

Measuring and reporting health disparities:

A case study on developing a state
level health disparities report

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Overview

- Background on my research
- New course in measuring and reporting health disparities
 - Motivation for developing this course
 - Course content
- Three-part case study
 - Brief exercise on defining health disparity terms

Tucker-Seeley Research Lab

- What we do
 - Our work is motivated by a few key questions:
 - 1) How do we conceptualize and operationalize financial well-being (FWB) in research across the cancer continuum from prevention to end-of-life care?
 - 2) What are the specific components of FWB associated with outcomes across the cancer continuum?
 - 3) How does the economic well-being of neighborhoods influence the health/health behavior of residents?

Tucker-Seeley Research Lab

- Current Projects



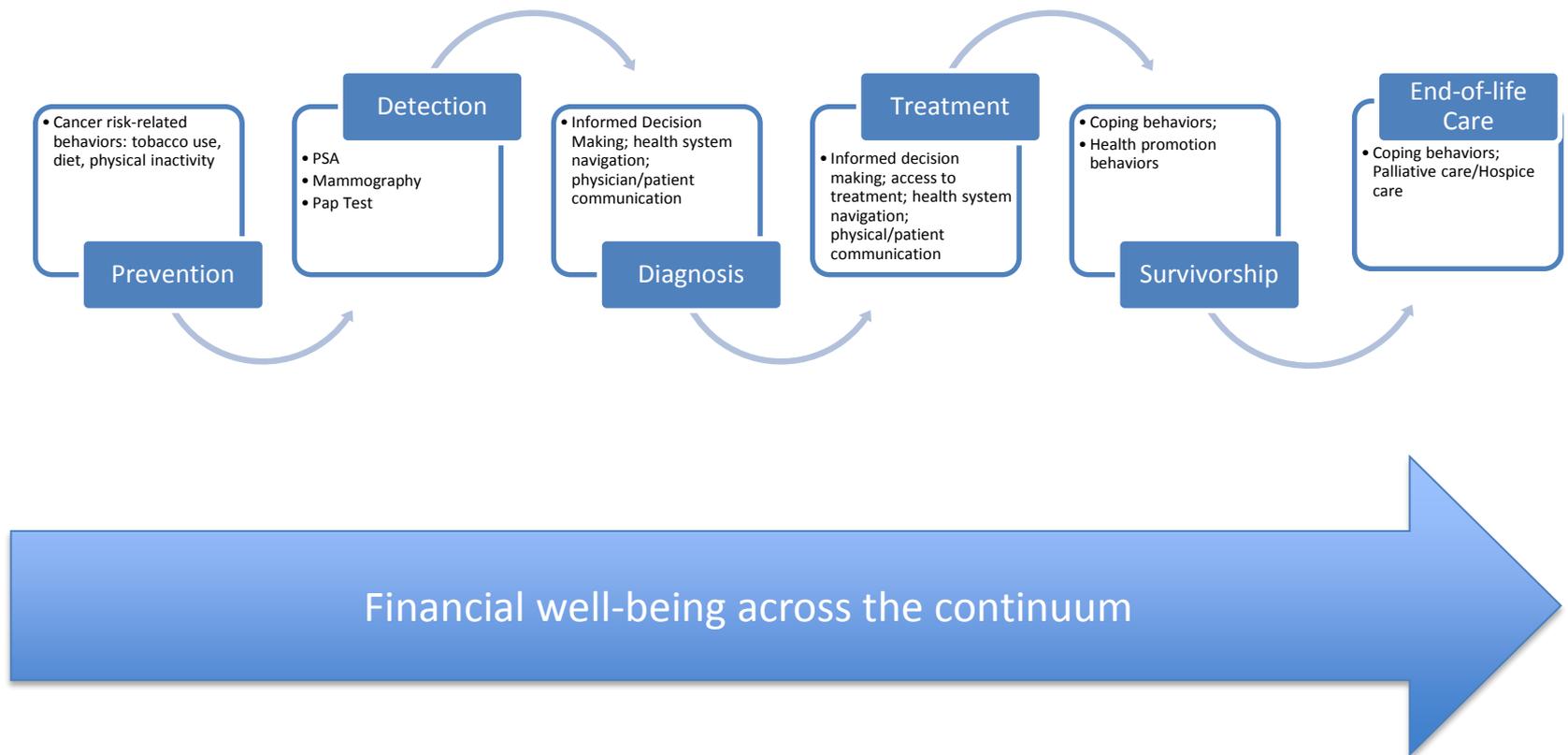
Development of a Measure of Financial Well-Being:
Expanding our Notion of SES (Funded by NCI)



