

Health Disparities in Cardiovascular Health and Disease



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Objectives

By the end of the session, participants will be able to:

- 1. Discuss Life's Simple 7, the seven health behaviors and factors that define ideal cardiovascular health**
- 2. Discuss the disparity in childhood obesity prevalence by race and ethnicity in the United States**
- 3. Discuss the disparity in ischemic heart disease and stroke mortality by race and ethnicity in the United States**
- 4. Discuss the disparity in high school graduation rates by race and ethnicity in the United States**

Shorter Lives, Poorer Health

- **The US has the highest obesity rate among high-income countries.**
- **US adults have among the highest prevalence rates of diabetes (and high plasma glucose levels) among peer countries.**
- **The US death rate from ischemic heart disease is the second highest among peer countries.**
- **Americans reach age 50 with a less favorable cardiovascular risk profile than their peers in Europe, and adults over age 50 are more likely to develop and die from cardiovascular disease than are older adults in other high-income countries.**

NRC and IOM, January, 2013

Multiple Chronic Conditions (MCC)

- **One in four (25%) Americans has multiple chronic conditions(MCC), including one in 15 children**
- **Among Americans aged 65 years and older, as many as three out of four persons (75%) have MCC.**
- **People with MCC are at increased risk for mortality and poorer day-to-day functioning.**
- **Approximately 66 percent (66%) of total health care spending in the U.S. is associated with care for Americans with MCC.**

HHS Initiative on Multiple Chronic Conditions, hhs.gov



2013 Leading Causes (and Numbers) of Death in the United States

1. **Heart disease: 611,105**
2. Cancer: 584,881
3. Chronic lower respiratory diseases: 149,205
4. Accidents (unintentional injuries): 130,557
5. **Stroke (cerebrovascular diseases): 128,978**
6. Alzheimer's disease: 84,767
7. **Diabetes: 75,578**
8. Influenza and Pneumonia: 56,979
9. Nephritis, nephrotic syndrome, and nephrosis: 47,112
10. Intentional self-harm (suicide): 41,149

Questions


- Q. Is achieving health equity dependent on having health insurance?
- Q. Is achieving health equity dependent on better delivery of medical care?
 - better clinical prevention?
 - better chronic disease management?
- Q. A more diverse workforce?
- Q. Non-clinical strategies?

Affordable Care Act: The Experience in 4 Largest States

- Of the four, Texas has the highest uninsured rate (NY-12%, CA-17%, FL-21%, TX-30% in 19-64 year-olds)
- Of the 4, Texas has the highest poverty rate among 19-64 year-olds who are uninsured (NY-13%, CA-23%, FL-33%, TX-51%)
- In NY and CA, 18% of residents reported having a medical problem but not going to a doctor or clinic because of cost, versus 29% in FL and 26% in TX.
- Adults in NY and CA reported lower rates of medical bill problems or debt than those in FL and TX

AHA 2020 Impact Goal

20%₂₀₂₀



“By 2020, to improve the cardiovascular health of *all* Americans by 20% while reducing deaths from cardiovascular diseases and stroke by 20%.”

Projected US Population








	2010	2020	2030	2040	2050
Total Population	309M	336M	364M	392M	420M
White	65.1%	61.3%	57.5%	53.7%	50.1%
Hispanic	15.5%	17.8%	20.1%	22.3%	24.4%
Black	13.1%	13.5%	13.9%	14.3%	14.6%
Asian	4.6%	5.4%	6.2%	7.1%	8.0%

Source: Census.gov

The Platform for Heart Health: Life's Simple 7

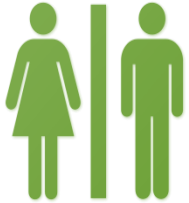
- **Smoking Status**
- **Physical Activity**
- **Healthy Diet**
- **Healthy Weight**
- **Blood Pressure**
- **Cholesterol**
- **Blood Glucose**

Cardiovascular Health Status Levels

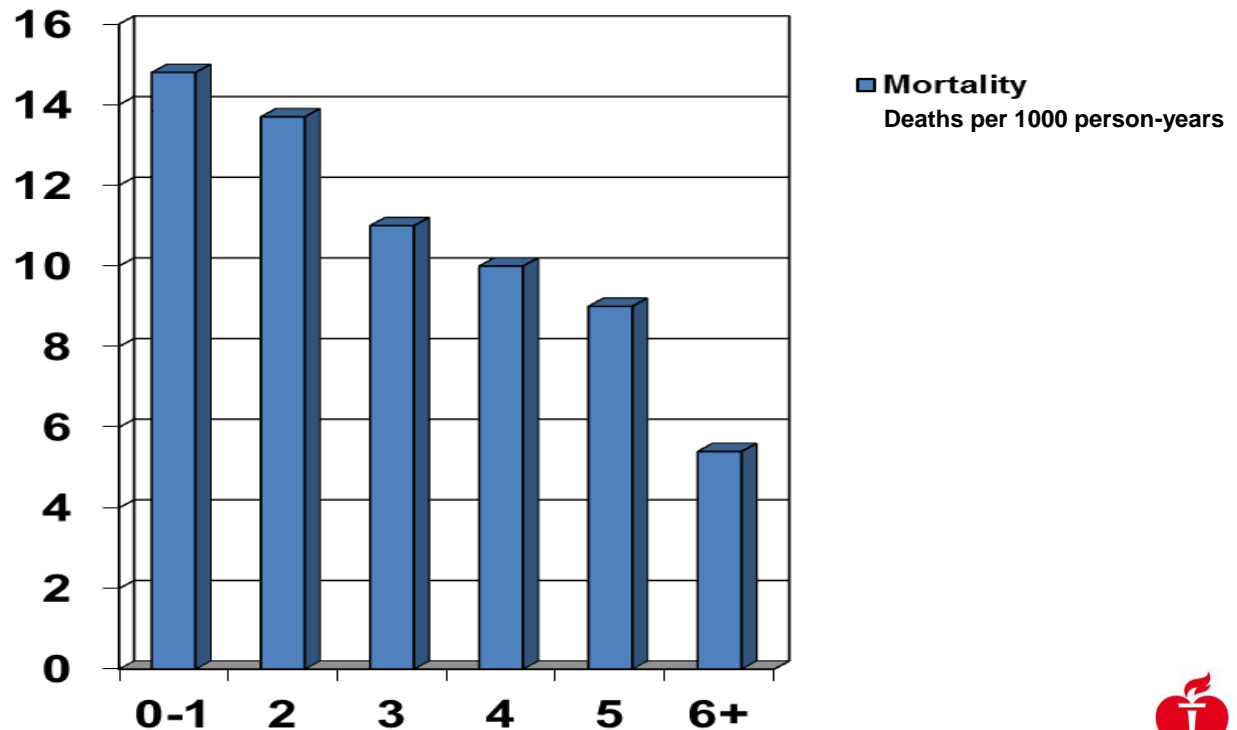
LIFE'S SIMPLE 7		POOR	INTERMEDIATE	IDEAL
	Smoking Status Adults >20 years of age Children (12–19)	Current Smoker Tried prior 30 days	Former ≤ 12 mos	Never /quit ≥ 12 mos
	Physical Activity Adults > 20 years of age Children 12-19 years of age	None None	1-149 min/wk mod or 1-74 min/wk vig or 1-149 min/wk mod + vig >0 and <60 min of mod or vig every day	150+ min/wk mod or 75+ min/wk vig or 150+ min/wk mod + vig 60+ min of mod or vig every day
	Healthy Diet Adults >20 years of age Children 5-19 years of age	0-1 components 0-1 components	2-3 components 2-3 components	4-5 components 4-5 components
	Healthy Weight Adults > 20 years of age Children 2-19 years of age	≥30 kg/m ² >95 th percentile	25-29.9 kg/m ² 85 th -95 th percentile	<25 kg/m ² <85 th percentile
	Blood Glucose Adults >20 years of age Children 12-19 years of age	126 mg/dL or more 126 mg/dL or more	100-125 mg/dL or treated to goal 100-125 mg/dL	Less than 100 mg/dL Less than 100 mg/dL
	Cholesterol Adults >20 years of age Children 6-19 years of age	≥240 mg/dL ≥200 mg/dL	200-239 mg/dL or treated to goal 170-199 mg/dL	<170 mg/dL
	Blood Pressure Adults >20 years of age Children 8-19 years of age	SBP ≥140 or DBP ≥90 mm Hg >95 th percentile	SBP120-139 or DBP 80-89 mm Hg or treated to goal 90 th -95 th percentile or SBP ≥120 or DBP ≥80 mm Hg	<120/<80 mm Hg <90 th percentile

