



Modifiable Risk Factor Trends in US Hispanics by SES and Hispanic subgroup: 1997-2003

Cassandra Arroyo, MS, PhD
Social Epidemiology Research Center
Morehouse School of Medicine, Atlanta, GA

Background

- The Hispanic population represents the largest and most rapidly growing minority group in the US.
- Census projections indicate a 200% increase in the US Hispanic population by the year 2050.
- Various sociodemographic attributes have been demonstrated to have a significant inverse relationship on risk factor prevalence and adverse outcomes for US Hispanics, including:
 - Race/Ethnicity
 - Socioeconomic status (SES)
 - Language barriers/Primary language spoken (PLS)

Public Health Significance

- Risk factors for cardiovascular disease (CVD) and other chronic conditions are disproportionately higher among US Hispanics.
- Little public health information is known about national CVD risk factor trends among US Hispanics.
- Findings can be used to develop tailored, culturally relevant risk reduction efforts in US Hispanics

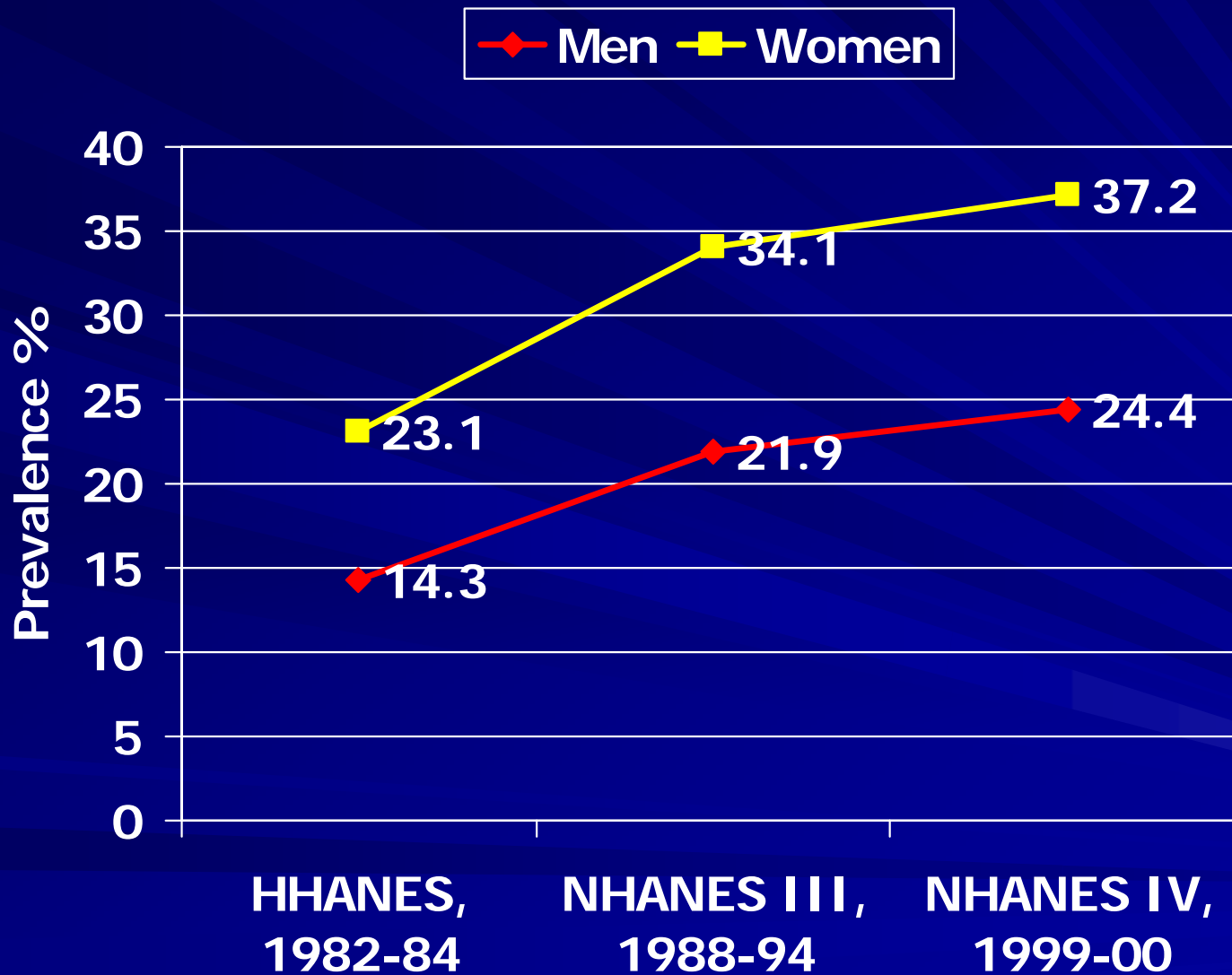
RESULTS

Overall Age-Adjusted Prevalence Rates, US Hispanics:
1982-2000

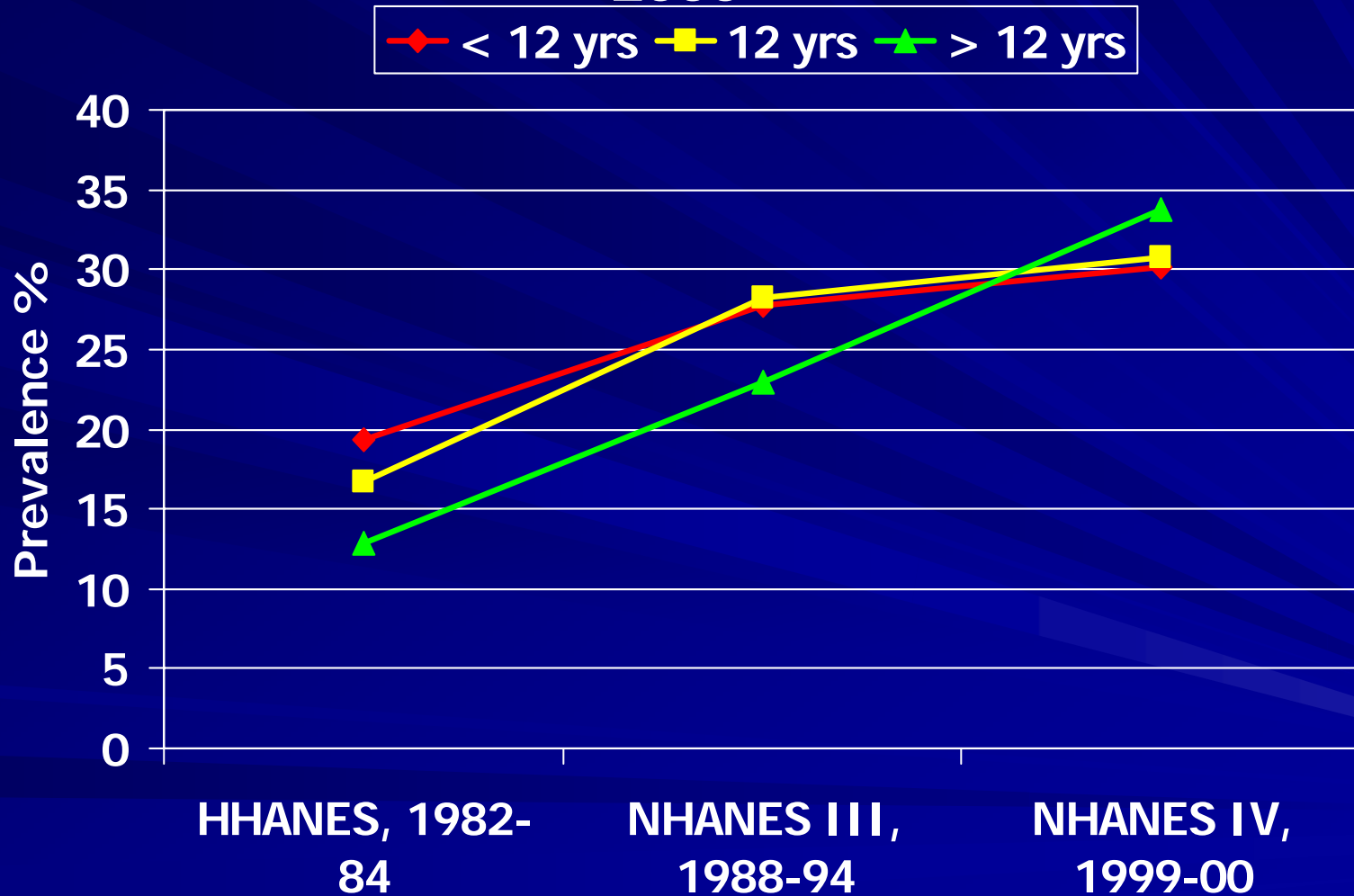
	HHANES, 1982-84	NHANES III, 1988-94	NHANES IV, 1999-2000	P-value*
Obesity	18.9	27.7	31.5	< 0.0001
Diabetes	5.8	7.5	6.4	0.196
Hypertension	17.4	16.7	21.4	0.00024

