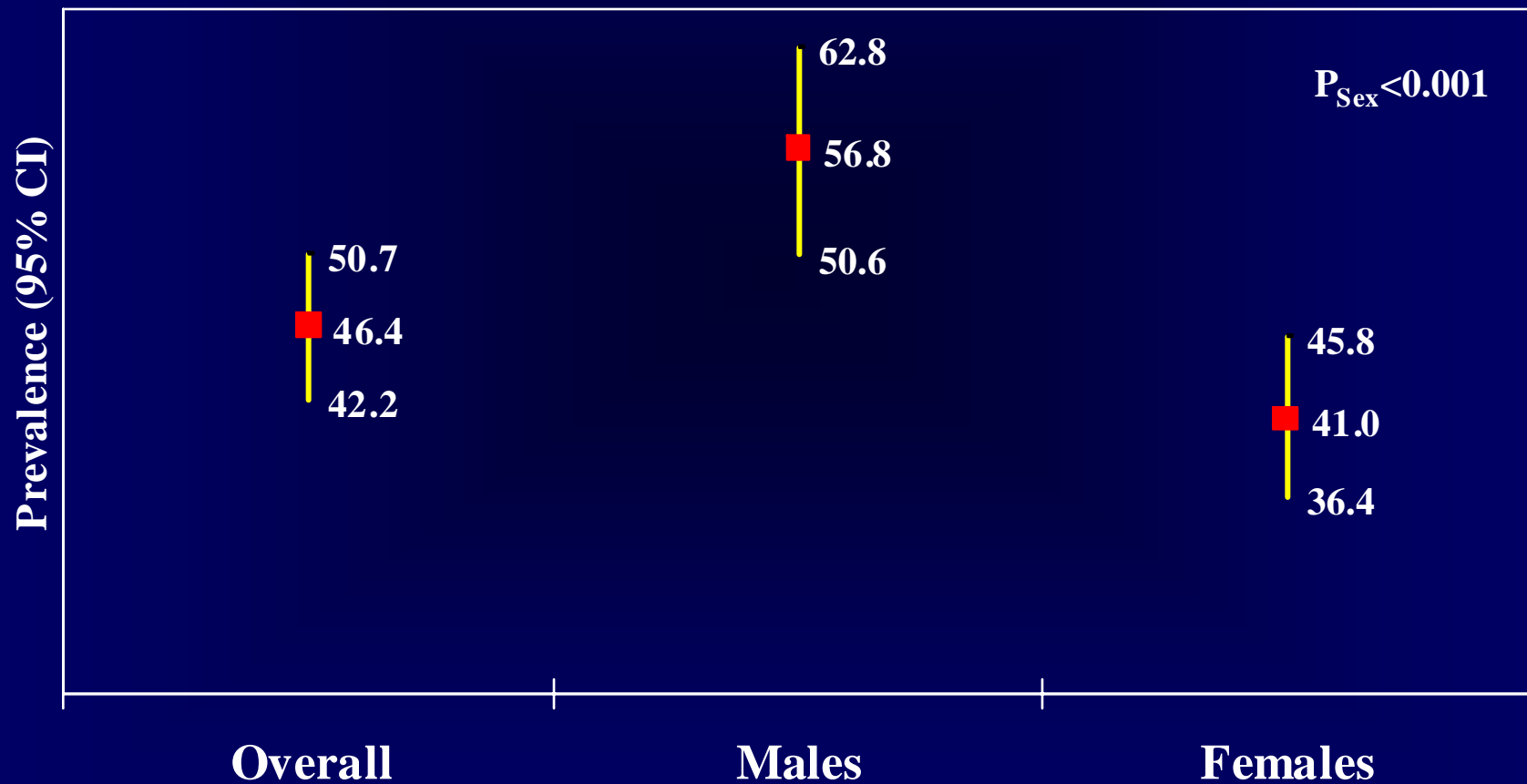
WEIGHTED PREVALENCE OF ELEVATED TRIGLYCERIDES, BY SEX, ACCORDING TO AHA/NHLBI (N=865)