Why

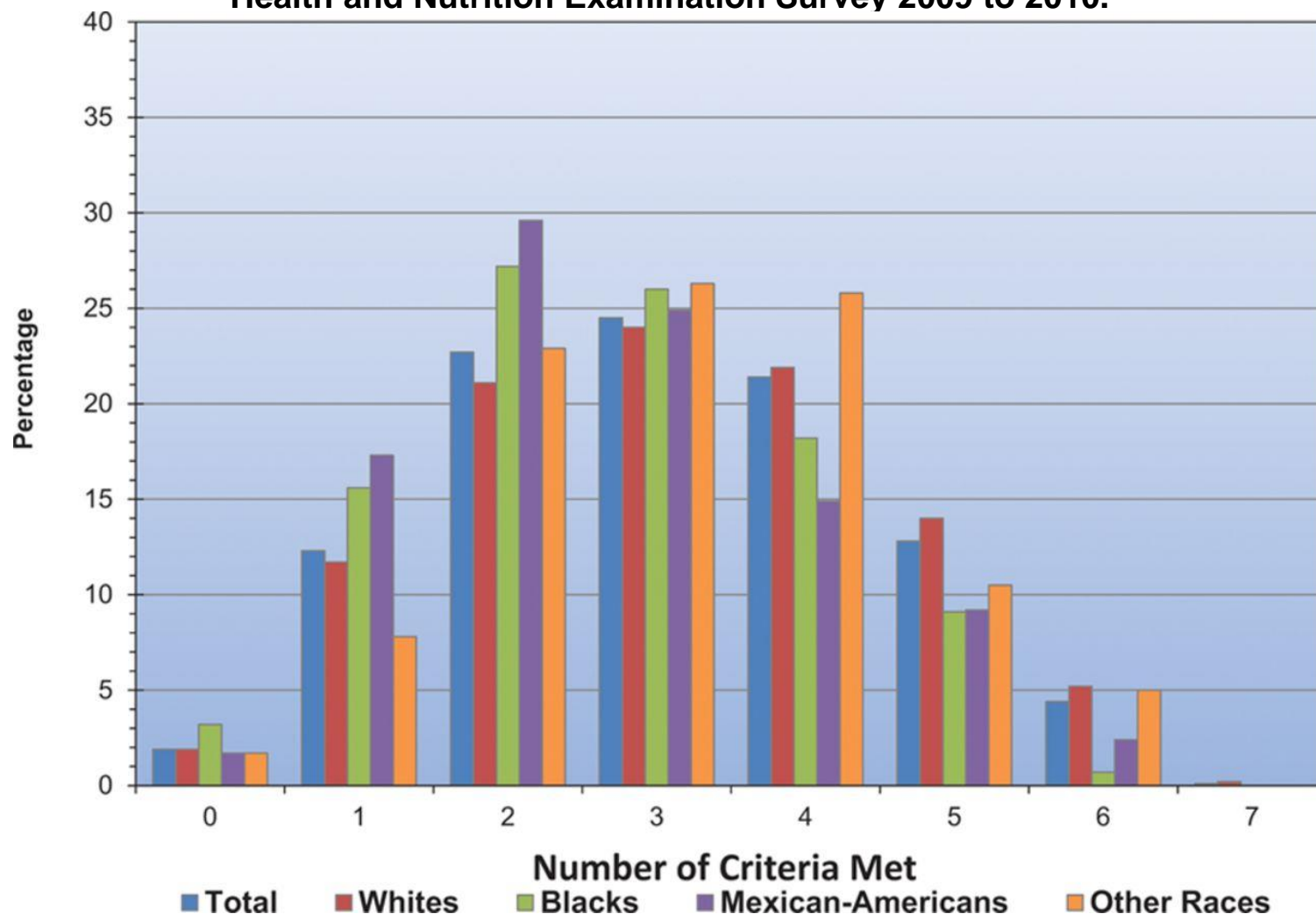
focus on Simple 7?



Number of Ideal Heart Health Behaviors or Factors and Mortality



Age-standardized prevalence estimates of US adults aged ≥ 20 years meeting different numbers of criteria for ideal cardiovascular health, overall and in selected race subgroups from National Health and Nutrition Examination Survey 2009 to 2010.



