

Healthcare Disparities

Darrell M. Gray, II, MD, MPH
Assistant Professor
Deputy Director, Center for Cancer Health Equity
OSU Comprehensive Cancer Center
The James Cancer Hospital and
Solove Research Institute

Of all the forms of inequality, injustice in health care is the most shocking and inhumane.

Martin L. King, Jr., 1966

Definition of Health/Healthcare disparities

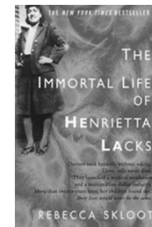
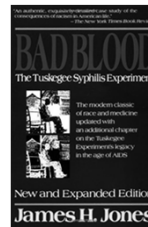
Health/Healthcare Disparities

- Differences between population groups in health outcomes.
 - Incidence, mortality, morbidity, survival, & quality of life
 - Accessibility and quality of health care
- Can be characterized in a multitude of ways
 - Race/ethnicity, income, geographic location, sexual orientation/identity, physical disability, etc.

A brief history of health disparities and the study of disparities in healthcare

Background

- Exploitation of Blacks, poor, and disadvantaged
- Examples include . . .



Landmark studies & reports

- 1985, The Heckler Report
 - Disparities are “an affront both to our ideals and to the ongoing genius of American medicine.”



Landmark studies & reports

- 2001, IOM Report
 - Lack of equity is one of the greatest deficiencies of the US healthcare system.



Landmark studies & reports

- 2003, IOM Report
 - Racial and ethnic minorities were less likely to receive routine medical procedures and far more likely to receive low-quality health services.



The etiologies and burden of health care disparities

Disparities are inextricably linked to the social determinants of health



Image from www.healthypeople.gov

Disparities are inextricably linked to the social determinants of health

- Economic determinants
 - Lack of finances for decent housing → limited access to health foods, safe playgrounds, and schools
- Education
 - Adults without a high school diploma are 3X more likely to die before 65 than those with a college degree

Christine Bahls, *Health Affairs*, October 6, 2011

Disparities are inextricably linked to the social determinants of health

- **Lower quality care**
 - Racial and ethnic minorities often receive health care in hospitals and other facilities that offer lower-quality care.
- **Provider bias**
 - Providers don't give adequate care to certain groups because of stigmas and bias.

Christine Bahls, *Health Affairs*, October 6, 2011

Yes, it's true! Physicians' implicit biases contribute to health care disparities

- **Example: Thrombolysis for ACS**
 - Study of 287 residents at 4 academic medical centers
 - Vignette of patient presenting with ACS, questionnaire assessing explicit biases, and 3 Implicit Association Tests
 - **Main outcomes**
 - IAT scores: implicit race preference & perceptions of cooperativeness
 - Assessment of explicit racial bias
 - Physician attribution of symptoms to ACS and clinical decision

Green AR et al. *J Gen Intern Med* 2007; 22(9): 1231-1238.

Yes, it's true! Physicians' implicit biases contribute to health care disparities

- Physicians reported no explicit preference for White vs. Black patients
 - Implicit measures revealed
 - Preference: White > Black patients
 - Perception: Blacks less cooperative with procedures and less cooperative generally
 - As pro-White bias ↑ so did the likelihood of treating white patients and not treating Blacks.

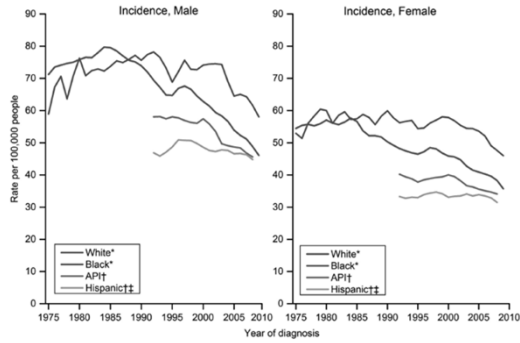
Green AR et al. *J Gen Intern Med* 2007; 22(9): 1231-1238.
Take the implicit-association test: <https://implicit.harvard.edu/implicit/takeatest.html>

Examples of disparities permeate the practice of medicine

- Non-Hispanic blacks are > 50% more likely to die of heart disease or stroke prematurely than non-Hispanic Whites.
- Infant mortality for non-Hispanic blacks is > 2X that of non-Hispanic whites.
- Men are ~4X more likely to commit suicide than women.

