# THE SOCIAL DETERMINANTS OF HEALTH & HEALTH EQUITY

# Focusing on the "Public" in "Population" Health

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# **Session Presenters**

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## HEALTH EQUITY & THE SOCIAL DETERMINANTS OF HEALTH

Dr. Marya Shegog

What is a "Health Disparity"? Conceptual Issues

- Inequality
  - Difference in condition, rank
  - Lack of equality as of opportunity, treatment, or status
- Inequity
  - Unfair and unjust
  - <u>Unnecessary and Avoidable</u>



"Health Disparity" in Public Health Inequities (Conceptual) – Disparities (Measurable)

- Quantitative measures: rates, percents, means...
- The Quantity that separates a group from a reference point on a particular measure of health
- Calls attention to differences in health between groups <u>regardless of cause</u>
- Can be measured in absolute or relative terms



## Causes of Health Disparities in the U.S.

- Environmental exposures
  - <u>neighborhoods</u> higher exposure to toxins, more cigarette and fast food ads, less access to healthy food choices
  - exposure to pollution, toxins
  - Less opportunity to determine what comprises your community = time and access
- <u>Biological predisposition/ Genetics</u>
  - The risk a person has due to familial traits
  - Ultimately it has little affect, combination of factors
- <u>Behaviors/Lifestyle</u>
  - eating behavior, level of physical activity, smoking
- Social circumstances
  - poverty, stress, racism, education, crowding, fear
  - Education, Access, knowledge
- <u>Medical care</u>
  - quality, access, limited providers with same ethnic background
  - Knowledge of disease progression is anything other than White males



## Social Determinants of Health



## Social Determinants of Health



### <u>Biology</u>

- Biological influences that contribute to how the body responds to invasion, disease and treatment.
- Examples:
  - Sex
  - Age



- How and what a person does that impacts their health across their lifespan
- Examples:
  - Cultural and Ethnic Norms
  - Health Seeking Behaviors
  - Diet



### **Environmental**

- The areas in which a person exists that impacts their health.
- Exposure
- Example:
  - Neighborhood
  - Work Weather

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## **Social Determinants of Health**



- Social Factors have direct and indirect impacts on health and health outcomes.
- The factors are not discrete- they overlap to create a matrix



## HEALTH EQUITY

Joseph P. Iser, MD, DrPH, MSc Chief Health Officer Southern Nevada Health District



## **Health Equity**

"Health equity" means efforts to ensure that all people have full and equal access to opportunities that enable them to lead healthy lives.





Hispanics and Asians/PIs are the fastest-growing segments of the population, accounting for 31% and 11% of Clark County residents in 2015





#### Hispanics Are Projected To Become The Largest Racial Ethnic Group And Will Account For Nearly Half Of Clark County Residents By 2050



Figure 2 Population Estimate and Forecast by Race/Ethnicity, Clark County, NV 2005 and 2050

Source: Center for Business and Economic Research, University of Nevada, Las Vegas, http://www.clarkcountynv.gov/comprehensiveplanning/demographics/Documents/2015 Population Forecasts.pdf

# Age-adj. death rate (per 100,000) by race/ethnicity for select injury causes, Clark County, average 2007-14

Firearm	White(NHW)		16.5	
	Black(NHB)		18.3	
	Native(NHAIAN)	11.8		
	Asian(NHAPI)	4.2		
	Hispanic	7.4		
Poisoning	White(NHW)			32.9
	Black(NHB)		18.1	
	Native(NHAIAN)			33.3
	Asian(NHAPI)	4.5		
	Hispanic	8.2		
Motor Vehicle Traffic	White(NHW)	11.1		
	Black(NHB)	10.5		
	Native(NHAIAN)	10.5		
	Asian(NHAPI)	6.4		
	Hispanic	8.6		
Suffocation	White(NHW)	6.3		
	Black(NHB)	5.4		
	Asian(NHAPI)	3.6		
	Hispanic	3.1		
			Source: CD	CWONDER