Go A S et al. *Circulation*. 2014;129:e28-e292

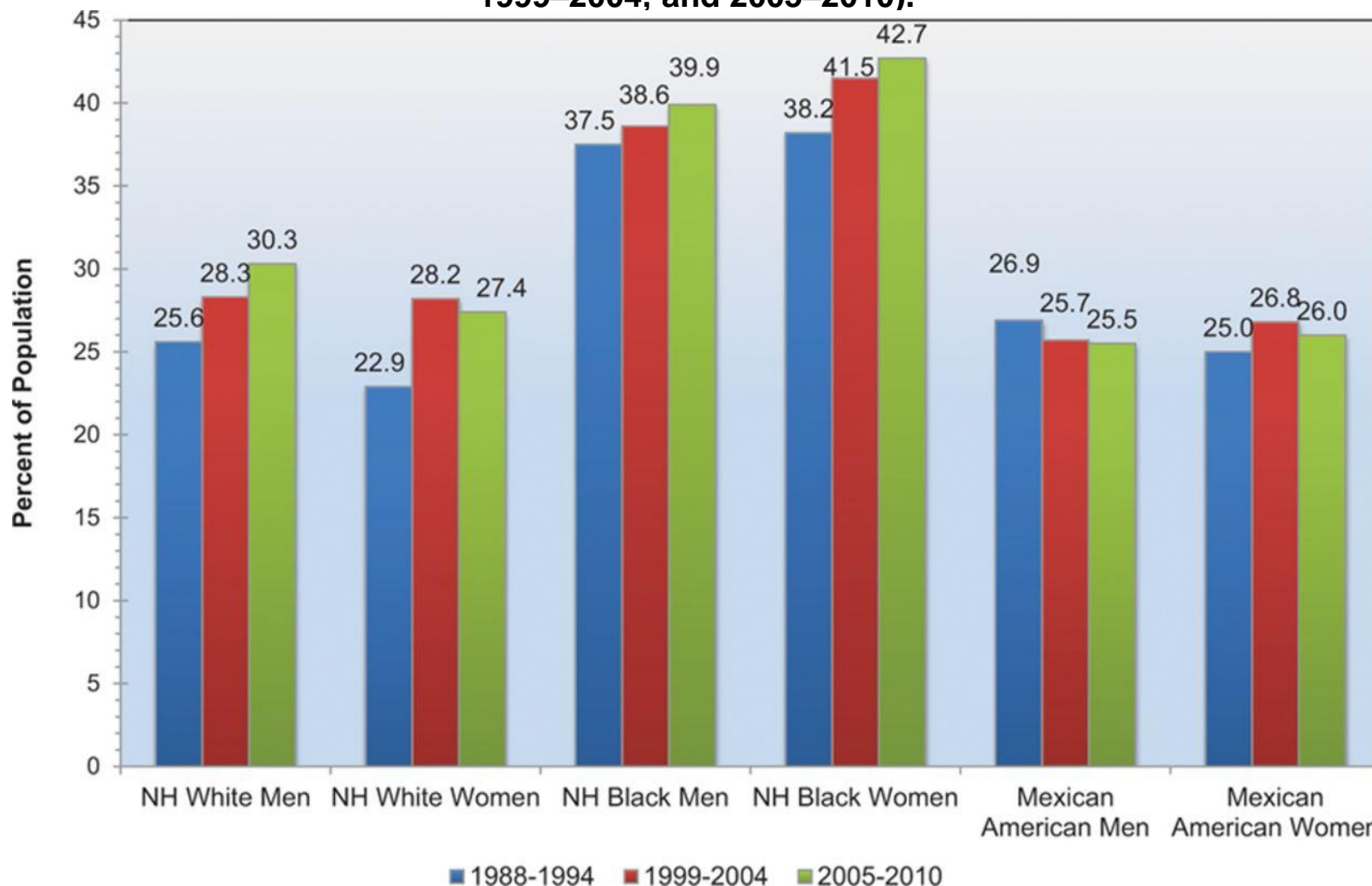
Prevalence of BMI > 85% in Girls in US 2009-2010

Age Range (in years)	Whites	Blacks	Latinas
2-5	21.3	27.0	32.1
6-11	25.2	44.2	39.6
12-19	27.6	45.1	41.9

Prevalence of BMI > 85% in Boys in US 2009-2010

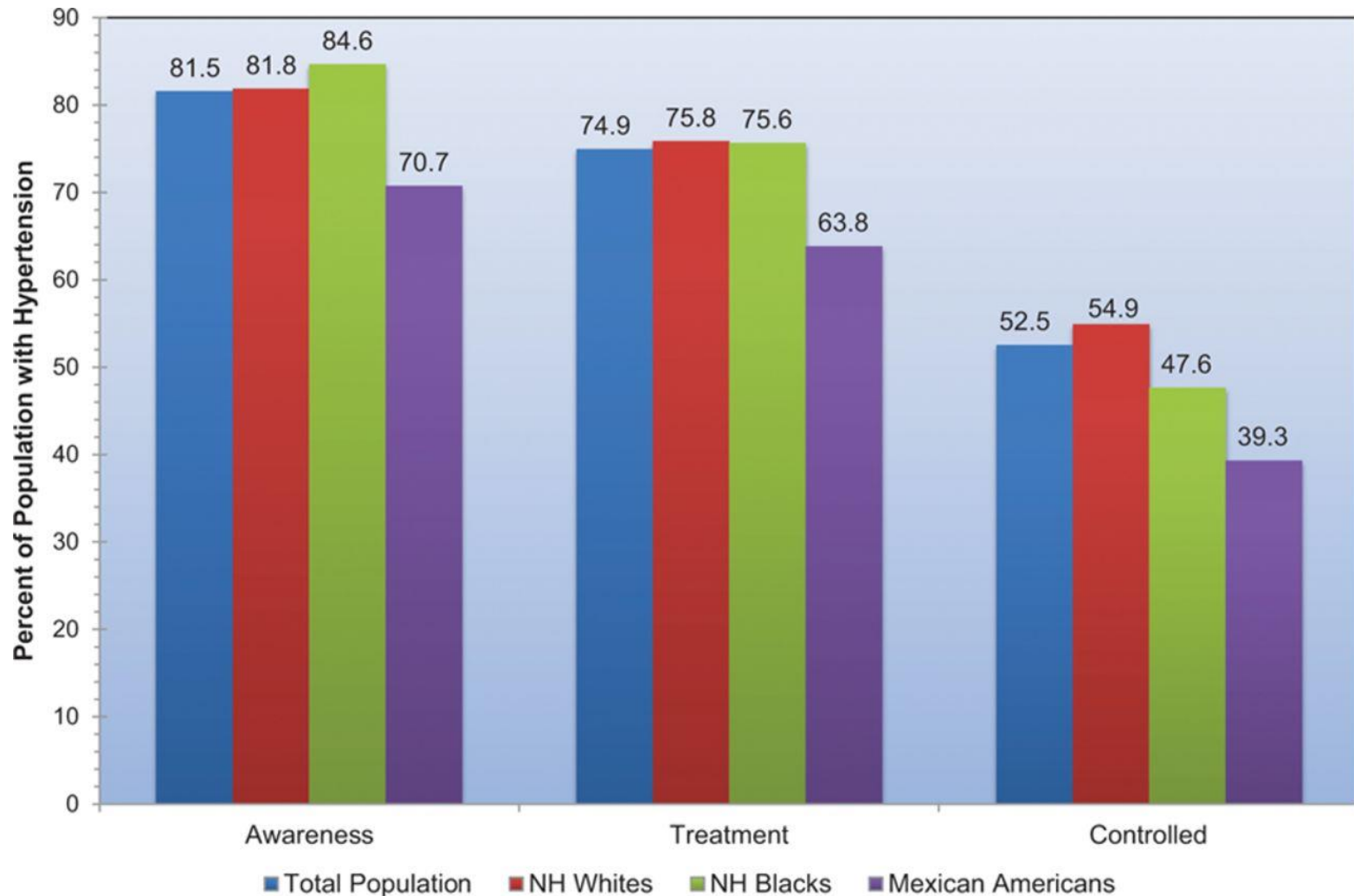
Age Range (in years)	Whites	Blacks	Latinos
2-5	26.0	30.5	34.1
6-11	29.7	40.9	39.7
12-19	32.2	37.4	42.9

Age-adjusted prevalence trends for high blood pressure in adults ≥ 20 years of age by race/ethnicity, sex, and survey (National Health and Nutrition Examination Survey: 1988–1994, 1999–2004, and 2005–2010).