* Test of difference between HHANES and NHANES IV

Age-adjusted prevalence of obesity by gender, US Hispanics: 1982-2000



Age-adjusted prevalence of obesity by level of education, US Hispanics: 1982-2000



Primary Research Objective

- Characterize trends in the distribution of major established risk factors for CVD and diabetes in US Hispanics by level of education and Hispanic subgroup from 1997-2003.

METHODS

NHIS

- Annual face-to-face interviews
- Nationally representative sample of households
 - Each week a probability sample of civilian noninstitutionalized US population interviewed
 - Information obtained on health and other characteristics for EACH member of the household
- Data available for Puerto Ricans, Mexican Americans, Cuban Americans

Study Population

- Inclusion criteria

- Adults \geq 18 years of age

- Puerto Rican, Mexican American and Cuban American respondents

- Exclusion criteria

- Pregnant women

- Aggregate data from **5576** respondents

Analysis

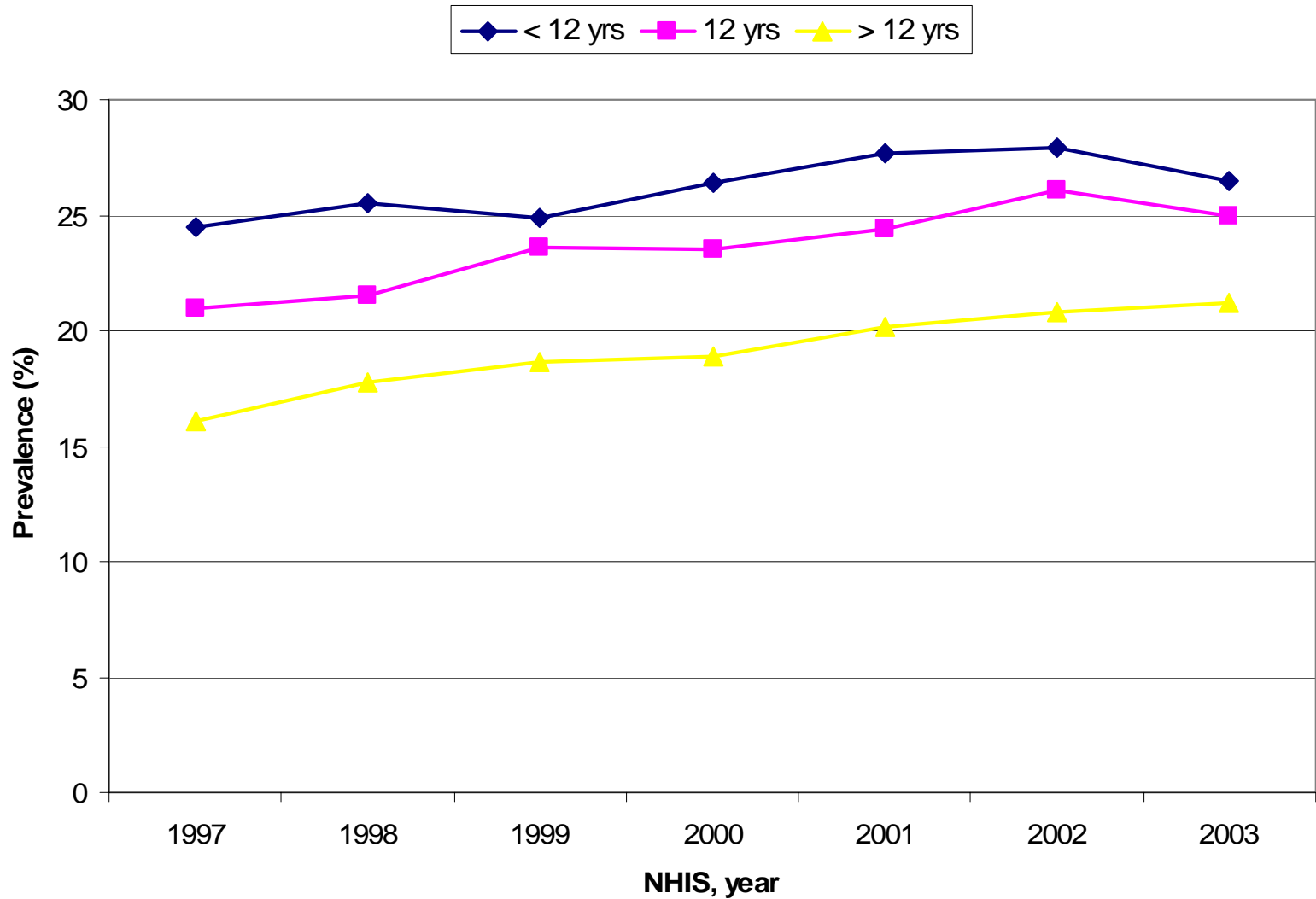
- Age-standardized prevalence based on Census 2000 population distribution.
- Primary outcomes:
 - Physical Activity
 - Moderate ≥ 20 min/time and ≥ 3 times/wk
 - Vigorous ≥ 20 min/time and ≥ 3 times/wk
 - Obesity
 - Body mass index (BMI) ≥ 30.0 kg/m²
 - Diabetes
 - Physician diagnosis of diabetes
 - Hypertension
 - SBP/DBP $\geq 140/90$ mmHg or taking hypertensive medication
- Graphical displays of outcomes by
 - Gender
 - Male vs. Female
 - Level of education
 - <12 yrs, 12 yrs, >12 yrs
 - Hispanic subgroup
 - Puerto Rican, Mexican/MA, Cuban/CA, other Hispanic