# Age-adj. death rate (per 100,000) by race/ethnicity for select injury causes, Clark County, average 2007-14 (cont.)

Fall	White(NHW)	8.2
	Black(NHB)	3.8
	Asian(NHAPI)	6.1
	Hispanic	3.4
Cut/Pierce	White(NHW)	1.0
	Black(NHB)	1.9
	Asian(NHAPI)	1.0
	Hispanic	0.9
Drowning	White(NHW)	1.5
	Black(NHB)	1.6
	Hispanic	1.1
Fire/Flame	White(NHW)	0.7
	Black(NHB)	1.5
	Hispanic	0.4

African Americans experienced higher mortality risk from firearm and other injury causes (fire/flame)

# Age-adj. death rate (per 100,000) by race/ethnicity for select non-injury causes, Clark County, avg. 2007-14

Non-Injury: Diseases of Heart	White(NHW)			214	.8
	Black(NHB)				247.7
	Native(NH			156.3	
	Asian(NHA		108.7		
	Hispanic		115.9		
Non-Injury: Malignant neoplasms (Cancers)	White(NHW)			189.2	
	Black(NHB)			177.6	
	Native(NH		113.7		
	Asian(NHA		104.8		
	Hispanic		100.2		
Non-Injury: Cerebrovascular	White(NHW)	35.9			
diseases, including stroke	Black(NHB)	49.4			
	Native(NH	16.1			
	Asian(NHA	35.2			
	Hispanic	28.1			
Non-Injury: Nephritis, nephrotic syndrome and nephrosis	White(NHW)	18.1			
	Black(NHB)	33.5			
	Native(NH	17.6			
	Asian(NHA	15.5			
	Hispanic	16.1			

# Age-adj. death rate (per 100,000) by race/ethnicity for select non-injury causes, Clark County, avg. 2007-14 (cont.)

Non-Injury: Influenza &	White(NHW) 22.9
Pneumonia	Black(NHB) 25.8
	Native(NH 16.9
	Asian(NHA 14.6
	Hispanic 16.3
Non-Injury: Diabetes mellitus	White(NHW) 11.2
	Black(NHB) 19.9
	Asian(NHA 7.0
	Hispanic 11.2
Non-Injury: Septicemia	White(NHW) 12.0
	Black(NHB) 17.3
	Asian(NHA 9.1
	Hispanic 9.7
Non-Injury: Human immunodeficiency virus (HIV) disease	White(NHW) 2.5
	Black(NHB) 9.3
	Asian(NHA 1.0
	Hispanic 2.5

# Age-adj. death rate (per 100,000) by race/ethnicity for select non-injury causes, Clark County, avg. 2007-14 (cont.)

Non-Injury: Essential (primary) hypertension and hypertensive renal disease	White(NHW) 4.5
	Black(NHB) 9.1
	Asian(NHA 3.5
	Hispanic 2.9
Non-Injury: Certain conditions originating in the perinatal period	White(NHW) 2.9
	Black(NHB) 6.9
	Asian(NHA 2.2
	Hispanic 2.7
Non-Injury: Chronic liver disease and cirrhosis	White(NHW) 12.4
	Black(NHB) 6.7
	Native(NH 25.3
	Asian(NHA 2.6
	Hispanic 10.1

African Americans at higher mortality risk for heart disease, stroke, hypertension, diabetes, kidney disease, influenza/pneumonia, septicemia, HIV/AIDS, and certain perinatal conditions (e.g., preterm birth/LBW) Life expectancy (as indicated by potential years of life lost) fell short of the overall life expectancy for communities with high poverty rates and poor geographic access to care





### **Economic Impact of Premature Death**



- Health Inequities cause premature death & create economic burdens for the U.S.
- Between 2003 and 2006:
  - □ The combined costs of health inequalities and premature death were \$1.24 trillion.
  - □ *Eliminating health disparities for minorities would have reduced* direct medical care expenditures by **\$229.4 billion**.

LaVeist, Thomas A. and Gaskin, Darrell J. and Richard, Patrick Joint Center for Political and Economic Studies (2009) THE ECONOMIC BURDEN OF HEALTH INEQUALITIES IN THE UNITED STATES.



