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 **Prevent  
Blindness®**  
Bringing Americans to Eye Care

**Focus on Eye Health**  
National Summit

**A Lifetime of Vision**  
July 17, 2019 | National Press Club | Washington D.C.

# Consider this . . .

*"The health of a nation is largely a reflection of the past and present health of its children."*

Forrest CB, Riley AW. *Health Affairs* 2004

*"Children's health . . . the extent to which . . . children . . . are able or enabled to (a) develop and realize their potential, (b) satisfy their needs, and (c) develop the capacities that allow them to interact successfully with their biological, physical, and social environments."*

IOM, *Children's Health, the Nation's Wealth: Assessing and Improving Child Health* 2004

*"Racial/ethnic disparities in children's health and health care are extensive, pervasive, and persistent, and occur across the spectrum of health and health care."*

Flores G, The Committee on Pediatric Research. *Pediatrics* 2010

*"Low-income minority youth appear to suffer from a disproportionately high prevalence of educationally relevant vision problems, and are clearly at high risk for inadequate treatment of vision problems."*

Basch CE. *J Sch Health* 2011

# What is Health Equity?

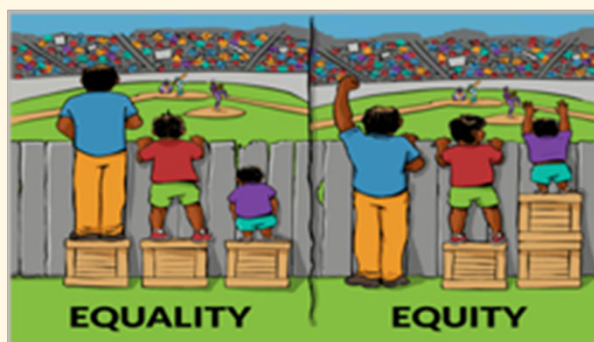
## Health Disparity/Inequality

Plausibly avoidable, systematic health differences adversely affecting socially disadvantaged groups in the attainment of full health potential – measured by differences in incidence, prevalence . . .

## Health Equity

Everyone has the fair and just opportunity to attain full health potential and no one is disadvantaged from achieving this potential because of social position or other socially defined circumstances

Focus on problem identification –  
metric for measuring progress  
toward health equity



Focus on solutions for highest level  
of health possible – principle  
underlying commitment to reducing  
health disparities



Reduce health  
disparities



Achieve health  
equity

# Health Equity

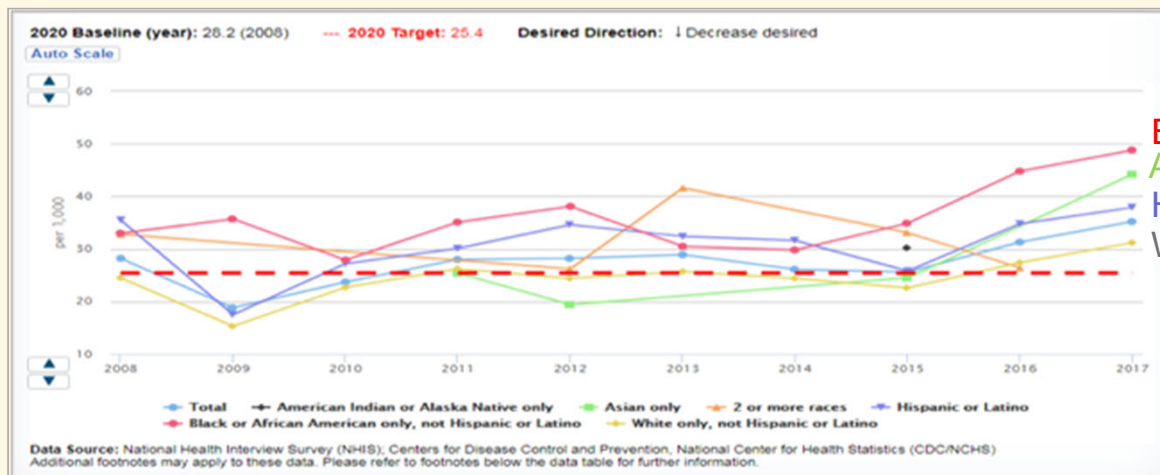
- Elimination of avoidable and systematic health disparities and their determinants that systematically put socially disadvantaged groups at further disadvantage
- A matter of morality, fairness and social justice in health
  - Morally unacceptable
  - Not sameness (equality) – equal access only one part of equity
- Requires actions to increase opportunities to be as healthy as possible (equalize health outcomes)
  - Improve access to conditions/resources that strongly influence health for those who lack access and have worse health
  - Both a process and an outcome (view eye and vision health through a health equity lens)