RESULTS

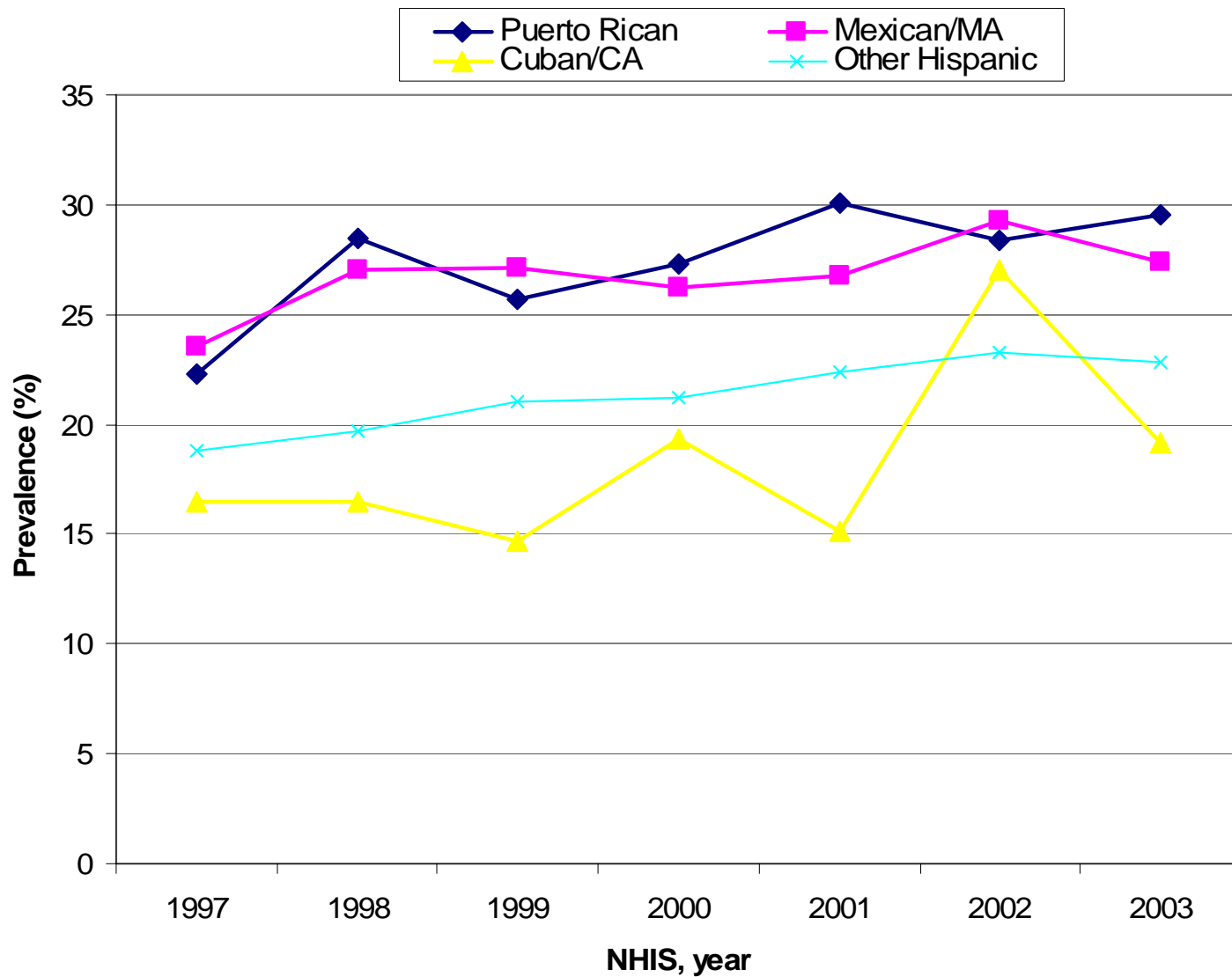
Table 1 - Overall Age-Adjusted Prevalence Rates (%), US Hispanics: 1997-2003

	'97	'98	'99	'00	'01	'02	'03
Obesity	19.0	20.2	21.3	21.5	22.6	23.5	23.1
Diabetes	6.6	6.3	6.2	6.7	7.3	7.3	7.4
Hypertension	23.5	23.1	22.9	22.7	23.6	24.1	24.9
Moderate PA	25.9	46.4	47.6	48.4	50.2	50.7	50.6
Vigorous PA	20.6	37.6	37.5	38.3	39.8	39.3	39.6

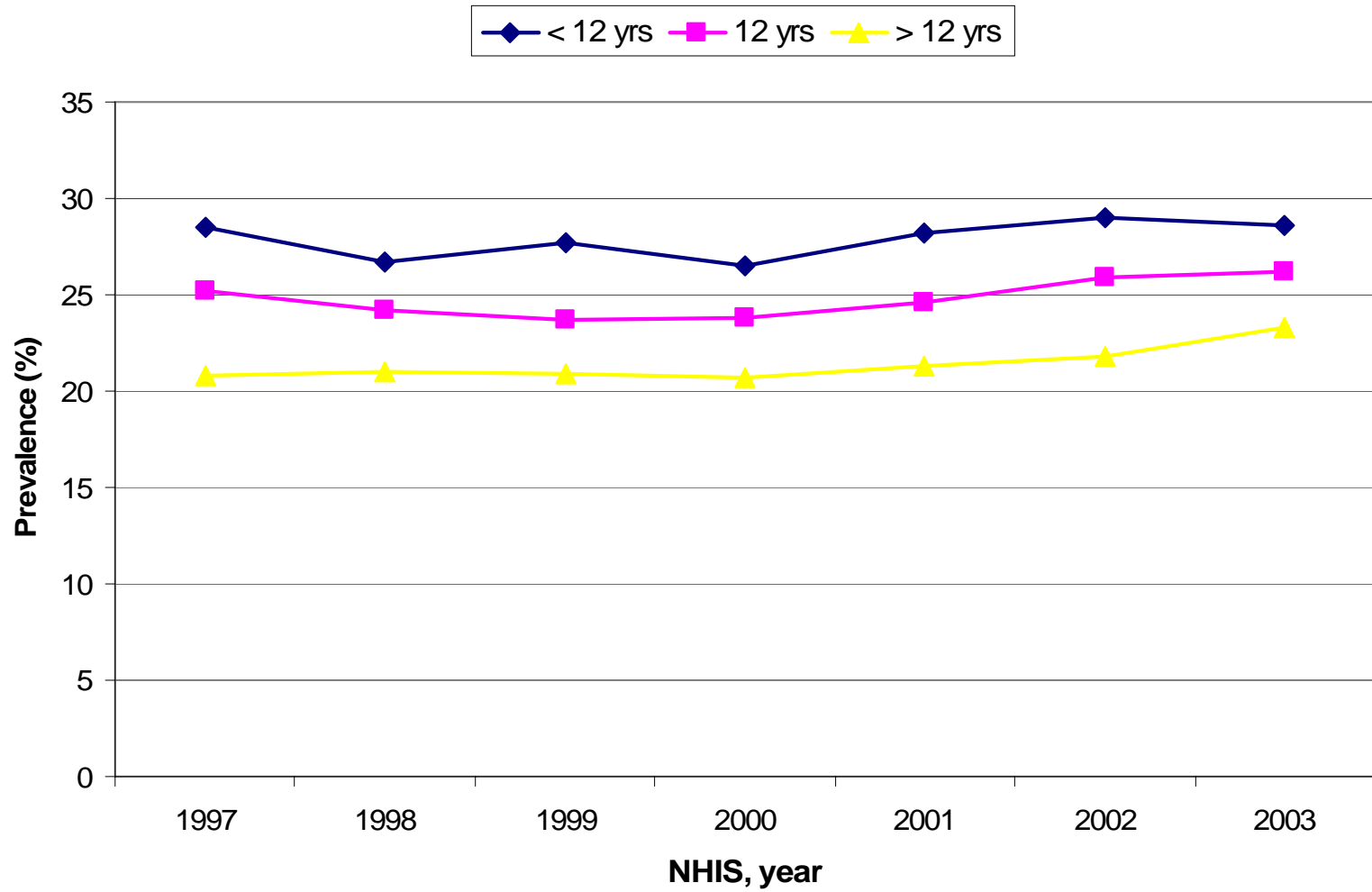
Age-standardized prevalence of obesity by education level



