

The Trajectory of Heart Disease and Stroke Prevention

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Introduction

- Heart disease – leading cause of mortality in the United States since 1920.
- Long-term decline in cardiovascular disease, heart disease, and stroke mortality.
- Recent report that heart disease and stroke mortality rates have declined more slowly in recent years
(Ma, et al, JAMA 2015;314:1731-1739)

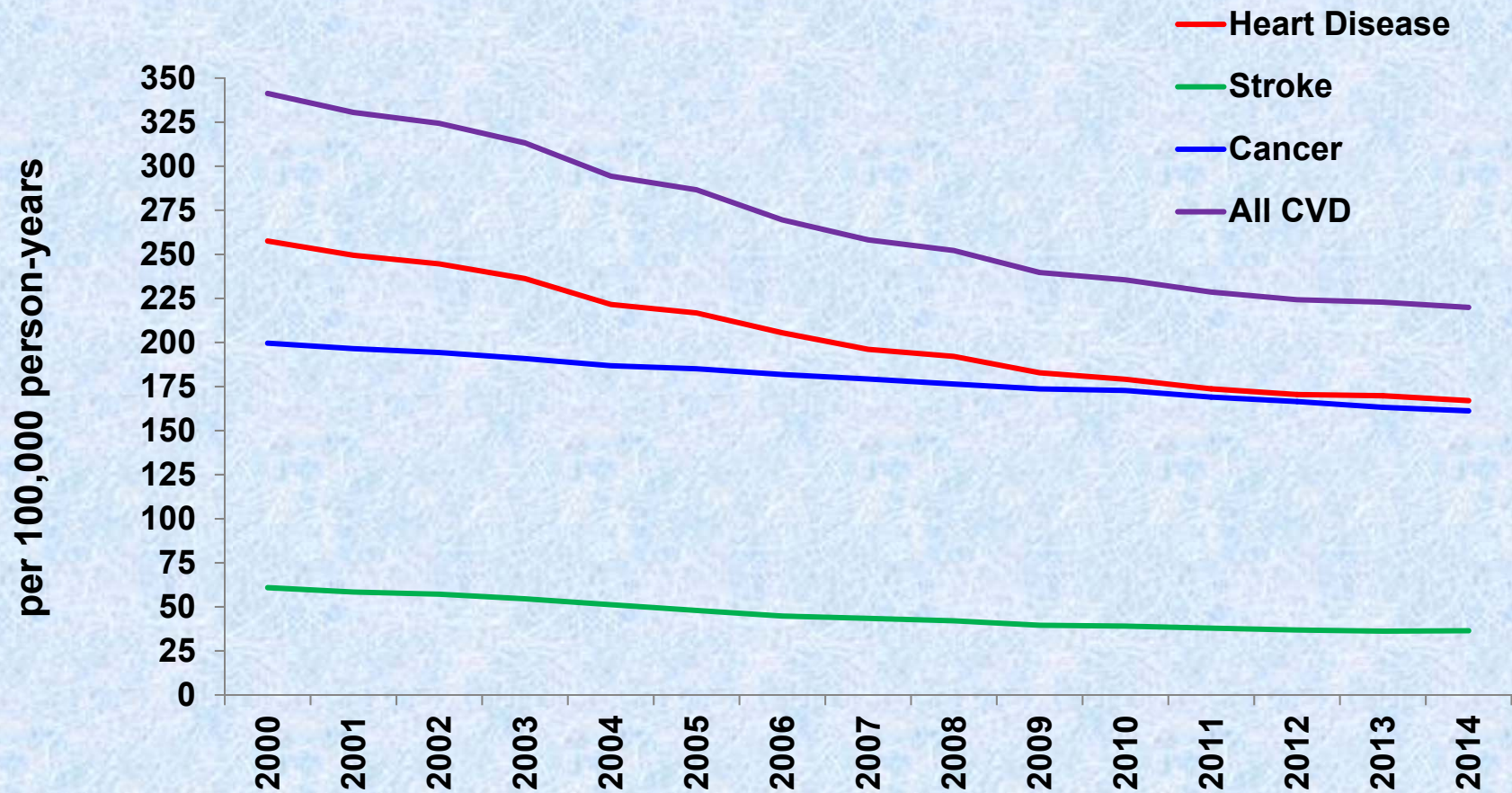
Heart Disease and Stroke Mortality, United States, 1969 and 2014*

	1969	2014	% Change
Heart disease	520.0	167.0	-67.9%
Stroke	156.8	36.5	-76.7%

*Age-adjusted mortality rate per 100 000 person-years, directly standardized to the 2000 US Census population.

