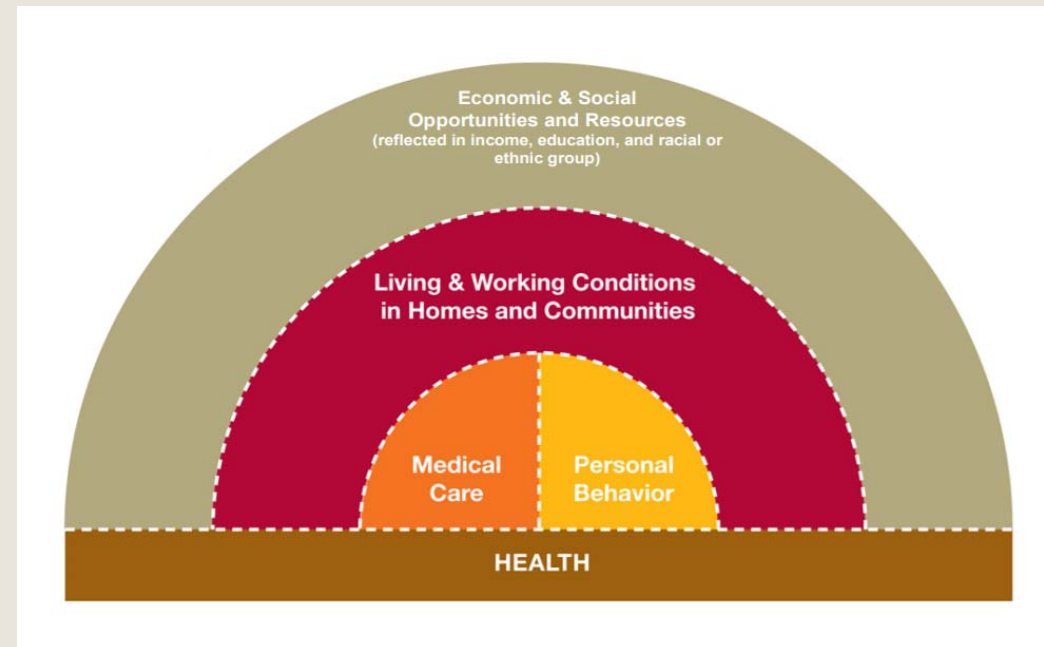


SOCIAL DETERMINANTS OF HEALTH

Sarah Coles
Grand Rounds
July 20, 2018



Disclosure

I do not have any actual or potential conflicts of interest in relation to this presentation.

Learning Objectives:

1. Define health equity, healthcare disparities, and social determinants of health
2. Discuss how inequities in social determinants of health result in healthcare disparities.
3. Identify resources and strategies to address social determinants of health

Definition

Conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect health, functioning, and quality of life.

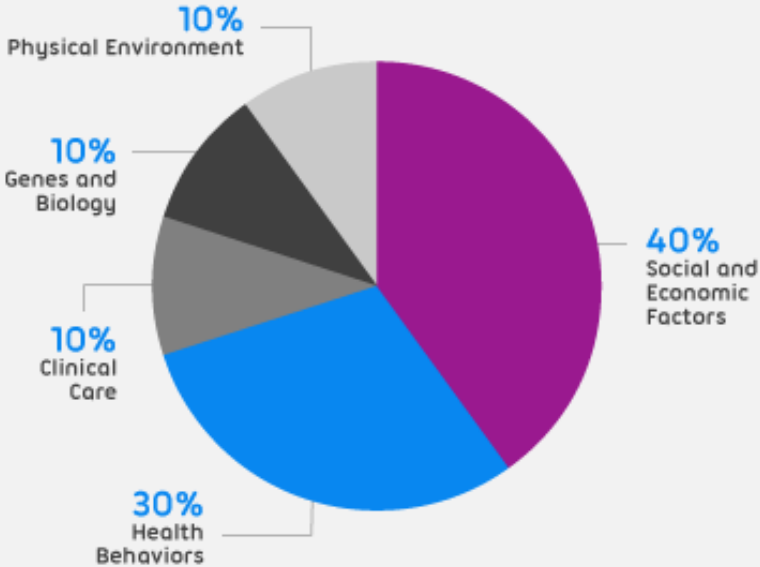


Health And Health Care

Health and Health Care

- Access to Care
- Primary Care
- Health Literacy

Population Health Drivers



Categories

Social And Community

Civic Participation

Discrimination and Social Cohesion

Incarceration

Education

Early Childhood

Enrollment in Higher Ed

High School Graduation

Language and literacy

Economic Stability

Employment

Food insecurity

Housing Instability

Poverty

Built Environs

Access to Healthy Foods

Crime and Violence

Environmental Conditions

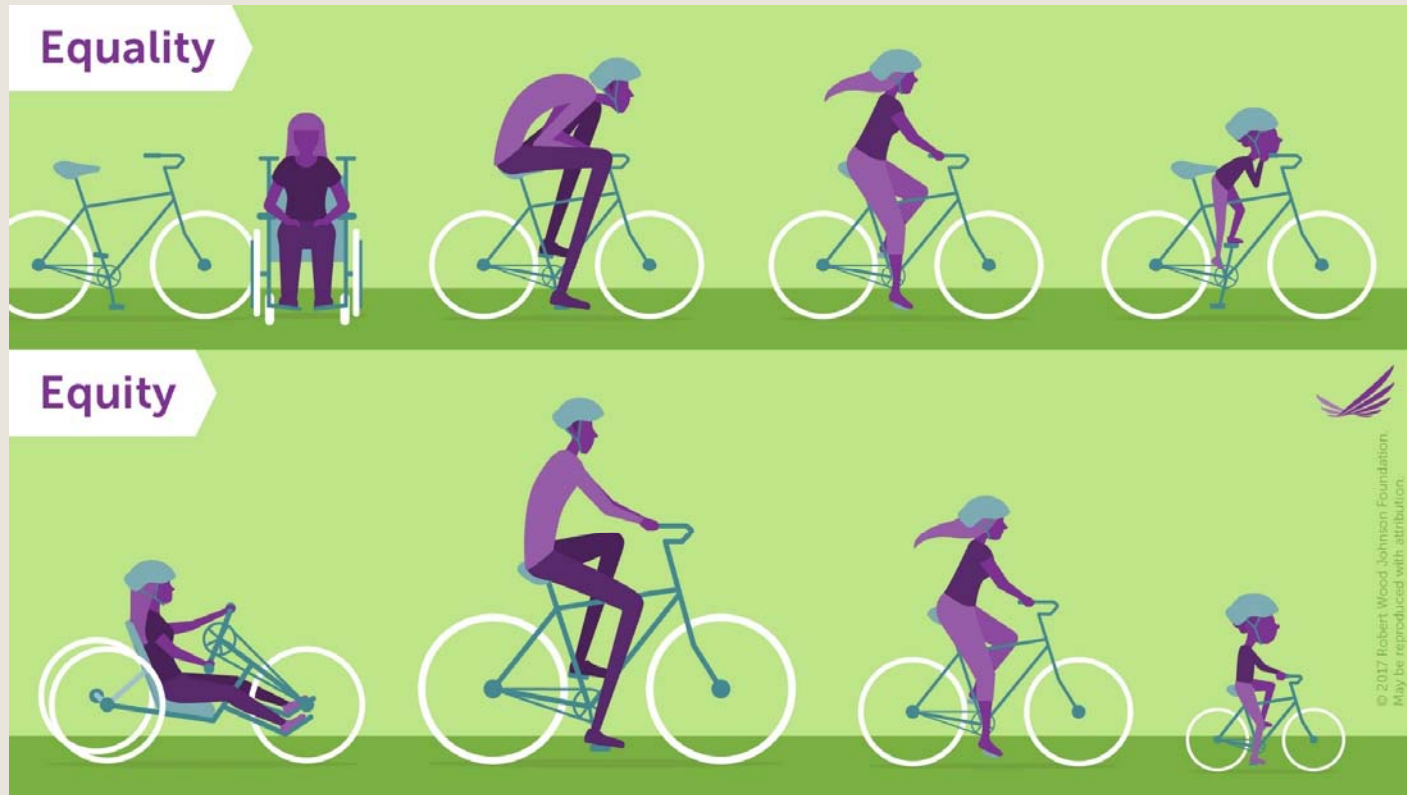
Quality of Housing

Disparities

- **Health Disparity:** A higher burden of illness, injury, disability, or mortality experienced by one population group relative to another.
- **Health Care Disparity:** Differences between groups in health insurance coverage, access to and use of care, and quality of care.