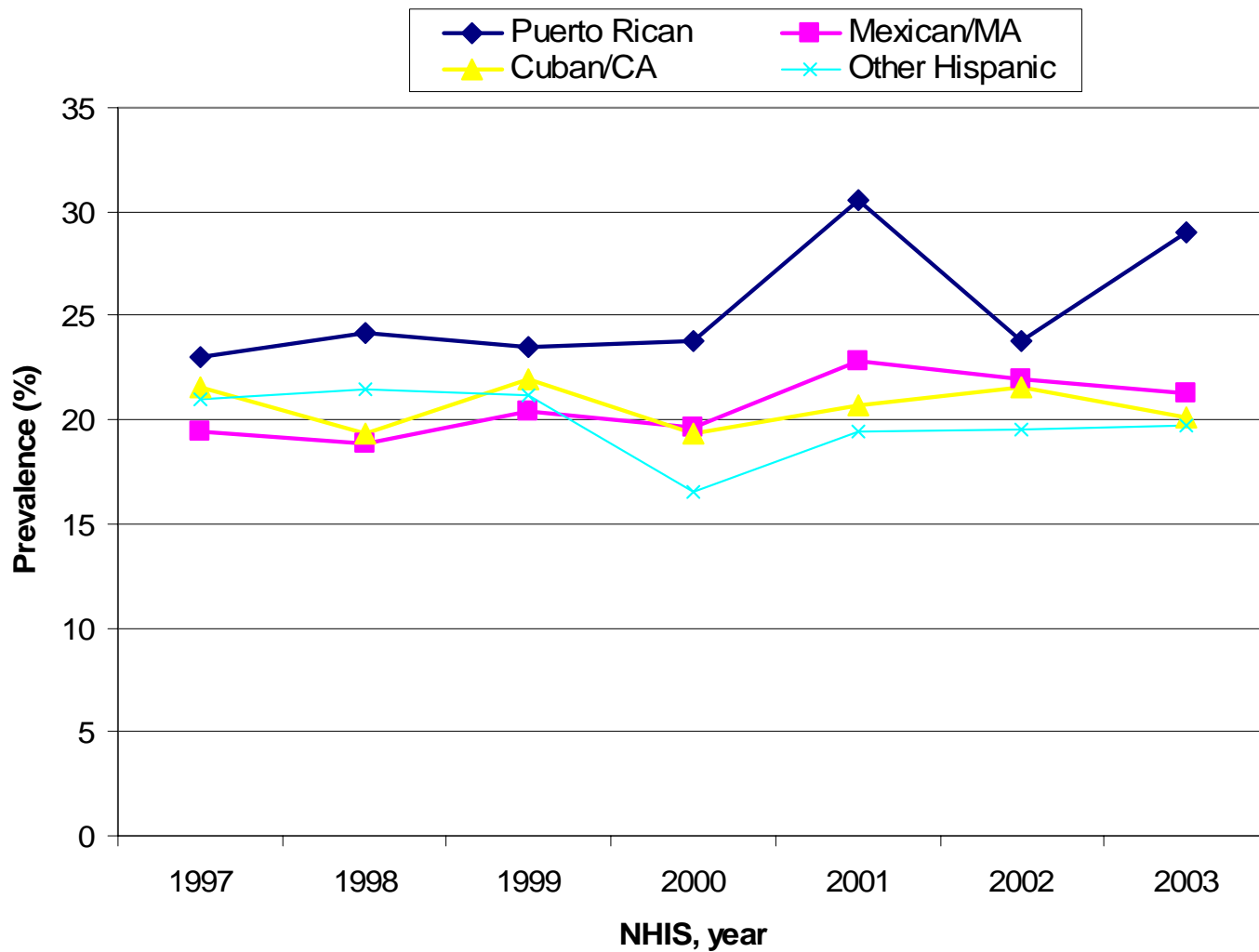
Age-standardized prevalence of obesity by Hispanic subgroup



