



# Continuum 2024 Conference

## The Importance of Geo-coding Social Determinants of Health: A Health Equity Science Perspective

Ana Penman-Aguilar, PhD, MPH  
*Office of Health Equity (OHE)*

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# AGENDA

- Background: *CORE Health Equity Science and Intervention Framework*
- Health Equity Science Principles
- Health Equity Intervention and Action Principles
- Bringing Science and Intervention Together in the Context of Geo-coding SDOH

# CDC's CORE Commitment to Health Equity



## **Cultivate** comprehensive **health equity science**

- CDC embeds health equity principles in the design, implementation, and evaluation of our research, data, and surveillance strategies



## **Optimize** **interventions**

- CDC uses scientific, innovative, and data-driven strategies that address policy and systemic factors that impact health outcomes and address drivers of health disparities



## **Reinforce** and expand robust partnerships

- CDC seeks out and strengthens sustainable multi-level, multi-sectoral and community partnerships to advance health equity



## **Enhance** capacity and workforce engagement

- CDC builds internal capacity to cultivate a multi-disciplinary workforce and more inclusive climates, polices, and practice for broader public health impact

# Health Equity Science Principles

# Background on Health Equity Science Principles

## Why is science important for achieving equity?

- CDC Vision: Equitably protecting health, safety, and security
- Science is the cornerstone of public health and science that intentionally generates knowledge needed to advance equity can support just change.

## Who is it for?

- The health equity science principles were initially developed for CDC staff but could be valuable and impactful for all public health workers

## How is it being used at CDC?

- Embedding health equity science into the scientific process and programmatic work

# Health Equity Science

- Health equity science investigates patterns and underlying contributors to health inequities and builds an evidence base that can guide action across the domains of public health program, surveillance, policy, communication, and scientific inquiry to move toward eliminating, rather than simply documenting, inequities.



# Health Equity Science Principles



Conduct **health equity science for action**



Emphasize **drivers** of inequity



Clarify uses of **race and ethnicity**



Use appropriate **measures** of disparity



Promote the visibility of **groups that might be inadequately represented**



Address the **contexts that contribute to health inequities**

# Cross-cutting Considerations for Health Equity Science

**Recognize that equity is essential for a thriving and just society**

**Leveraging health equity science to help build an evidence base on the impact of health equity programs and policy interventions**

**Engage the community**

**Apply an equity lens throughout the scientific process**

**Use conceptual models/ frameworks that recognize structural and social determinants of health as root causes and drivers of inequity**

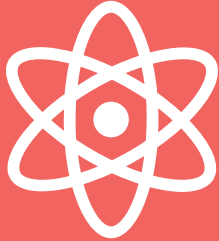
**Embody antiracism by naming and examining the health impacts of racism**

**Identify and evaluate interventions to eliminate racial inequities**

**Address discrimination, stigma, and systems of oppression that contribute to health inequities**



# CDC's Health Equity Science Principles



Conduct health  
equity  
science for  
action

- Pursue scientific questions that guide action across public health domains to move toward **eliminating**, rather than simply documenting, inequities
- **Evaluate impact** and use lessons learned to guide future health equity priorities

# Health Equity Science for Action

[AIDS Behav.](#) Author manuscript; available in PMC 2023 Sep 1.

PMCID: PMC10428000

*Published in final edited form as:*

NIHMSID: NIHMS1920377

[AIDS Behav.](#) 2022 Sep; [26\(9\)](#): 2941–2953.

PMID: [35277807](#)

Published online 2022 Mar 11. doi: [10.1007/s10461-022-03641-5](#)

## HIV Care Outcomes in Relation to Racial Redlining and Structural Factors Affecting Medical Care Access Among Black and White Persons with Diagnosed HIV—United States, 2017

[J. Logan](#),<sup>1</sup> [Nicole Crepaz](#),<sup>1</sup> [Feijun Luo](#),<sup>2</sup> [Xueyuan Dong](#),<sup>3</sup> [Zanetta Gant](#),<sup>1</sup> [Allison Ertl](#),<sup>4</sup> [Candace Girod](#),<sup>4</sup> [Nimeshkumar Patel](#),<sup>2</sup> [Chan Jin](#),<sup>3</sup> [Alexandra Balaji](#),<sup>1</sup> and [Patricia Sweeney](#),<sup>1</sup>

# CDC's Health Equity Science Principles



Emphasize  
**drivers of  
inequity**

- Clearly state whether the intent is to examine **markers** of inequity or **drivers** of inequity
  - *Markers* are descriptors of sub-populations experiencing a health inequity
    - Examples are race, ethnicity, and nationality
  - *Drivers* are factors that create, perpetuate, or exacerbate a health inequity
    - Examples are racism and other systems of oppression and discrimination, residential segregation, inequity in income, and inequity in health insurance coverage

# Emphasizing Drivers (Structural and Social Determinants of Health) over Markers

[Lancet Reg Health Am.](#) 2023 Apr; 20: 100468.