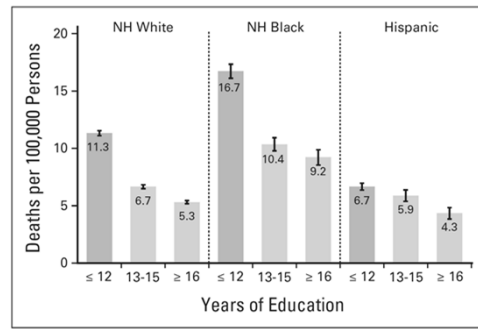
CDC Health Disparities and Inequalities Report, 2013

The example of colorectal cancer: race matters



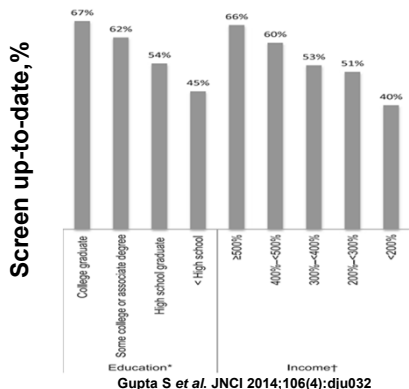
Siegel, R., DeSantis, C. and Jemal, A. (2014), Colorectal cancer statistics, 2014. CA: A Cancer Journal for Clinicians, 64: 104–117. doi: 10.3322/caac.21220

The example of colorectal cancer: education matters



Jemal A et al. J Clin Oncol doi: 10.1200/JCO.2014.58.7519

The example of colorectal cancer: income matters



Gupta S et al. JNCI 2014;106(4):dju032

The example of colorectal cancer: place matters

- Study to identify colorectal cancer “hotspots” based on US county-level mortality data.
- Spatial mapping identified 3 hotspots.
 - Lower Mississippi Delta
 - 94 counties: AR, IL, KY, LA, MI, MO, and TN
 - West Central Appalachia
 - 107 counties: IN, KY, OH, and WV
 - Eastern Virginia/North Carolina
 - 37 counties: NC and VA

Siegel RL et al. Cancer Epidemiol Biomarkers Prev 2015;24(8): 1151-6.

“Currently, your zip code is more predictive of your life expectancy than your genetic code.”

Sir Michael Marmot

The example of colorectal cancer: culture, access & social justice matters

- Disparities in treatment secondary to
 - Cultural differences in acceptance of therapy
 - Comorbid diseases (including obesity) making aggressive therapy inappropriate
 - Lack of convenient access to therapy
 - Racism and SES discrimination

Adapted from Otis Brawley, Cancer Disparities Conference 2016

Summary of etiologies of health disparities



Financial burden of health care disparities

- In 2009, disparities among African Americans, Hispanics and non-Hispanic whites cost the health care system \$23.9 billion.¹
- Combined costs of health disparities and premature death in US were \$1.24 trillion between 2003-2006.²

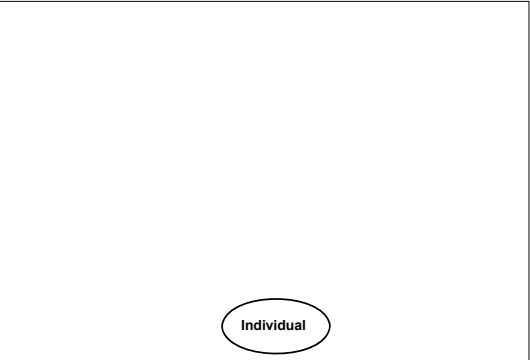
1. Waidmann T, The Urban Institute, September 2009
2. Joint Center for Political and Economic Studies, 2010

Approaches to reduce health care disparities

There are numerous strategies used to reduce health disparities

- Healthcare transformation
- Enhancing diversity of the healthcare workforce
- Population health strategies
 - Cultural competency training
 - Patient navigators
- Advance scientific knowledge and innovation
 - Improving minority accrual to clinical trials

