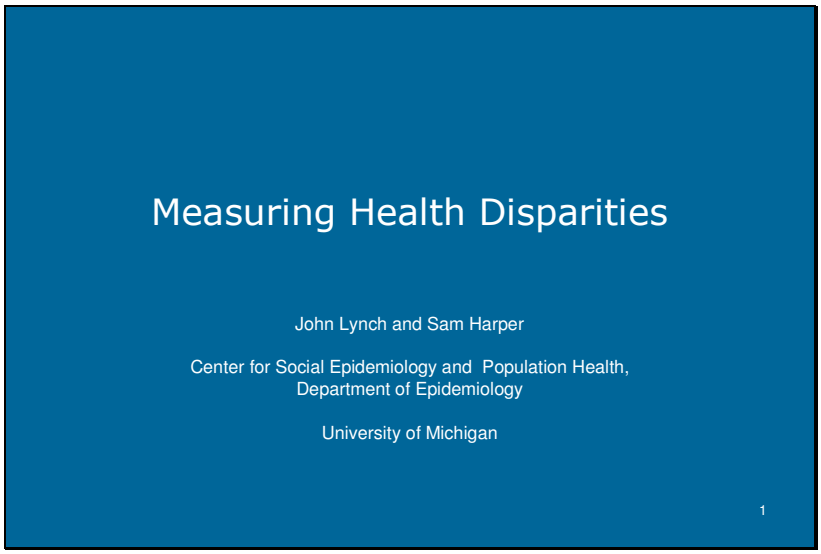
Welcome



This CD-ROM addresses some conceptual and methodological issues in measuring health disparities. We will begin by examining some of the language used to discuss health disparities, to come to a common understanding of the ways different terms are used. Next, we will discuss some of the issues that arise when choosing a measurement strategy to assess the extent of health disparity, and then we will demonstrate some of the technical details of how to calculate different measures of health disparity.

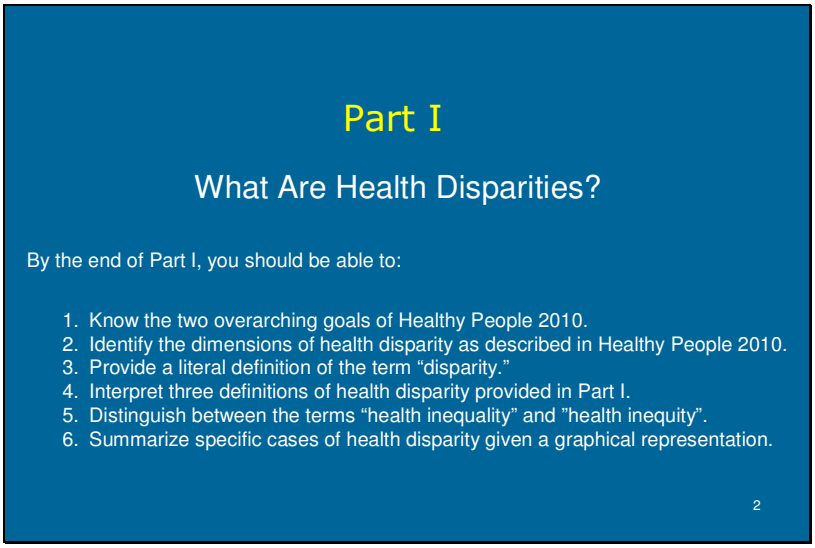
One important objective for this CD is to highlight how different measures of health disparity can implicitly reflect different ethical perspectives and values as to what is important to measure about health disparities.

In this CD, we do not explore the causes of health disparity, although that is an important endeavor. Instead we focus on some basic issues for public health practice—how to understand, define, and measure health disparity.

We will walk through the steps of calculating common health disparity measures and describe the implications, strengths, and weaknesses of choosing one

measure over another. In doing so, we hope to provide you with a durable tool that will be useful to you in your daily work. To effectively reduce health disparities in our communities, it is important that we are able to accurately measure the extent of health disparity.