Go A S et al. *Circulation*. 2014;129:e28-e292

Extent of awareness, treatment, and control of high blood pressure by race/ethnicity (National Health and Nutrition Examination Survey: 2007–2010).



Go A S et al. *Circulation*. 2014;129:e28-e292

Prevalence of Diabetes and Prediabetes in the United States

- 29.1 million adults in the US with diabetes (9.3% of the population) – 21 million are diagnosed
- An estimated 86 million adults in US with prediabetes

National Diabetes Statistics Report, CDC.gov

Prevalence of Diabetes by Race/Ethnicity

• Whites	7.6%
• Asians	9.0%
• Hispanics	12.8%
• Blacks	13.2%
• AI/AN*	15.9%

* American Indian/Alaska Natives

National Diabetes Statistics Report, CDC.gov

Prevalence of Diabetes Among Hispanics

- Central/South Americans 8.5%
- Cubans 9.3%
- Mexican Americans 13.9%
- Puerto Ricans 14.8%

National Diabetes Statistics Report, CDC.gov

Prevalence of Diabetes Among Asian Americans

- Chinese 4.4%
- Filipino 11.3%
- Asian Indians 13%
- Other 8.8%

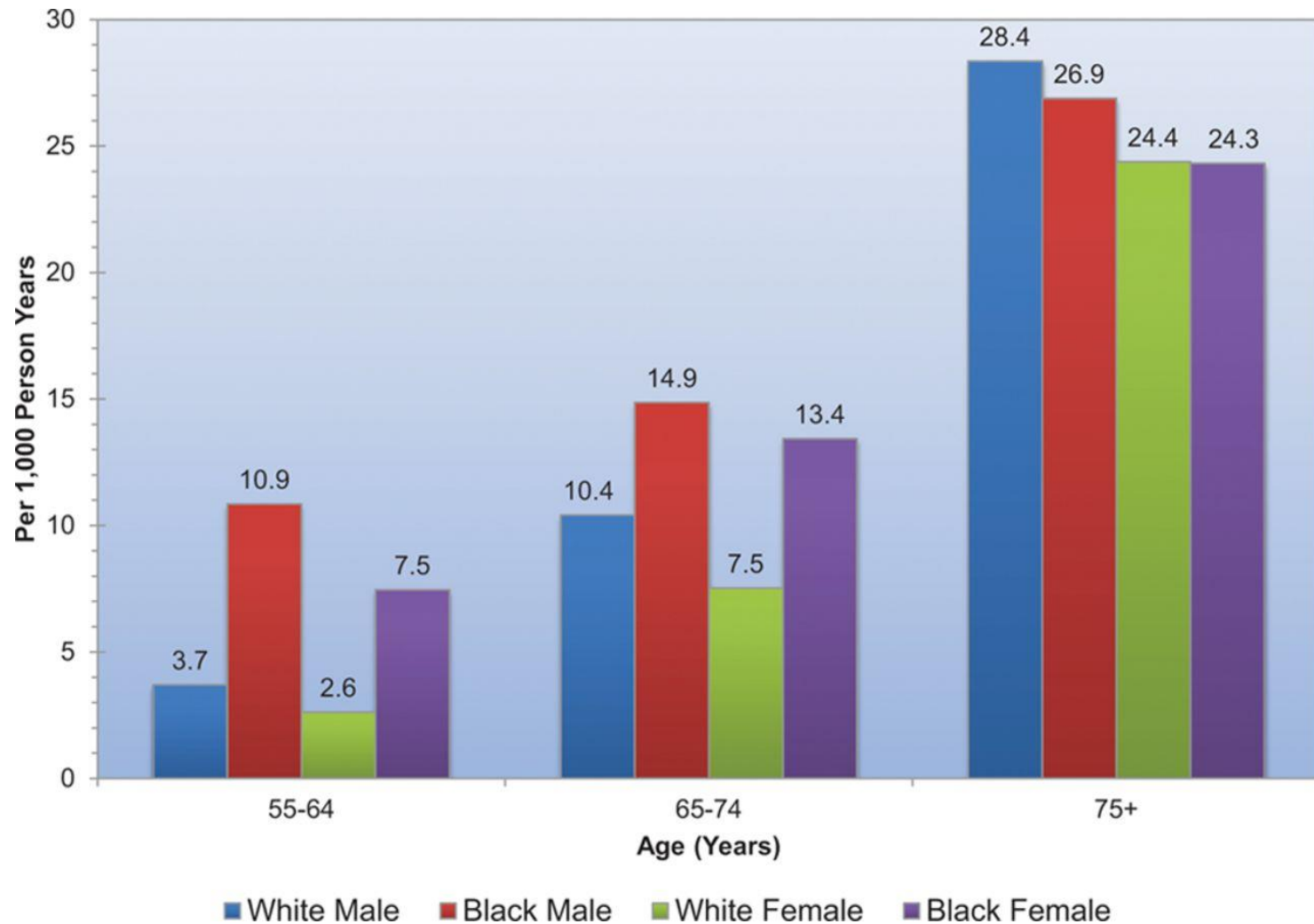
National Diabetes Statistics Report, CDC.gov