**Visual Impairment<sup>#</sup> in Preschool Children Age 36 to 72 Months  
by Race/Ethnicity, 2015-2060**

Race/Ethnicity	2015		2060		Δ2015-2060	
	No.	%	No.	%	No.	%
African American	42,831	24.5	48,518	22.0	+5,687	+13.3
Hispanic	65,782	37.7	96,110	43.6	+30,328	+46.1
Asian American	5,049	2.9	9,154	4.2	+4,105	+81.3
Other Minority	3,693	2.1	3,592	1.6	-101	-2.7
Multiracial	11,315	6.5	26,779	12.1	+15,464	+136.7
White	45,922	26.3	36,422	16.5	-9,500	-20.7
Total	174,592	100.0	220,575	100.00	+45,983	+26.3*
Uncorrected RE	120,591	69.1	154,057	69.8	+33,466	+27.8

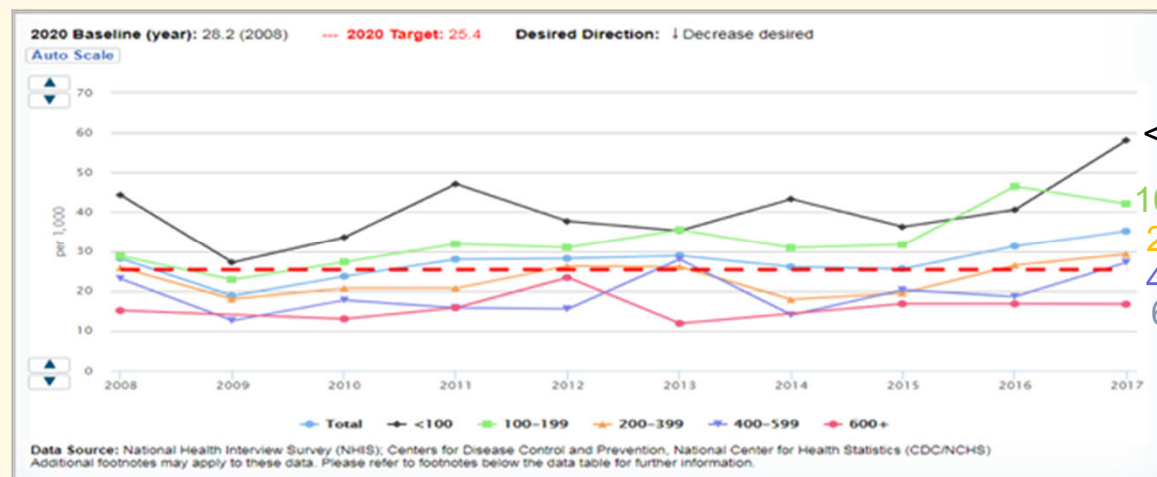
<sup>#</sup><20/50 in children age 36 to 47 months or <20/40 in children age 48 months or older