### **More Than Access to Care**

*Health is driven by multiple factors that are intricately linked – of which medical care is one component.* 



Determinants of Health and Their Contribution to Premature Death. Adapted from McGinnis et al. Copyright 2007



Two-thirds of Hispanic children ages 3 to 4 in Clark County did not attend preschool—percent children ages 3-4 not attending nursery or preschool



# There Are Stark Math and Reading Achievement Gaps for African American and Hispanic Students in Nevada.



Grade 4 and 8 Math and Reading Proficiency by Race/Ethnicity, Nevada, 2015



Source: National Assessment of Educational Progress (NAEP), *Nevada's 2015 NAEP Scores*, <u>https://studentsfirst.org/state/nevada/pages/nevadas-2015-naep-scores</u>

- Disparities in sociodemographic and environmental factors are associated with health equity, affecting ethnic minorities disproportionately
- More African Americans and Hispanics live in low socioeconomic status communities compared to whites
- Per capita income (in 2015 inflation-adjusted \$) averages \$22,134 among African Americans and \$16,368 among Hispanics, compared with \$35,107 among non-Hispanic whites

#### Housing characteristics by race, 2015 ACS estimates



1 in 4 Clark County Children Under 5 Years Old Lives in Poverty;
1 in 4 African American in Clark County Lives in Poverty;
1 in 5 Hispanic/Latino in Clark County Lives in Poverty.



Percent Below Poverty by Age Group (left) and by Race/Ethnicity (right), Clark County, NV, 2015

Source: 2015 American Community Survey 1-Year Estimate



#### Poverty levels are higher in Hispanic & African American communities





#### **Poverty and African American population by zip code**

#### High concentrations of ethnic minorities in areas of high pollution burden



# Neighborhood Safety & Efficacy: Impact of Trauma & Violence on Communities

- Some 3,500 American troops were killed during the eight-year war in Iraq.
- Within the same time period, 3,113 people were killed on the streets of Philadelphia.
- According to FBI data, between 2002 and 2012 Chicago lost more than 5,000 people to homicide— 3x the # of Americans killed in action in Afghanistan.
- Little is being done to address the problem!





This article is a collaboration between ESSENCE and ProPublica.

Last October, Aireana\* and her boyfriend were driving through Oakland when a man on the street opened fire on their car. Her two children, ages 6 and 1, were in the backseat. Aireana remembers feeling something slam into her jaw and hearing a sound

Source: Beckette L. Black America's invisible crisis. Essence Web Site. <u>http://www.essence.com/2014/09/05/propublica-post-traumatic-stress-disorder</u>. Published August 30, 2014.



### Infant mortality rates are almost twice as high in African Americans as in non-Hispanic whites in 2014



Source: Birth certificate files up to 2014 and death certificate files up to 2015 (preliminary for 2015 onwards) restricted to mothers residing in Clark County. Note: Based on birth-infant death linked files. Linked deaths may not occur in the same year as birth. Data suppression applied if number of events<5 (denoted by -X-).



Like infant mortality, very low birth weight (<1500 grams) or extreme prematurity often reflects the social and economic disparities that impact the wellbeing of the woman both prior to and during



Source: Birth certificate files (preliminary for 2015 onwards) restricted to mothers residing in Clark County. Note: Excludes live births with unknown birth weight. Data suppression applied if number of events<5 (denoted by -X-).



#### Very Low Birth Weight Distribution, Clark County (Metro Enlargement) Communities



Smoking increases the odds of being small for gestational age and SIDS; low-income neighborhoods are associated with higher exposure to environmental smoke



# Smoking related mortality and morbidity burden correlates with SES of communities



Transforming the conditions in which people are BORN, GROW, LIVE, WORK and AGE for optimal health, mental health & well-being. Prevention Health Care **HEALTHY PEOPLE** Mental Health Services Child Development, Education, and Culturally/ Linguistically Appropriate Literacy Rates and Competent Services Food Security/ Income Security Nutrition **HEALTHY COMMUNITY** Housing **Built Environments** Neighborhood Safety/Collective Efficacy Discrimination/ **Minority Stressors** Environmental Quality **HEALTHY ENVIROMENT** 