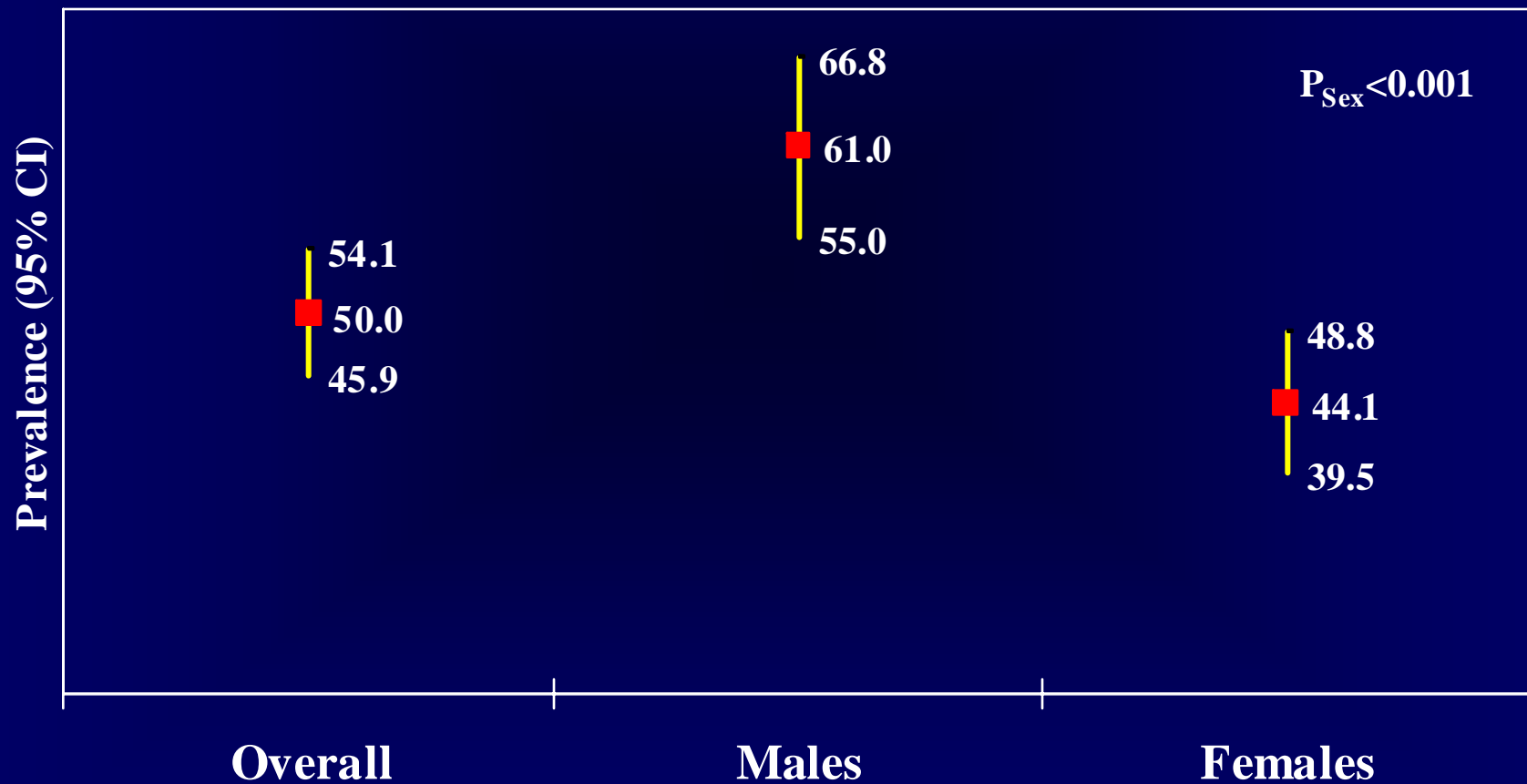
WEIGHTED PREVALENCE OF REDUCED HDL-C, BY SEX, ACCORDING TO AHA/NHLBI (N=865)



WEIGHTED PREVALENCE OF ELEVATED BLOOD PRESSURE, BY SEX, ACCORDING TO AHA/NHLBI (N=865)



WEIGHTED PREVALENCE OF ELEVATED BLOOD GLUCOSE, BY SEX, ACCORDING TO AHA/NHLBI (N=865)



CONCLUSIONS

- The present study provides evidence of the burden of the metabolic syndrome in a homogeneous Hispanic population.
- On the basis of the 2000 census, it is estimated that 415,039 adults aged 21-79 years living in the San Juan Metropolitan Area have the metabolic syndrome.
 - Caution must be exercised in interpreting our results as generalizable to the adult population of Puerto Rico.
- This fact underscores the importance of promoting healthy lifestyles (proper nutrition, weight management, and increased physical activity) among Puerto Ricans.