Financial Well-Being Following Prostate Cancer Diagnosis
(Funded by NCI)

- Development of a Measure of Neighborhood Economic Well-Being (funded by the Aetna Foundation/ AcademyHealth)

Background



Introduction

- Developed a new course at the Harvard T.H. Chan School of Public Health called, “Measuring and Reporting Health Disparities”
 - In the course, we use the process of creating a state level health disparities/health inequity report to contextualize the issues/challenges in the defining, measuring, monitoring, and reporting of health disparities and health inequity

Introduction

- Rhode Island Commission for Health Advocacy and Equity
 - Legislatively mandated
 - Advisory committee to RI Department of Health
 - Inter-sectoral membership
 - 3 subcommittees: Policy, Data, and Community Engagement

RI Commission for Health Advocacy and Equity

- Mission
 - To advocate for the integration of all relevant activities of the state to achieve health equity;
 - To provide direct advice to the director of health, and indirect advice to the department's senior administrators and planners through the director, regarding issues of racial, ethnic, cultural, or socio-economic health disparities;
 - To develop and facilitate coordination of the expertise and experience of the state's health and human services systems, housing, transportation, education, environment, community development, and labor systems in developing a comprehensive health equity plan addressing the social determinants of health;

RI Commission for Health Advocacy and Equity

- Mission (cont'd)
 - To set goals for health equity and prepare a plan for Rhode Island to achieve health equity in alignment with any other statewide planning activities; and
 - To educate state agencies in Rhode Island on disparities, including social factors that play a role in creating or maintaining disparities.

My experience on the commission

- Defining health disparities
 - Thinking about conceptualization while also considering operationalization;
 - How to get group consensus
- Selecting health outcomes and data sources
- Selecting measures of disparity

Case Study

- Part A: Defining the Issue: What are health disparities, health inequalities, and health inequity?
- Part B: Selecting health outcomes and data sources
- Part C: Measuring and reporting on disparities, inequality, and inequity

Part A

- Two characters in the case
 - Dr. Harper Avery (Director of Minority Health at the Rhode Island (RI) Department)
 - Dr. Olivia Taylor (Primary care physician and Executive Director of the Providence Community Health Center)

Part A

Dr. Harper Avery,.....just assumed the co-chair position on the Commission of Health Advocacy and Equity in RI.....
“Before I took this role,” she admitted, “I didn’t think much about the difference among the terms ‘health disparities,’ ‘health inequality,’ and ‘health inequity.’” She had used them interchangeably in her work at the RI Department of Health and, as she explained, “I usually used whatever term the funder or researcher I was working with used.” But now that she was asked to lead this new Commission for Health Equity, Dr. Avery quickly realized that it was going to be very important for her (as well as the Commission) to be clear about what these terms meant, to be consistent about their use, and to develop a rigorous plan to operationalize them in RI.

Part A

Dr. Olivia Taylor:

“I’m sorry, but I don’t think this agenda item is a valuable endeavor or a good use of our time.” She continued, “everyone knows what a health disparity is, the commission should address more pressing issues. For example, how will we address all of the newly insured patients in Providence resulting from the Affordable Care Act? We will have over 90% of our state population insured, but folks will have long wait times and the quality of care will likely suffer as we don’t have the primary care capacity to handle that.”

Part A

- After a long debate, the Commission decides that the policy subcommittee should identify the current definitions in these terms. The subcommittee identified the following definitions:
 - The WHO defines disparities as “differences in health which are not only unnecessary and avoidable but, in addition, are considered unfair and unjust.”
 - In contrast, the IOM 2003 report on disparities, *Unequal Treatment*, defined disparities as “racial or ethnic differences in the quality of health-care that are not due to access-related factors or clinical needs.”
 - Margaret Whitehead, one of the leading scholars in health inequalities research, defined health inequalities “as health differences that are avoidable, unnecessary, and unjust.”
 - Healthy People 2020 defines health equity as the “attainment of the highest level of health for all people. Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and health care disparities.”