PMCID: PMC10041556

Published online 2023 Mar 21. doi: [10.1016/j.lana.2023.100468](https://doi.org/10.1016/j.lana.2023.100468)

PMID: [36992707](https://pubmed.ncbi.nlm.nih.gov/36992707/)

## Area deprivation index and segregation on the risk of HIV: a U.S. Veteran case-control study

[Abiodun O. Oluyomi](#),<sup>a,b,c,k</sup> [Angela L. Mazul](#),<sup>c,d,k</sup> [Yongquan Dong](#),<sup>e</sup> [Donna L. White](#),<sup>b,e,f,g</sup> [Christine M. Hartman](#),<sup>e</sup> [Peter Richardson](#),<sup>e,g</sup> [Wenyaw Chan](#),<sup>h</sup> [Jose M. Garcia](#),<sup>i</sup> [Jennifer R. Kramer](#),<sup>b,e,g</sup> and [Elizabeth Chiao](#),<sup>j,\*</sup>

# CDC's Health Equity Science Principles



## Clarify uses of race and ethnicity

- **Be explicit** about the purpose, methods, and interpretation of results when including race or ethnicity in scientific activities
- Include mention of racism (*particularly structural racism*) and the unfair distribution of social determinants of health as underlying causes of racial and ethnic inequities

# Clarifying uses of race and ethnicity

[J Racial Ethn Health Disparities](#). 2022 Nov 16 : 1–10.

PMCID: PMC9667837

doi: [10.1007/s40615-022-01456-7](https://doi.org/10.1007/s40615-022-01456-7) [Epub ahead of print]

PMID: [36383342](https://pubmed.ncbi.nlm.nih.gov/36383342/)

A Census Tract–Level Examination of Diagnosed HIV Infection and Social Vulnerability among Black/African American, Hispanic/Latino, and White Adults, 2018: United States

[Zanetta Gant](#), [André Dailey](#), [Xiaohong Hu](#), [Shacara Johnson Lyons](#), [Amanda Okello](#), [Faith Elenwa](#), and [Anna Satcher Johnson](#)

# CDC's Health Equity Science Principles



Use appropriate  
**measures of  
disparity**

- In evaluating interventions and tracking progress to eliminate health inequities, use appropriate measures of disparity
  - Consider using both relative measures (e.g., rate ratios) and absolute measures (e.g., rate differences)
- Explain the choice of measures, including benefits and limitations, and the selection of methods for examining changes in disparities over time.

# Appropriate Measures of Disparity

## County-Level Socioeconomic Disparities in Use of Medical Services for Management of Infections by Medicare Beneficiaries With Diabetes—United States, 2012

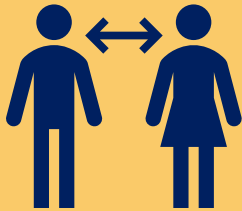
Chang, Man-Huei MPH; Beckles, Gloria L. MD, MSc; Moonesinghe, Ramal PhD; Truman, Benedict I. MD, MPH

[Author Information](#) 

*Journal of Public Health Management and Practice* 25(4):p E44-E54, July/August 2019. | DOI: 10.1097/PHH.0000000000000800



# CDC's Health Equity Science Principles



Promote the  
**visibility of groups**  
that might be  
inadequately  
represented

- For populations at risk of being inadequately represented because of social marginalization or exclusion, **actively ensure visibility** in data collection, data reporting, interpretation of findings and limitations
- **Raise awareness** of and support the need to expand data collection and **involve communities** in disaggregation and interpretation decisions

# Promoting Visibility of Groups

[Public Health Rep.](#) 2021 Nov-Dec; 136(6): 685–698.