\*Total number of children age 36 to 72 months expected to increase by 14%



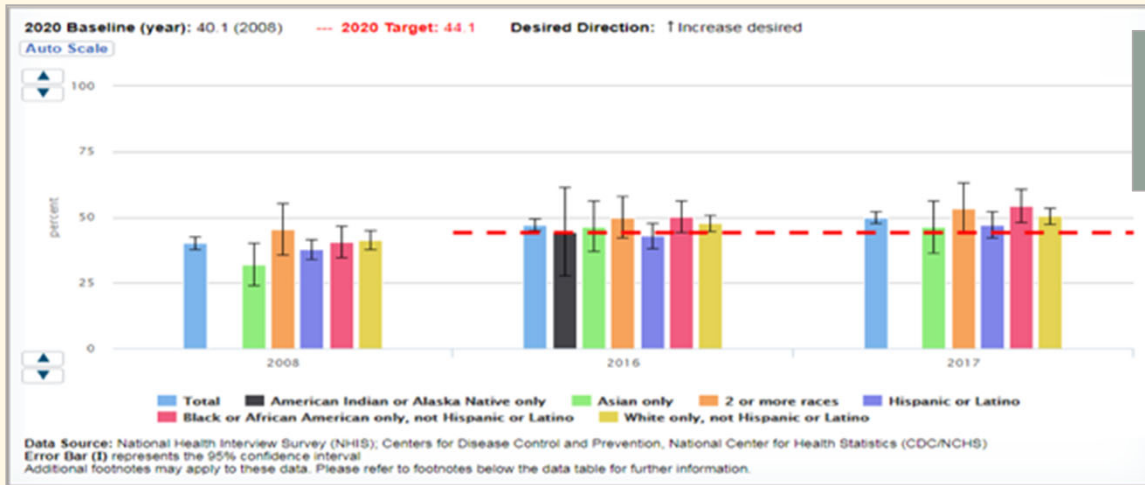
Black  
Asian  
Hispanic  
White

Blindness and Visual Impairment in  
Children and Adolescents  
≤17 Years by Race/Ethnicity,  
2008-2017



<100  
100-199  
200-399  
400-599  
600+

Blindness and Visual Impairment in  
Children and Adolescents  
≤17 Years by Family Income (% FPL),  
2008-2017