Health Equality vs Equity

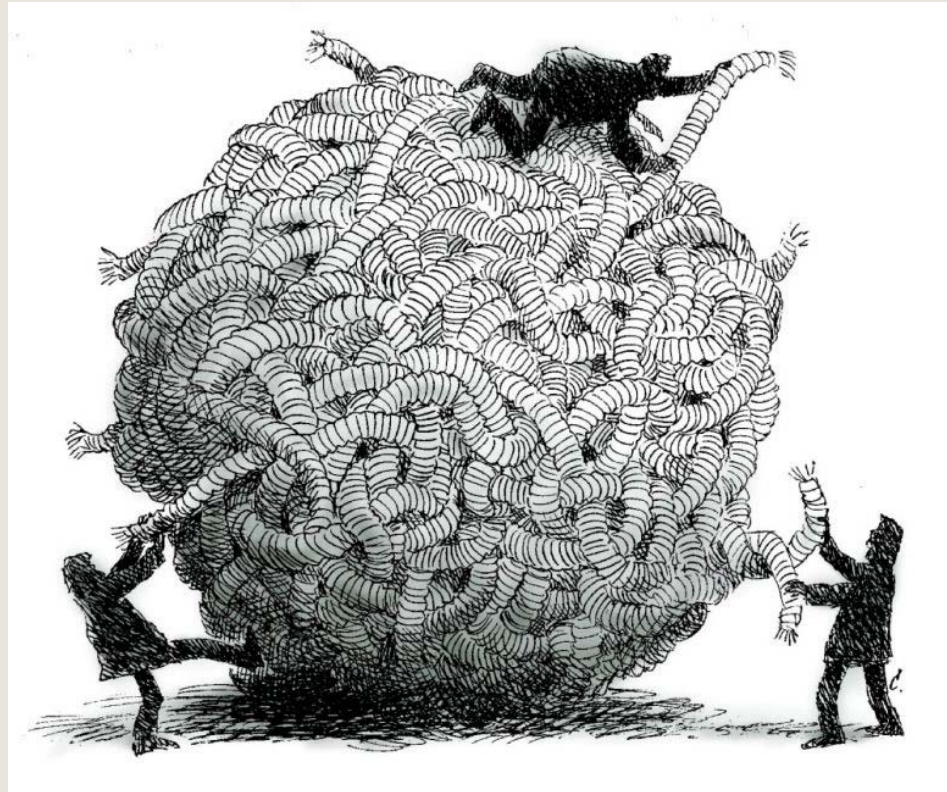


Healthy People 2020

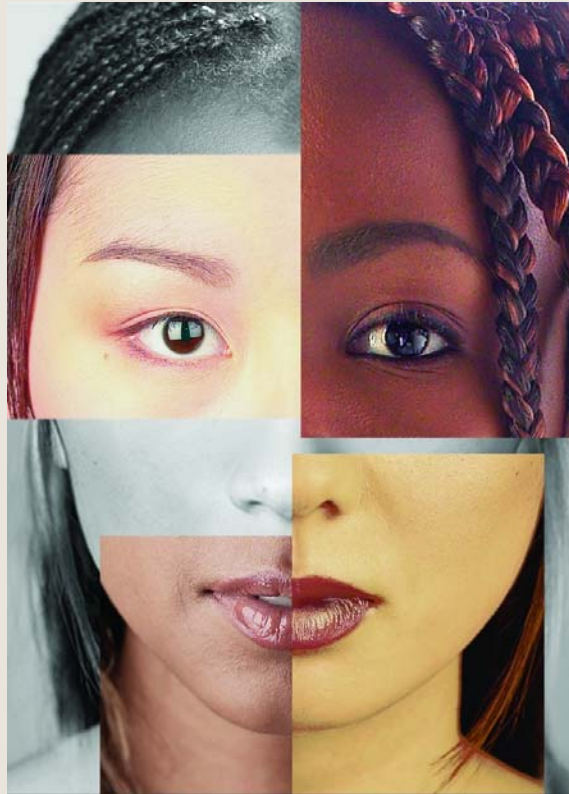
- Launched in 2010
- Identifies achievable, 10 year agenda to improve nation's health and tracks progress
- Goals:
 - Eliminate preventable disease, disability, injury, and premature death
 - Achieve health equity, eliminate disparities, and improve the health of all groups
 - Create social and physical environments that promote good health for all.
 - Promote healthy development and healthy behaviors across every stage of life.



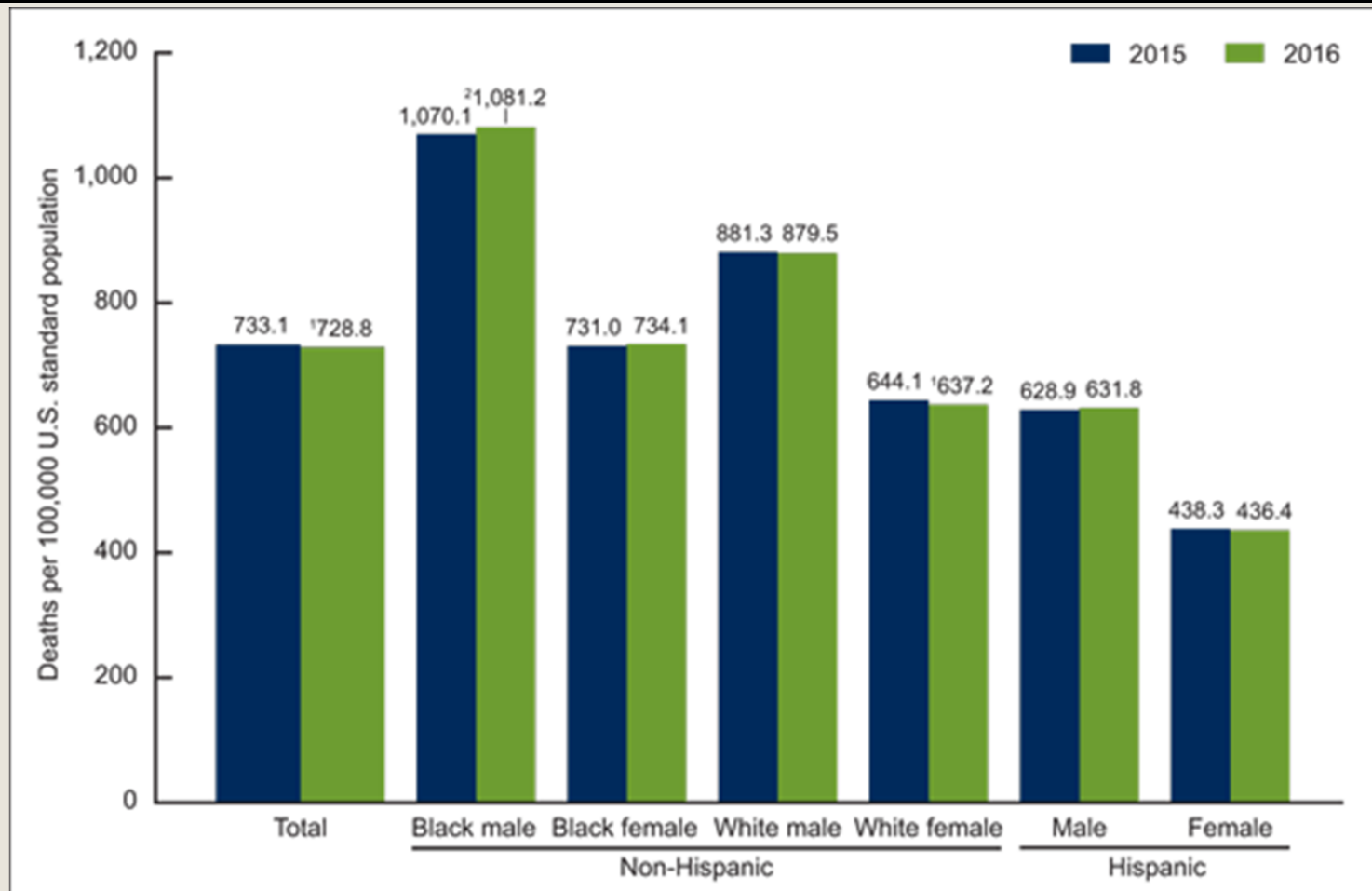
Overlapping



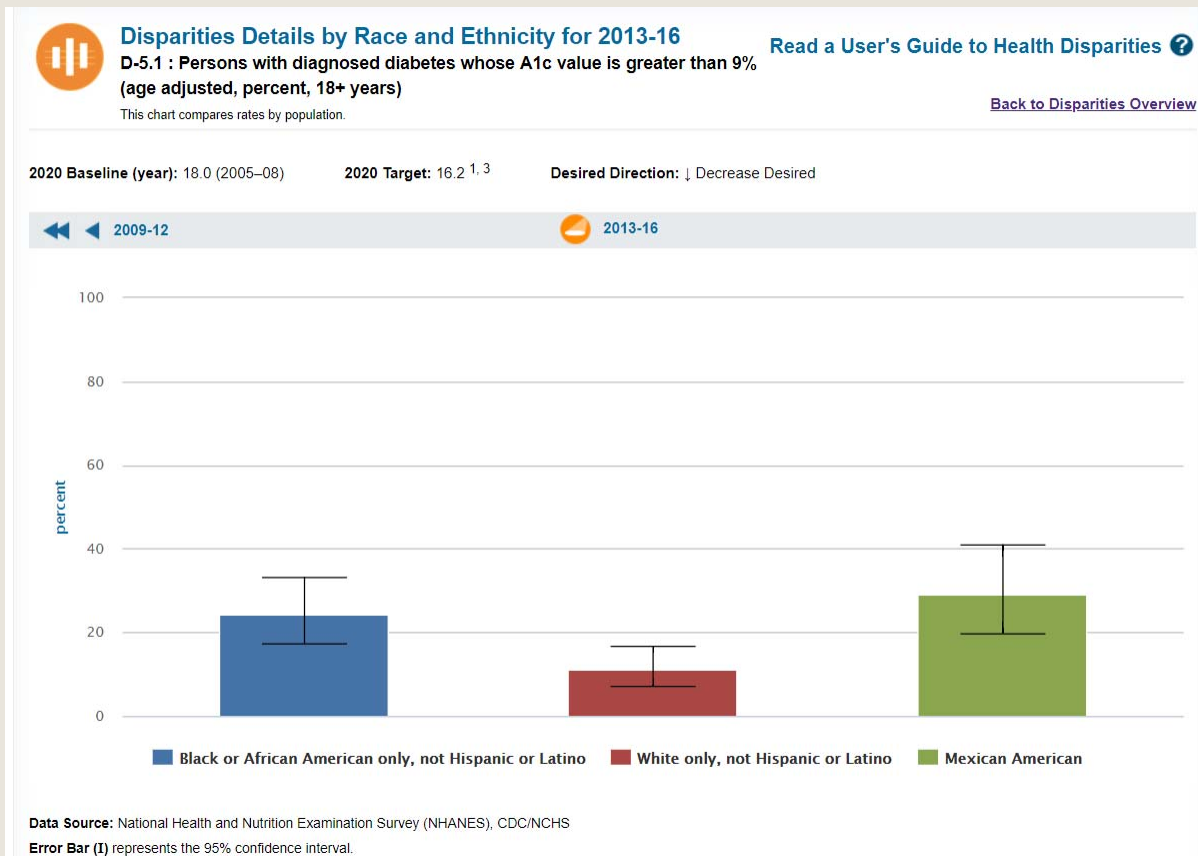
Race



Race: Mortality



Race: Diabetes



Why Does This Happen?