PMCID: PMC8579382

Published online 2021 Feb 9. doi: [10.1177/0033354920970539](https://doi.org/10.1177/0033354920970539)

PMID: [33563091](https://pubmed.ncbi.nlm.nih.gov/33563091/)

## Geographic Differences in Social Determinants of Health Among US-Born and Non-US-Born Hispanic/Latino Adults With Diagnosed HIV Infection, United States and Puerto Rico, 2017

[Zanetta Gant](#), PhD, MS,<sup>1</sup> [Shacara Johnson Lyons](#), MSPH,<sup>1</sup> [Chan Jin](#), PhD,<sup>2</sup> [André Dailey](#), MSPH,<sup>1</sup>  
[Ndidi Nwangwu-Ike](#), MPH,<sup>1</sup> and [Anna Satcher Johnson](#), MPH<sup>1</sup>

# CDC's Health Equity Science Principles



Address the  
**contexts that  
contribute to  
health inequities**

- Apply understanding of the societal and environmental contexts that contribute to health inequities
- Address the structural and social factors that impact health and avoid exclusive focus on individual behaviors

# Addressing Contexts

[J Community Health](#). 2023 Feb 24 : 1–18.

PMCID: PMC9950007

doi: [10.1007/s10900-023-01191-y](https://doi.org/10.1007/s10900-023-01191-y) [Epub ahead of print]

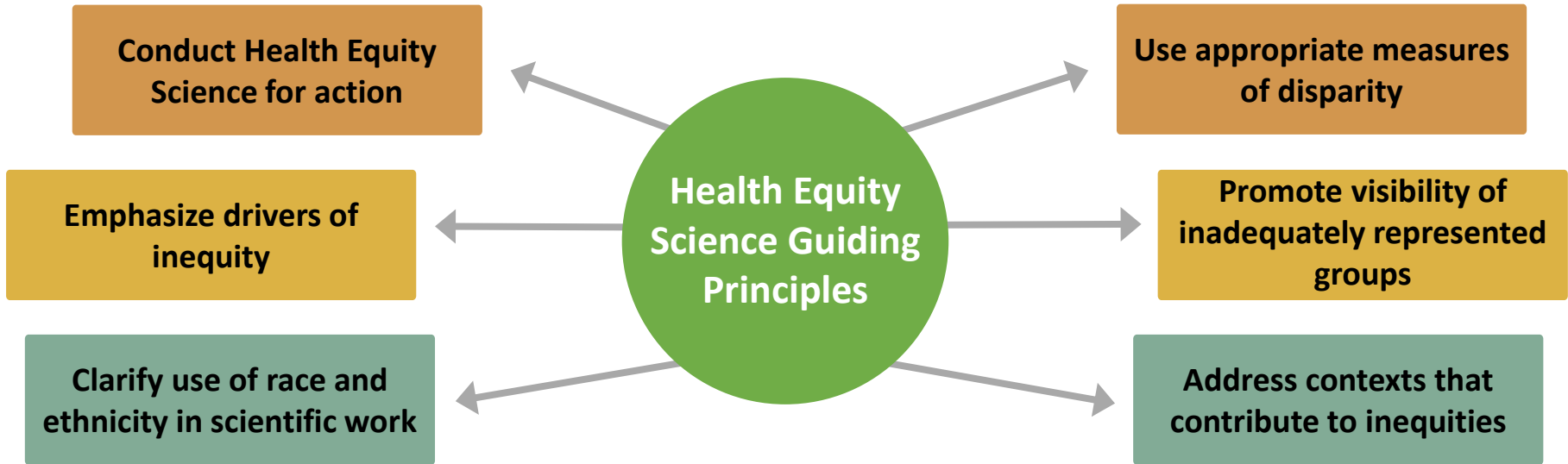
PMID: [36823280](https://pubmed.ncbi.nlm.nih.gov/36823280/)

## A Census Tract-Level Examination of HIV Care Outcomes and Social Vulnerability Among Black/African American, Hispanic/Latino, and White Adults in the Southern United States, 2018

[Faith Elenwa](#),<sup>✉1</sup> [Zanetta Gant](#),<sup>2</sup> [Xiaohong Hu](#),<sup>2</sup> and [Anna Satcher Johnson](#)<sup>2</sup>

# Applying Health Equity Across the Scientific Lifecycle

A health equity science approach should be applied throughout **every phase** of the lifecycle using these guiding principles:



# Health Equity Intervention & Action Principles

# Background on Interventions & Systems Change

A health intervention is generally considered a public health program or initiative designed to have a positive impact on a health problem or condition.

Focused intervention strategies are needed to address structural and social determinants of health and other equity considerations.

Systems changes are often needed to strengthen organizational infrastructure, capacity, and program processes to ensure continuous positive progress towards achieving health equity, in the broader context of equity.