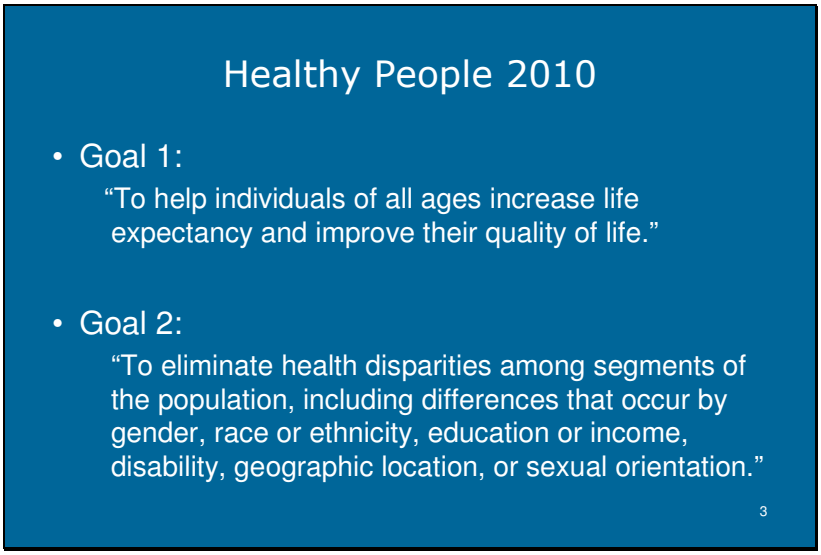
Part I – What are health disparities?



Part I: What are Health Disparities? By the end of Part I, you should be able to:

1. Know the two overarching goals of Healthy People 2010.
2. Identify the dimensions of health disparity as described in Healthy People 2010.
3. Provide a literal definition of the term "disparity."
4. Interpret three definitions of health disparity provided in Part I.
5. Distinguish between the terms "health inequality" and "health inequity," and
6. Summarize specific cases of health disparity given a graphical representation.

Healthy People 2010



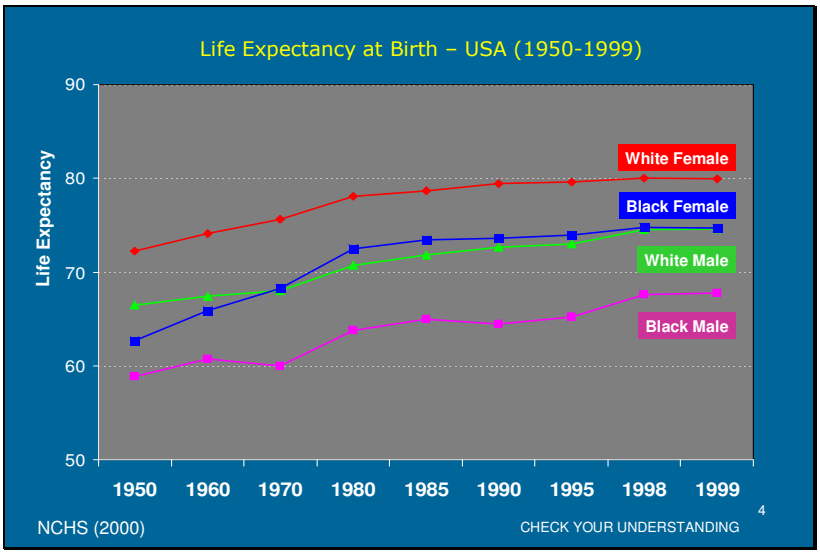
Healthy People 2010 (HP 2010) is a statement of objectives published by the United States Department of Health and Human Services. Recognized as one of the most important public health documents in the nation, it states the overarching national goals for public health to be achieved by the year 2010.

The first goal is *"to help individuals of all ages increase life expectancy and improve their quality of life."*

The second goal is *"to eliminate health disparities among segments of the population, including differences according to gender, race or ethnicity, education or income, disability, geographic location or sexual orientation."*

In other words, there would be no health disparity between or among groups within these social categories of gender, race/ethnicity, education, income, disability, geography or sexual orientation. So as you can see, health disparities are high on the public health agenda.

Examples of health disparities



How do we know a disparity exists?
How can disparity be depicted?