Age-adjusted mortality rates in U.S. 2000-2014

Total Population



Annualized rate of change (%) for total CVD, coronary heart disease, stroke, and cancer, 2000-2011 and 2011-2014

	2000-2011	2011-2014	p-value
Total CVD	-3.79	-0.65	<0.001
Coronary heart disease	-3.69	--0.76	<0.001
Stroke	-4.53	-0.37	<0.001
Cancer	-1.49	-1.55	0.82

Heart Disease and Stroke Mortality, United States, 2014 and 2015

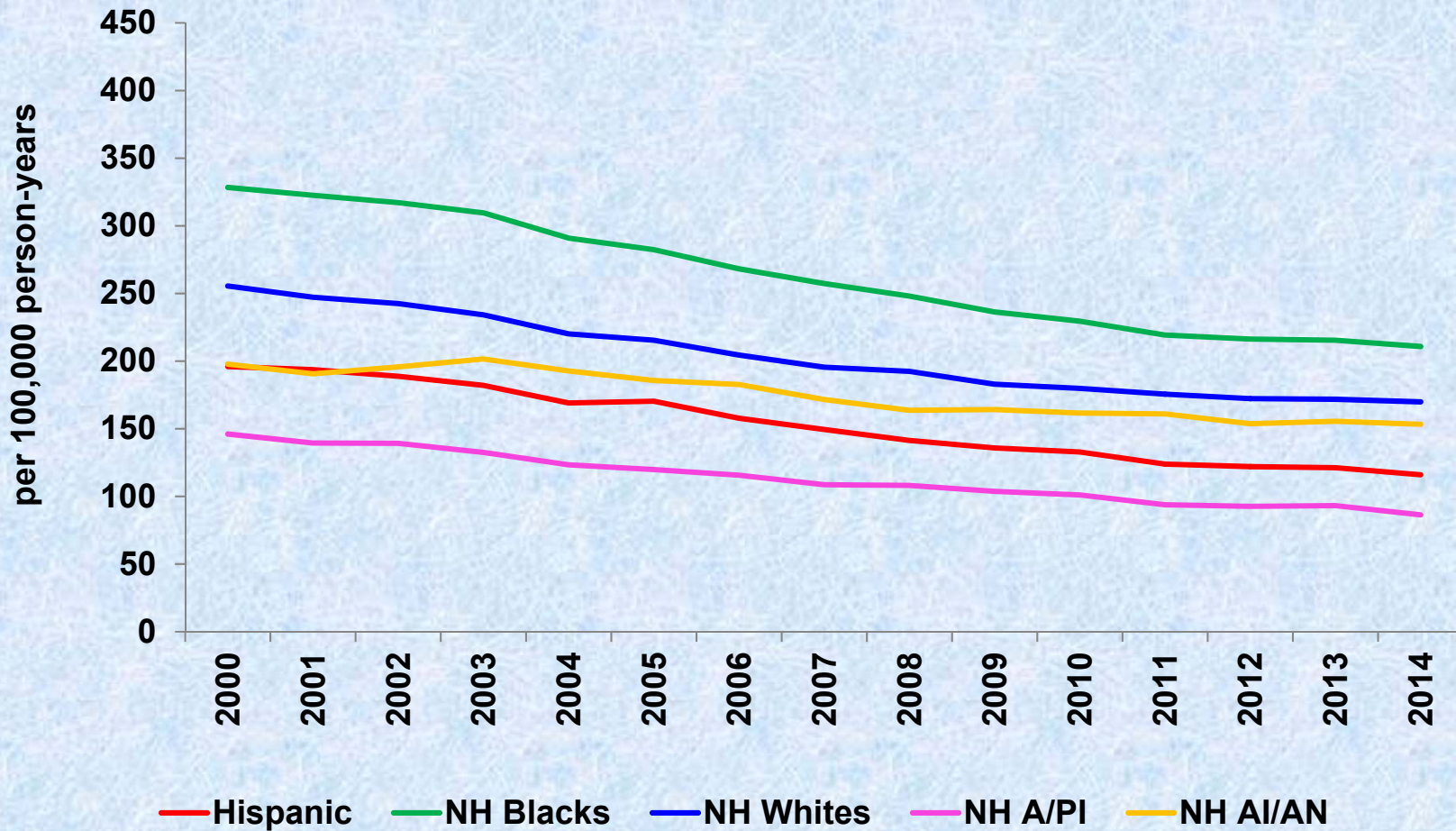
	2014*	2015**
Heart disease	167.0	167.2
Stroke	36.5	37.4