Part A

Dr. Avery was concerned about selecting a definition that would meet the statute's mandate, would be possible for the group to operationalize, and that the entire Commission could agree upon. She reviewed the legislation and added its definition of disparities to the list:

- “Disparities’ means the preventable inequalities in health status, including the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among population groups in Rhode Island. Disparities are impacted by social determinants of health which include, but are not limited to, access to services, quality of services, health behaviors, and environmental exposures.”

Part A: Conclusion

- Looking over the definitions, Dr. Avery wondered aloud, “But who will define what ‘preventable inequalities’ are?”

Part A: Group Exercise

- In the course, I then ask students to assume that the class is a state level “Commission on Health Equity” and to define these terms. We break into small groups:
 - Define health disparities
 - Define health inequalities
 - Define health inequity

Part A: Group exercise in the class

- Vote as a class on the definitions we will use going forward with the case study (parts B and C).

Part B: Selecting Health Outcomes

- Selecting health outcomes and data sources
 - Process for determining health outcomes of interest
 - Differentiating between a high rate of disease and a disparity

“As she walked to her car after the meeting concluded, Dr. Avery wondered how the subcommittee would select the health outcomes to include. Would it be based on differences in the common causes of death in RI, or on where the largest differences exist across racial/ethnic or other socio-demographic characteristics? And what socio-demographic characteristics would the subcommittee prioritize?”

Part C: Measuring and Reporting on Disparities, Inequality, and Inequity

- Total disparity
- Index of disparity

Measures of Disparity (covered in the course)

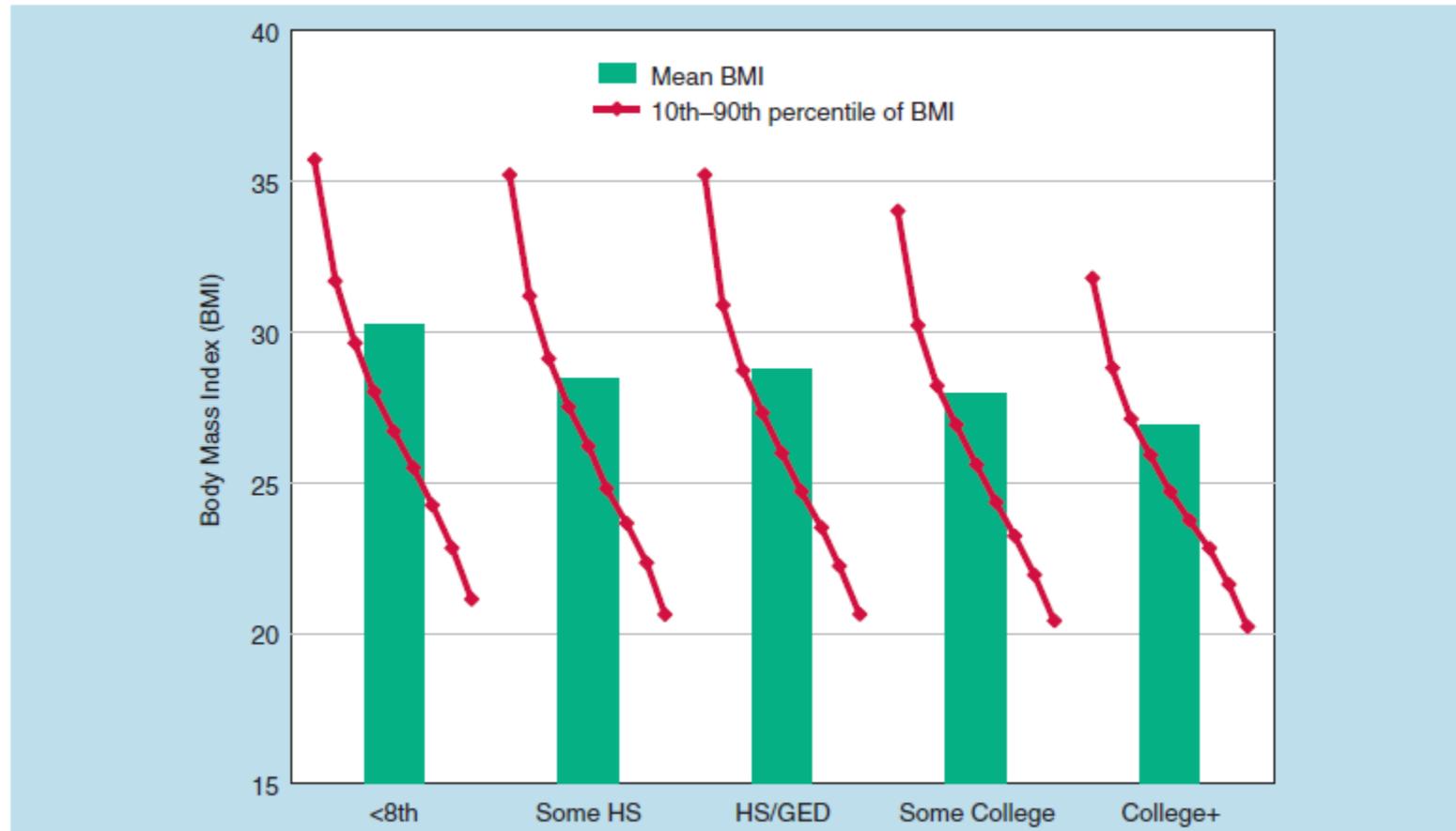
- Total Disparity
- Absolute Difference
- Relative Difference
- Index of Disparity
- Between Group Variance
- Slope Index of Inequality
- Relative Index of Inequality
- Population Attributable Risk