Segregation



Residential segregation - black/white

Residential Segregation is the index of dissimilarity where higher values indicate greater residential segregation between black and white county residents. The residential segregation index ranges from 0 (complete integration) to 100 (complete segregation).

Data | [Description](#) | [Data Source](#)

Place	Segregation index
Apache	85
Cochise	50
Coconino	46
Gila	84
Graham	69
Greenlee	32
La Paz	
Maricopa	43
Mohave	58
Navajo	74
Pima	41
Pinal	36
Santa Cruz	64
Yavapai	55
Yuma	55

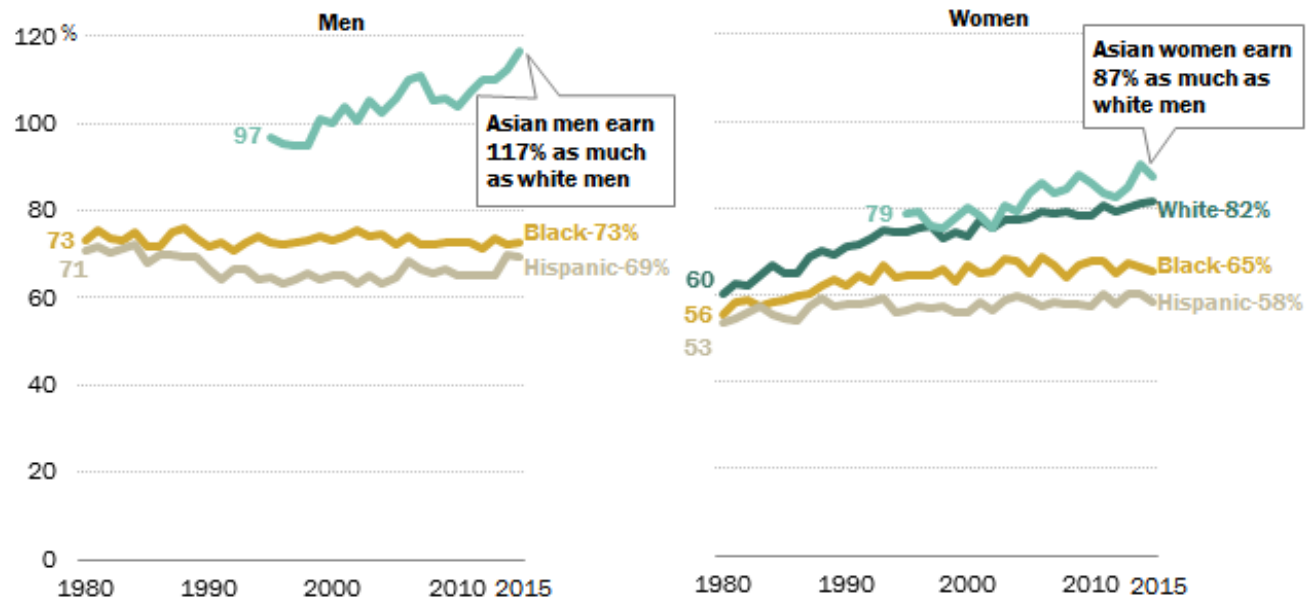
Discrimination

- Among African-American respondents when asked about their own personal experiences:
 - 32% say they have personally experienced racial discrimination when going to a doctor or a health clinic
 - 22% have avoided seeking medical care out of concern about discrimination
 - 60% say that they or a family member have been unfairly stopped or treated by police
 - 31% have avoided calling the police when in need to avoid potential discrimination
 - 45% say they have been discriminated against when trying to rent or buy a house
 - 27% say they avoid day-to-day tasks like using a car or participating in social events.

Racial and Gender Wage Gaps

White men out-earn black and Hispanic men and all groups of women

Median hourly earnings as a percent of white men's earnings



Note: Estimates are for all civilian, non-institutionalized, full- or part-time workers ages 16 and older with positive earnings. Self-employed workers are excluded. Hispanics are of any race. Whites, blacks and Asians include only non-Hispanics. Asians include Native Hawaiian and Pacific Islanders.

Source: Pew Research Center tabulations of Current Population Survey data.

PEW RESEARCH CENTER

Explicit Prejudice vs Implicit Bias

Explicit Bias

- Conscious
- Deliberate
- Known
- Impacts behaviors

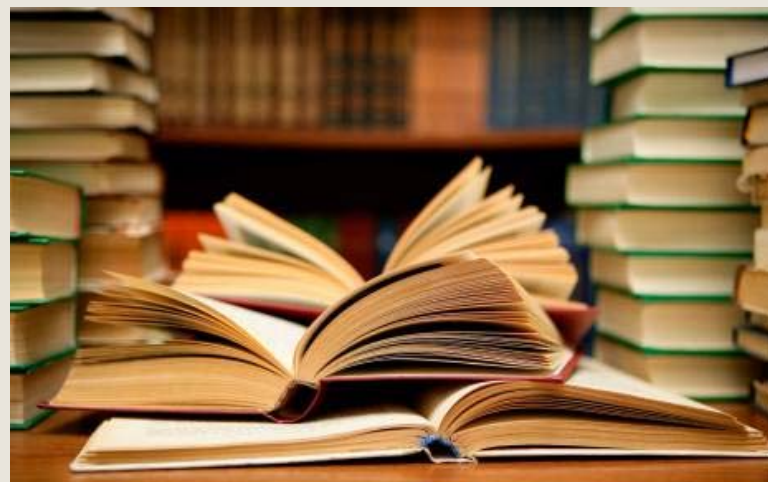
Implicit Bias

- Unconscious
- Involuntarily learned
- Unknown to person
- Often at odds with one's personal beliefs
- Impacts behaviors

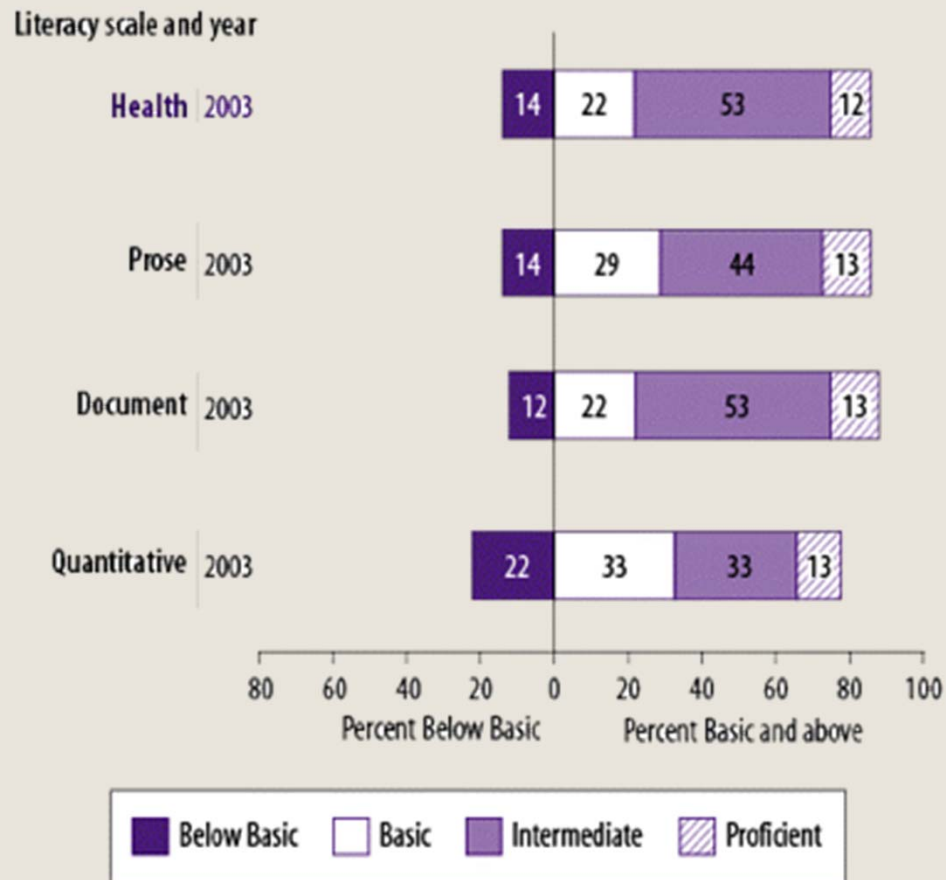
What Can We Do About It?

