

Addressing Structural Racism to Promote Health Equity: New Measures of Racism & Structural Change in Health Departments

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Background & Significance

- Pandemic revealed disparities across racial + ethnic groups, and along with societal reckoning with racism, highlighted the issue of health (in)equity
- One response: policy makers used disadvantage indices (DIs) to address social + racial justice
- DIs recognize disadvantage is often intersectional, clustered, and cumulative
- 34 states used during COVID-19 vaccine allocation to address disparate impact on racial minorities
 - CDC Social Vulnerability Index (SVI)
- Structural racism and discrimination (SRD) is the root cause for these racial disparities





Background & Significance

- Vaccine allocation prioritization not w/o controversy
- Project began with recommendation that NASEM use DIs
 - Led to investigating how many CDC jurisdictions adopted DIs in their vaccine allocation





Rationing Safe and Effective COVID-19Vaccines: Allocating to StatesProportionate to Population MayUndermine Commitments toMitigating Health Disparities

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Equitable allocation of COVID-19 vaccines in the United States

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Research Question

What are the strengths/ weaknesses of DIs for addressing SRD in COVID-19, future pandemics, and routine health care?



AIM 1

Identify the impact, strengths, and weaknesses of using DIs in Covid-19 vaccine allocation to address SRD and improve healthcare access and outcomes of disadvantaged communities of color.

- Predictive modeling and difference-in-difference analyses of vaccine rollout to understand DI's association with racial opportunity gap (ROG)
- Qualitative interviews with vaccine allocation and health equity leaders



Aim 1: Scoping Review of Measures of Racism





Preliminary Findings: 18 measures

Reference and link	Year	Name of Measure	Definition (as stated by author)	Geographic unit	Applied to which group(s)	Applied at state level?	Measure is/consists of	Measure is constructed using (source types of variables)
					Measures of Structural	Racism for General Conte	exts	
O'Brien R, Neman T, Seltze	2020	Racial Opportunity Gap, (8	"The racial opportunity gap capt	County level [census tract	white, black	no	race-sex specific estimate:	"We construct this measure using race-sex-specific estimat
Aldina Mesic, Lydia Frankl	2018	State Racism Index (&Blac	"In order to examine the potent	state	black, white	yes	measure of white-black in	Fatal Police Shooting Rates: "We used the Mapping Police V
Tongtan Chantarat, David	2021	Multidimensional Measure	"The objective of this article is to	Public Use Microdata Area	black, white	no	consists of five measures	For Multidimensional Measure of Structural Racism: "For the
Langston, Abbie. "Introdu	2020	Racial Equity Index	"The Racial Equity Index is a data	state, region, city, county	white, black, latino, asian,	yes	(non-peer reviewed) "The	Economic vitality was measured using 3 indicators mediar
Dougherty, G. B., Golden,	2020	County Structural Racism	"this paper develops a 5-doma	county	black and white (could be	no	area level discrimination in	For BMI "Self-reported height, weight, and race data were o
Lynch, A., Bond, H., Sachs,	2021	United States Racial Inequ	"In the Red: the US Failure to De	state	black, hispanic, indigenou	yes	(non peer-reviewed) prog	For racial data: "Much of the racial data in this report is deri
LaFave, S.E., Bandeen-Roc	2022	N/A	"The purpose of the present stu	national	black, white	no	27 indicators of structural	"We used participants' full street addresses to identify cens
McCann, A. (2022, Januar	2022	States with the Most Racia	"This ranking measures the leve	state	black, white	yes	(non-peer reviewed) A me	"Racial Progress – Determined by subtracting the values att
					Measures of Structural	Racism for Specific Conte	xts	
Wallace, M., Crear-Perry, .	2017	N/A	"The present study seeks to exp	state	black, white	yes	black-white inequity in ed	"Overall and race-specific infant mortality rates in each stat
Chambers, B. D., Erausqui	2017	N/A	"This study aimed to merge ider	county	black, white	no	traditional (dissimilarity in	"We analyzed data from the California Birth Statistical Mast
Beyer, K. M. M., Zhou, Y.,	2016	index of racial bias in mort	Index of racial bias in mortgage	ASF spatial filter areas over	black and white women	no	Index of racial bias in mor	"Cancer incidence data were obtained from the Wisconsin
Lukachko, A., Hatzenbueh	2014	N/A	"The current study expands upo	state	black, white	yes	"State-level indicators of s	"Data on past-year myocardial infarction were obtained from
Tan, S.B., deSouza, P. & Ra	2022	N/A	" we focus on three key dimer	county	black, white	no	5 (uncombined) measures	For residential segregation: "We calculate P* [Black-White
Unnever, J. D., Stults, B. J.	2021	N/A	"Our objectives are to advance t	state	black, white	yes	indicators in domains of e	Structural Racism: "We measure race-specific percentages
Mendez, D. D., Hogan, V. I	2011	N/A	"We used Home Mortgage Discl	census tract	black, white	no	racial residential redlining	"We used HMDA data from 1999-2004 to create residentia
Baker, Regina S. "The Hist	2022	Historical Racial Regime	"The HRR scale measures differe	state	black, white	yes	This HRR scale measures c	Luxembourg Income Study data (2010-18) for 527,829 Sou
Agénor, Madina, Carly Per	2021	Database of Structural Rac	Development of a "comprehens	state		yes	Domains include: "voting	The legal scholars then collected information on each law i
Brown, Tyson, and Patricia	2022	N/A	"this study addresses fundame	state	black-white	yes	9 indicators across 5 doma	"we used data on indicators of structural racism from sev