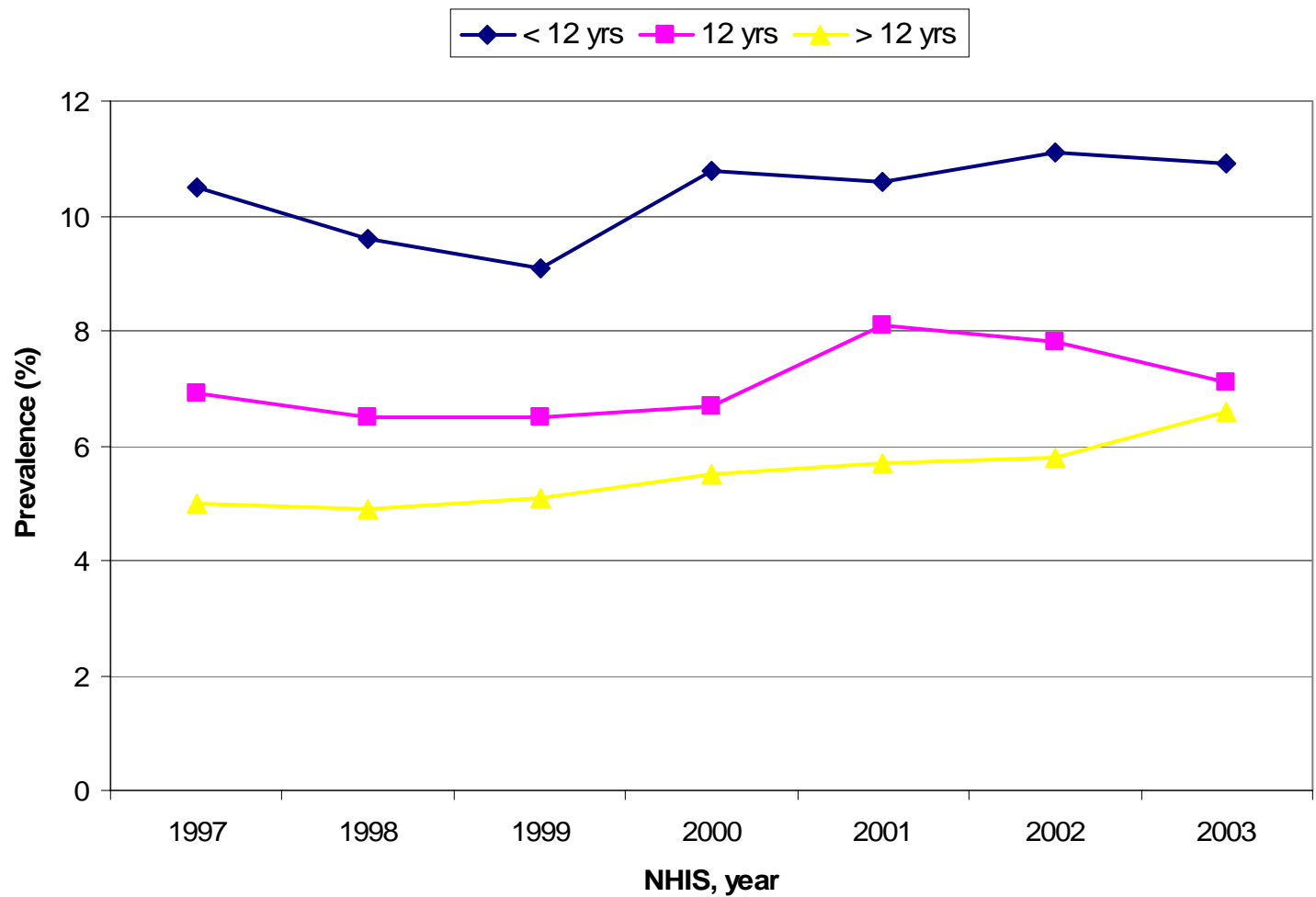
Age-standardized prevalence of hypertension by education level



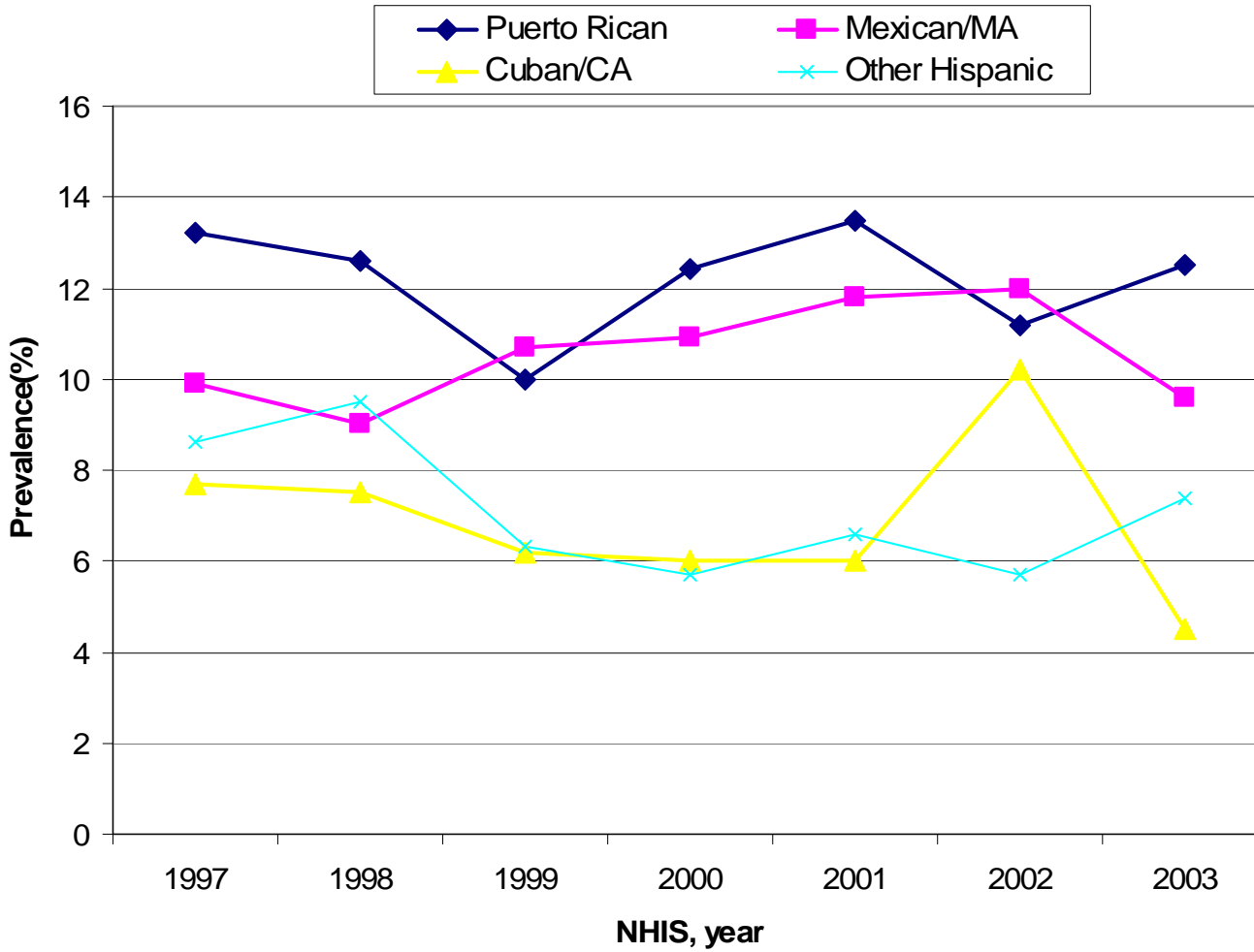
Age-standardized prevalence of hypertension by Hispanic subgroup