- Be aware of your implicit and explicit biases
 - Project Implicit: <https://implicit.harvard.edu/implicit/takeatest.html>
- Advocate for policy that promotes integration, not segregation
- Advocate for diversity and inclusion at all levels
- Identify areas of structural racism and advocate for change

Literacy



Literacy Categories



Slide courtesy of: www.health.gov/communication/literacy/powerpoint/healthliteracy.ppt

Literacy in US

- The National Assessment of Adult Literacy (NAALS) in 2003
 - 25% of the population as having limited literacy ability (fifth grade level or lower)
 - Average reading level of US adults is eighth grade.
 - In Arizona, approximately 13% of the population lacks even basic health literacy skills.
 - 32 million adults in the US cannot read



What Can You Do About It?

- Actions taken to limit harms of poor health literacy are beneficial for all of our patients
 - Teach Back Techniques
 - Ask Me 3
 - Written and spoken material at less than 8th grade level
 - Study demonstrates patients in all literacy levels prefer to read health information written at lower grade levels
 - Avoiding technical jargon
 - Avoiding abbreviations (HTN, DM, F/U, SOB, q anything)
 - Be specific

Food Insecurity

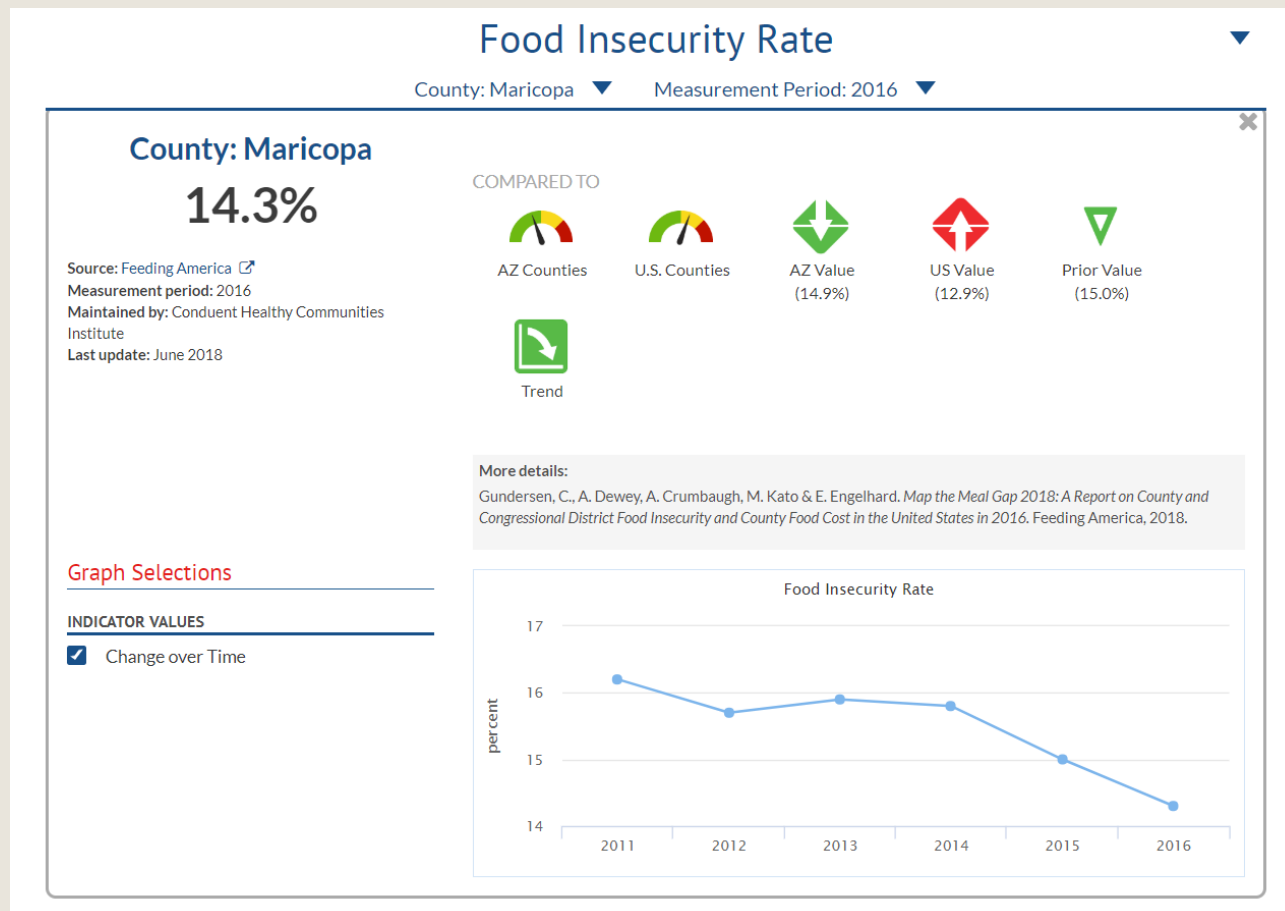


Food Insecurity

- **Low food security:** “Reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.”
- **Very low food security:** “Reports of multiple indications of disrupted eating patterns and reduced food intake.”

- 2014, 17.4 million US household were food insecure during the year
- 2016, 31.6% of low income households were food insecure
 - Black households 2x more likely to be food insecure than national average (22.5% vs 12.3%)
 - Hispanic Higher Risk (18.5% vs 12.3%)
 - Higher risk: Unemployed, nonwhite, disability

Maricopa County Food Insecurity

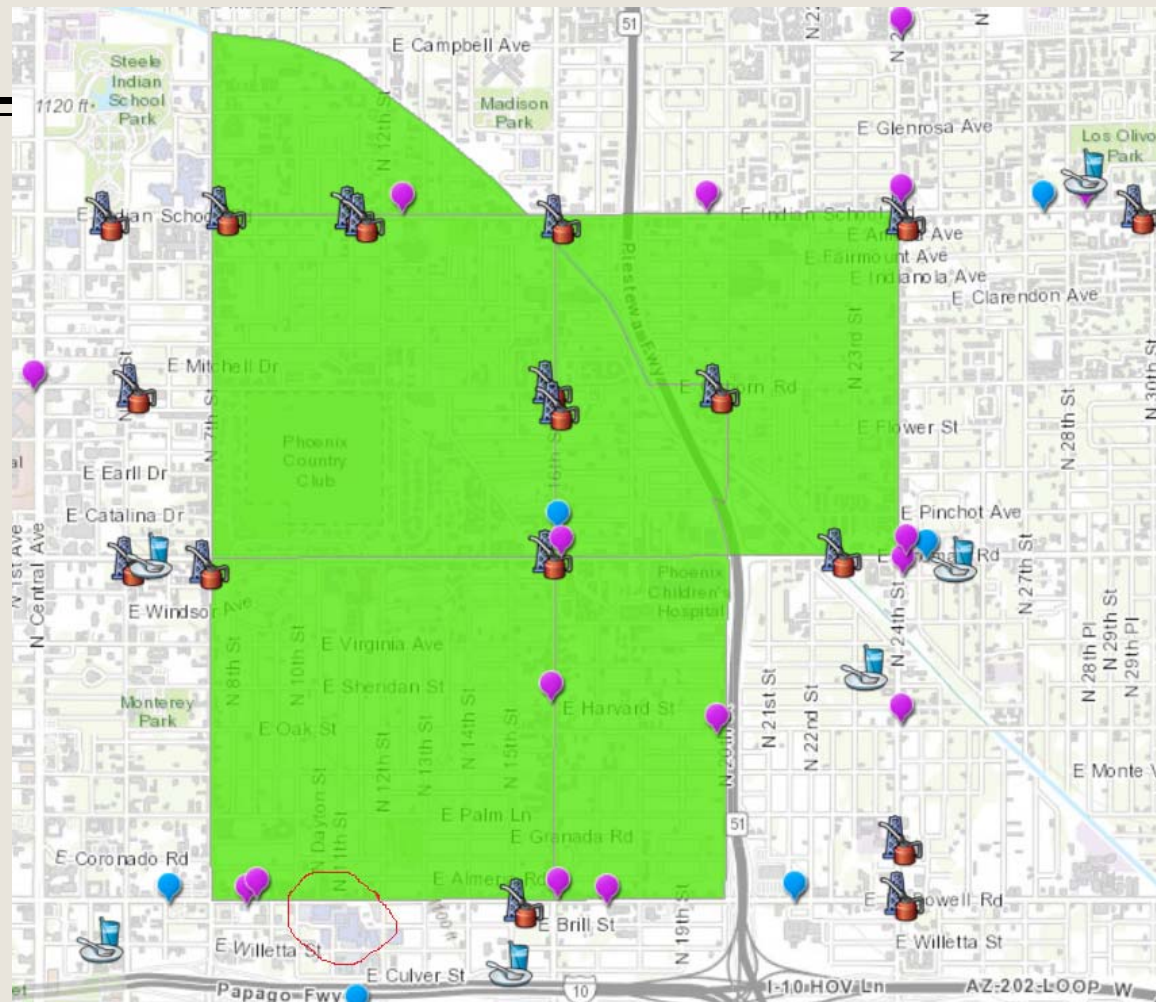


Food Deserts

- Limited access to fresh fruit, vegetables, and other healthful foods
- Predominantly black and Hispanic neighborhoods have fewer full service supermarkets than white neighborhoods
- Convenience stores are more prevalent in food deserts and have higher food prices, lower quality, and less variety
- Worsened and expanded by “transportation deserts”



Food Desert



<https://azdhs.gov/gis/az-food-deserts/index.php>

What Can We Do?