Preliminary findings (cont.)

• Most measures were created for specific contexts (10 out of 18)

Reference and link	Year	Name of Measure	Definition (as stated by author)	Geographic unit	Applied to which group(s)	Applied at state level?	Measure is/consists of	Measure is constructed using (source types of variables)
Mendez, D. D., Hogan, V. K., Culhane, J. (2011). Institutional racism and pregnancy health: Using home mortgage disclosure act data to develop an index for mortgage discrimination at the community level. Public Health Reports, 126(3), 102–114. https:// doi.org/10.1177/003335 491112603315	2011	N/A	"We used Home Mortgage Disclosure Act (HMDA) data to demonstrate a method for constructing a residential redlining index to measure institutional racism at the community level. We examined the application of the index to understand the social context of health inequities by applying the residential redlining index among a cohort of pregnant women in Philadelphia."	census tract	black, white	no	racial residential redlining and mortgage discrimination	"We used HMDA data from 1999–2004 to create residential redlining indices for each census tract in Philadelphia County, Pennsylvania. We linked the redlining indices to data from a pregnancy cohort study and the 2000 Census. We spatially mapped the levels of redlining for each census tract for this pregnancy cohort and tested the association between residential redlining and other community-level measures of segregation and individual health."



Preliminary Findings (cont.)

• Only 1 measured structural racism affecting non-Black minorities

Reference and link	Year	Name of Measure	Definition (as stated by author)	Geographic unit	Applied to which group(s)	Applied at state level?	Measure is/consists of	Measure is constructed using (source types of variables)
							(non peer-reviewed)	
							progress in achieving the	
							15 of the 17 UN	
							Sustainable	
							Development Goals by	
							race. There are many	
							indicators under the 17	
							goals which include, no	
							poverty, zero hunger,	
							good health and well	
							being, quality education,	
							gender equality, clean	For racial data: "Much of the racial data in this report is
							water and sanitation,	derived from federal sources like the Census Bureau
							affordable and clean	(ACS), Center for Disease Control and Prevention (CDC),
							energy, decent work and	Bureau of Labor Statistics (BLS) and others. The Census
							economic growth,	Bureau and associated data consider five main racial
							industry innovation &	groupings: 1) Black or African American, 2) American
							infrastructure, reduced	Indians and Alaska Native, 3) Asian, 4) Native Hawaiian
			"In the Red: the US Failure to		black, hispanic,		inequalities, sustainable	and Other Pacific Islanders, and 5) white." " Data is
Lynch, A., Bond, H.,			Deliver on a Promise of Racial		indigenous (American		cities & communities,	matched to the SDG targets, then matched to suggested
Sachs, J. 2021. In the		United States Racial	Equality project highlights		Indian & Alaska Native),		responsible consumption	indicators as closely as possible. Finally, when possible,
Red: The US Failure to		Inequality In Delivering	measurable gaps in how states		multiracial, other, Native		& production, climate	indicators should be relevant to a policy context and/or
Deliver on a Promise of		the SDGS (Sustainable	deliver sustainability to		Hawaiian & other Pacific		action,life on land,	support communities and leaders in policy-making
Racial Inequality. New		Development Goals)	different racial groups." (In the		Islander and white		peace, justice, & strong	decisions. Alignment of each indicator to the SDG target
York: SDSN	2021		Red)	state		yes	institutions	or indicator is noted below." (In the Red)



Preliminary Findings (cont.)