***Final age-adjusted mortality rate per 100 000 person-years, directly standardized to the 2000 US Census population.**

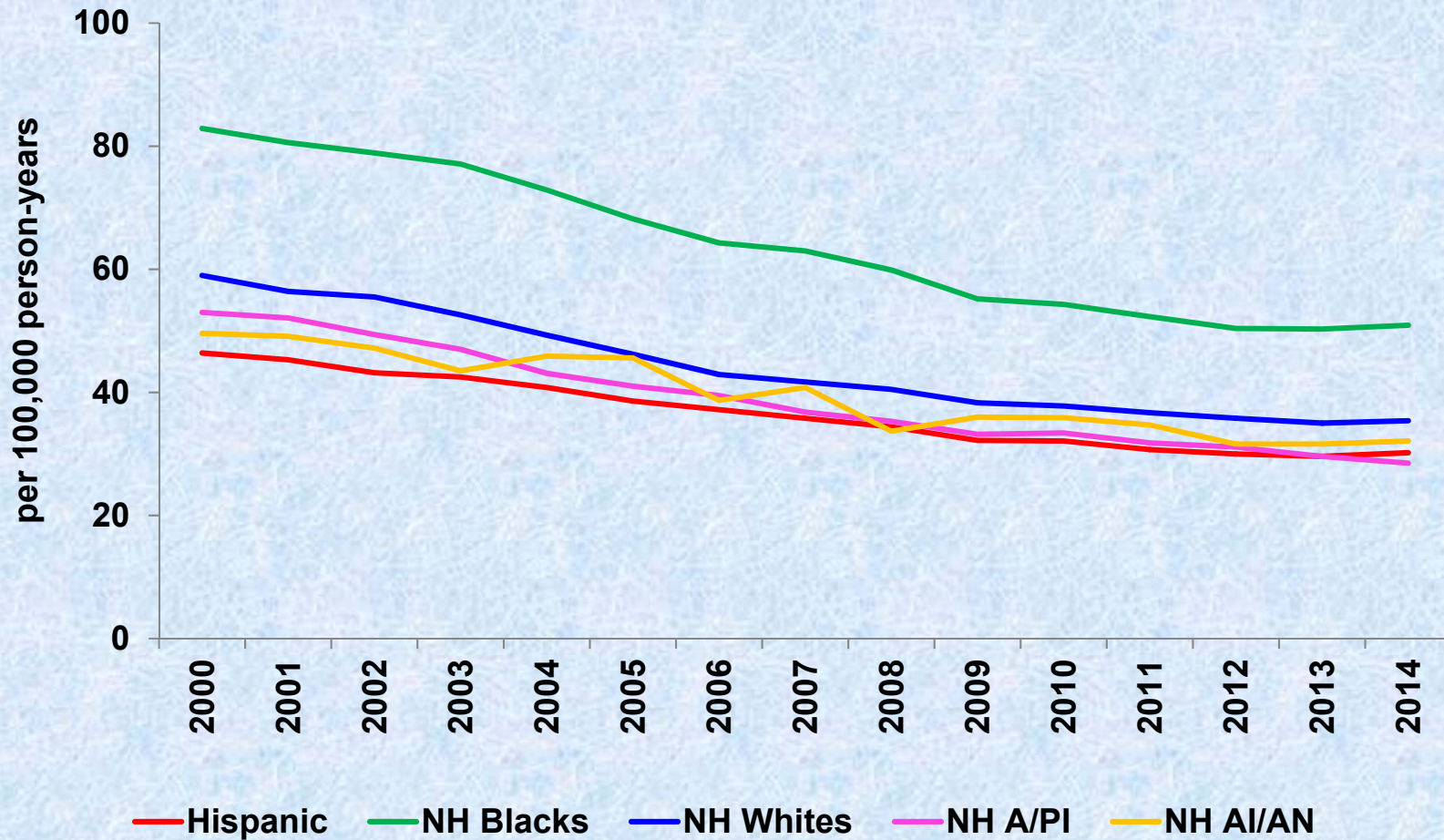
**** Provisional age-adjusted mortality rate per 100 000 person-years, directly standardized to the 2000 US Census population.**

ref: National Center for Health Statistics. Quarterly provisional estimates for selected causes of death: United States, 2014–Quarter 3, 2015. National Vital Statistics System, Vital Statistics Rapid Release Program. 2016.