**HEALTHY SOCIETY** 

FIGURE 4: Ad11ev1ng Heath & Mental Health Equ1ty PJ Every Level

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ACHIEVING HEALTH & MENTAL HEALTH

#### **How DoWe Get There?**



Southern Nevada Health District


#### **Eliminate Health and Mental Health Inequities**



## Health Equity

- Achieve the highest level of health and mental health for all people, with special attention focused on those who have experienced socioeconomic disadvantage and historical injustice, including, but not limited to, vulnerable communities and culturally, linguistically, and geographically isolated communities.
- Work collaboratively to establish Health in All Policies (HiAP) to promote work to prevent injury and illness through improved social and environmental factors that promote health and mental health.
- Advise and assist other partners throughout the state but particularly in Clark County to increase access to, and the quality of, culturally and linguistically competent health and mental health care and services.



### Health Equity

- Provide technical assistance to state and local agencies, departments, and other partners with regard to building organizational capacity, staff training, and to facilitating communication on strategies to reduce health and mental health disparities.
- Work to address key health determinants, including housing, transportation, planning, education, parks, and economic development. We will link our local efforts with statewide efforts.







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#### **Questions?**

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# THE STATUS QUO & ROOM FOR IMPROVEMENT

Max Gakh

#### The logic of the social determinants

Structural, social, legal and political factors

Upstream causes (e.g. education, income, race, incarceration working conditions)

Health outcomes

Downstream causes (e.g. attitudes, knowledge, beliefs, behaviors)

Braveman PA, Egerter SA, and Williams DR. The Social Determinants of Health: Coming of Age. *Annual Review of Public Health* 2011; 32: 381-98

NV, (2014)	White, non- Hispanic	Black, non- Hispanic	Hispanic	Other, non- Hispanic	Multiraci al, non- Hispanic
Excellent	<b>20.4%</b>	<b>13.4%</b>	<b>15.3%</b>	<b>19.3%</b>	<b>29.8%</b>
	(18-22.9%)	(6.3-20.4%)	(10.9-19.6%)	(10.7-27.8%)	(14.8-44.8%)
	n=498	n=19	n=73	n=28	n=24
Very Good	<b>33.4%</b>	<b>30.0%</b>	<b>21.7%</b>	<b>25.1%</b>	<b>32.9%</b>
	(30.7-36%)	(21.2-38.7%)	(16.8-26.5%)	(15.5-34.7%)	(18.6-47.1%)
	n=953	n=47	n=105	n=46	n=36
Good	<b>29.8%</b>	<b>33.8%</b>	<b>40.9%</b>	<b>38.4%</b>	<b>27.7%</b>
	(27.2-32.4%)	(24.8-42.8%)	(34.9-46.9%)	(27.6 - 49.1)	(13.8-41.6%)
	n=799	n=56	n=181	n=70	n=38
Fair	<b>10.9%</b> (9.2-12.6%) n=330	<b>19.2%</b> (11.3-27%) n=34	<b>19.5%</b> (14.8-24.3%) n=89		
Poor	<b>5.6%</b> (4.4-6.8%) n=159				



NV, (2014)	Less than	High School	Some post	College
	High School	or GED	High School	graduate
Excellent	<b>9.5%</b>	<b>16.8%</b>	<b>19.5%</b>	<b>26.9%</b>
	(4.6-14.3%)	(13.1-20.6%)	(16.0-23.1%)	(22.6-31.2%)
	n=23	n=130	n=204	n=295
Very Good	<b>13.4%</b>	<b>26.7%</b>	<b>32.9%</b>	<b>39.6%</b>
	(8.0-18.8%)	(22.6-30.7%)	(28.9-36.9%)	(35.1-44.1%)
	n=46	n=270	n=411	n=461
Good	<b>44.2%</b>	<b>37.8%</b>	<b>31.0%</b>	<b>24.9%</b>
	(36.5-52%)	(33.2-42.4%)	(27.0-35%)	(21.1-28.6%)
	n=123	n=361	n=362	n=316
Fair	<b>27.1%</b>	<b>13.1%</b>	<b>11.8%</b>	<b>6.3%</b>
	(20.1-34.2%)	(10.0-16.0%)	(9.3-14.3%)	(4.5-8.0%)
	n=93	n=155	n=168	n=96
Poor	<b>5.7%</b> (2.9-8.5%) n=32	<b>5.7%</b> (3.5-7.8%) n=68	<b>4.8%</b> (3.3-6.3%) n=76	