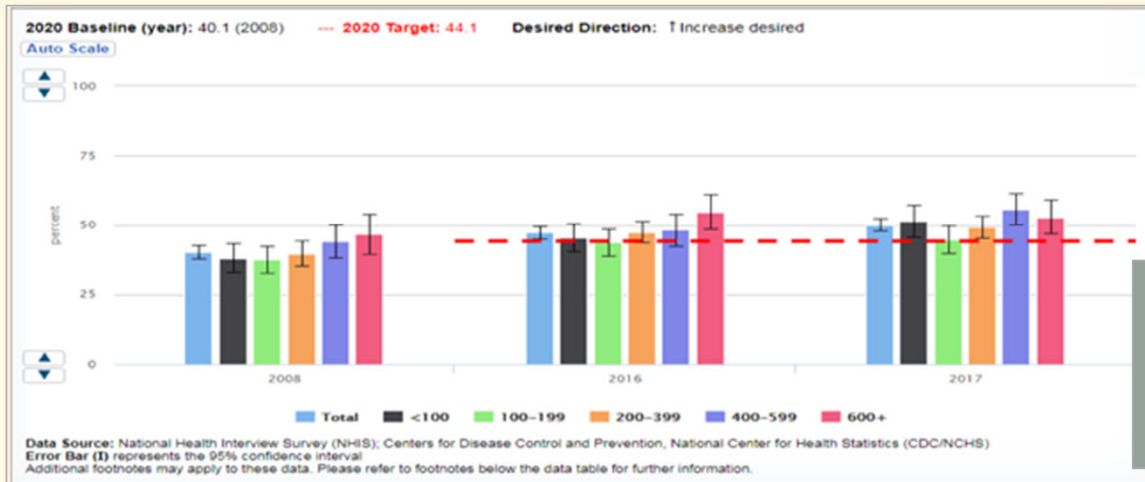
Healthy People 2020. DATA2020

## Preschool Children ≤5 Years Receiving Vision Screening by Race/Ethnicity, 2008-2017

R/E	OR
Black	1.00
Hispanic	0.62
White	0.73
Other	0.57

Kemper AR, et al.  
JAAPOS 2011  
(2006, 2007 MEPS)  
– Age 3-6 Years

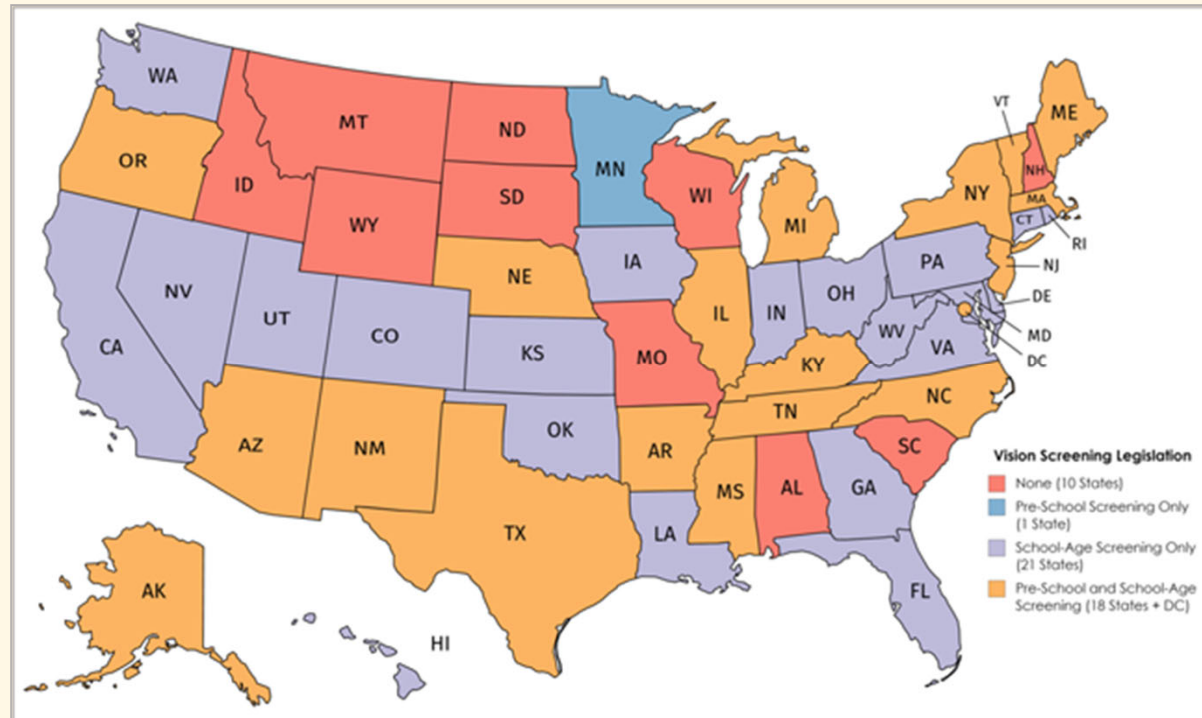
Income	OR
Low/Poor	0.78
Middle	0.78
High	1.00



## Preschool Children ≤5 Years Receiving Vision Screening by Family Income (% FPL), 2008-2017



## State Vision Screening Legislation, 2019



*“When people make decisions about their health – or the health of their children – the choices they make depend on the options they [knowingly] have available.”*

Ben Schmauss, *Health Equity is Why!* American Heart Association, 2019



**States with the Highest and Lowest Percent of Children Who Had Vision Tested with Pictures, Shapes or Letters Ever (0-5 Years) or During the Past 2 Years (6-17 Years) by Age and State Vision Screening Legislation, 2016-2017 NSCH**

States with No Screening Legislation				States with Both Pre-School & School-Age Screening Legislation			
	0-5	6-11	12-17		0-5	6-11	12-17
ID	25.5	80.0	74.1	AZ	31.4	84.4	76.9
WY	51.8	90.9	87.5	KY	36.3	79.3	83.3
				MA	46.0	85.7	88.5
				NY	45.3	89.8	85.6
				NC	50.5	86.3	82.2



Child and Adolescent Health Measurement Initiative. *2016-2017 National Survey of Children's Health* (NSCH) data query. Data Resource Center for Child and Adolescent Health; Prevent Blindness

**States with the Highest and Lowest Percent of Children Who Had Vision Tested with Pictures, Shapes or Letters Ever (0-5 Years) or During the Past 2 Years (6-17 Years)  
by Race/Ethnicity and State Vision Screening Legislation, 2016-2017 NSCH**

States with No Screening Legislation					States with Both Pre-School & School-Age Screening Legislation				
	Black	Hispanic	Asian	White		Black	Hispanic	Asian	White
ID	---	55.2	---	60.8	DC	73.8	66.9	46.8	54.4
MO	78.6	71.1	58.5	66.5	IL	61.3	66.5	64.9	67.8
NH	---	65.2	85.4	71.3	NE	77.9	58.3	23.6	70.2
SC	63.4	86.7	65.5	63.8	NY	83.1	72.1	71.7	74.0
WI	83.5	67.4	59.0	70.0	NC	67.9	71.0	75.0	77.9
WY	---	79.5	---	75.3	TN	73.5	87.7	53.4	68.1
					VT	---	78.8	86.7	69.4



Child and Adolescent Health Measurement Initiative. 2016-2017 *National Survey of Children's Health* (NSCH) data query. Data Resource Center for Child and Adolescent Health; Prevent Blindness