Age-adjusted Heart Disease mortality rates in U.S. 2000-2014



Age-adjusted Stroke mortality rates in U.S. 2000-2014

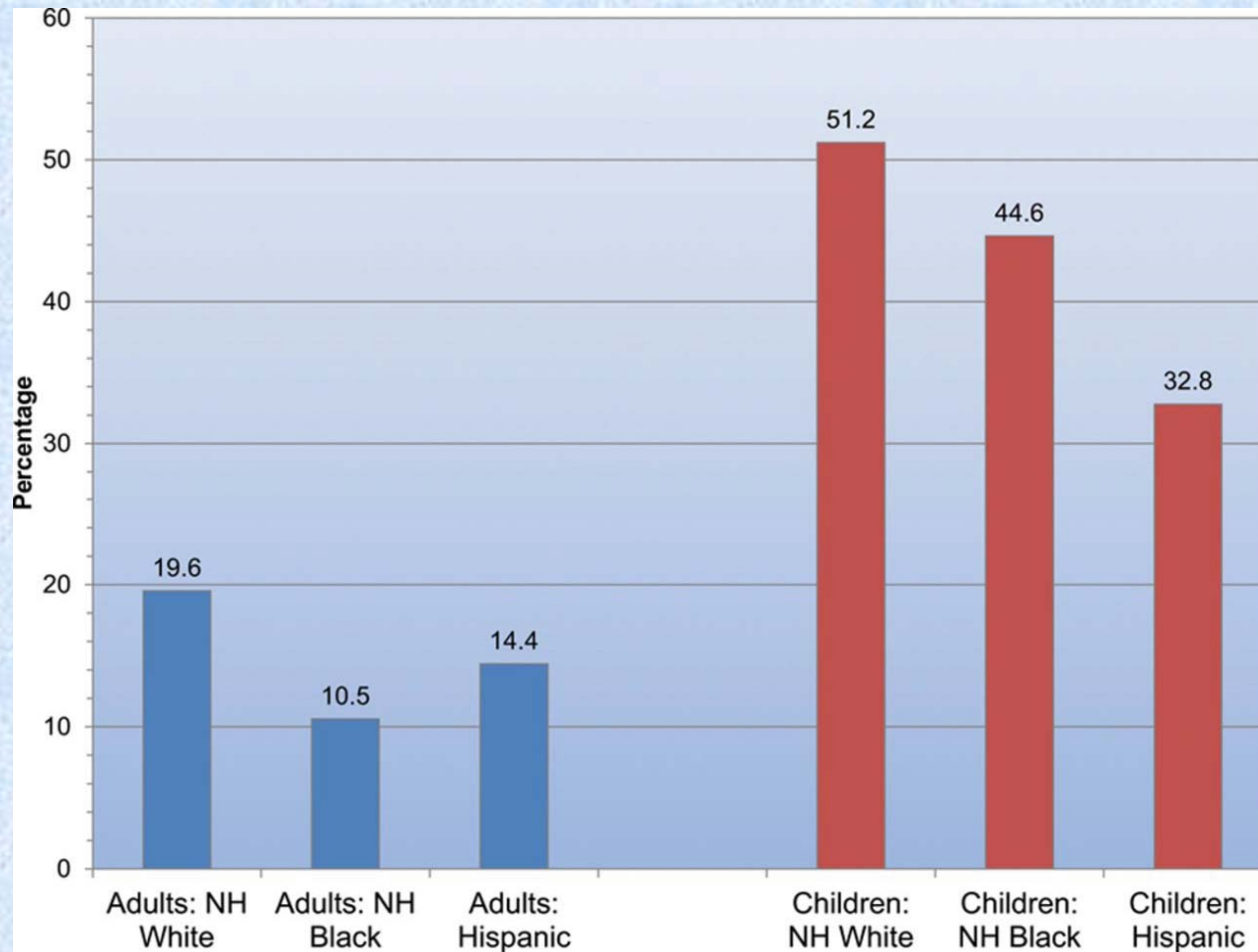


Trends in Cardiovascular Health

- AHA uses 7 metrics for assessment of cardiovascular (CV) health.
- AHA strategic goal of 20% improvement in CV health score from 2010-2020
- CV health score currently projected to improve only 6%
- Improvement in 3 components of score from 1999-2012:
 - Blood pressure
 - Cholesterol
 - Smoking
- No improvement in diet score
- Physical activity change could not be assessed
- Decline in 2 components of score: ideal BMI, glucose