A multilevel approach can reduce disparities



Individual

Adapted from Gupta S et al. JNCI 2014; 106(4):dju032

A multilevel approach can reduce disparities

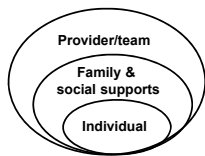


Family &
social supports

Individual

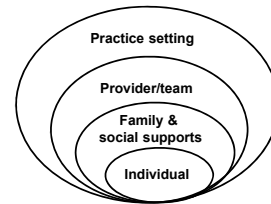
Adapted from Gupta S et al. JNCI 2014; 106(4):dju032

A multilevel approach can reduce disparities



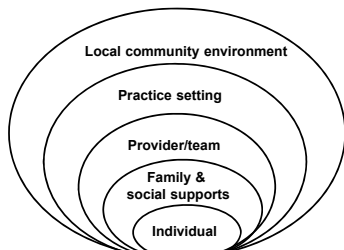
Adapted from Gupta S et al. JNCI 2014; 106(4):dju032

A multilevel approach can reduce disparities



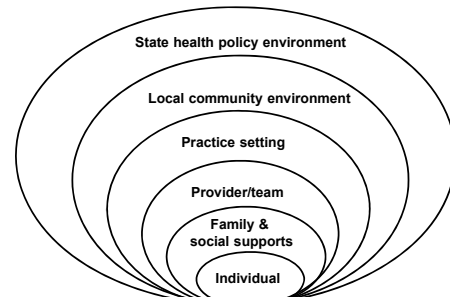
Adapted from Gupta S et al. JNCI 2014; 106(4):dju032

A multilevel approach can reduce disparities



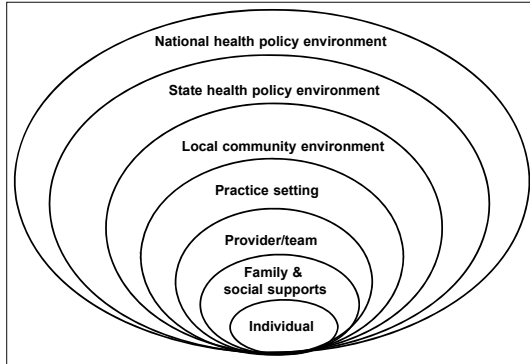
Adapted from Gupta S et al. JNCI 2014; 106(4):dju032

A multilevel approach can reduce disparities



Adapted from Gupta S et al. JNCI 2014; 106(4):dju032

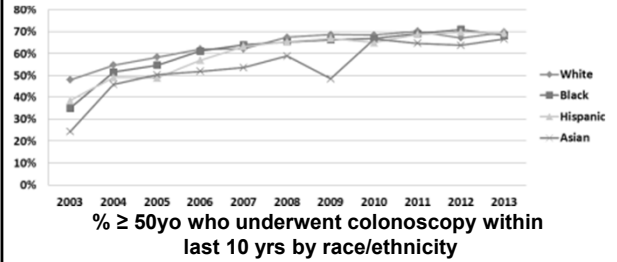
A multilevel approach can reduce disparities



Adapted from Gupta S et al. JNCI 2014; 106(4):dju032

A multilevel approach can reduce disparities: the example of colorectal cancer

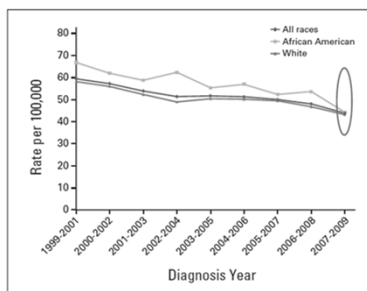
• New York Citywide Colon Cancer Control Coalition



Izkowitz, S. H., et al. (2016). New York Citywide Colon Cancer Control Coalition: A public health effort to increase colon cancer screening and address health disparities. *Cancer*, 122: 269-277. doi: 10.1002/cncr.29595