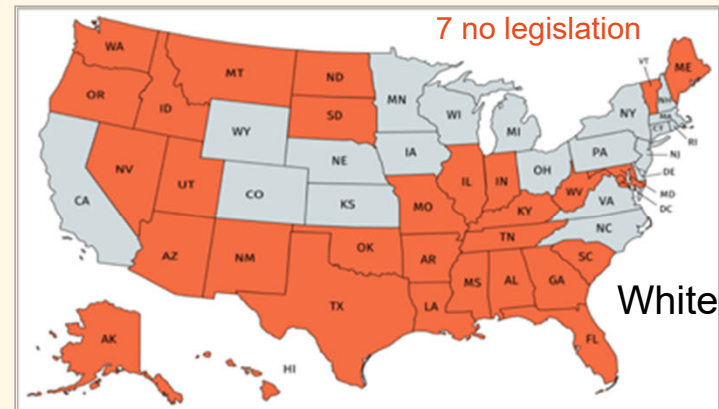
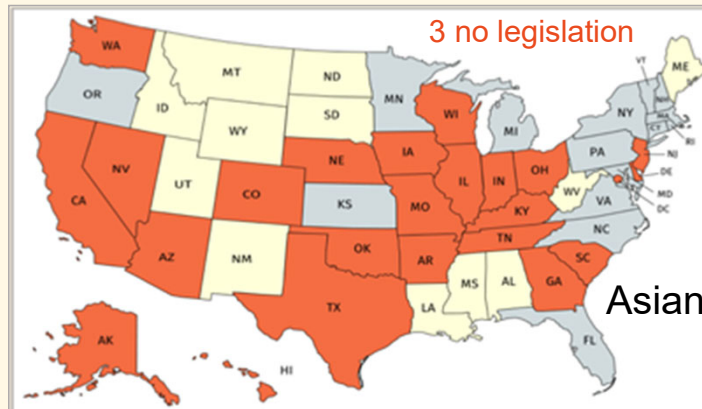
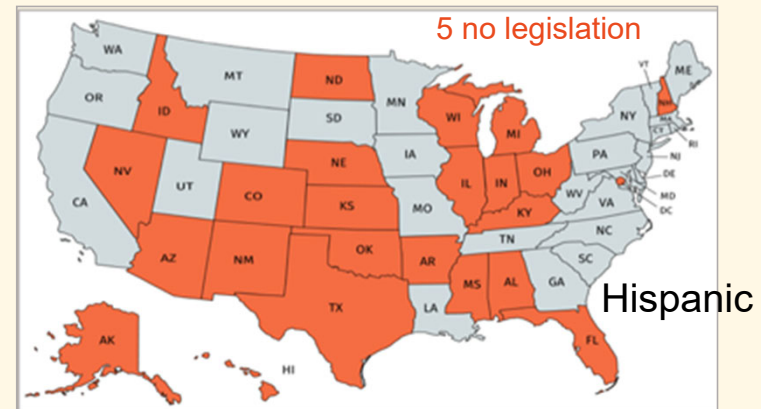
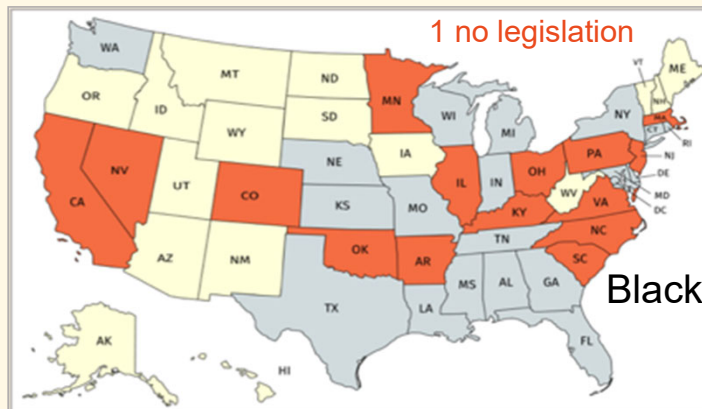
**States with the Highest and Lowest Percent of Children Who Had Vision Tested with Pictures, Shapes or Letters Ever (0-5 Years) or During the Past 2 Years (6-17 Years) by Age, Race/Ethnicity and State Vision Screening Legislation, 2016-2017 NSCH**

All States + DC								
	0-5	6-11	12-17		Black	Hispanic	Asian	White
ID	25.5		74.1	NV	50.8			
NV		72.1		ID		55.2		
WY	51.8			NE			23.6	
RI		94.0		DC				54.4
DE			91.3	WI	83.5			
				TN		87.7		
				VT			86.7	
				CT				78.2



