Health Disparity: Why should we care? What can be done?

Meta-lessons from 15 years in the field

Fixing the Social Determinants of Health: Emerging Lessons from Education, Practice, and Policy

Jeroan Allison, MD MS

February 27, 2018
Presentation Objectives

• Present a current, high-level overview of health disparities
• Review the link between the social determinants and health equity
• Provide a framework for health equity intervention
• Present selected current examples of health equity intervention and health disparity research
Some personal information will provide important context for this presentation.

• Those who have gone before and those working along side of me who are more capable and dedicated that myself bestow a rich legacy.

• I am thankful for the high-caliber teaching programs within our Department of Quantitative Health Sciences

• I have a personal passion for health equity research and statistical methodology.

• I have engaged in health equity research as a physician scientist for more than 15 years, and I hope that some of my insights presented today will be of value to you, now and in the future.
A single encounter changed my life ... ... for the better.
Health Disparities/Inequities

• Process
  – Care not based on best available evidence
  – Care not based on shared decision making
  – Care not based on cultural humility and respect

• Outcomes
  – Failure to achieve highest health potential given age, biology, and state of science
  – Difficult to disentangle multiple determinants of health

• Access


Physicians talk to Black patients less than White patients.

Figure 1. Time of entire visit and time of topic of clinical trials

Figure 2. Time of subtopics of elements of consents

American Indians and Alaska Natives born today have a life expectancy that is 4.4 years less than the U.S. all races population (73.7 years to 78.1 years, respectively).
INTRODUCTION

Promoting a New Research Agenda
Health Disparities Research at the Intersection of Disability, Race, and Ethnicity

Willi Horner-Johnson, PhD.* Glenn T. Fujiura, PhD.;† and Tawara D. Goode, MA‡

Med Care. 2014; 52: S1 – S2
Health Care Disparities Among Lesbian, Gay, Bisexual, and Transgender Youth: A Literature Review

Hudaisa Hafeez 1, Muhammad Zeshan 2, Muhammad A. Tahir 3, Nusrat Jahan 4, Sadiq Naveed 5
Sexual Victimization, Health Status, and VA Healthcare Utilization Among Lesbian and Bisexual OEF/OIF Veterans

Kristin M. Mattocks, PhD, MPH1,2, Anne Sadler, PhD, RN3,4, Elizabeth M. Yano, PhD, MSPH5,6, Erin E. Krebs, MD, MPH7,8, Louie Zephyrin, MD, MPH, MBA9, Cynthia Brandt, MD, MPH10,11, Rachel Kimerling, PhD12, Theo Sandfort, PhD13, Melissa E. Dichter, PhD, MSW14, Jeffrey J. Weiss, PhD, MS15, Jeroan Allison, MD, MS2, and Sally Haskell, MD10,11


Perceived Stigma, Discrimination, and Disclosure of Sexual Orientation Among a Sample of Lesbian Veterans Receiving Care in the Department of Veterans Affairs

Kristin M. Mattocks, PhD, MPH1,2 J. Cherry Sullivan, MPH1, Christina Bertrand, BA1, Rebecca L. Kinney, MPH1, Michelle D. Sherman, PhD3, and Carolyn Gustason, RN1,4

Deaths of Despair: Drug, Alcohol, and Suicide Mortality among men and women ages 50-54


https://nhqrnet.ahrq.gov/inhqrdr/
Summary of Health Disparities

• Disparities are pervasive across conditions and populations.
• Access has improved, but lack of access to health care remains an important contributor.
• Access involves more than insurance.
• Many disparities are not decreasing over time.
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THE HEALTH GAP

THE CHALLENGE OF AN UNEQUAL WORLD
Income is Linked to Poor Health.

Braveman P, Egerter S. *Overcoming Obstacles to Health: Report From the Robert Wood Johnson Foundation to the Commission to Build a Healthier America*  
Data from National Health Interview Survey.
Impact of Different Factors on Risk of Premature Death

Health and Well Being
- Individual Behavior: 40%
- Social and Environmental Factors: 20%
- Health Care: 10%
- Genetics: 30%