ref: Mozaffarian D, et al. Circulation 2016;133:e38-e360

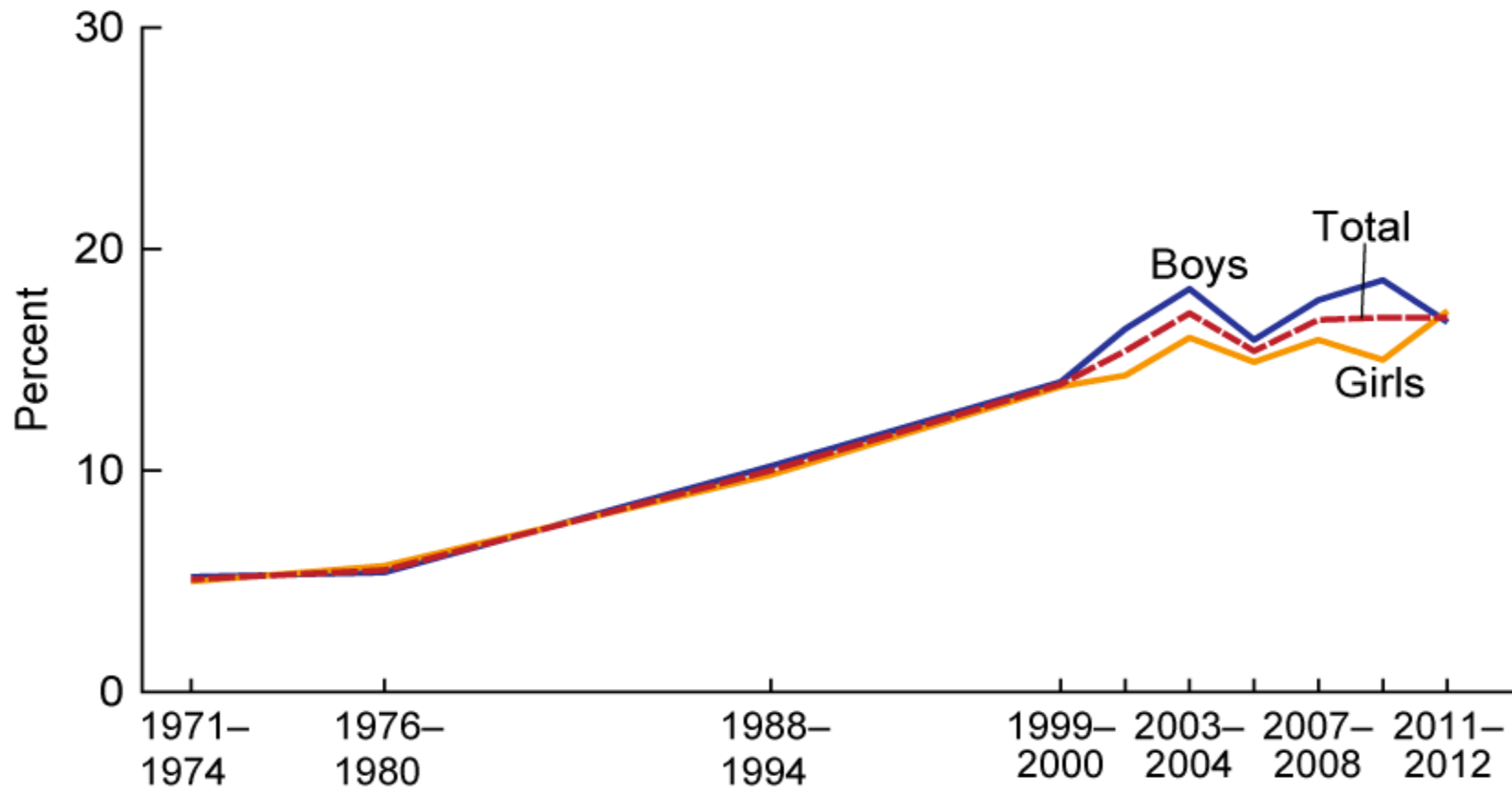
Prevalence of meeting ≥ 5 criteria for ideal cardiovascular health among US adults aged ≥ 20 years (age standardized) and US children aged 12 to 19 years, by race/ethnicity, National Health and Nutrition Examination Survey 2011 to 2012.



Dariush Mozaffarian et al. *Circulation*.
2016;133:e38-e360

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Figure. Trends in obesity among children and adolescents aged 2–19 years, by sex: United States, selected years 1971–1974 through 2011–2012