- National School Lunch Program: Federally assisted meal program in schools
 - Provides low cost or free lunches
 - <https://www.fns.usda.gov/nslp/national-school-lunch-program-nslp>
- Women, Infants, and Children (WIC)
 - Federal grant to states for supplemental foods, health care referrals, and nutrition education for low income pregnant, breastfeeding, and non-breastfeeding women, and infants and children to age 5
 - <https://www.fns.usda.gov/wic/women-infants-and-children-wic>

What Can We Do?

Supplemental Nutrition Assistance Program (SNAP)

- In Arizona referred to as “Nutrition Assistance”
- Refer patients for assistance:
- <https://des.az.gov/services/basic-needs/food/nutrition-assistance-formerly-food-stamp-program>
- Be familiar with eligibility criteria in your state



What Can We Do?

- Emergency Food Programs:

- <http://www.azfoodbanks.org/>
- Food Banks, Soup Kitchens, Onsite Meals, and Home Meals/Delivery
 - St. Mary's Food Bank, Desert Mission Food Bank, Cultural Cup Food Bank, FIBCO Family Services, Friendly House

- Farmers Markets

- <http://www.arizonacommunityfarmersmarkets.com/>
- All accept WIC, EBT/SNAP

Crime and Violence



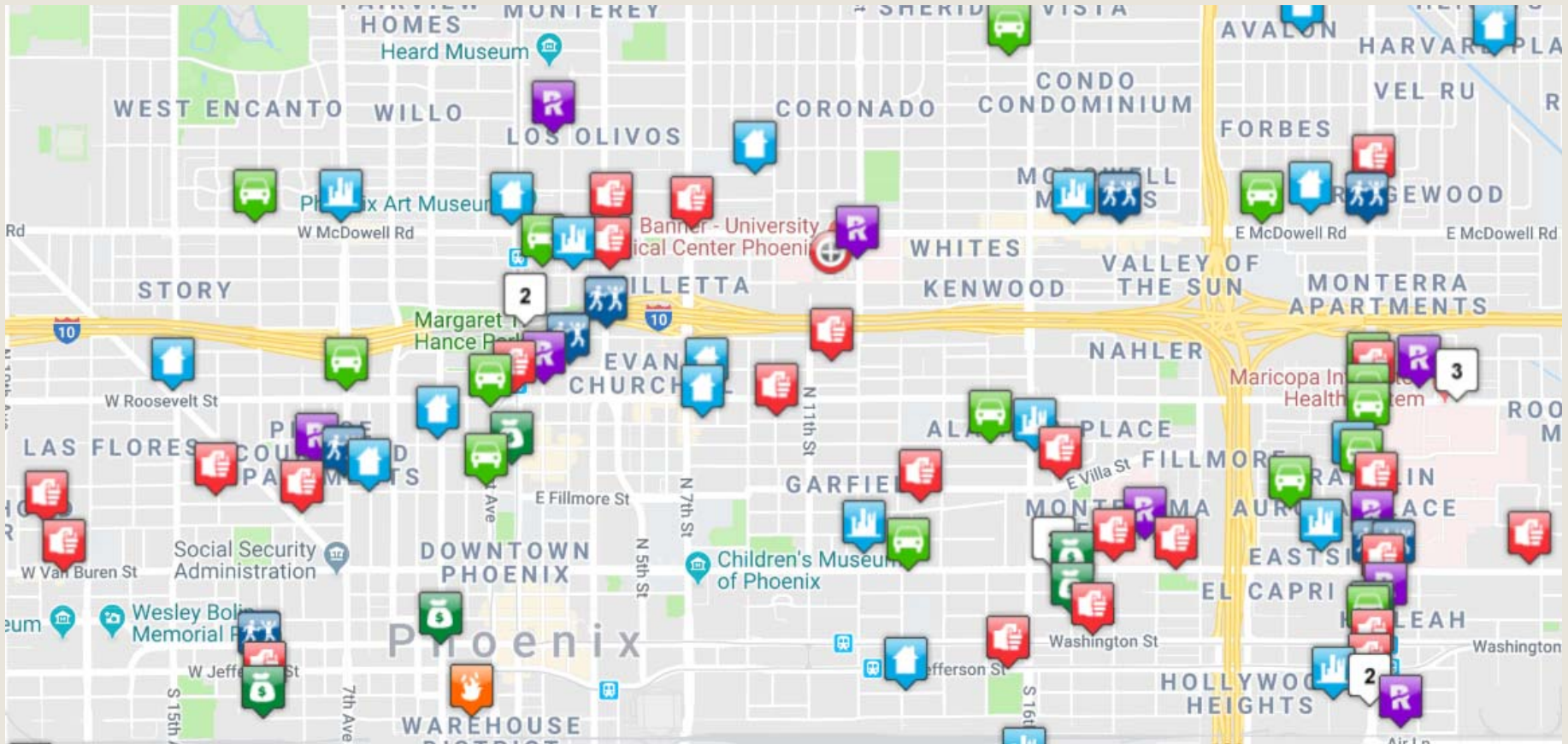
Crime and Violence

- Exposure to violence includes:
 - Victimization, witnesses acts of violence, and hearing about events from others
 - More common in low income neighborhoods

- Exposure to violence and crime associated with:
 - Poor childhood and adolescent mental and behavioral health
 - Increased anxiety, depression, behavioral problems
 - Substance use
 - Risky sexual behavior
 - Unsafe driving behavior
 - More likely to experience or engage in IPV

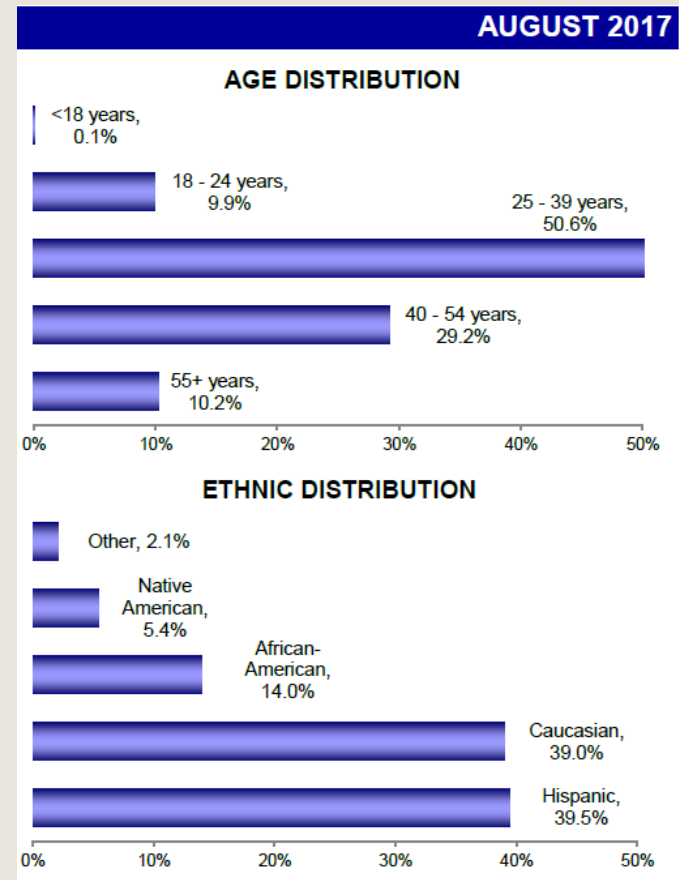
- High crime neighborhoods often have less physical activity
 - Report poorer self-rated physical and mental health
 - Higher BMI