# The Social Determinants of Health

<table>
<thead>
<tr>
<th>Economic Stability</th>
<th>Neighborhood and Physical Environment</th>
<th>Education</th>
<th>Food</th>
<th>Community and Social Context</th>
<th>Health Care System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>Housing</td>
<td>Literacy</td>
<td>Hunger</td>
<td>Social integration</td>
<td>Health coverage</td>
</tr>
<tr>
<td>Income</td>
<td>Transportation</td>
<td>Language</td>
<td>Access to healthy options</td>
<td>Support systems</td>
<td>Provider availability</td>
</tr>
<tr>
<td>Expenses</td>
<td>Safety</td>
<td>Early childhood education</td>
<td></td>
<td>Community engagement</td>
<td>Provider linguistic and cultural competency</td>
</tr>
<tr>
<td>Debt</td>
<td>Parks</td>
<td>Vocational training</td>
<td></td>
<td>Discrimination</td>
<td>Quality of care</td>
</tr>
<tr>
<td>Medical bills</td>
<td>Playgrounds</td>
<td>Higher education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>Walkability</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

## Health Outcomes
- Mortality
- Morbidity
- Life Expectancy
- Health Care Expenditures
- Health Status
- Functional Limitations

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Roadmap to Reduce Disparities

1. Linking Quality and Equity
2. Creating a Culture of Equity
3. Diagnosing the Disparity
4. Designing the Activity
5. Securing Buy-In
6. Implementing Change

Learn what works—and what doesn’t—to reduce racial and ethnic disparities. A guide to achieving equity while improving quality of care.

http://www.solvingdisparities.org/
Beyond the Classic Randomized Study Design for Health Equity Intervention Research: An Overview of Selected Approaches

All excellent health equity research is scientifically sound.

Not all scientifically sound health equity research is excellent.

It is possible to achieve high-quality study design while respecting the wishes and needs of partnering individual and communities.
Advancing Health Disparities Research Within the Health Care System: A Conceptual Framework

Amy M. Kilbourne, PhD, Galen Switzer, PhD, Kelly Hyman, PhD, Megan Crowley-Matoka, PhD, and Michael J. Fine, MD, MSc

Detection
Define health disparities
Define vulnerable populations
Measure disparities in vulnerable populations
Consider selection effects and confounding factors

Understanding
Identifying determinants of health disparities at the following levels:
  - Individual
  - Structural
  - Contextual
  - Health care system

Reduction
Intervene
Evaluate
Translate and disseminate
Change policy

Note. In our framework, the health disparities research agenda progresses in 3 sequential phases of research. Phase 1 (detecting disparities) informs phase 2 studies (understanding disparities), which in turn informs phase 3 research (interventions to reduce or eliminate disparities).

FIGURE 1: The 3 phases of the disparities research agenda.

Medical Debt and Related Financial Consequences Among Older African American and White Adults

Jacqueline C. Wilshire, PhD, MPH, Keith Elder, PhD, MPH, Catarina Kiefe, MD, PhD, and Jeroan J. Allison, MD, MS

RAHI–SATHI Indo-U.S. Collaboration: The Evolution of a Trainee-Led Twinning Model in Global Health Into a Multidisciplinary Collaborative Program

Apurv Soni, a* Nisha Fahey, a,b* Abraham Jaffe, a Shyamsundar Raithatha, c Nitin Raithatha, c
Anusha Prabhakaran, c Tiffany A Moore Simas, a Nancy Byatt, a Jagdish Vankar, c Michael Chin, a
Ajay G Phatak, c Shirish Srivastava, c David D McManus, a Eileen O’Keefe, d Harshil Patel, c Niket Patel, c
Dharti Patel, c Michaela Tracey, a Jasmine A Khubchandani, a Haley Newman, a Allison Earon, a
Hannah Rosenfield, a Anna Handorf, a Brittany Novak, a John Bostrom, a Anindita Deb, a Sooham Desai, c
Dipen Patel, c Archana Nimbalkar, c Kandarp Talati, c Milagros Rosal, a Patricia McQuilkin, a
Himanshu Pandya, c Heena P Santry, a Sunil Thanvi, c Utpala Kharod, c Melissa Fischer, a Jeroan Allison, a
Somashekar M Nimbalkar c

NEIGHBORHOOD SOCIO-ECONOMIC STATUS PREDICTS HEALTH-RELATED QUALITY OF LIFE TRAJECTORIES AFTER ACUTE CORONARY SYNDROME

Lisa Nobel, MS MD/PhD Candidate, University Of Massachusetts Medical School
William Jesdale, PhD, University Of Massachusetts Medical School
Jennifer Tjia, MD MS, University Of Massachusetts Medical School
Molly E. Waring, PhD, University Of Massachusetts Medical School
  David C. Parish, MD MPH, Mercer University
Arlene S. Ash, PhD, University Of Massachusetts Medical School
Catarina I. Kiefe, MD PhD, University Of Massachusetts Medical School
Jeroan J. Allison, MD MS, University Of Massachusetts Medical School
Results – Trajectories of MCS at 6 Months Post Discharge

- Worsening: 10.5%
- Improving: 16.3%
- High: 64.4%
- Low: 8.9%
Levels of Health Equity Intervention

- Patient
- Provider
- System
- Policy

A rising tide does not float all boats.
The Alabama Collaborative for Cardiovascular Equality

Jeroan J. Allison, MD, MS.