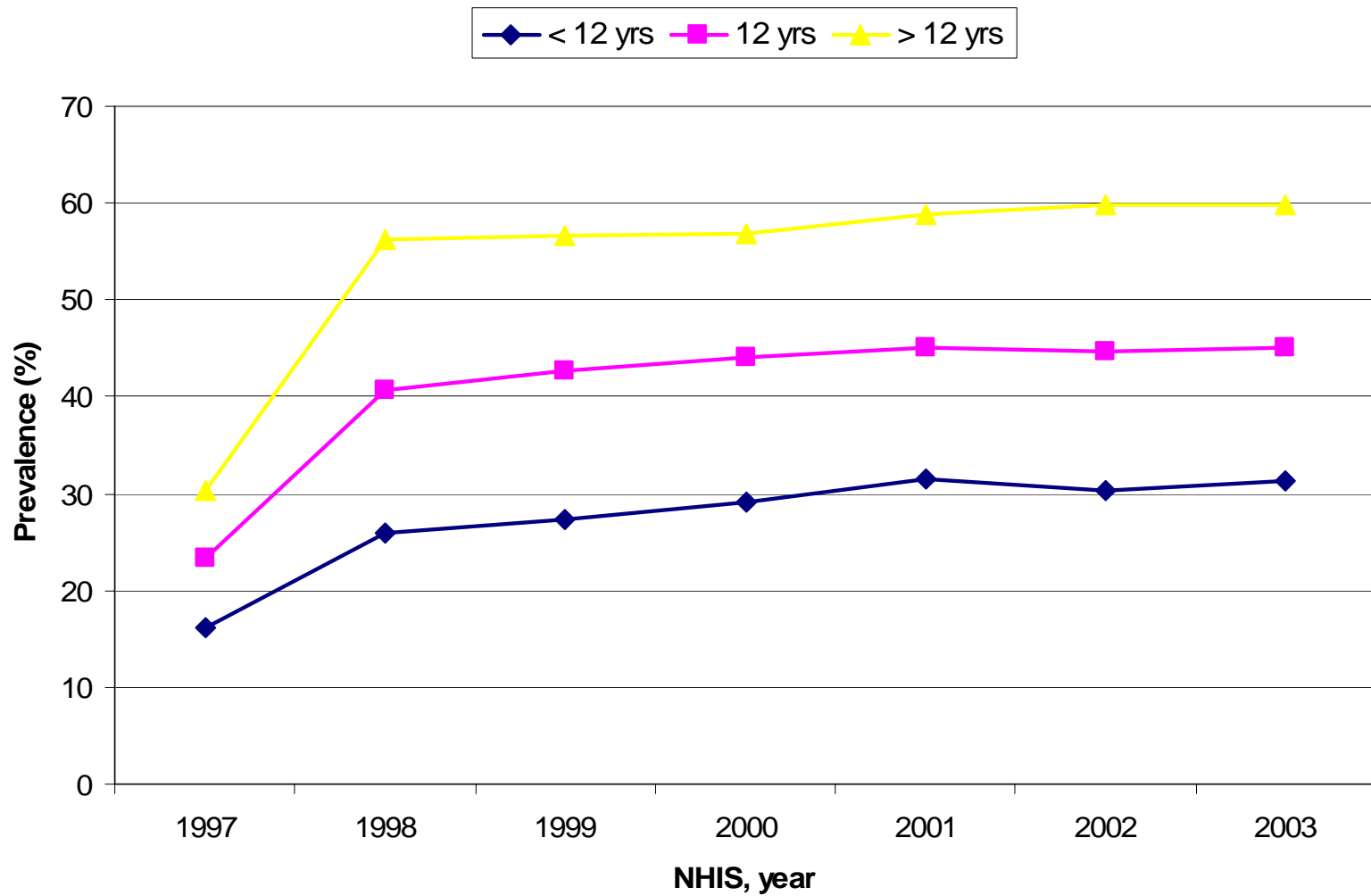
Age-standardized prevalence of diabetes by education level



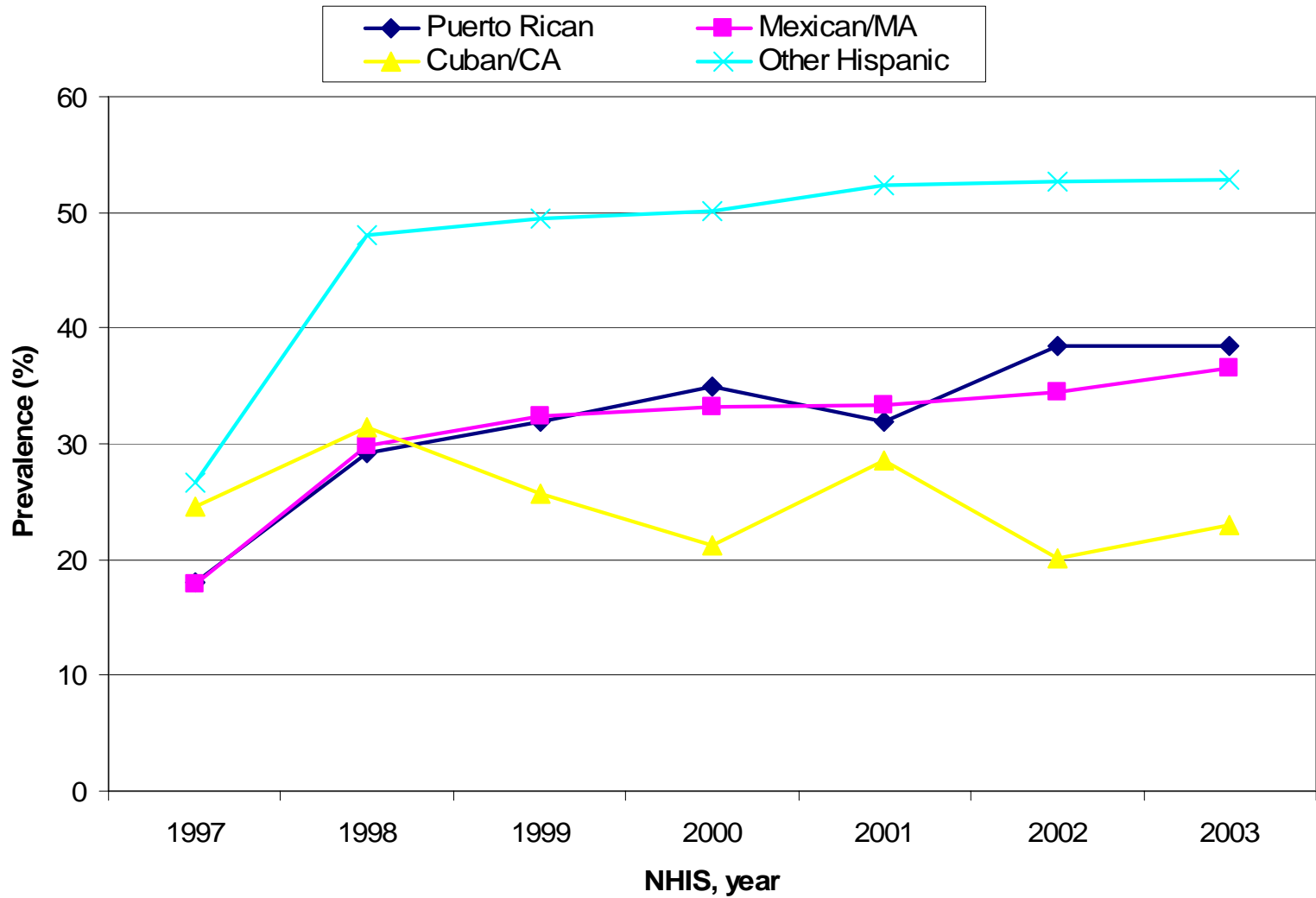
Age-standardized prevalence of diabetes by Hispanic subgroup