Measures of total disparity

- “measures of total disparity do not account for social grouping”
 - However, these measures of central tendency and dispersion provide a good overview of the distribution of the health outcome

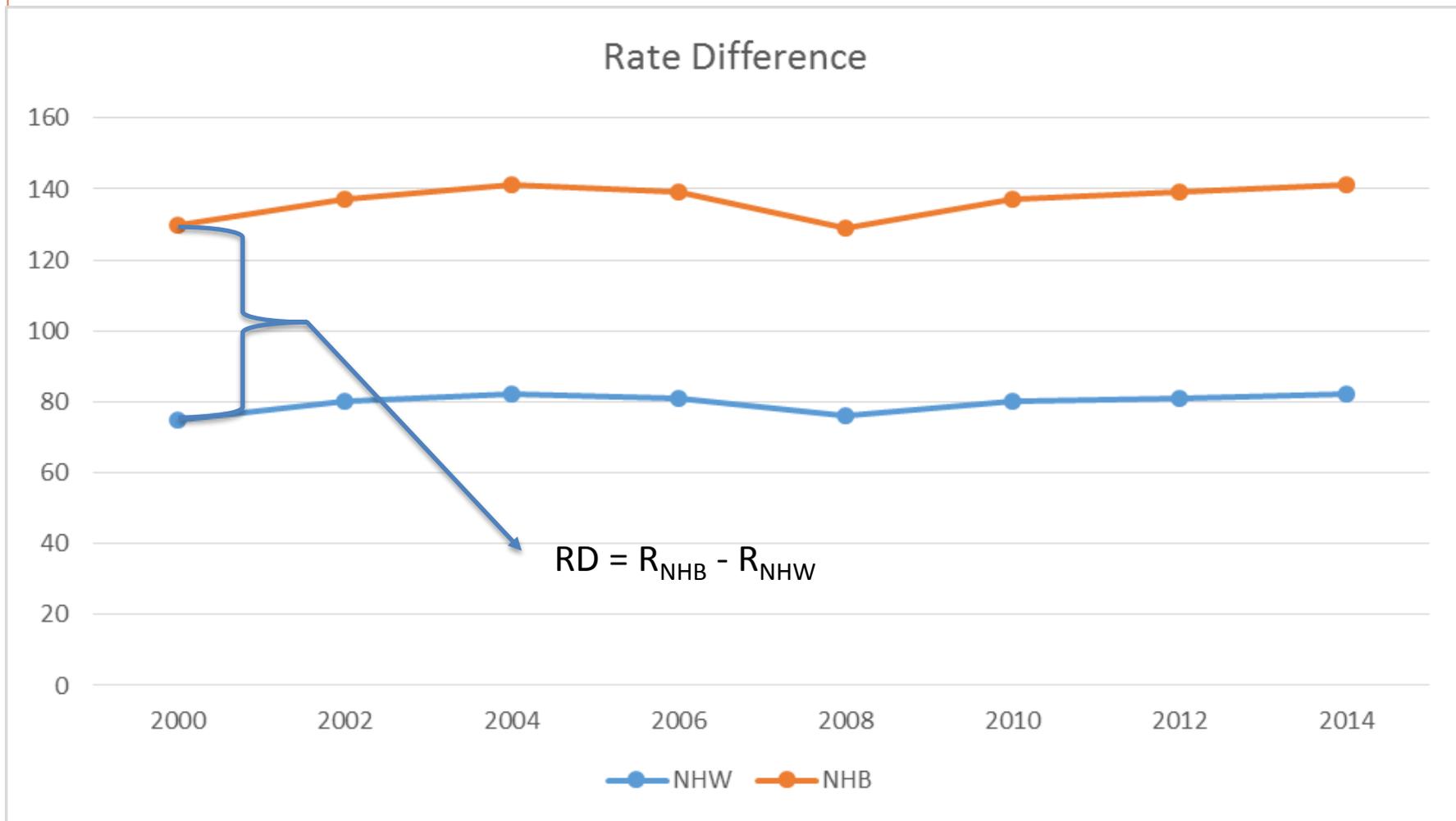
Variance within education groups for BMI