Funded by the National Heart Lung and Blood Institute
Reported Racial Discrimination, Trust in Physicians, and Medication Adherence Among Inner-City African Americans With Hypertension

Yendelea L. Cuffee, PhD, MPH, J. Lee Hargraves, PhD, Milagros Rosal, PhD, Becky A. Briesacher, PhD, Antoinette Schoenthaler, EdD, MA, Sharina Person, PhD, Sandral Hullett, MD, MPH, and Jeroan Allison, MD, MS

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3828720/
CSI: Birmingham
A Culturally Sensitive Intervention for Blood Pressure Control with Storytelling DVDs

TIME
The New York Times
Ann Intern Med. 2011;154:77-84.
When a problem exists in a community, the solution exists there also.
Storytelling has a strong conceptual basis.

Narrative Content (story line)
Production Quality
Persuasive Subtext
Homophily (similarity between characters and participants)

Transportation (absorption in story line)
Identification with Characters in Narrative

Change in Attitudes & Behavior

Culturally Appropriate Storytelling to Improve Blood Pressure
A Randomized Trial

Thomas K. Houston, MD, MPH; Jeroan J. Allison, MD, MSc; Marc Sussman, MHA; Wendy Horn, PhD; Cheryl L. Holt, PhD; John Trobaugh, MFA; Maribel Salas, MD, PhD; Maria Pisu, PhD; Yendeleta L. Cuffee, MPH; Damien Larkin, MA; Sharina D. Person, PhD; Bruce Barton, PhD; Catarina I. Kiefe, PhD, MD; and Sandral Hullett, MD, MPH

Houston. Ann Intern Med; 2011; 154: 77-84

http://annals.org/aim/article/746718/culturally-appropriate-storytelling-improve-blood-pressure-randomized-trial
What's her story?

SHARING TALES MAY BE GOOD MEDICINE FOR ALL KINDS OF ILLS

FAITH WOMEN WARY OF HORMONE USE

OPERA 'DEATH' GOES SOUL-SEARCHING

AND GARDNER NAMES NEW CURATOR
Can stories influence African-American patients’ intentions to change hypertension management behaviors? A randomized control trial

Barbara G. Bokhour\textsuperscript{a,b,*}, Gemmae M. Fix\textsuperscript{a,b}, Howard S. Gordon\textsuperscript{c,d}, Judith A. Long\textsuperscript{e,f}, Kathryn DeLaughter\textsuperscript{a}, Michelle B. Orner\textsuperscript{a}, Charlene Pope\textsuperscript{g,h}, Thomas K. Houston\textsuperscript{a,i}
Chúng ta nói về bệnh Tăng huyết áp
Conclusions about Storytelling

• Understanding the root causes of health disparities leads to effective interventions

• Story telling holds important potential
  • Taps into wellspring of community wisdom
  • Understanding common and particular root causes
  • Applicable to a many populations, settings, and conditions
Patient, provider, and system-level barriers and facilitators to addressing perinatal depression

Nancy Byatt*, Kathleen Biebel, Rebecca S. Lundquist, Tiffany A. Moore Simas, Gifty Deborde-Jackson, Jeroan Allison and Douglas Ziedonis

University of Massachusetts Medical School, Worcester, Massachusetts, USA
PRogram In Support of Moms (PRISM): Stepped Care Approach for Ob/Gyn Settings

Nancy Byatt, DO, MS, MBA, FAPM
Psychiatry and Ob/Gyn

Tiffany A. Moore Simas, MD, MPH, MEd, FACOG
Ob/Gyn, Psychiatry and Pediatrics

Jeroan Allison, MD, MS
Quantitative Health Sciences

1 U01 DP006093-01
Debate

Implementation research design: integrating participatory action research into randomized controlled trials

Luci K Leykum*1,2, Jacqueline A Pugh1,2, Holly J Lanham4, Joel Harmon3 and Reuben R McDaniel Jr4