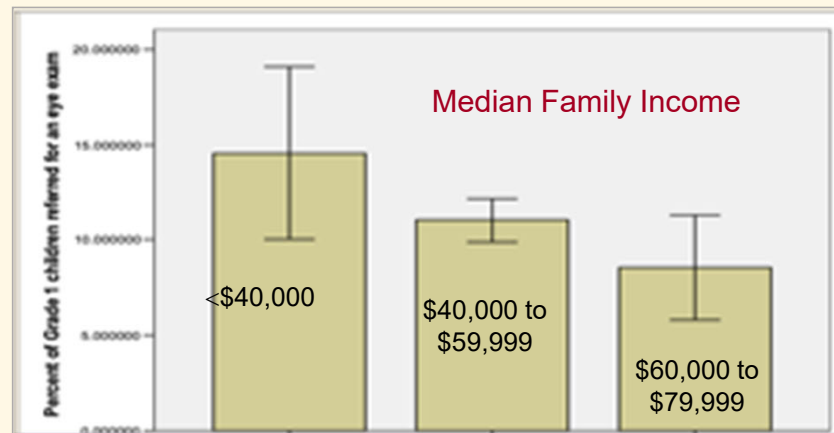
Child and Adolescent Health Measurement Initiative. 2016-2017 *National Survey of Children's Health* (NSCH) data query. Data Resource Center for Child and Adolescent Health; Prevent Blindness

**States with <70% of Children Vision Tested with Pictures, Shapes or Letters Ever (0-5 Years) or During the Past 2 Years (6-17 Years), 2016-2017 NSCH**

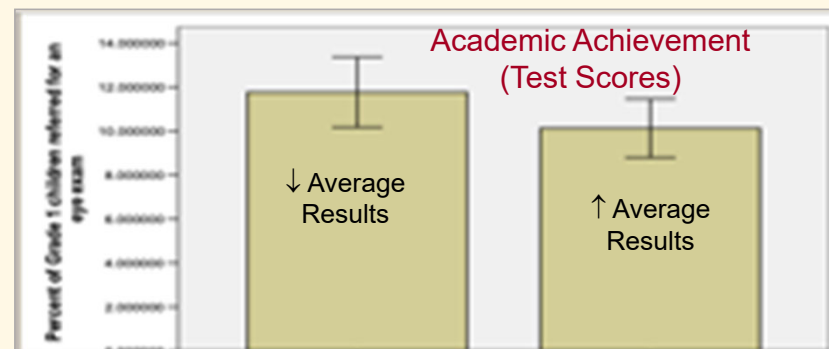


Child and Adolescent Health Measurement Initiative. 2016-2017 *National Survey of Children's Health* (NSCH) data query. Data Resource Center for Child and Adolescent Health: Prevent Blindness

Inner-city, rural and schools with high enrollments of children from median family incomes <\$46,500 were more likely to consist of children at greatest risk of undetected vision problems and greatest need for intervention compared to schools with children from median family incomes >\$46,500 (≈\$69,000 adjusted for inflation in 2019)



Significant difference ( $p = 0.050$ )



Non-significant difference ( $p = 0.116$ )

1/3 of schools demonstrated referral rates that could be differentiated on the basis of family income

*“Visual factors are significantly better predictors of academic success . . . than is race or socio-economics.”*

Maples WC. *Optometry* 2003

*“Future public health policy needs to take the socioeconomic gradient into consideration while avoiding inequity in access to eye care.”*

Zhang X, et al. *Am J Prev Med* 2012

Marshall EC, et al. *Optometry* 2010

### Prevalence (%) of VI in Children Under the Age of 18 Years by Race/Ethnicity, 2007-2008 NHANES

Race/Ethnicity	Low Vision				Legal Blindness	
	<20/40 BCVA		<20/60 BCVA		≤20/200 BCVA	
	PVA	R <sub>x</sub> to ≥20/40	PVA	R <sub>x</sub> to ≥20/40	PVA	R <sub>x</sub> to ≥20/40
Total Black*	14.7	89	4.9	96	2.4	92
Hispanic White	14.1	89	4.1	88	3.1	96
Non-Hispanic White	9.3	85	2.3	88	2.0	86

\*Hispanic and non-Hispanic Black

Race/Ethnicity	Odds of Uncorrected Distance VI of ≤20/40 in Adolescents Age 12-21 Years, 2005-2008 NHANES
Non-Hispanic Black	1.66
Hispanic	1.96
Other	2.06
Non-Hispanic White	1.00