• Some measures (3) were constructed in a way that would allow them to be used at the state level, even though they were at smaller geographic units

Reference and link	Year	Name of Measure	Definition (as stated by author)	Geographic unit	Applied to which group(s	Applied at state level?	Measure is/consists of	Measure is constructed using (source types of variables)
reference and link	rear	name of weasure	Dermoon (as stated by author)	Geographic unit	Applied to which groups	Appred at state rever	measure by corboas of	Enr BMI "Self-reported beint weight and race data
Dougherty, G. B., Golden, S. H., Gross, A. L., Colantuoni, E., & Dean, L. T. (2020). Measuring structural racism and its association with BMI. American Journal of Preventive Medicine, 59(4), 530–537. https://doi.org/10.1016 /j.amepre.2020.05.019	2020	County Structural Racism 0 (CSR) Scale (& BMI)	"this paper develops a 5- domain scale measuring structural racism at the county level and employs this scale to evaluate the relationship between structural racism and BMI."	county	black and white (could be applied to other groups as well)	no	area level discrimination in 5 domains: housing, education, employment, health care, and criminal justice	For own Self-Epoteen neght, weight, and race data were obtained from the 2011 and 2012 Behavioral Risk Factor Surveillance System (BRFSS), 25 The combined 2011–2012 data set covered 2,500 of the 3,143 counties in the county. "" Using Behavioral Risk Factor Surveillance Survey data (2011–2012) and a mixed- effects model, individual BMI was regressed on county structural racism, controlling for county characteristics (mean age, percentage black, percentage female, percentage rural, median income and region)." For CSR: "Derivation of the CSR scale relied primarily on U.S. Census Bureau survey data and community-level data collected for administrative reasons."



AIM 2

Identify strengths and weaknesses of using DIs outside of emergency settings to address SRD and improve healthcare access and outcomes of disadvantaged communities of color. Qualitative interviews and the Delphi Method to understand health equity task force leaders' and equity leaders' preferences for using DIs to reduce the impact of SRD on health outcomes outside of COVID-19



Tracking Health Equity Units: Aim 2

+

Create extraction tool

Track health equity units belonging to CDC's 32 most vulnerable jurisdictions

Retrieve data from .gov websites

How are these units structured? Have they acknowledged racism in health?

Analyze trends in units

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What are the states that have acknowledged racism in health doing about it? Are there best practices in certain jurisdictions that should be highlighted?

- A.S. repeated search extraction





Schmidt, H., Weintraub, R., Williams, M.A. et al. Equitable allocation of COVID-19 vaccines in the United States. Nat Med 27, 1298–1307 (2021). https://doi.org/10.1038/s41591-021-01379-6