Around BUMCP

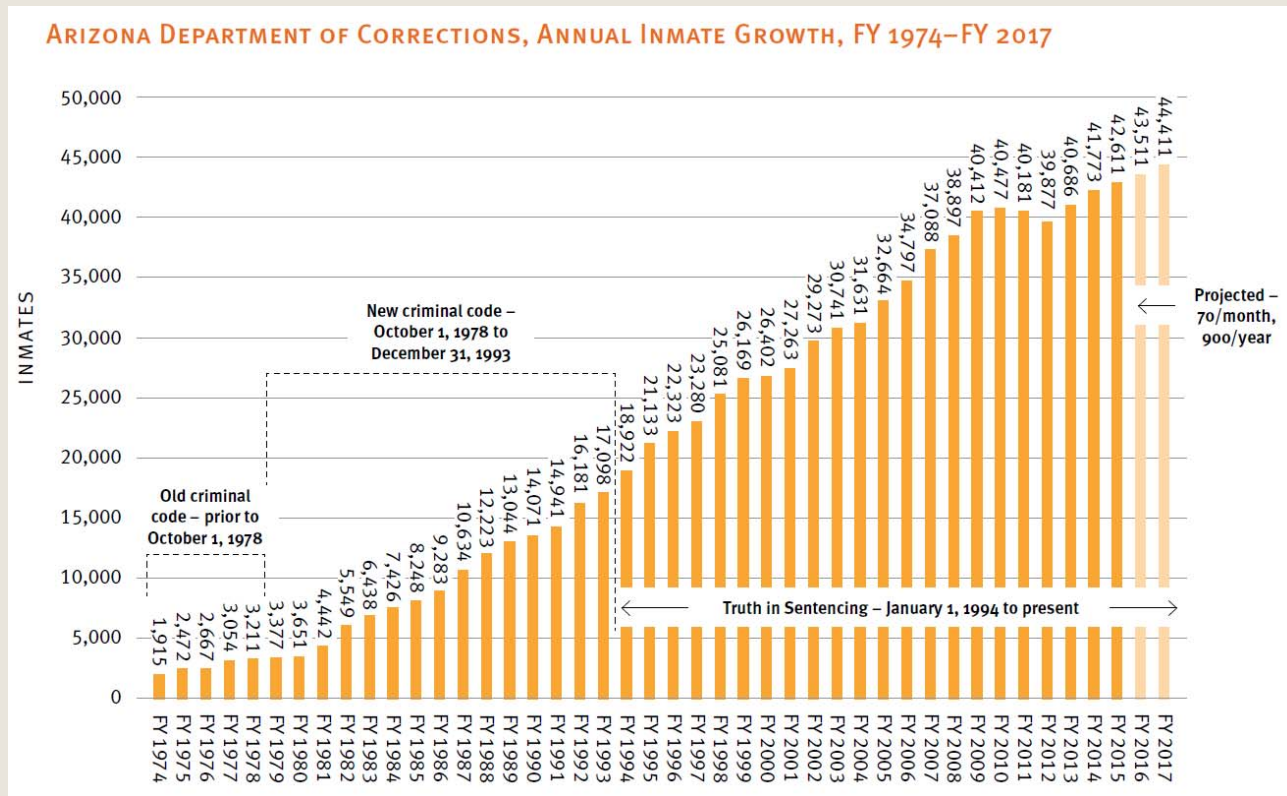


Incarceration

AUGUST 2017				
INMATE COMMITMENT OFFENSES				
OFFENSE	US Citizens	Crim. Aliens	TOTAL	%
Arson	136	7	143	0.3%
Assault	5,038	333	5,371	12.7%
Auto Theft	1,795	40	1,835	4.3%
Burglary/Criminal Trespass	3,018	83	3,101	7.3%
Child/Adult Abuse	291	17	308	0.7%
Child Molestation	1,448	276	1,724	4.1%
Criminal Damage	167	5	172	0.4%
Domestic Violence	161	4	165	0.4%
Drug Possession (All)	3,301	62	3,363	8.0%
<i>Marijuana Only</i>	228	12	240	0.6%
Drug Sales/Trafficking	3,902	1,747	5,649	13.4%
DUI	1,445	144	1,589	3.8%
Escape	164	6	170	0.4%
Forgery	399	15	414	1.0%
Fraud	290	5	295	0.7%
Identity Theft	353	11	364	0.9%
Kidnapping	1,054	302	1,356	3.2%
Manslaughter/Neg. Homicide	659	95	754	1.8%
Murder	2,703	385	3,088	7.3%
Other	1,442	76	1,518	3.6%
Rape/Sexual Assault	498	65	563	1.3%
Robbery	3,367	211	3,578	8.5%
Sex Offense	2,500	267	2,767	6.6%
Theft	1,052	20	1,072	2.5%
Trafficking in Stolen Property	716	11	727	1.7%
Weapons Offense	1,823	52	1,875	4.4%
TOTAL	37,950	4,251	42,201	100.0%
%	89.9%	10.1%	100.0%	



Inmate Growth in Arizona



Health Services for Incarcerated Individuals

INMATE HEALTH SERVICES

Hospital Admissions.....	104
Inmates With: HIV...199 Active TB...0 Hepatitis C...7,328	
Inmates Requiring Ongoing Mental Health Services.....	11,795

Program Enrollment	Sub-Total	TOTAL
ADC Education		5,425
Functional Literacy	1,383	
High School Equivalency	2,383	
Special Education	113	
Career & Technical Education	1,546	
Addiction Treatment *		750
Sex Offender Treatment		288
Self-Improvement		4,737
Work Programs		25,908
Arizona Correctional Industries		
• Labor Contracts	1,313	
• Owned & Operated	879	
Intergovernmental Agreements	1,975	
Work Incentive Pay Program	21,741	
Total Program Enrollments **		37,108

* Seventy-seven percent of inmates assessed at intake have significant substance abuse histories.

** Inmates may be enrolled in more than one program.

What Can You Do?

- Be aware of crime rates in your patients' communities and be sensitive to this need when making recommendations
 - Partner with public health and department of corrections to identify root cause of crime
 - Crime Rates by Zip Code <http://www.raidsonline.com/>
- Advocate for increased safety infrastructure
- Ask patients about history of incarceration. If appropriate, ask about why and evaluate for risk of recidivism and health outcomes
- Advocate for programs that reduce recidivism (education, job training, financial management, substance use and mental health treatment)

What Can You Do?

- Provide Resources for Recently Imprisoned Individuals:
 - STEP Guide: <https://afscarizona.files.wordpress.com/2014/03/step-2007.pdf>
 - Ex-Offender Reentry Programs:
<http://www.mycommunitypt.com/arizona/index.php/component/cpx/?task=services.co&code=FF-1900>
 - Human Rights Watch AZ Prison Resources:
<https://www.hrw.org/news/2010/07/07/arizona-prison-resources>

Housing Instability



Housing Instability

- No standard definition
 - Includes difficulty paying rent, overcrowding, moving frequently, staying with relatives, spending bulk of income on housing
 - Overcrowding defined as more than 2 people living in same bedroom or multiple families living in 1 residence
 - Cost Burdened: If spending $>$ 30% of income on housing
 - Severely Cost Burdened: If spending $>$ 50% of income on housing
- Black and Hispanic households are nearly 2x as likely as white to be cost burdened
- Households with children in the lowest income quartile that are severely cost burdened:
 - have, on average, just \$257 per month for food, \$29 for clothing and \$9 for health care.

Cost Burden in Arizona

Economy / Housing Affordability & Supply

Renters Spending 30% or More of Household Income on Rent

VALUE
49.6%
(2012-2016)

COMPARED TO:



U.S. States



US Value
(47.3%)

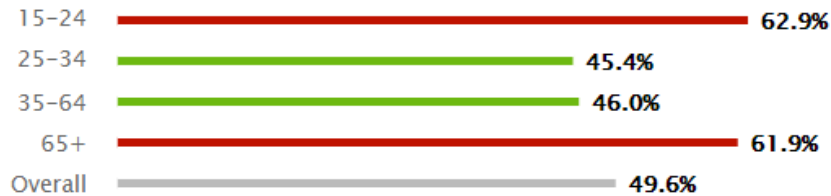


Prior Value
(50.1%)



Trend

Renters Spending 30% or More of Household Income on Rent by Age



Housing Instability: Impact on Health

- Decreases access to care
- Substandard housing increasing environmental exposure risks:
 - Vermin, mold, water leaks, and inadequate heating and cooling systems
- Evictions and foreclosures increases risk of suicide



Homelessness

- Defined: lacking a regular nighttime residence or having a primary nighttime residence that is a temporary shelter or other place not designed for sleeping
- 2015: About 565,000 people were homeless in the U.S
- High Rates of Chronic Disease:
 - A study of newly homeless people in the New York City shelter system found that 6% had diabetes, 17% had hypertension, 17% had asthma, 35% had major depression, and 53% had a substance use disorder
 - Increased risk of premature death.



STATEWIDE ANNUAL HOMELESS ESTIMATES FROM HMIS



Poverty

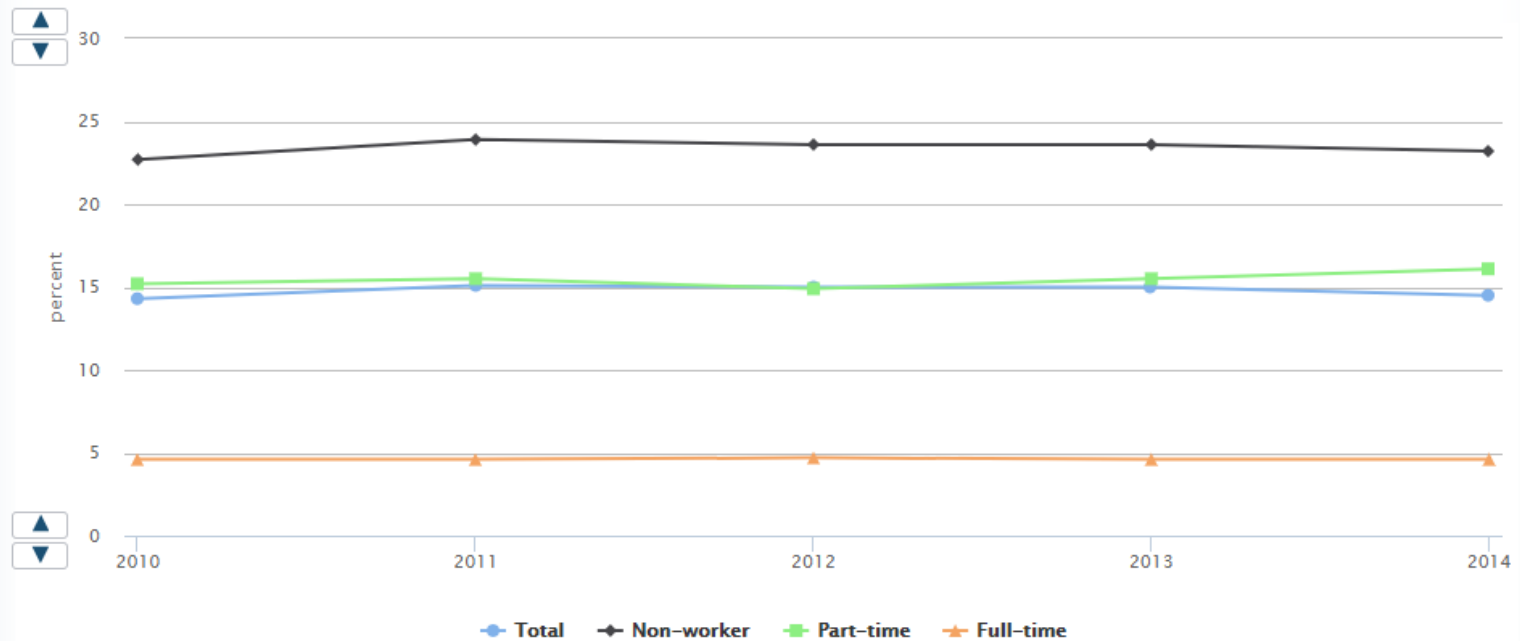
Family Size	FPL 100%	FPL 138%	FPL 250%	FPL 400%
1	\$12,060	\$16,642	\$30,150	\$48,240
2	\$16,240	\$22,411	\$40,600	\$64,960
3	\$20,420	\$28,179	\$51,050	\$81,680
4	\$24,600	\$33,948	\$61,500	\$98,400
5	\$28,780	\$39,716	\$71,950	\$115,120
6	\$32,960	\$45,484	\$82,400	\$131,840
7	\$37,140	\$51,253	\$92,850	\$148,560
8	\$41,320	\$57,021	\$103,300	\$165,280