Prevalence of Diabetes among American Indian/Alaska Natives

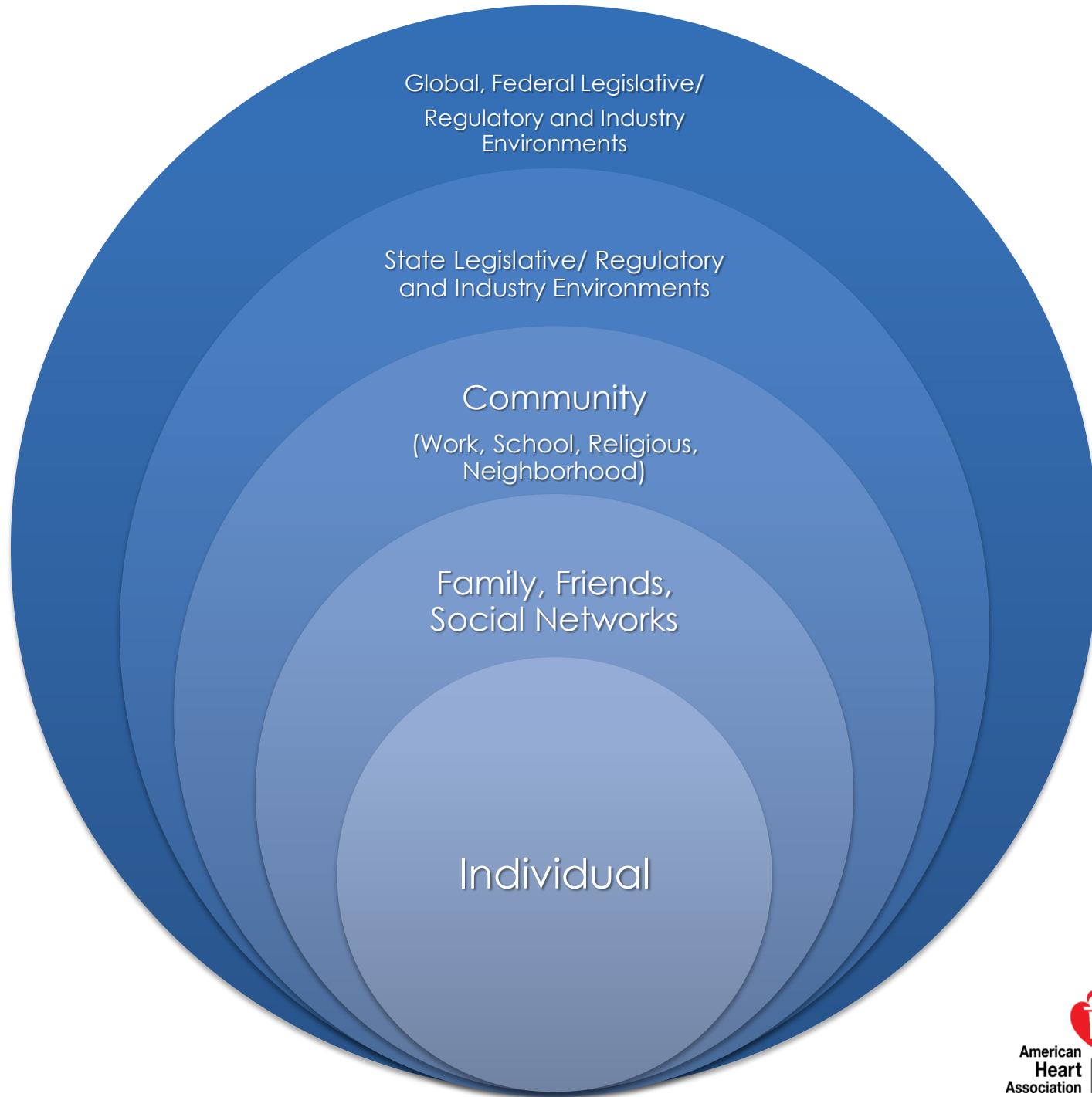
- From 7.6% in Alaska Natives to 24.1% among American Indians in Southern Arizona

National Diabetes Statistics Report, CDC.gov

First acute decompensated heart failure annual event rates per 1000 (from ARIC Community Surveillance 2005–2010).



Go A et al. Circulation 2014;129:e28-e292

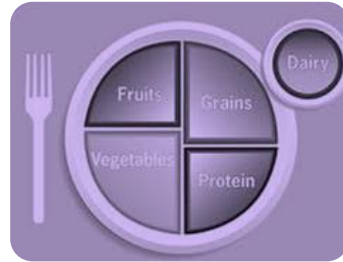


Building a Culture of Health in My Community



Tobacco

Increase percentage of Americans who live in environments that support smoke-free air and smoking cessation



Nutrition

Improve environments that support healthy eating and improve quality of foods available



Physical Activity

Increase percentage of Americans who live in environments that support active lifestyles



Health Factors

Improve environments that support healthy weight, blood pressure, glucose and cholesterol

CPR/Chain of Survival

Increase percentage of Americans who live in environments that support emergency response for cardiac arrest



Acute Care & Emergency Response

Increase percentage of Americans who live in environments that support decreased cardiovascular disease mortality and improved quality of life



Post-Event Care

Increase percentage of Americans who receive the support and education needed after acute events