NV, (2014)	<b>Under</b> \$15,000	\$15,000 - 24,999	\$25,000 - 34,999	\$35,000 - 49,999	\$50,000+
Excellent	<b>11.9%</b>	<b>10.1%</b>	<b>11.8%</b>	<b>22.5%</b>	<b>25.3%</b>
	(5.7-18.0%)	(5.7-14.4%)	(6.7-17.0%)	(15.7-29.4%)	(21.8-28.8%)
	n=25	n=46	n=51	n=77	n=374
Very Good	<b>19.6%</b>	<b>18.1%</b>	<b>24.8%</b>	<b>29.1%</b>	<b>39.1%</b>
	(12.6-26.7%)	(13.5-22.7%)	(18.0-31.7%)	(23.1-35.0%)	(35.2-42.9%)
	n=55	n=134	n=112	n=164	n=584
Good	<b>32.6%</b>	<b>46.5%</b>	<b>41.6%</b>	<b>32.4%</b>	<b>26.7%</b>
	(23.9-41.3%)	(40.1-52.9%)	(33.1-50.2%)	(25.4-39.5%)	(23.2-30.3%)
	n=92	n=233	n=124	n=143	n=389
Fair	<b>27.7%</b>	<b>18.2%</b>	<b>15.9%</b>	<b>9.5%</b>	<b>6.9%</b>
	(18.4-37.0%)	(13.7-22.8%)	(10.0-21.8%)	(5.8-13.2%)	(5.0-8.8%)
	n=81	n=119	n=60	n=50	n=108
Poor	<b>8.2%</b> (4.8-11.6%) n=44	<b>7.1%</b> (4.2-10.0%) n=54	<b>5.9%</b> (2.6-9.1%) n=24		<b>2.0%</b> (1.0-3.0%) n=33





#### Food insecurity

% of population experiencing food insecurity (i.e. uncertain or limited access to food) at some point during the year

Data Source: Feeding America, 2013.

Churchill	15	Lyon	16.6
Clark	15	Mineral	18.1
Douglas	14.1	Nye	16.9
Elko	9.7	Pershing	14.7
Esmeralda	14.3	Storey	13.1
Eureka	14.4	Washoe	14.7
Humboldt	10.4	White Pine	13.2
Lander	8	Carson City	15.2
Lincoln	18.5		

 U.S.
 15.2

 Nevada
 15.8

#### Education



#### % of students earning a high school diploma within 4 years (cohort graduation rate)

#### Data Source: U.S. Department of Education, EDFacts, 2013-14.

U.S.	84.3
Nevada	72.1

Churchill	70.8	Lyon	79.1
Clark	71	Mineral	64.7
Douglas	87.9	Nye	67
Elko	77	Pershing	84.4
Esmeralda	ND	Storey	89.7
Eureka	90.9	Washoe	73
Humboldt	78	White Pine	76.9
Lander	72.2	Carson City	78
Lincoln	84.6		

#### Income

Per capita income (i.e. wages and salaries, self-employment, public assistance, interest, retirement income, and other) in dollars

Data Source: American Community Survey, 2010-14.

U.S.	28,554	Churchill	23,822	Lyon	22,708
Nevada	26,515	Clark	26,039	Mineral	23,221
L		Douglas	34,090	Nye	23,035
		Elko	29,762	Pershing	18,622
		Esmeralda	20,515	Storey	37,214
		Eureka	31,056	Washoe	28,620
		Humboldt	26,546	White Pine	25,856
		Lander	29,301	Carson City	25,893
		Lincoln	23,522		

# Â

## Housing

Percentage of housing units with at least one substandard condition (complete plumbing, complete kitchen, over 1.01 occupant per room, greater than 30% of household income used to pay housing cost

Data Source: American Community Survey, 2010-14.