Figure 3. Mean and 10th–90th Percentiles of Body Mass Index by Education, NHIS, 1997

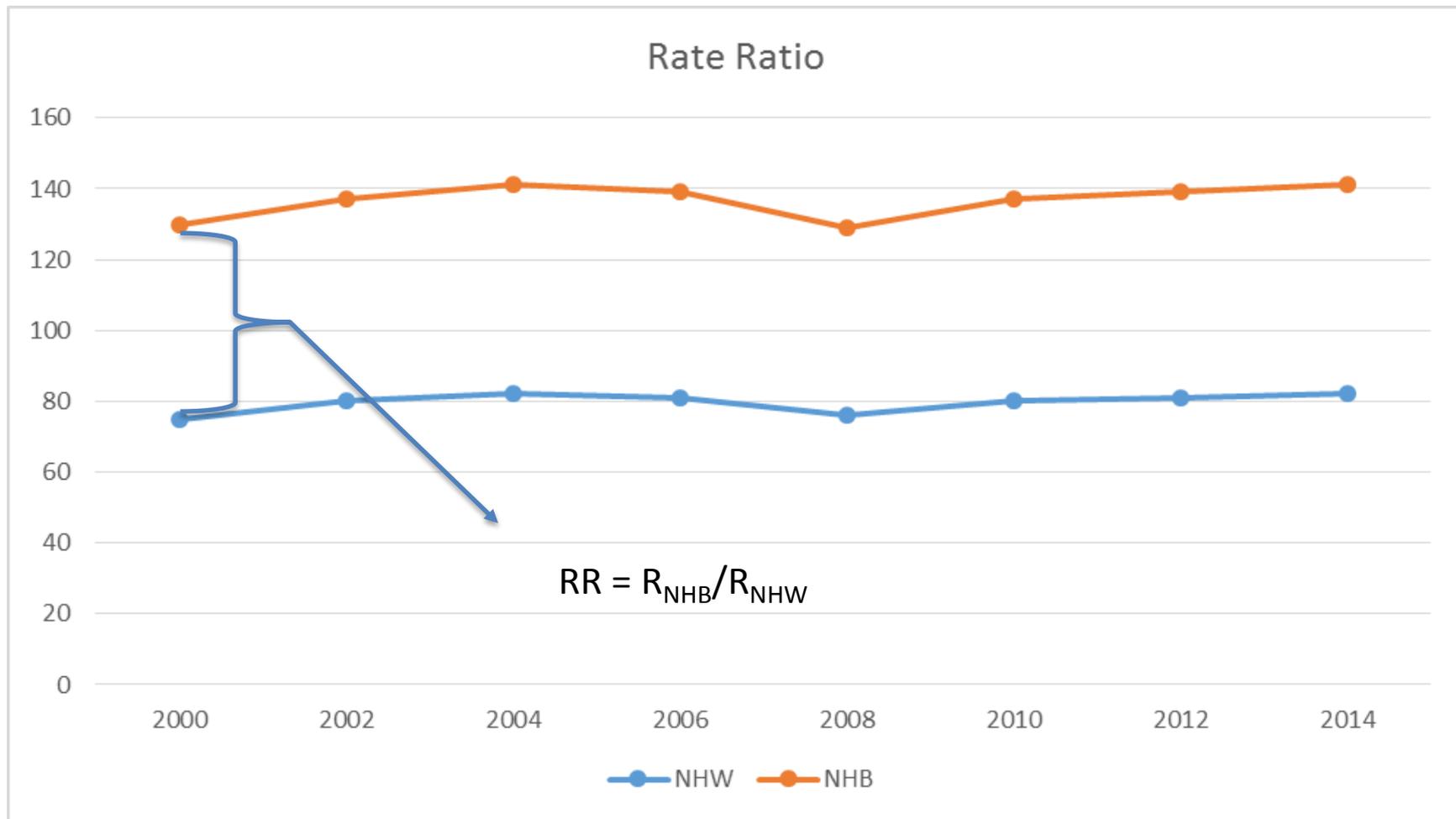


Source: Harper and Lynch, 2005

Rate Difference

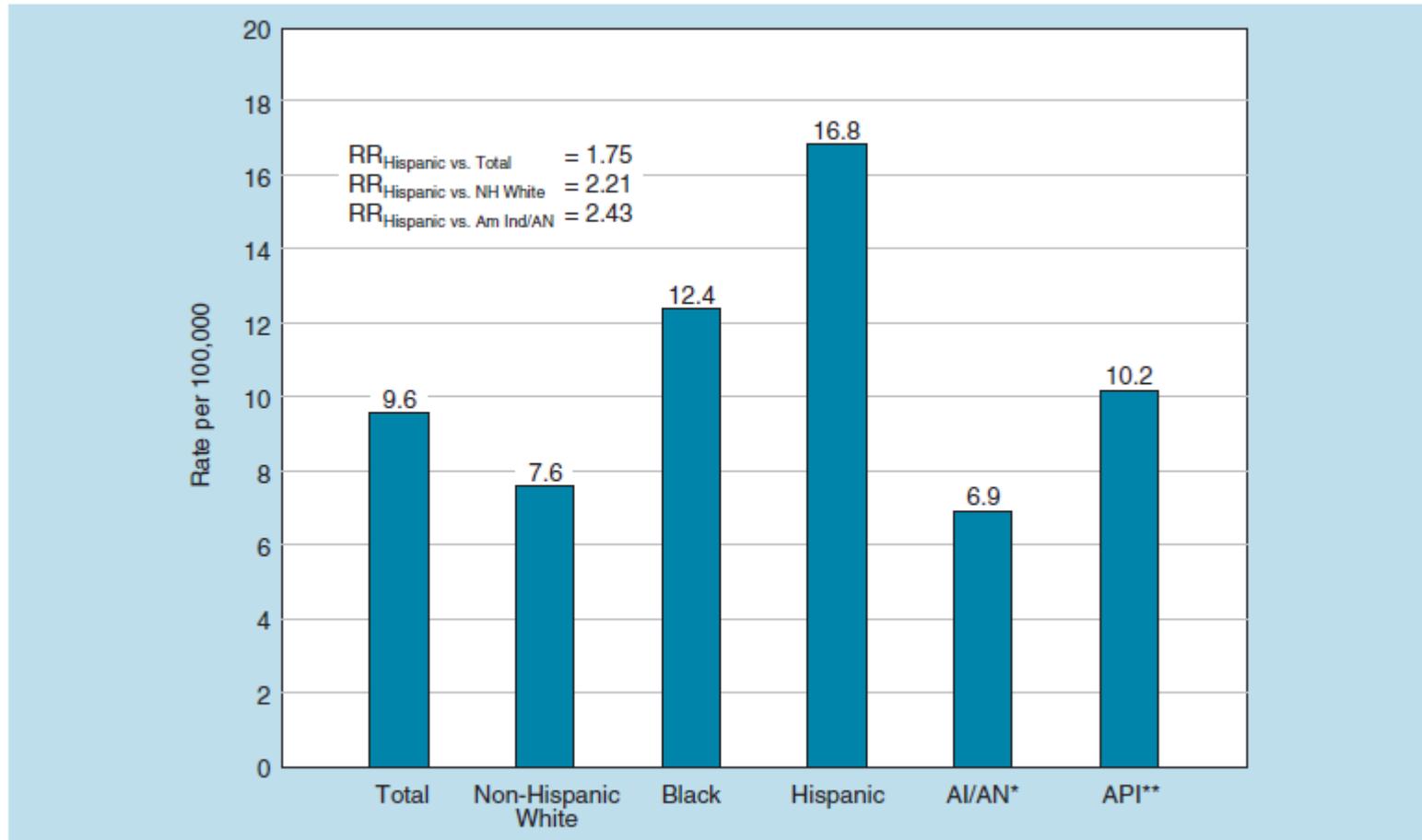


Rate Ratio



Issues with selecting the “reference” group