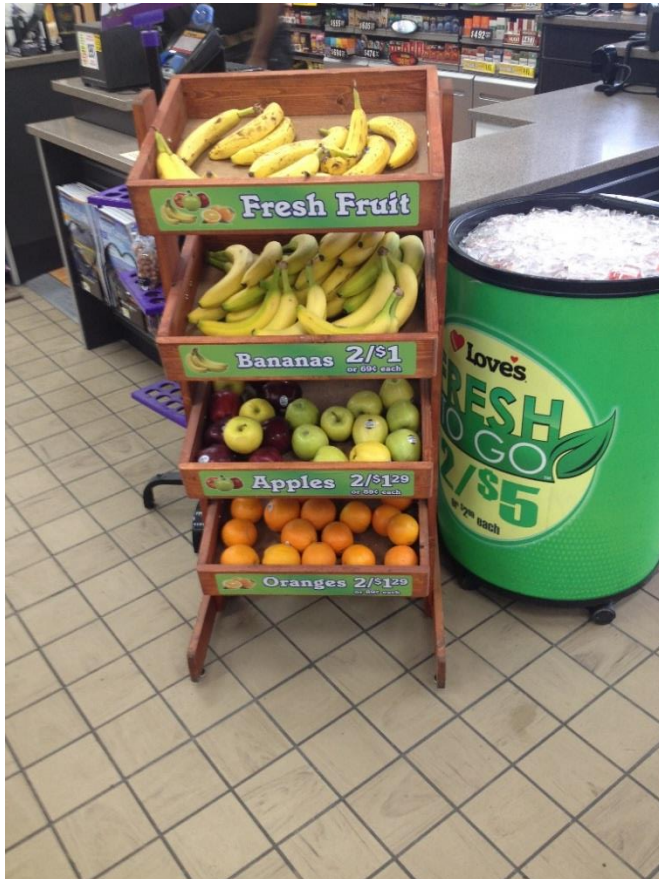
Social Determinants

Ensure safe places to work, play, and get care are available for all Americans

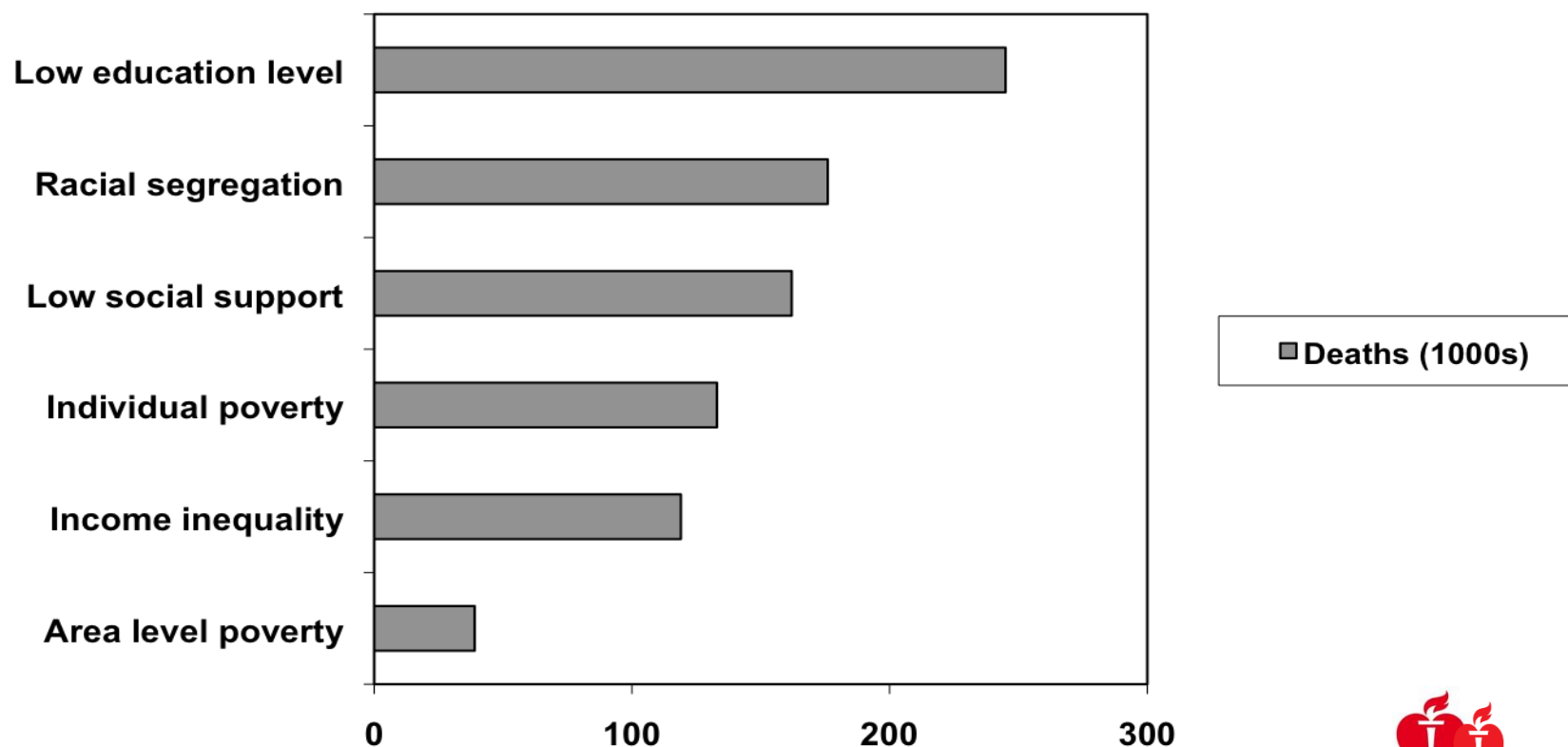


Example: Tobacco

	Outcome	Good	Intermediate	Poor
 <u>Reduce Tobacco</u>	<i>Increase percentage of Americans who live in environments that support smoke-free air and smoking cessation.</i>	<ul style="list-style-type: none"> 100% of community covered by clean indoor air legislation in all restaurants/ bars/ workplaces 	<ul style="list-style-type: none"> 100% of community covered by clean indoor air legislation in all restaurants/bars 	<ul style="list-style-type: none"> Community covered by clean indoor air legislation below intermediate level
		<ul style="list-style-type: none"> Excise tax=\$1.85 or > per pack 	<ul style="list-style-type: none"> Excise tax=\$1 or > per pack 	<ul style="list-style-type: none"> Excise tax= <\$1 per pack
		<ul style="list-style-type: none"> Access to smoking cessation and prevention campaign 	<ul style="list-style-type: none"> Access to smoking cessation and prevention campaign 	<ul style="list-style-type: none"> Access to smoking cessation and prevention campaign

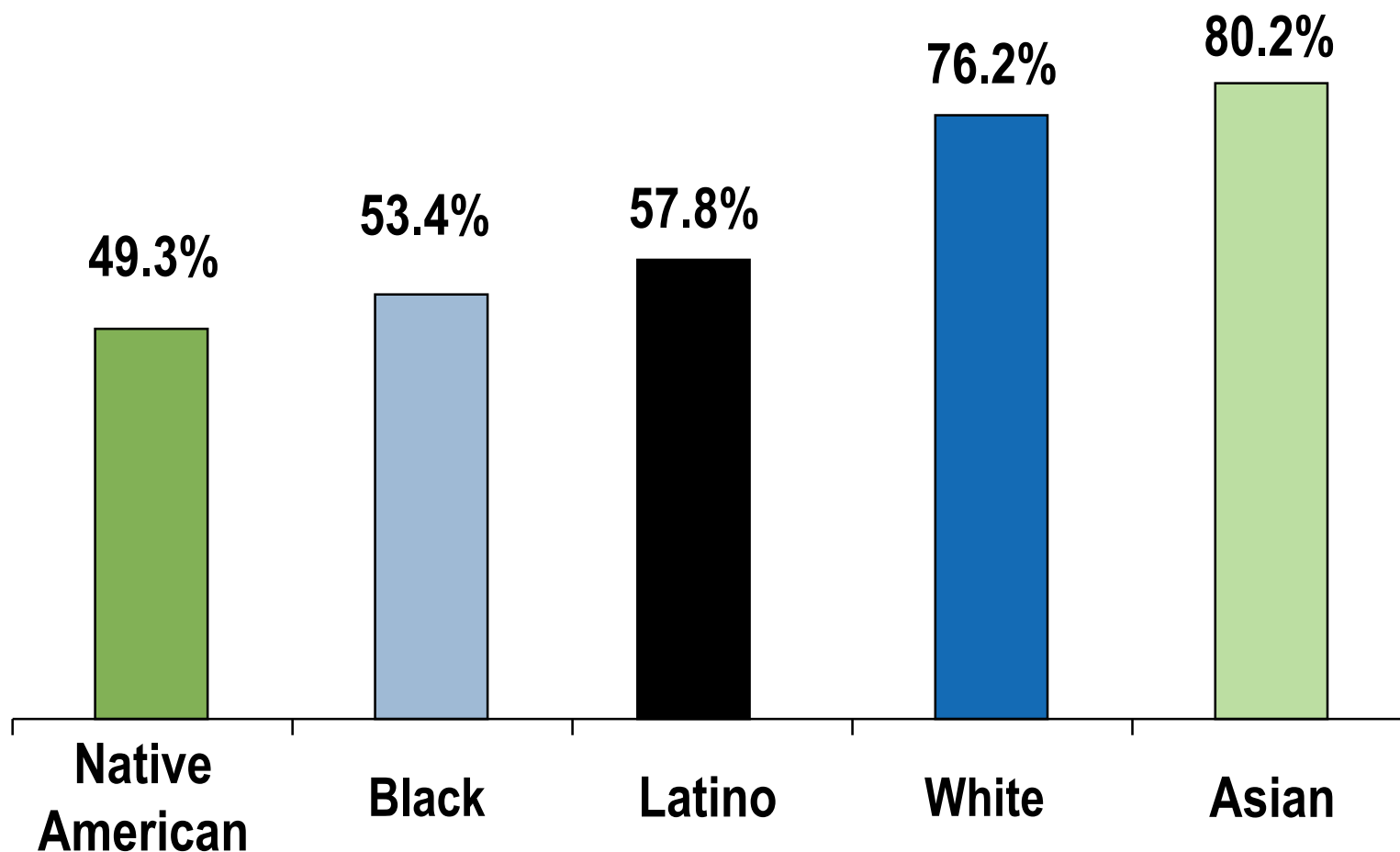


Relationship Between Social Determinants and Mortality (2000)



Galea et al, Estimated Deaths Attributable to Social Factors in the United States ,
AJPH, August 2011, Vol 101, No. 8.