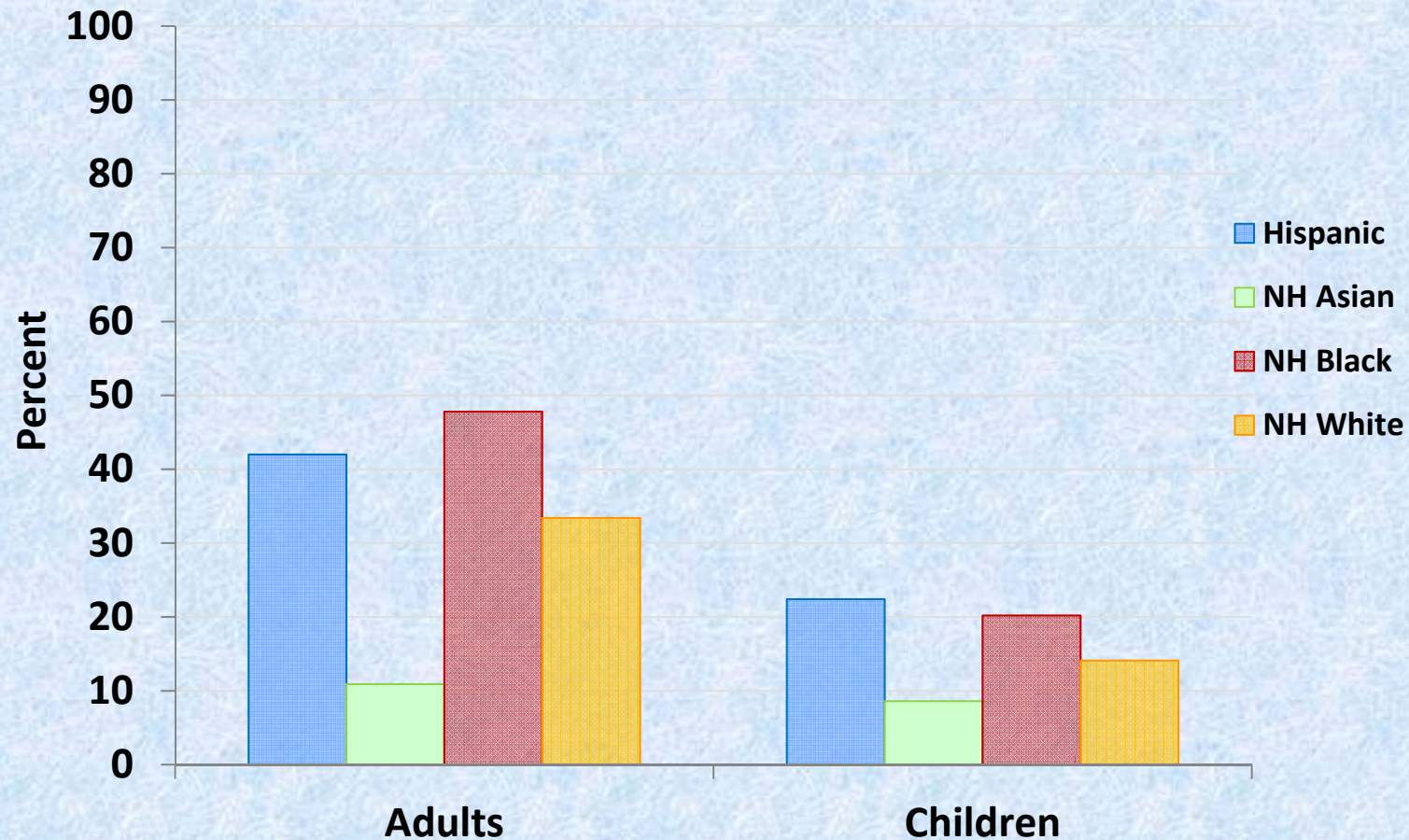


Prevalence of Obesity Among U.S. Adults Aged 20-74

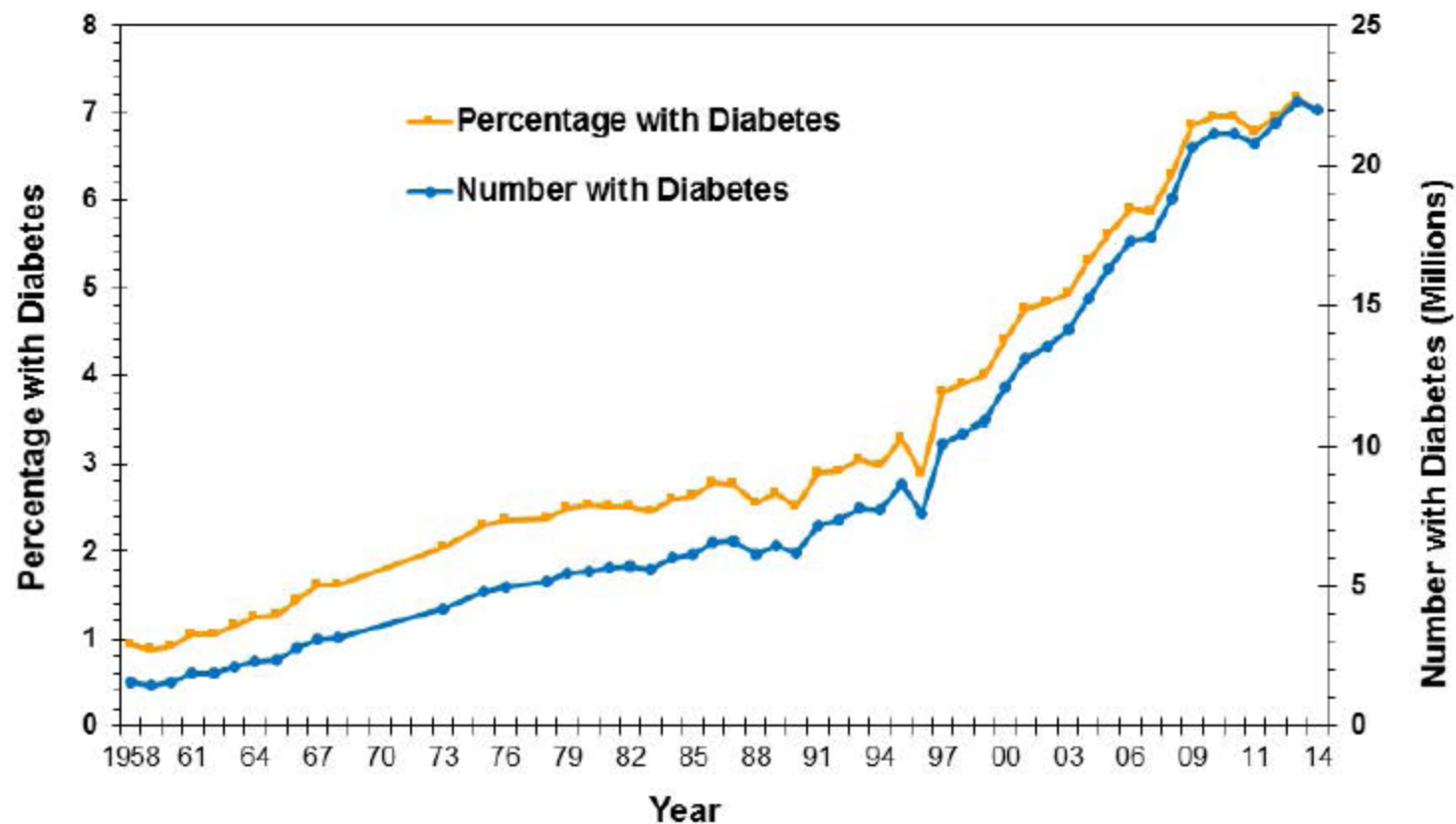


Derived from NHANES data (http://www.cdc.gov/nchs/data/hestat/obesity_adult_09_10/obesity_adult_09_10.html#table1)

Prevalence of obesity by race-ethnicity in adults (ages >20 years) and children (ages <19 years), 2011-2012



Number and Percentage of U.S. Population with Diagnosed Diabetes, 1958-2014

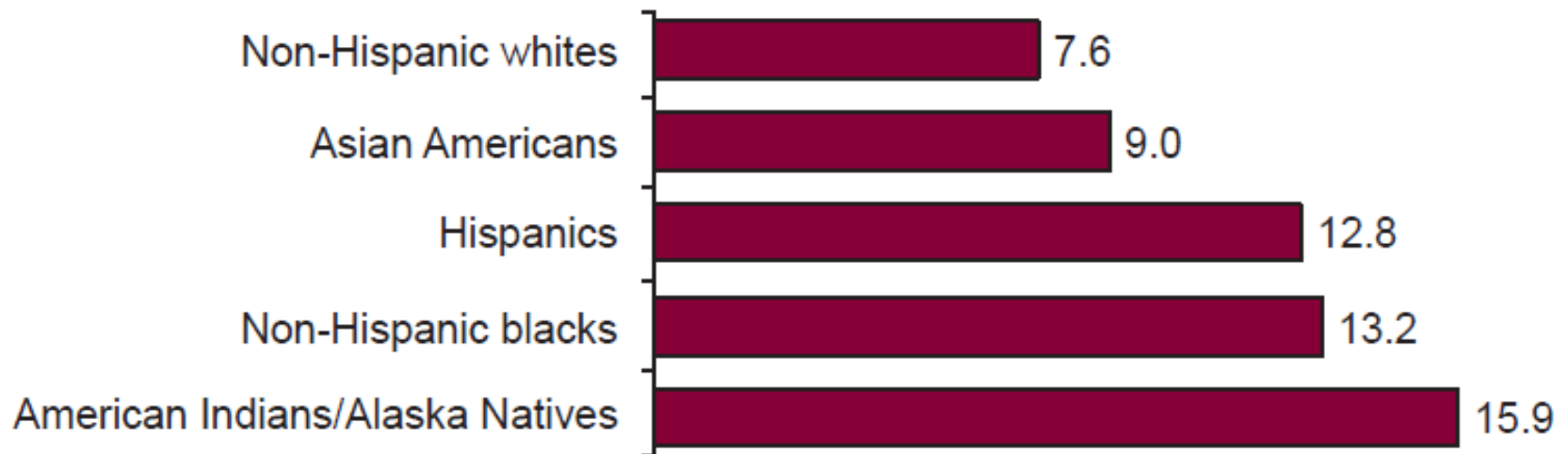


CDC's Division of Diabetes Translation. United States Diabetes Surveillance System
available at <http://www.cdc.gov/diabetes/data>