U.S.	35.7	Churchill	32.7	Lyon	36.5
Nevada	40.3	Clark	41.6	Mineral	24.9
		Douglas	36.6	Nye	35.3
		Elko	22.6	Pershing	27.3
		Esmeralda	30	Storey	27.8
		Eureka	16.8	Washoe	41.1
		Humboldt	22.8	White Pine	18.6
		Lander	12.5	Carson City	36.2
		Lincoln	24.3		

#### Safety



Violent crimes (e.g. rape, homicide, aggravated assault, robbery) per 100,000 reported by law enforcement

Data Source: FBI Uniform Crime Reports. 2010-12.

U.S.	395.5	Churchill	189.5	Lyon	244
Nevada	622.1	Clark	714.8	Mineral	273.9
	I	Douglas	121.9	Nye	624.1
		Elko	321.9	Pershing	809.4
		Esmeralda	254.5	Storey	600
		Eureka	450.3	Washoe	392.6
		Humboldt	315.1	White Pine	365.4
		Lander	690.8	Carson City	264.4
		Lincoln	111.7		

#### Stability



Percentage of those over age 5 who speak English less than "very well" and speak a language different from English in the home.

Data Source: American Community Survey, 2010-14.

U.S.	8.6	Churchill	5.2	Lyon	4.6
Nevada	12.2	Clark	14	Mineral	2
		Douglas	3	Nye	4.3
		Elko	6	Pershing	8.3
		Esmeralda	6.5	Storey	.6
		Eureka	2	Washoe	9.1
		Humboldt	8	White Pine	2.2
		Lander	5.2	Carson City	9.2
		Lincoln	1.1		

#### Access to care



Percentage of civilian population without health insurance coverage (excludes institutionalized population)

Data Source: American Community Survey, 2010-14.

U.S.	14.2
Nevada	20.3

Churchill	17.6	Lyon	18.9
Clark	20.9	Mineral	20.2
Douglas	14.4	Nye	20
Elko	16.8	Pershing	20
Esmeralda	25	Storey	18.4
Eureka	22.4	Washoe	19.4
Humboldt	20.4	White Pine	15.6
Lander	16.8	Carson City	18.6
Lincoln	19.6		

	Kids: Single- family house	Poverty	Housing costs	Social Support	High School Graduation	Employment	Violent Crime
Churchill							
Clark							
Douglas							
Elko							
Esmeralda							
Eureka							
Humboldt							
Lander							
Lincoln							
Lyon							
Mineral							
Nye							
Pershing							
Storey							
Washoe							
White Pine							
Carson City							

CDC, Community Health Status Indicators, http://wwwn.cdc.gov/communityhealth

#### Children & poverty, Nevada



Community Commons, Population Below 50% Poverty Level Children Age 0-17, Percent by Tract http://maps.communitycommons.org/viewer/

#### The Health Impact Pyramid



Frieden, T. R. (2010). A framework for public health action: the health impact pyramid. American journal of public health, 100(4), 590-595.

#### A Role for Law & Policy?

Health Issues		Legal Issues? Policy Issues?		
	Access to care	Govt. health insurance (e.g. Medicaid, Medicare), private health insurance, provider availability		
	Education	Individualized education plans, school discipline, availability of education resources		
	Food insecurity	SNAP, WIC, food deserts, access to exiting resources		
	Income	TANF, unemployment insurance, SSDI, SSI, minimum wage, paid sick leave		
	Stability	Immigrant documentation status, child support, child custody		
Â	Housing	Eviction, habitability, foreclosure, housing benefits, hazard control, utilities access		
	Safety	Violent crime, domestic violence, pedestrian, biker, and motor vehicle injuries and fatalities		

See, e.g. Beeson T, Mcallister BD, Regenstein M. "Making the Case for Medical Legal Partnerships: A Review of the Literature." National Center for Medical Legal Partnerships. (Feb. 2013). <u>http://medical-legalpartnership.org/wp-content/uploads/2014/03/Medical-Legal-Partnership-Literature-Review-February-2013.pdf</u>

# THANK YOU!

**Questions?**