Poverty and Employment

Persons living in poverty (percent, all ages) By Work Experience (16 Years And Over)

2020 Baseline (year): 14.3 (2010) --- 2020 Target: Not applicable Desired Direction: Informational

Auto Scale



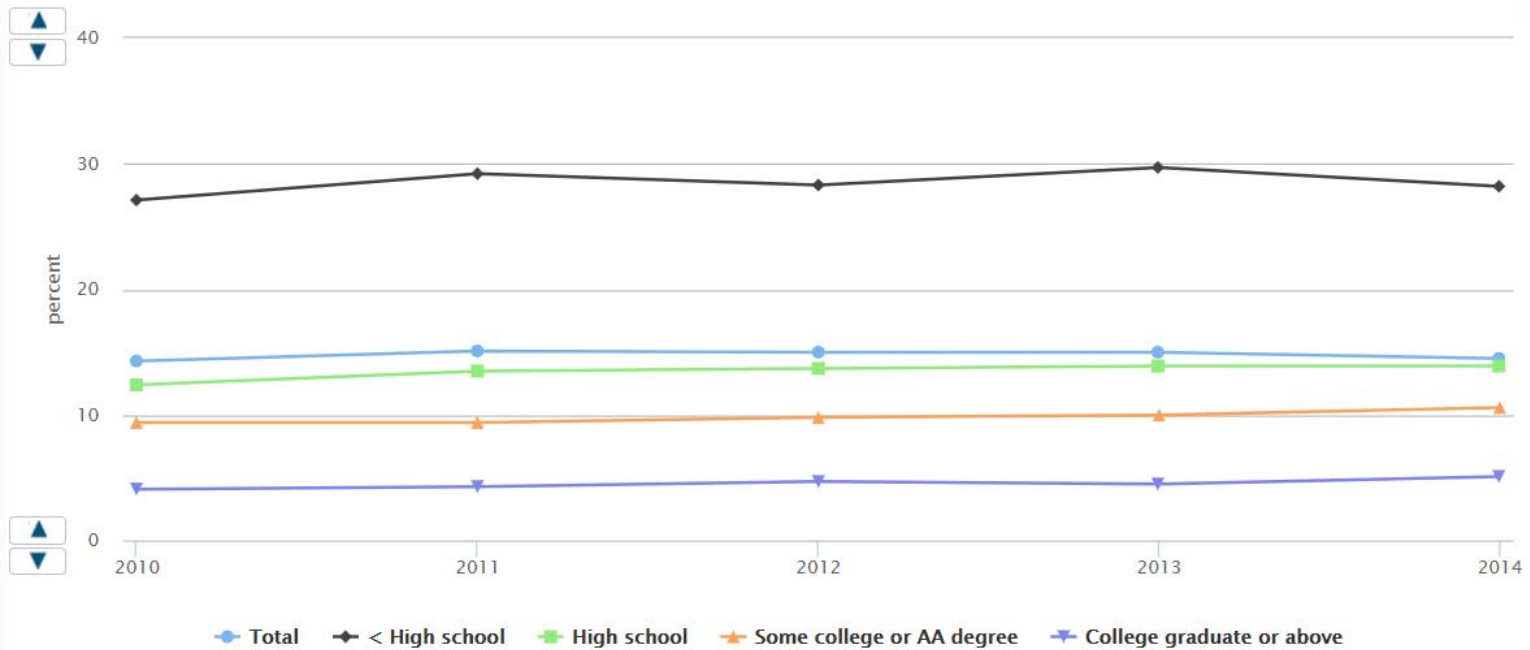
Data Source: Current Population Survey (CPS); U.S. Census Bureau and Department of Labor, Bureau of Labor Statistics (Census and DOL/BLS)
Additional footnotes may apply to these data. Please refer to footnotes below the data table for further information.

Poverty and Education

Persons living in poverty (percent, all ages) By Educational Attainment (25 Years And Over)

2020 Baseline (year): 14.3 (2010) --- 2020 Target: Not applicable Desired Direction: Informational

Auto Scale



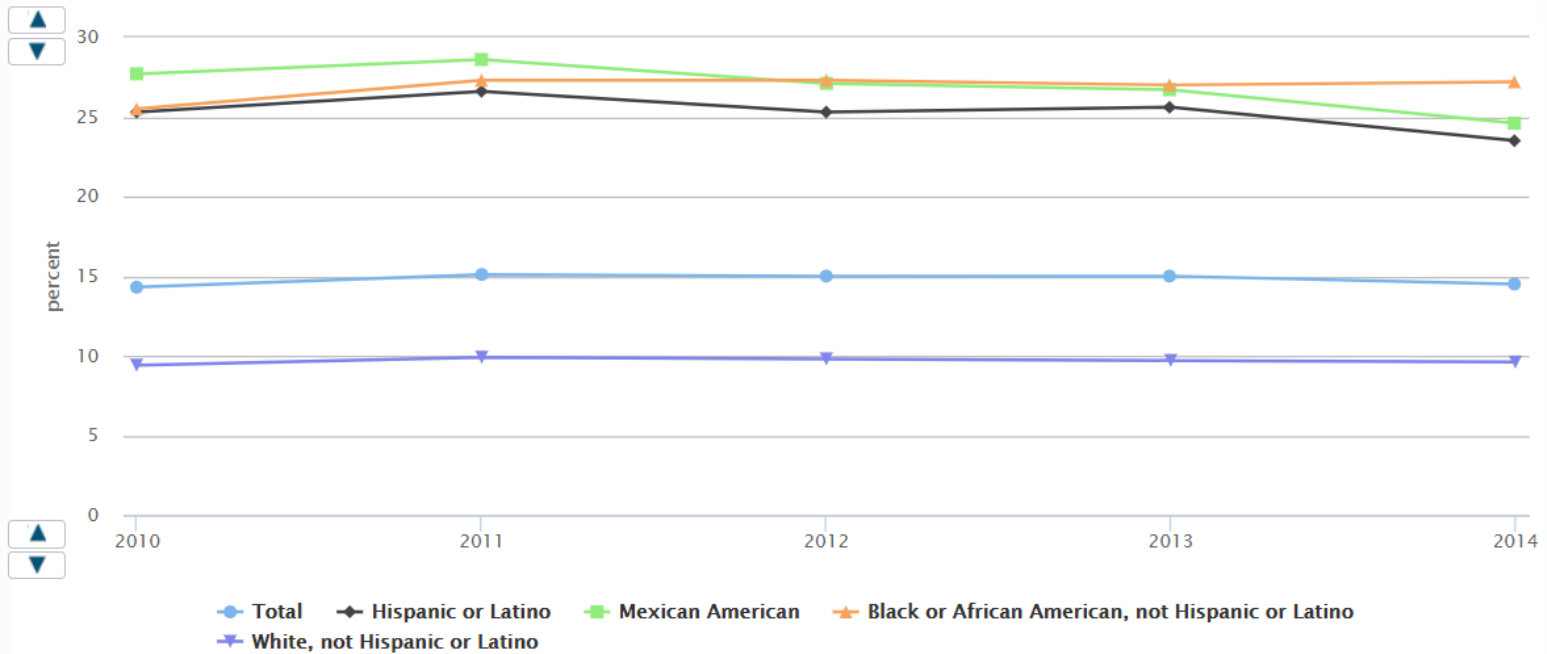
Data Source: Current Population Survey (CPS); U.S. Census Bureau and Department of Labor, Bureau of Labor Statistics (Census and DOL/BLS)
Additional footnotes may apply to these data. Please refer to footnotes below the data table for further information.

Poverty and Race

Persons living in poverty (percent, all ages) By Race/Ethnicity

2020 Baseline (year): 14.3 (2010) --- 2020 Target: Not applicable Desired Direction: Informational

Auto Scale



Data Source: Current Population Survey (CPS); U.S. Census Bureau and Department of Labor, Bureau of Labor Statistics (Census and DOL/BLS)
Additional footnotes may apply to these data. Please refer to footnotes below the data table for further information.

What Can We Do About It?