12.3% had distance VI –  
86.1% correctable to ≥20/30  
in both eyes

### Inadequately Corrected Refractive Error\* in Adolescents With Correctable Refractive Error by Race/Ethnicity, 2005-2008 NHANES

Race/Ethnicity	Adolescents 12-19 Years		NHANES Population ≥12 Years			
			Health Insurance		Household Income	
	Odds Ratio	%	No	Yes	\$20,000- <\$44,999	≥\$75,000
Non-Hispanic Black	3.3	37.3	29.2	18.7	20.9	15.4
Mexican American	2.8	36.9	40.9	20.2	31.6	16.1
Other Hispanic	1.4	27.3	42.8	13.9	28.2	10.3
Other and Multiracial	2.1	27.6	20.7	14.1	20.3	11.7
Non-Hispanic White	1.0	17.0	13.7	8.0	9.0	7.1

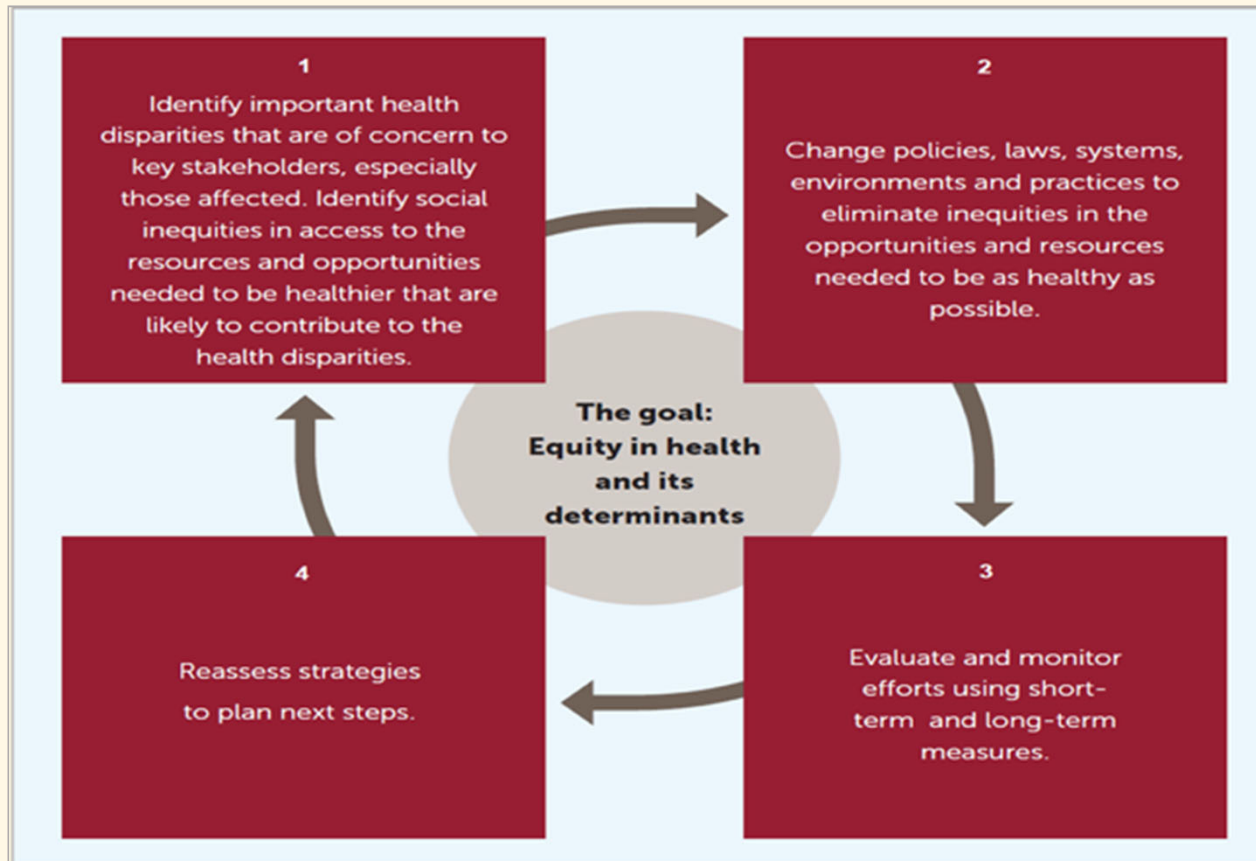
\*Undercorrected refractive error (PVA ≤20/50, BCVA ≥20/40, wears corrective lenses) + uncorrected refractive error (PVA ≤20/50, BCVA ≥20/40, does not wear corrective lenses)