National High School Graduation Rates, 2003-04



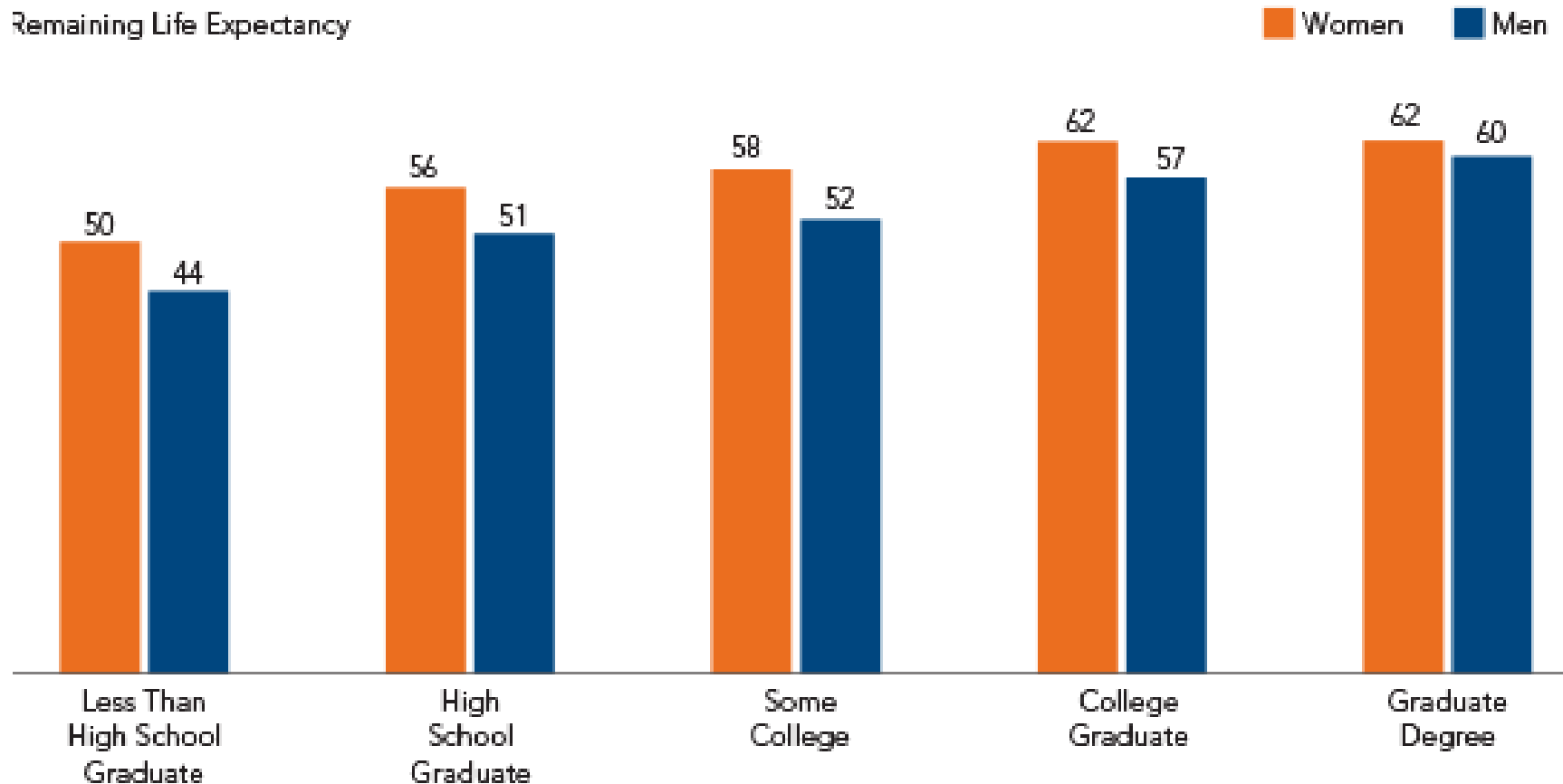
Cities in Crisis, EPE Research Center, 2008

SY2011-12 Adjusted Cohort Graduation Rates (by race/ethnicity)

Race/Ethnicity	Graduation rate (%)
American Indian/Alaska Native	67%
Black	69%
Hispanic	73%
White	86%
Asian	88%

Stetser, M., and Stillwell, R. (2014). *Public High School Four-Year On-Time Graduation Rates and Event Dropout Rates: School Years 2010–11 and 2011–12*. First Look (NCES 2014-391). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved [date] from <http://nces.ed.gov/pubsearch>.

Remaining Years of Life for U.S. Adults at Age 25 by Educational Attainment, 2005



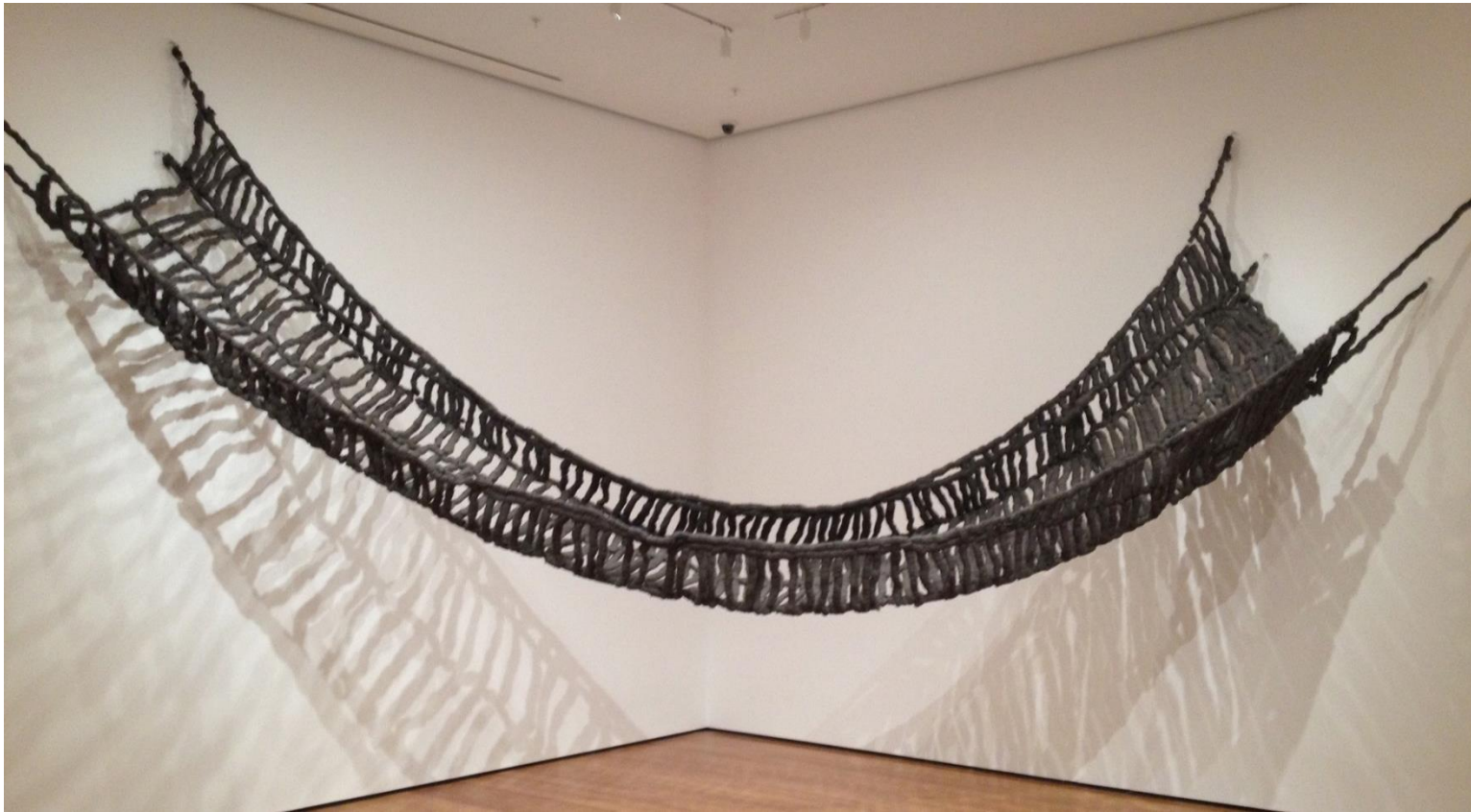
Source: Brian L. Rostron et al., *Vital and Health Statistics Series 2*, no. 151 (2010): 1-16.