Figure 6. Relative Risk (RR) of Incident Cervical Cancer Among Hispanics According to Varying Reference Groups, 1996–2000



*AI/AN = American Indian/Alaska Native

**API = Asian/Pacific Islander

Source: SEER Cancer Statistics Review, 1975–2000.

Index of Disparity

Measures the mean deviation of the group rates from some reference point **as a proportion** of that reference point

Formula:

$$ID = \sum_{j=1}^J (|y_j - y_{ref}|/n) / y_{ref}$$

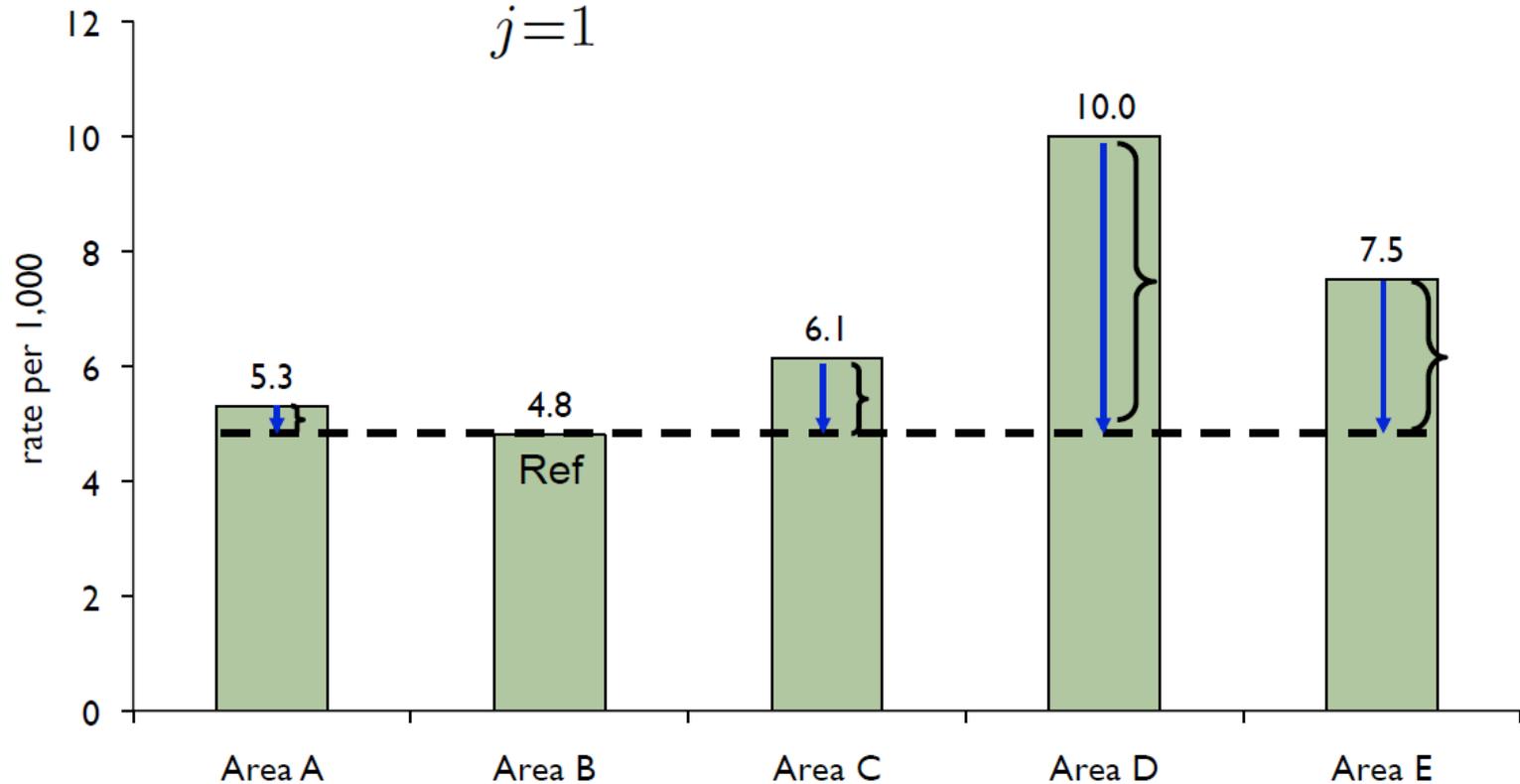
Where y_j is the rate in group j , y_{ref} is the rate for the reference point, and J is the number of groups, or the number of groups minus 1 if one of the groups is the reference point