- Offer Resources Depending on Need:
 - Social work and Case Management Referral
 - Arizona Department of Housing: <https://housing.az.gov/general-public/homeless-assistance>
 - Arizona Department of Economic Security: <https://des.az.gov/services/basic-needs/homeless-coordination-office>
 - Emergency Shelters:
http://www.mycommunitypt.com/arizona/index.php?option=com_cpx&task=search.query&code=BH-1800.8500
 - Low Income Subsidized Housing:
http://www.mycommunitypt.com/arizona/index.php?option=com_cpx&task=search.query&code=BH-7000.4600
 - Arizona Housing Coalition: <https://azhousingcoalition.org/>
- Advocate for resources and programs to improve poverty and housing instability
- Ask your patients about housing status

Physical Environment



Physical Environment

- Lead Exposure
- Vermin
- Heat/Cold
- Secondhand Smoke
- Mold/Allergens
- Structural Features: Stairs, balconies, window guards, locks, etc
- Poisoning

Physical Environment: Stats

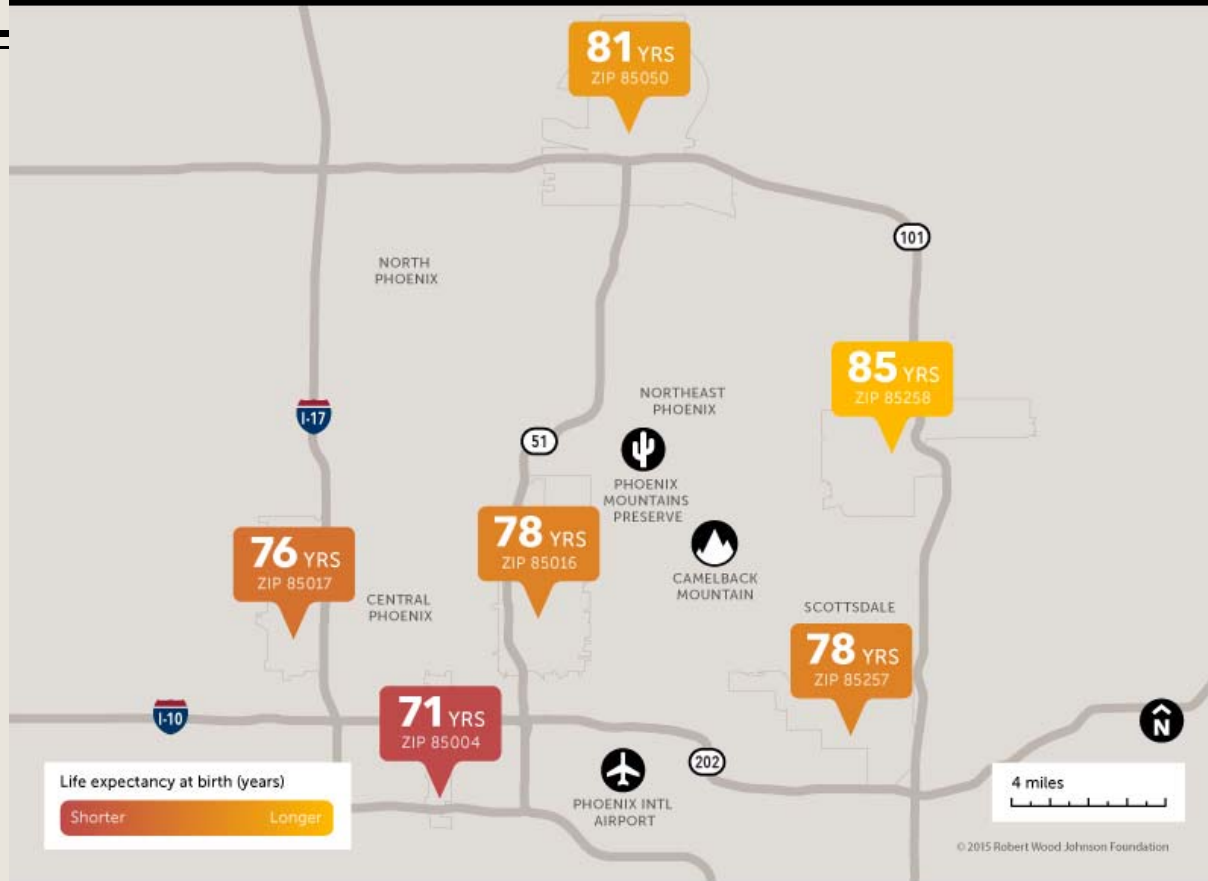
- More than 6 million occupied housing units in the United States have moderate or severe physical deficiencies.
- Substandard housing conditions can lead to poor health
- Structural features of the home can lead to injury.
 - In 2007, nearly one-half of the 34.3 million medically consulted injury and poisoning episodes occurred in or around the home.
 - Each year, injuries occurring at home result in an estimated 4 million emergency department visits and 70,000 hospital admissions

PHOENIX, ARIZONA

Follow the discussion

Short Distances to Large Gaps in Health

#CloseHealthGaps





Happy Thoughts



Let's Talk About You



Screening Tools

- Here are a few:
 - Patient-Centered Assessment Method (PCAM)
 - Health Leads Screening Toolkit
 - Hennepin County Medical Center Life Style Overview
 - Protocol for Responding to and Assessing Patients' Assets, Risks and Experiences (PRAPARE)



The EveryONE Project

- Developed by AAFP
- Provides Social Needs Screening Tools and Resources
- <https://www.aafp.org/patient-care/social-determinants-of-health/cdhe/everyone-project/tools.html>



The EveryONE Project

Advancing health equity in every community

Integration into Clinical Care

- Document Information for SDoH:
 - Currently documented in most EHRs: Race/ethnicity, employment, education level
 - Actions currently documented in EHRs: Referral to SW/CM
- Recommended by National Academy of Medicine
 - Alcohol use, race/ethnicity, residential address, tobacco use
 - Income, patient reported depression, education, financial resource strain, IPV, physical activity, social connections or isolation, stress
- Utilize ICD10 codes

Good Starting Resources

- **Arizona 211**

- Community Resource Information and Referral Services
- 211arizona.org or Dial 2-1-1



- **Aunt Bertha**

- Search and Referral Platform for Community Resources
- <https://www.auntbertha.com/>



Civic Engagement

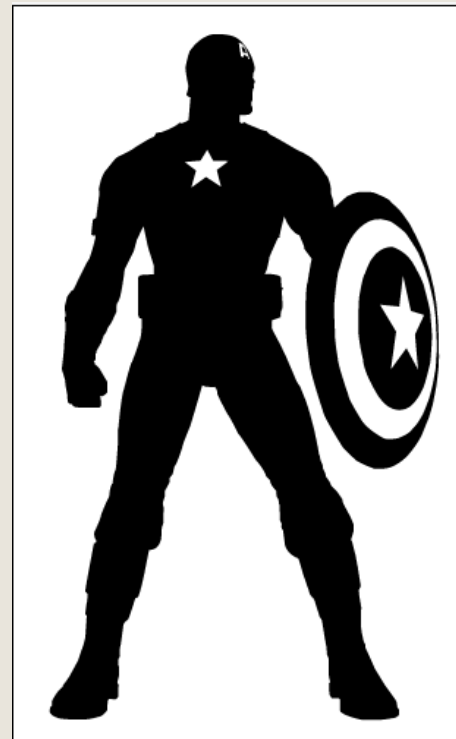
- Call you local, state, and federal elected/appointed officials
 - <https://azredistricting.org/districtlocator/>
 - Go to legislative hearings and meetings.
 - Register your opinion as testimony or online: <https://www.azleg.gov/>
 - STFM Advocacy Modules: <http://www.stfm.org/Advocacy/AdvocacyToolkit>
- Participate in Organized Medicine
 - Arizona Medical Association
 - Your local and national specialty society
- Serve on an Elected or Appointment Commission or Board
 - Particularly one that is not “healthcare”
 - <https://bc.azgovernor.gov/bc/boards-and-commissions-list>
- Volunteer at Community Organizations

Health In All Policy (HiAP)

- Innovative strategy that introduces as goals to be shared across all areas of government improved population health outcomes and closing the health gap among different socio-demographic groups.



Be the Heroes of Medicine



Resources

- EverONE Project: <https://aafp.org/patient-care/social-determinants-of-health/everyone-project.html>
- Robert Wood Johnson Foundation: <https://rwjf.org>
- Healthy People 2020: <https://healthypeople.gov>
- Arizona Health Matters <http://arizonahealthmatters.org>
- Community Tool Box: <https://ctb.ku.edu/en/table-of-contents/analyze/analyze-community-problems-and-solutions>
- County Health Rankings: <http://www.countyhealthrankings.org/>
- CDC: Policy Resources to Support SDoH
<https://www.cdc.gov/socialdeterminants/policy/index.htm>
- CDC Tools for Putting SDoH Into Action
<https://www.cdc.gov/socialdeterminants/tools/index.htm>

More Resources

- CDC Chronic Disease Indicators <https://www.cdc.gov/cdi/index.html>
- NCHHSTP AtlasPlus: Community indicators for HIV, Viral Hepatitis, STD and TB data <https://www.cdc.gov/nchhstp/atlas/index.htm>
- National Environmental Public Health Tracking Network: <https://ephtracking.cdc.gov/showHome.action>
- Social Vulnerability Index: <https://svi.cdc.gov/>
- Community Health Needs Assessment: <https://www.communitycommons.org/chna/>
- Arizona Department of Health Services AZ Food Deserts: <http://www.azdhs.gov/gis/az-food-deserts/index.php>
- www.ArizonaSelfHelp.Org
- United States Census State and County Quick Facts <http://quickfacts.census.gov/qfd/states/04000.html>
- United States Census American Fact Finder http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

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- VCU Center on Society and Health Mapping Life Expectancy: <https://societyhealth.vcu.edu/work/the-projects/mapping-life-expectancy.html>