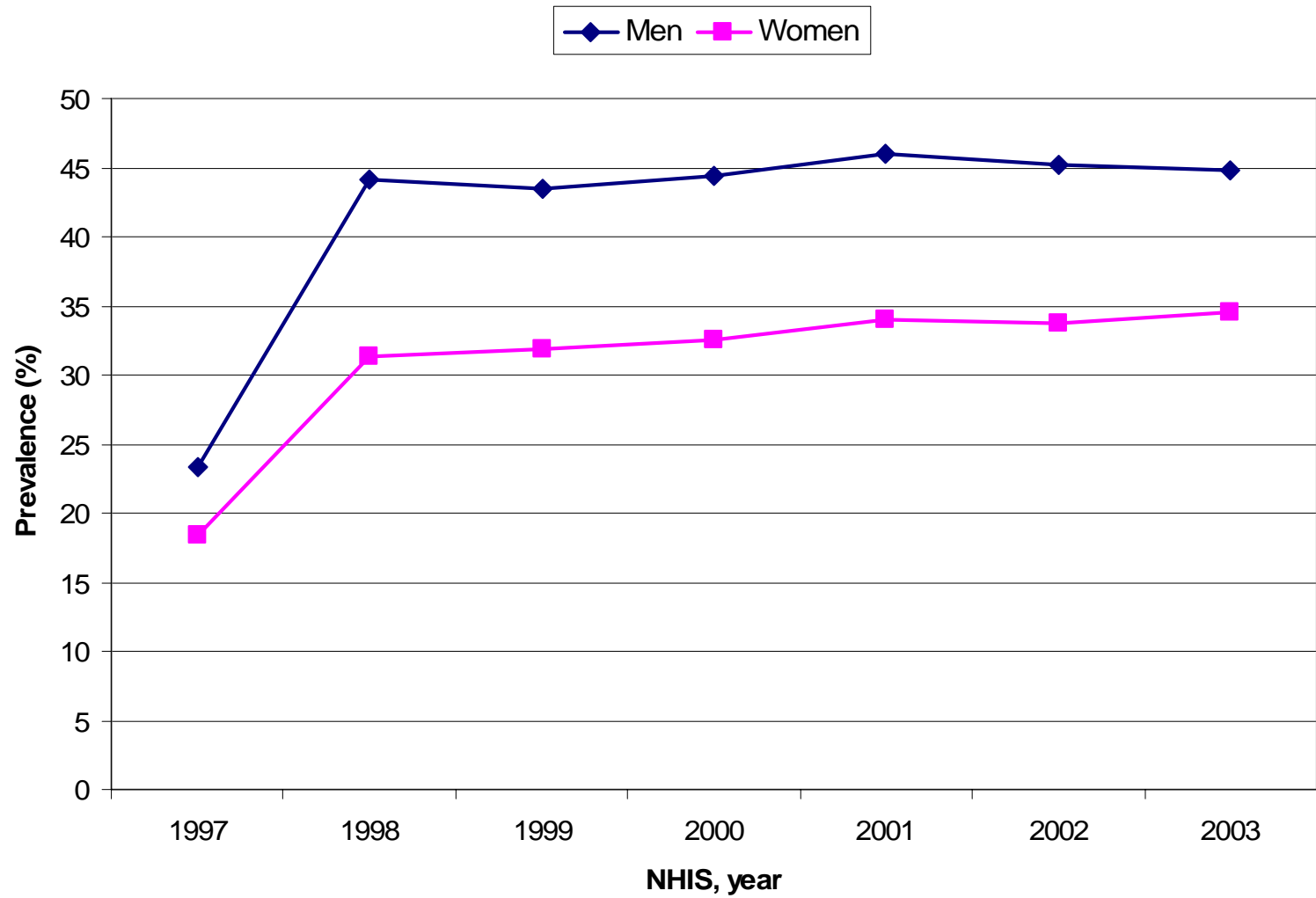
Age-standardized prevalence of Moderate PA by level of education



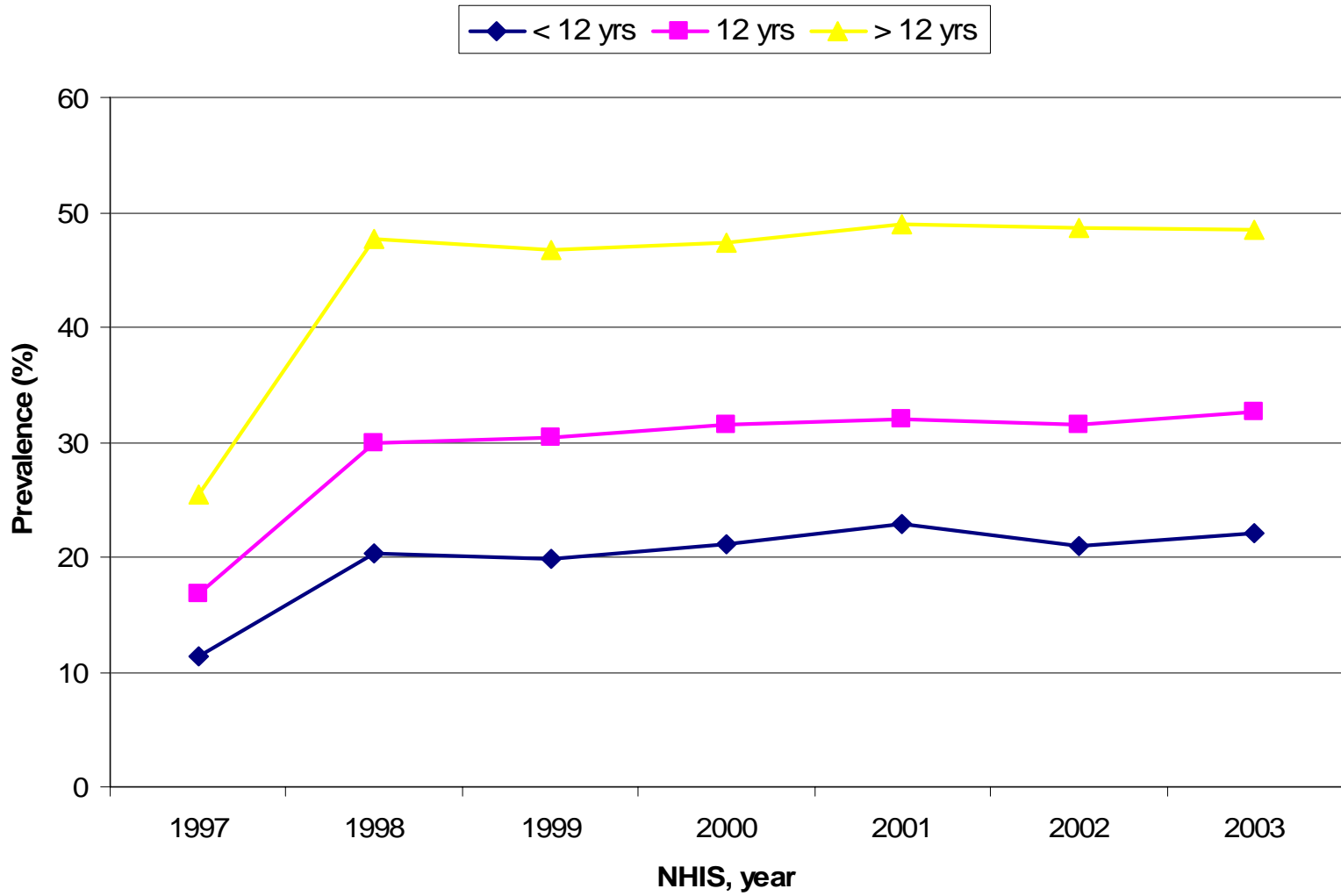
Age-standardized prevalence of Mod PA by hispanic subgroup