Address: 1VERDICT, a VA HSR&D REAP at the South Texas Veterans Health Care System, San Antonio, Texas, USA, 2Department of Medicine, School of Medicine, University of Texas Health Science Center at San Antonio, San Antonio, Texas, USA, 3School of Business, Fairleigh Dickinson University, Madison, New Jersey, USA and 4Department of Information, Risk and Operations Management, McCombs School of Business, The University of Texas at Austin, Austin, Texas, USA

Email: Luci K Leykum* - Leykum@uthscsa.edu; Jacqueline A Pugh - jacque.pugh@gmail.com; Holly J Lanham - Holly.Lanham@phd.mccombs.utexas.edu; Joel Harmon - harmon@fdu.edu; Reuben R McDaniel - reuben.mcdaniel@mccombs.utexas.edu

* Corresponding author

Published: 23 October 2009

Received: 10 July 2007


Accepted: 23 October 2009
Going Upstream with Numbers & Stories that Measure a Primary Care Payment Reform Model’s Impact on the Social Determinants of Health

Germán Chiriboga, MPH
Beverly Nazarian, MD
Valerie Zolezzi-Wyndham, JD

Medical-Legal Partnership Summit

Integrating Health and Legal Services to Transform Care Delivery
April 5-7, 2017 • National Harbor, Maryland
The Gaylord National Resort & Convention Center

On April 5-7, 2017, more than 400 leaders from the allied health, health, law, and public health fields gathered in National Harbor, Maryland to for the Medical-Legal Partnership Summit. There they shared research, insights, and best practices about where and how to most effectively integrate civil legal
University of Massachusetts Center for Health Equity Intervention Research

Funded by NIMHD grant 1P60MD006912
The overarching aims of CHEIR is to eliminate health disparities by:

• Developing interventions, such as storytelling, that are tailored to deep cultural structure and literacy

• Promoting, energizing, and training the next generation of scientists interested in health equity research

• Infusing education and bi-directional academic-community learning throughout
Empowering Community Health Workers with Tools and Storytelling

• Two community health clinics with > 90% of patients below federal poverty line
• Embedded community health workers
• Intervention
  • Motivational interviewing
  • Storytelling
• Patients
  • 171 Randomized to intermediate or delayed intervention
  • 93% follow up for immediate intervention
  • 69% follow up for delayed intervention
Empowering Community Health Workers with Tools and Storytelling

Immediate Intervention

<table>
<thead>
<tr>
<th>Blood Pressure (mmHg)</th>
<th>Immediate Intervention</th>
<th>p-value</th>
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</thead>
<tbody>
<tr>
<td>Systolic</td>
<td>141</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>136</td>
<td>p = 0.208</td>
<td></td>
</tr>
<tr>
<td></td>
<td>132</td>
<td>p = 0.014</td>
</tr>
</tbody>
</table>

Delayed Intervention

<table>
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<tr>
<th>Blood Pressure (mmHg)</th>
<th>Immediate Intervention</th>
<th>p-value</th>
</tr>
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<tbody>
<tr>
<td>Systolic</td>
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<tr>
<td></td>
<td>132</td>
<td>p = 0.014</td>
</tr>
</tbody>
</table>
Lo que dicen las madres sobre sexo

En la comunidad puertorriqueña no hablamos de sexo.

Es tiempo.

www.PorAhiDicen.umb.edu  (413) 224-8333

NIMD Grant # P60MD006912
The Health Equity Scholars Program: Innovation in the Leaky Pipeline.

Upshur CC¹, Wrighting DM², Bacigalupe G³, Becker J², Hayman L⁴, Lewis B⁵, Mignon S⁶, Rokop ME⁷, Sweet E⁸, Torres M↑⁹
Beyond Hospital Walls: Teaching Students About Social Determinants of Health

AAMC Reporter: September 2012

—By Barbara A. Gabriel, special to the Reporter

“In medical school, it’s very easy to think that what we do in medicine is what matters the most in health care, that the action is in the clinic and hospital,” said Jeroan Allison, M.D., professor and vice chair of quantitative health sciences and associate vice provost for health disparities research at the University of Massachusetts Medical School. “But that’s not true. The context of patients’ lives is the most powerful determinant of health.”
AAMC Health Equity Research Virtual Site Visit

https://www.aamc.org/initiatives/research/healthequity/397524/vsvmass.html
FM101: Determinants of Health Course

• Course content
  • Pervasive nature of health disparities
  • Multiple and complex health determinants
  • Relationship of communities, culture, and the medical care system with health
  • Role of epidemiologic and biostatistical principles