Preliminary Findings

Jurisdiction	Has Equity Units (Y/N)	Has Equity Units Within Health Department (Y/N)	Is HHS OMH grantee (Y/N)	OMH grant name & period	Name and Weblink	Permanent/ Temporary [freetext]	Established When [numeric input]	Scope/ Mission/ Vision/ Terms of Reference/ Work Charge [freetext]	Number of Members [numeric]	Leader [name and contact details]	Function [enter Chair/Director /Chief, etc.]	Forms of formalized community outreach [ad hoc, formal, standing, etc.]	Utilizes racial equity tools (Y/N)	Information re tool	Declared Racism a a Public Health Crisis (Y/N)
Philadelphia	Y -	¥ -	N -	N/A	Chief Racial Equity Officer, https://www.phi la.gov/2022-03 -25-health-depa rtment-announc es-hiring-of-firs t-ever-chief-rac ial-equity-offic er-gail-carter-h amilton/	Permanent -	2022	This newly created position is intended to centralize and spearhead efforts to ensure racial equity in Health Department operations and activities and to help guide planning to address health inequities in Philadelphia.	1	Gail Carter Hamilton, MSN, RN, CSN gail.carter-hami lton@phila.gov	Chief -	"strategic partnerships"	Υ ÷	Worked with GARE and PolicyLink and have prioritized addressing racial equity in employment. Have completed strategic planning using tool and requiring in city agencies to create plan to address racial inequities.	Y
NYC	Y	¥ ÷	N -	N/A	NYC DOHMH, https://www1.n yc.gov/site/doh /about/press/pr 2020/first-depu ty-commissione r-chief-equity-o fficer.page	Permanent ~	2020	"In his new role, Dr. Easterling will be the agency's top deputy and play a chief coordinating role for non-COVID health matters for agency. He will also unify and direct the Health Department's internal and external equity agenda as its inaugural Chief Equity Officer."	1	<u>Torian</u> Easterling, MD	Chief ~	"collaborate with communities and key stakeholders"	Υ ·	Worked with GARE and PolicyLink and have prioritized addressing racial equity in employment. Also, focused on adopting the policy priority of racial equity in all policies.	Y
D.C.	Y	Y ·	N -	N/A	Office of Health Equity, https://dehealth .de.gov/page/of fice-of-health-e guity	Permanent	2015	To address the root causes of health disparities, beyond healthcare and health behaviors, by supporting projects, policies and research that will enable every resident to achieve their optimal level of health regardless of where they live, learn, work, play or age. The Office achieves its mission by informing- educating, and empowering people about health issues and facilitating multi-sector partnerships to identify and solve community health problems related to the social determinants of health.	Unknown	C. Anneta Arno, Ph.D., MPH. (202) 442-5955, doh@dc.gov	Director -	Build Multi Sector Collaborations and Promote Health in All Policies; Leverage Community Passed Participatory Research	Υ -	Has worked with GARE	Y
New Jersey	Y	Y	Y	State Partnership Initiative to Address Health Disparities (2015-2020); State Partnership Program to Improve Minority Health (2010-2013)	Office of Minority and Multicultural Health, https://www.nj. gov/health/om mh/	Permanent ~	1991	The mission of the Office of Minority and Multicultural Health is to promote health equity for all and reduce health disparities, a sadopted from the National Center for Cultural Competence, as population-specific differences in the presence of disease, health outcomes, or access to health care).	8	Amanda Medina-Forrest er MA, MPH, 609-292-6962 Amanda.Medin a-Forrester@do h.nj.gov	Director *	Advisory Commission made up of public	·		Y



Preliminary Findings (cont.)

100%

of the 32 most disadvantaged CDC jurisdictions have a health equity unit 20 people

is the average number of staff members working in these units **72**%

of jurisdictions are grantees of at least one HHS OMH Partnership Grant

• Mostly permanent, 5 temporary

• All structured under the locality's health department

Ranges from 1-100

 Mix of board members and administrative staff

- 14 of the jurisdictions have received 2 or more grants
- Influence services offered



Next Steps

	Year 1		Year 2		Year 3		Year 4		Year 5
•	A.E. & A.S. work on manuscripts for publication Predictive modeling of DI's performance Difference-in-Differe nce analysis of vaccine roll-out Interviews: Health Department vaccine leaders Interviews: Health Department SRD	• • •	Predictive modeling of DI's performance Difference-in-differ ence analysis of vaccine roll-out Interviews with health department SRD leaders Delphi Study: Health Department SRD leaders Delphi Study: Hospital system	•	Finish predictive modeling of DI's performance Finish difference-in-diff erence analysis of vaccine roll-out CHAT deliberative engagement	•	CHAT deliberative engagement	•	Interviews with state department SRD leaders Survey experiment/publi c attitudes on DIs outside of emergency situations
•	Interviews: Health Department SRD leaders	•	Delphi Study: Hospital system SRD leaders						



Key Lessons Learned

- Librarians are invaluable
- Not finding something is a significant finding!
- Public health information can be really inaccessible
- Collaboration in academia is crucial



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We want to hear from you!

Questions or Comments?

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