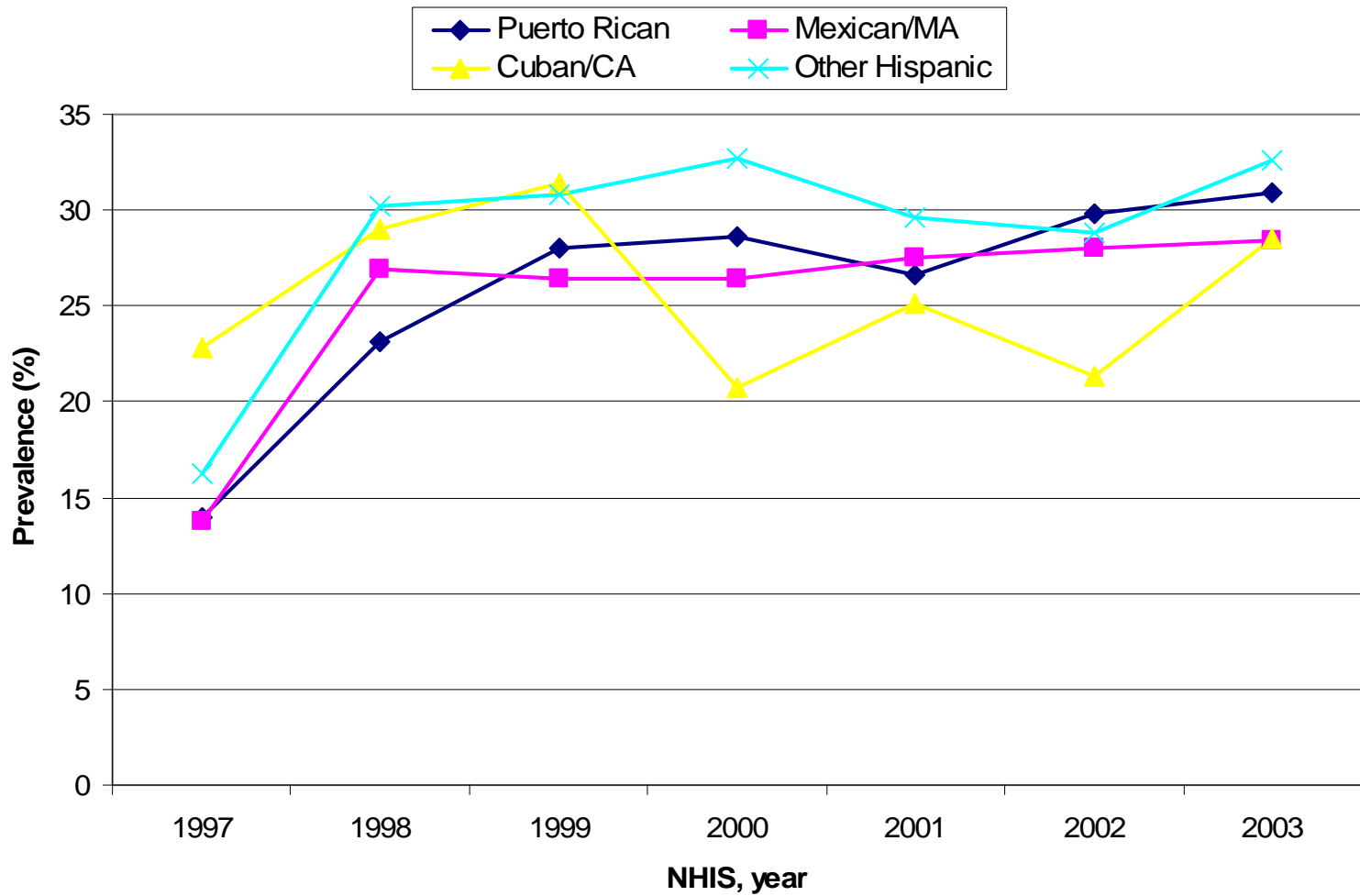
Age-standardized prevalence of Vigorous PA by gender



Age-standardized prevalence of Vigorous PA by education



Age-standardized prevalence of Vigorous PA by Hispanic subgroup



Summary

- Obesity increased by 4% from 1997 to 2003.
- Hispanics reporting increasing moderate and vigorous PA from 1997 to 2003.
- Hypertension and diabetes stable overall.

Summary (cont.)

- Hispanics with more than a HS education
 - Less obesity, hypertension, diabetes
 - More moderate and vigorous PA
- Puerto Ricans consistently higher prevalence of hypertension
- Puerto Ricans and Mexican/MA reported higher prevalence of obesity than Cuban/CA and other Hispanics
- Puerto Ricans report higher prevalence of diabetes
- Cuban/CA report less moderate PA
- Other Hispanics report more moderate and vigorous PA

Limitations

- This analysis did not examine nativity, despite the fact that recent studies have suggested its importance.
- Physical activity based on self-report
- BMI calculated from self-reported height and weight.
- Cross-sectional at each time-point

Strengths

- Ability to qualitatively describe trends by important sociocultural factors.
- Large samples are available at each time point.
- Consistent sampling scheme over time allows for time trend analysis.

Conclusion

- Results reveal considerable heterogeneity regarding variation in the prevalence of increasing risk factor trends among US Hispanics.
- More comprehensive databases are necessary to
 - Ascertain ethnic variability within the US Hispanic population
 - Identify and target specific groups at higher risk
- Longitudinal studies needed to examine trends and incidence of CVD within the US Hispanic population.

Acknowledgements

- Collaborators

- Yong Liu, MS

- Sharon K. Davis, MPA, PhD

- Funded in part by

- NIH-Funded T-32 MSM Cardiovascular Research Training Program

- NIH RCMI Grant G12-RR03034