A multilevel approach can reduce disparities: the example of colorectal cancer

• The Delaware Project

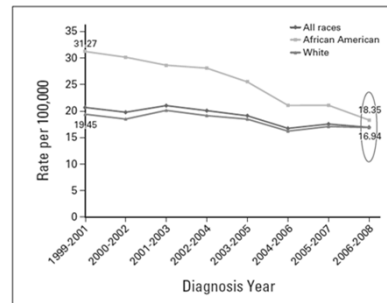


Age-adjusted colorectal cancer incidence rates by race

Grubbs SS et al. J Clin Oncol 2013; 31(16): 1928-1930

A multilevel approach can reduce disparities: the example of colorectal cancer

• The Delaware Project

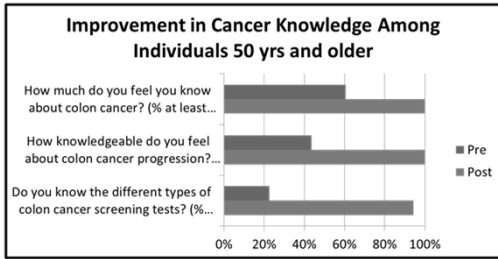


Age-adjusted colorectal cancer mortality rates by race

Grubbs SS et al. J Clin Oncol 2013; 31(16): 1928-1930

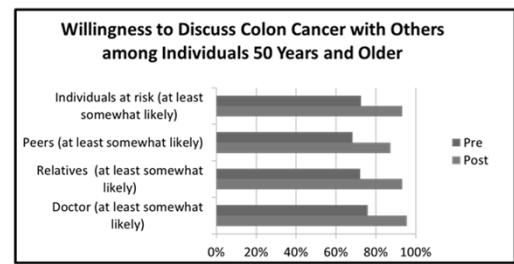
A multilevel approach can reduce disparities: the example of colorectal cancer

- OSU Provider and Community Engagement (PACE) Program: Inflatable colon tours



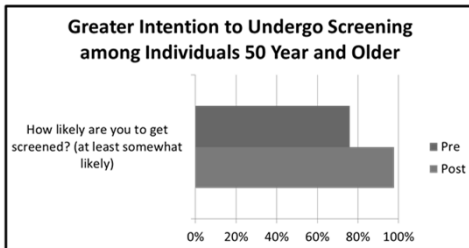
A multilevel approach can reduce disparities: the example of colorectal cancer

- OSU Provider and Community Engagement (PACE) Program: Inflatable colon tours



A multilevel approach can reduce disparities: the example of colorectal cancer

- OSU Provider and Community Engagement (PACE) Program: Inflatable colon tours



A multilevel approach can reduce disparities: the example of colorectal cancer

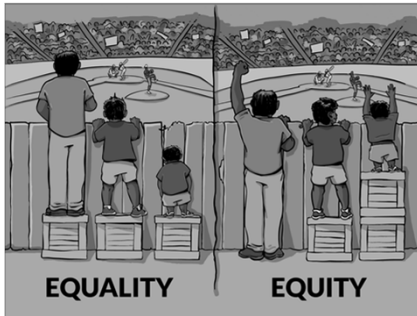
- OSU Provider and Community Engagement (PACE) Program: Free colonoscopies

Adenoma detection among average-risk patients, N=44

| Characteristics | ADR% | AADR% | Proximal adenoma% |
|-----------------|-------|-------|-------------------|
| All | 61.4% | 11.4% | 34.1% |
| Gender | | | |
| Female | 53.3% | 13.3% | 26.7% |
| Male | 65.5% | 10.3% | 37.9% |
| Race/ethnicity | | | |
| Black | 60.1% | 36.0% | 12.0% |
| White | 61.5% | 30.8% | 7.8% |

ADR= adenoma detection rate
 AADR= advanced adenoma detection rate

The goal is to achieve health equity



Author: Angus Maguire

<http://interactioninstitute.org/illustrating-equality-vs-equity/>

Conclusions

- Health care disparities are well documented across the spectrum of medicine.
- Differences in access, quality, behaviors, and social determinants of health are key contributors.

Conclusions

- Healthcare disparities are costly.
- Multilevel approaches are necessary to significantly impact these inequities.