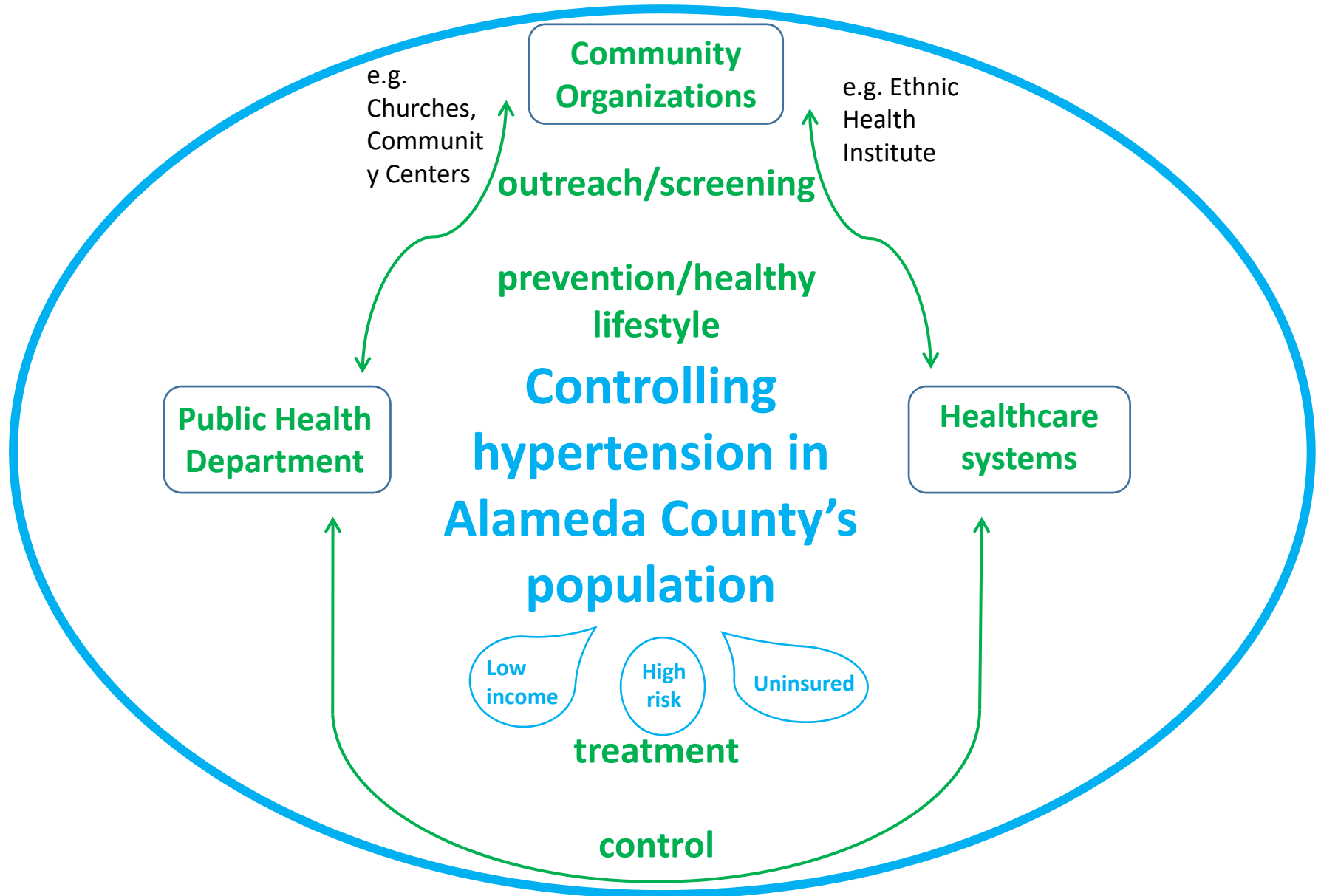
Age-adjusted* percentage of people aged 20 years or older with diagnosed diabetes, by race/ethnicity, United States, 2010–2012

Age-adjusted percentage of people aged 20 years or older with diagnosed diabetes, by race/ethnicity, United States, 2010–2012



Source: 2010–2012 National Health Interview Survey and 2012 Indian Health Service's National Patient Information Reporting System.

The Frank E. Staggers, Sr., MD Hypertension Project



Conclusions

- There is recent deceleration in the long-term decline of cardiovascular disease mortality, including heart disease and stroke mortality.
- The approximately 30-year epidemics in the population prevalence of obesity and diabetes are likely major contributors to this decline.
- There are race-ethnicity disparities in mortality from cardiovascular diseases, in measures of cardiovascular health, and the prevalence of obesity and diabetes.
- Continued vigilance and innovation are essential in our efforts to address the ongoing challenge of cardiovascular disease prevention.