Source: Pearcy and Keppel. (1999)

Source: Harper, 2011

Index of Disparity

$$ID = \sum_{j=1}^J (|y_j - y_{ref}|/n) / y_{ref}$$



Characteristics of Index of Disparity

- Relative measure of disparity
- Does not account for population group size
- Interpretation: average deviation across social groups as a proportion of the reference group

Measures of Health Disparity

| Measures of health disparity | Description | Interpretation |
|------------------------------------|---|--|
| Slope index of inequality (SII) | “An absolute summary measure of inequality, which represents the slope of the regression comparing the mean health outcome in a socioeconomic group to the cumulative percent of the population, ranked by socioeconomic position (from lowest to highest)” | “The SII is interpreted as the absolute difference between the most and least deprived” |
| Relative index of inequality (RII) | “...calculated by dividing the slope index of inequality by the mean rate of the health outcome in the population” | “the proportionate decline in the health outcome over the population, ranked by SES. A large score of indicates the presence of inequalities. A negative score indicates that the health outcome is greater in those of lower SES” |

Case study conclusion

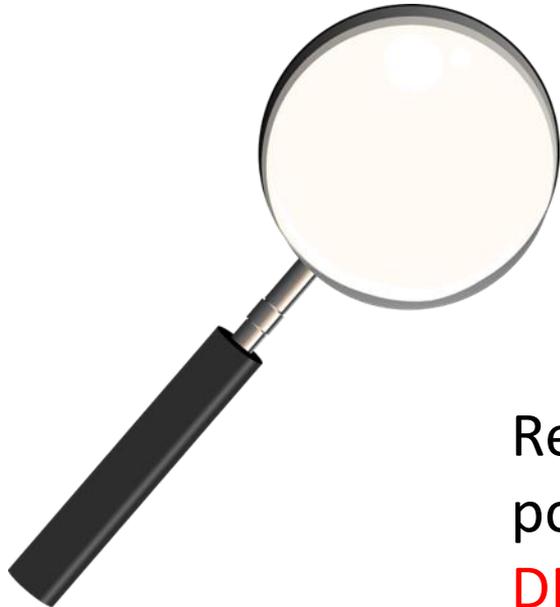
Executive Directory, Betty Artis of the YWCA:

“.....will we be able to translate all of this information to policy makers, and members of our respective communities? I have to admit I am struggling to keep up and I’m not sure if I’ll be able to communicate a measure called the “index of disparity”after the report goes out. And, since there is no measure that can give us a simple threshold for action, could we just report absolute differences between groups and let the legislators decide where to act?”

Policy and Measurement Implications

- When is a “difference” actionable?
 - Should efforts focus on the “difference” OR improving the outcome for the worse off group?
- When can the “difference” be ignored?

Health equity in practice



Requires consistently asking of policies/programs [**THROUGHOUT DEVELOPMENT**] *‘Does this policy/program’ differentially impact some populations/communities (especially those that have a history of worse health outcomes)?’*

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RI Final Report

- <http://www.health.ri.gov/publications/reports/2015CommissionOnHealthAdvocacyAndEquityLegislativeReport.pdf>

QUESTIONS/COMMENTS

Thank You