Percent of Working Families Below 200% Poverty (by race/ethnicity)

Race/Ethnicity	Percent Below 200% Poverty
American Indian/Alaska Native	48%
Black	49%
Hispanic	55%
White	23%
Asian	24%

The Working Poor Families Project Policy Brief. Winter 2014-2015.
www.workingpoorfamilies.org

Bridging Community and Clinical Care

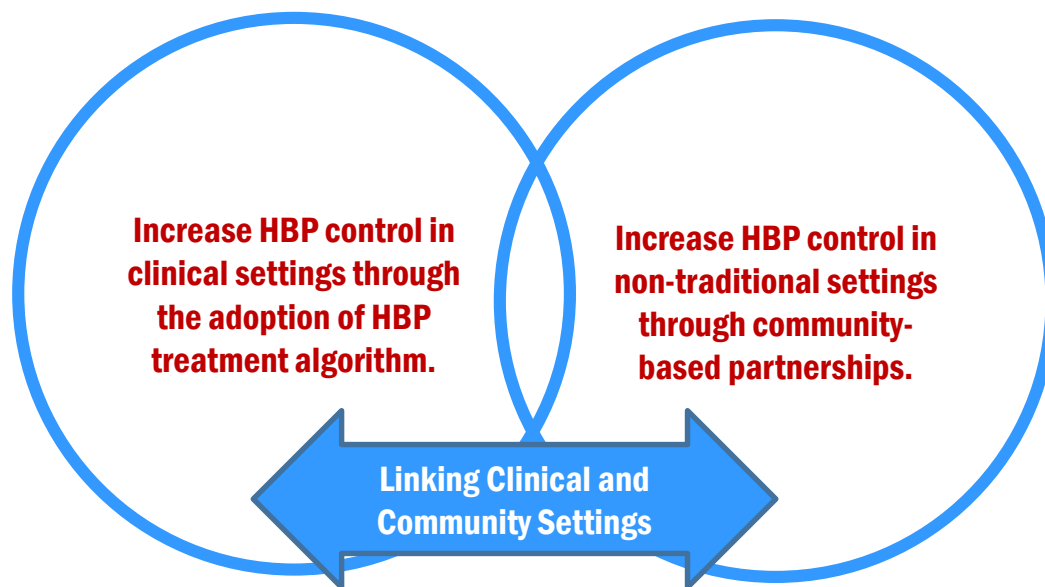


Diabetes Prevention Program (DPP)

	Placebo	Metformin	Lifestyle
<u>Incidence</u> of diabetes (percent per year)	11.0%	7.8%	4.8%
<u>Reduction</u> in incidence compared with placebo	—	31%	58%
<u>Number needed to treat</u> to prevent 1 case in 3 years	—	13.9	6.9

High Blood Pressure Control

Improving blood pressure control.



The Role of Health Care in Population Health

Barriers that must be overcome for health system-based efforts to contribute to optimized population health

- 1. Misaligned stakeholder interests and population health investments**
- 2. Inadequate information transfer**
- 3. Inadequate service integration between health care and other sectors**
- 4. Designing and functioning within a sustainable budget**
- 5. Difficulties addressing health disparities**

Accountable Care as a Strategy for Achieving Population Health Goals

To meet the responsibility to improve health outcomes for those under their care and society at large, health systems will need to:

- 1. Take responsibility for the health of their patient populations**
- 2. Create and expand partnerships with other entities with the potential to influence health**
- 3. Respond to social demands for equity and value**

Accountable Health Organizations (AHOs)

- **Manages the health “investment portfolio” for a community**
 - “Health in All Policies” to produce health
- **All services - retail, government, real estate, transportation, other private (the business sector), social, health (including public health, medical, dental, mental health care) services associated with a defined population – that should be held accountable for the health status and outcomes for that population.**
- **Attribution methodologies for accountability (credit for contribution to health for allocation of resources and charges to fund and sustain the system).**
- **A system whose performance is measured by progress towards achieving health equity and highest health status**

Hospital Community Benefit Programs Increasing Benefits to Communities

Principles to guide the development of a strategy for leveraging community benefit

1. Defining mutually agreed-on regional geographic boundaries to align both community benefit and AHC initiatives,
2. Ensuring evidence-based “community benefit” funded interventions
3. Increasing the scale and effectiveness of community benefit investments by pooling resources
4. Establishing shared measurement and accountability for regional population health improvement

The Healthcare Imperative: Lowering Costs and Improving Outcomes

Annual US health care waste costs \$765 billion

- \$210 billion Unnecessary services (services used too frequently)
- \$190 billion Insurance/bureaucratic costs (unproductive documentation)
- \$130 billion Inefficient services (uncoordinated care, errors)
- \$105 billion Prices that are too high
- \$75 billion Fraud
- \$55 billion Missed prevention opportunities

Models for governance and finance

- **The Wellness Trust**
 - A quasi-independent agency with its own Trustees.
 - Funded by consolidation of existing federal insurance and public health spending on prevention and as well as new sources of funding (e.g., alcohol or soda taxes or as part of a broader reform plan).
- **HIV Planning Councils**

Lambrew and Podesta, Center for American Progress, October 5, 2006
Ryan White Planning Council Primer 2008, accessed at hrsa.gov on 4/8/2015.

The New Triple Aim

- “New designs can and must be developed” whose prime directive is to **produce health by**:
 - Addressing and improving social and environmental conditions as well as public health and medical care delivery
 - Basing funding and expenditures on evidence (what works most effectively) and tracking clinical, health, and social metrics
 - Optimizing the health of the population

Real “Health Reform” to Achieve Health Equity

- Healthy, safe, and affordable housing
- Quality education (preschool to high school) – 100% graduation rates
- Employment/Income
- Comprehensive indoor smoking laws/policies including housing units
- Affordable food and physical activity
- Access to health - equitably funded public health and population health
- Access to medical care – health insurance and quality primary care

An Integrated Health System



life is why™

es por la vida™

全為生命™