*“Uncorrected refractive error . . . because it was never diagnosed, but more commonly because an individual’s spectacles are no longer appropriate to their need . . . is far and away the major cause of visual impairment”*

Sommer A. *Am J Prev Med* 2012



# Key Steps to Advancing Health Equity



*“Health disparities and equity should be central considerations for public policy relevant to health”*

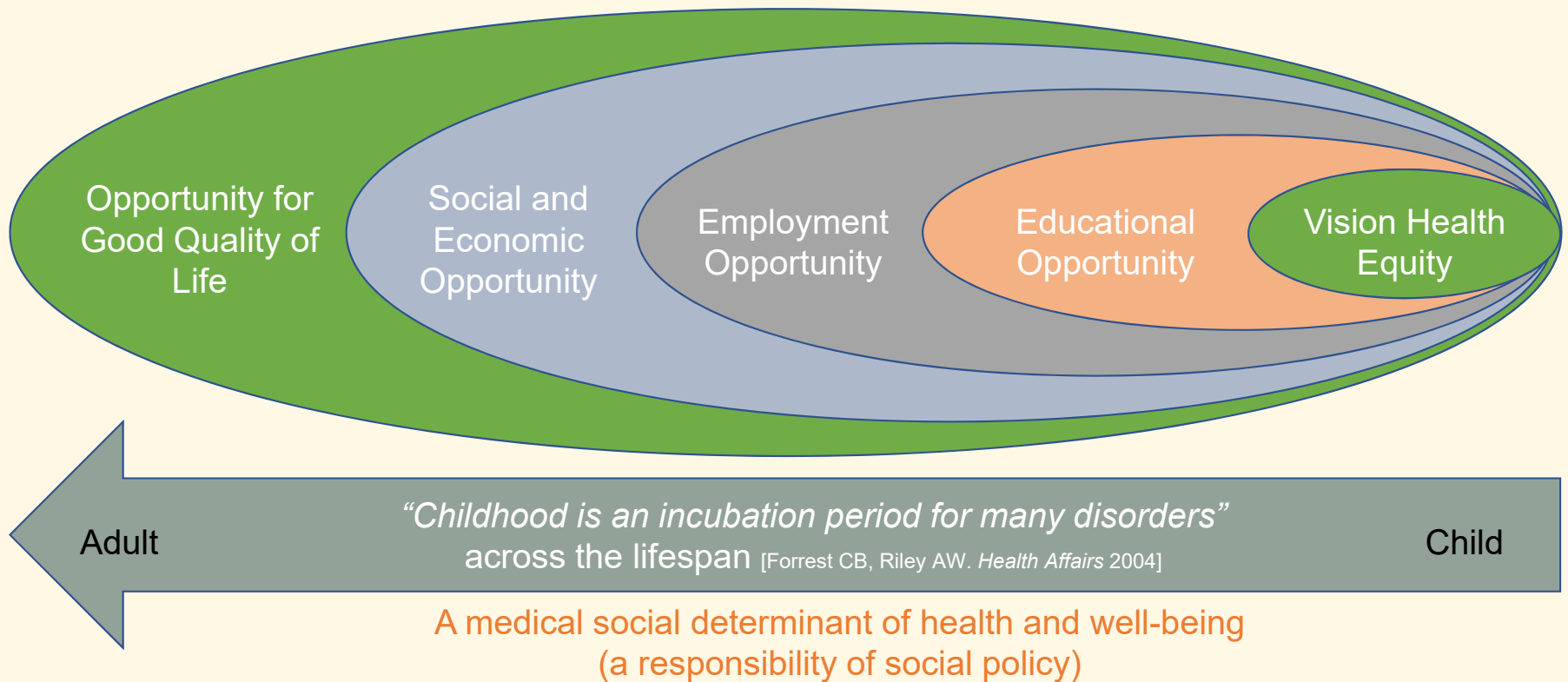
Braveman P, et al. *Am J Public Health* 2011

*“How one defines “health disparities” or “health equity” . . . can determine not only which measurements are monitored . . . but which activities will receive support from resources allocated to address health disparities/inequalities and health equity.”*

Braveman P. *Annu Rev Public Health* 2006

# “Health equity and [equality of] opportunity are inextricably linked”

National Academy of Sciences, Engineering, and Medicine 2017



# Focus on Eye Health

## National Summit



## A Lifetime of Vision

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