# Health Equity Intervention & Action Principles





**Conclusion**

# Bringing Science and Intervention Together



The Health Equity Science Principles have direct application in all stages of development of scientific projects and dissemination products.



The Health Equity Intervention and Action Principles offer a comprehensive approach to strengthen organizations and interventions.



These principles may be used together for organizations to establish a solid foundation for the advancement of health equity through science and interventions.

# Bringing Science and Intervention Together

How might the CDC's health equity science and health equity intervention and action principles position you to advance HIV and AIDS care through research and policy?

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Action webpage



Conversations in  
Equity blog

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<https://intranet.cdc.gov/healthequity/>

[OHE@cdc.gov](mailto:OHE@cdc.gov)

# Key Resources – Health Equity Science

- [Principles of Health Equity Science for Public Health Action. Public Health Reports. 2023. doi:10.1177/00333549231213162](https://doi.org/10.1177/00333549231213162)
- [Measurement of Health Disparities, Health Inequities, and Social Determinants of Health to Support the Advancement of Health Equity. Journal of Public Health Management and Practice 22\(\):p S33-S42, January/February 2016. | DOI: 10.1097/PHH.0000000000000373](https://doi.org/10.1097/PHH.0000000000000373)
- [CDC’s Guiding Principles to Promote an Equity-Centered Approach to Public Health Communication. Prev Chronic Dis 2023;20:230061. DOI: http://dx.doi.org/10.5888/pcd20.230061](https://doi.org/10.5888/pcd20.230061)
- [Domains of Excellence: A CDC Framework for Developing High-Quality, Impact-Driven Public Health Science Publications. Journal of Public Health Management and Practice 30\(1\):p 72-78, January/February 2024. | DOI: 10.1097/PHH.0000000000001815](https://doi.org/10.1097/PHH.0000000000001815)
- [Disaggregating Data to Measure Racial Disparities in COVID-19 Outcomes and Guide Community Response — Hawaii, March 1, 2020–February 28, 2021. MMWR Morb Mortal Wkly Rep 2021;70:1267–1273. DOI: http://dx.doi.org/10.15585/mmwr.mm7037a1](https://doi.org/10.15585/mmwr.mm7037a1)
- [Collection of Data on Race, Ethnicity, Language, and Nativity by US Public Health Surveillance and Monitoring Systems: Gaps and Opportunities. Public Health Rep. 2018 Jan/Feb;133\(1\):45-54. doi: 10.1177/0033354917745503. Epub 2017 Dec 20. PMID: 29262290; PMCID: PMC5805104](https://doi.org/10.1177/0033354917745503)
- [Getting Data Right - and Righteous to Improve Hispanic or Latino Health. J Healthc Sci Humanit. 2016 Fall;6\(3\):60-83. PMID: 29416934; PMCID: PMC5798620](https://doi.org/10.1177/0033354917745503)
- [“We adjusted for race”: now what? A systematic review of utilization and reporting of race in American Journal of Epidemiology and Epidemiology, 2020–2021, Epidemiologic Reviews, Volume 45, Issue 1, 2023, Pages 15–31, https://doi.org/10.1093/epirev/mxad010](https://doi.org/10.1093/epirev/mxad010)

# Key Resources - Geocoding

- [HIV Care Outcomes in Relation to Racial Redlining and Structural Factors Affecting Medical Care Access Among Black and White Persons with Diagnosed HIV-United States, 2017](#)
- [Area deprivation index and segregation on the risk of HIV: a U.S. Veteran case-control study](#)
- [A Census Tract-Level Examination of Diagnosed HIV Infection and Social Vulnerability among Black/African American, Hispanic/Latino, and White Adults, 2018: United States](#)
- [County-Level Socioeconomic Disparities in Use of Medical Services for Management of Infections by Medicare Beneficiaries With Diabetes-United States, 2012](#)
- [Geographic Differences in Social Determinants of Health Among US-Born and Non-US-Born Hispanic/Latino Adults With Diagnosed HIV Infection, United States and Puerto Rico, 2017](#)
- [A Census Tract-Level Examination of HIV Care Outcomes and Social Vulnerability Among Black/African American, Hispanic/Latino, and White Adults in the Southern United States, 2018](#)

# THANK YOU!

Ana Penman-Aguilar, PhD, MPH  
[bpv4@cdc.gov](mailto:bpv4@cdc.gov)

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

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- CDC Office of Science
- CDC Excellence in Science Committee



# For Q and A: Bringing Science and Intervention Together

How might the CDC's health equity science and health equity intervention and action principles position you to advance HIV and AIDS care through research and policy?