• Clinician’s role as
  • Advocate
  • Inter-professional team member

• Reflections on bias at personal, physician, and institutional levels

• Population health clerkship
  • Community immersion
  • Service-learning projects
Injury Free Coalition for Kids of Worcester works with community leaders on:

- A bi-weekly car seat safety check
- A playground safety improvement/renovation project
- A gun buyback/violence prevention program called "Goods For Guns"
- "Safe at Home" home childproofing kits
Pre-clinical Student Reflections on Implicit Bias in Medical Education

Christine Motzkus, Racquel J Wells, Xingyue Wang, Sonia Chimienti, Deborah Plummer, Jeroan Allison, Suzanne Cashman
As a Hispanic male, I was distressed to learn I harbored unconscious bias against those like me. At first I was disturbed, but then I was thankful for the opportunity to prevent this from affecting my future work as a doctor.

---UMass MS II, Reflective Essay
“I believe that as a medical student, it is essential to realize that even students can take steps that can have larger consequences.”

---UMass MS II, Reflective Essay
CULTURAL HUMILITY VERSUS CULTURAL COMPETENCE: A CRITICAL DISTINCTION IN DEFINING PHYSICIAN TRAINING OUTCOMES IN MULTICULTURAL EDUCATION

MELANIE Tervalon, MD, MPH
Children’s Hospital Oakland
JANN MURRAY-GARCÍA, MD, MPH
University of California, San Francisco

Journal of Health Care for the Poor and Underserved • Vol. 9, No. 2 • 1998
It’s more important to know what sort of person has a disease than to know what sort of disease a person has. ---Hippocrates
**COmmuNity-engaged SimULation Training for Blood Pressure Control (CONSULT-BP)**

<table>
<thead>
<tr>
<th>Participants</th>
<th>Early-stage clinicians (resident physicians and doctor of nursing practice students)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Experiential learning to increase bias awareness, improve cultural competency, promote better clinical management and patient engagement</td>
</tr>
<tr>
<td>Outcome</td>
<td>Improved blood pressure control for patients of color</td>
</tr>
<tr>
<td>Design</td>
<td>Stepped wedge</td>
</tr>
</tbody>
</table>
Mayo Clinic & First Institutional Baptist Church cordially invite you to attend its Discussion of Black Health & Research

Tuesday, February 16, 2016 6:30pm – 8:30pm

- Presentation on ethnicity-specific health screening & prevention
- Discussion of perceptions & myths regarding clinical research and minority populations
- Open floor for questions & answers

First Institutional Baptist Church 1141 East Jefferson Street Phoenix, AZ 85034

RSVP for this event at (602) 385-3900

Lauren Powell, PhD Candidate

Visiting Research Fellow
Mayo Clinic Arizona

Lauren Powell is a PhD candidate in the Clinical and Population Health Research program at the University of Massachusetts Medical School. Her research focuses on the effects of racism on health, and increasing the participation of minorities in clinical research studies. Lauren graduated from Xavier University of Louisiana with a B.S. in Biochemistry. She is active in the Worcester community and is a member of the Worcester Partnership for Racial & Ethnic Health Equity.

Psychometric Development of the Research and Knowledge Scale (RaKS)

Lauren R. Powell, BS*, Elizabeth Ojokwu, BS†, Sharina D. Person, PhD†, Jeroan Allison, MD, MSc, PhD†, Milagros C. Rosal, PhD‡, and Stephanie C. Lemon, PhD‡
STRIDE  
(Strengthening Translational Research in Diverse Enrollment)

- Culturally tailored e-consent
- Simulation-based training in cultural humility
- Storytelling to advance research literacy
In the last decade, the term “population health” being used so widely that it risks becoming another *mot du jour*.

We need to:

• Develop systems that focus on health rather than on medical care
• Integrate public health and social services as part of the community

---Dr. Suzanne Cashman
Paying for social-determinants-of-health supports innovative care for vulnerable.

Innovative way of addressing SDOH in MA Medicaid.

Helping eliminate neighborhood based underpayment.
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To achieve health equity, we need to:

• Achieve with a deep understanding of root causes
• Tap into community wisdom
• Conduct high-quality scientific studies that are respectful of our communities
• Move beyond the individual to focus on the base of the impact pyramid
• Develop effective educational programming that instills proper cultural attitudes in the medical workforce and nurtures all who are deserving
• Engage diverse communities in biomedical research
Such problems require far more profound commitments---in time, in redirection of resources, and in reallocation of power---than is possible for individuals.
“A race, like an individual, lifts itself up by lifting others up.”
----Booker T. Washington