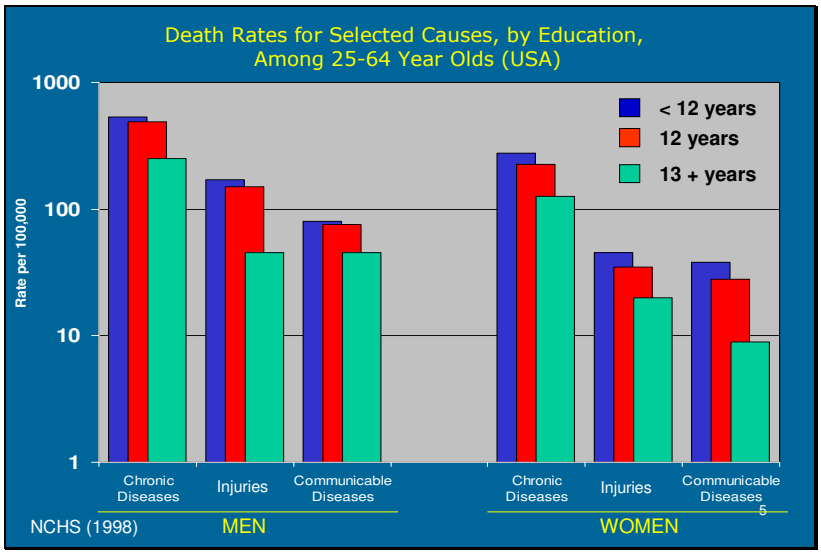
This graph illustrates the typical sort of data we use to document health disparities. In this graph we are looking at life expectancy over time, comparing life expectancy among white and black males and females since 1950.

You can see life expectancy at birth has been increasing for all groups, but you can see differences in life expectancy by race and by gender.

These kinds of disparities motivate our concerns about how to reduce them. It offends our sense of justice that blacks have lower life expectancy than whites.

Check Your Understanding:
Between 1950 and 1999, which of the four groups consistently had the lowest life expectancy at birth?

Examples of health disparities



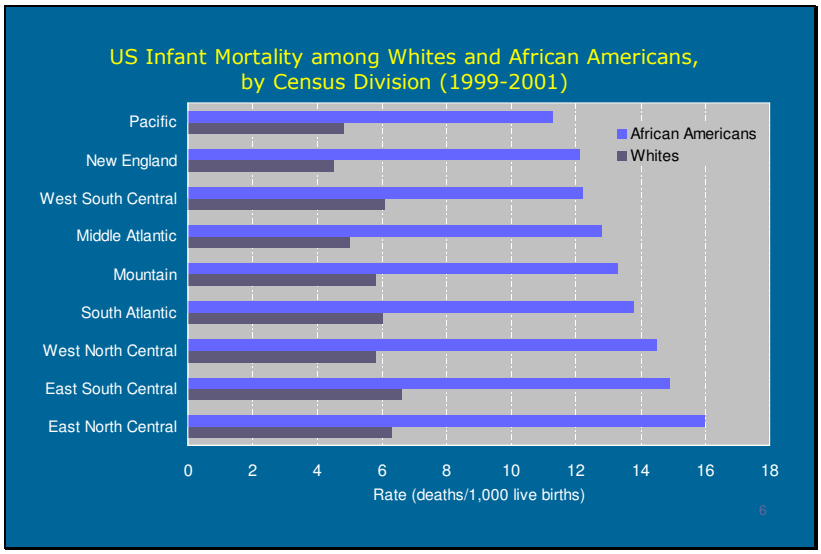
This is another example of the type of data used to illustrate health disparities. This time, it is not race/ethnic groups, but rather, social groups defined by their education. The different education groups are represented from least to most by the blue, red, and green bars.

You can also see different rates of mortality from different causes—chronic diseases, injuries, and communicable diseases—for men on the left and women on the right.

Notice the educational gradients such that those who have the least education (less than twelve years) have the highest death rates from chronic diseases, injuries, and communicable diseases.

Notice that the least educated men have the highest death rates.

Examples of health disparities



As another example, here we see infant mortality rates among African-Americans and whites across regions of the U.S.

First, let's look at the light blue bars. You can see that infant mortality for African-Americans varies substantially across the U.S., with approximately 11 deaths per 1,000 live births in the Pacific area, yet almost 16 per 1,000 in the East/North Central region.

What do you notice about the dark blue bars? Yes that's right. There is much less regional variation in infant mortality for white infants.
What you might also notice is that the infant mortality rate among whites is lower in *all* of those regions, but it does not follow the same pattern of difference.

In this graph, two categories of disparities are clear.

There is a black/white difference in infant mortality in the U.S.
Additionally, the difference varies by region of the country, so both a race/ethnic and geographic disparity exist.

Examples of health disparities

Recently, efforts to monitor health disparities have grown significantly. We have already talked about the Healthy People 2010 goals, but there are others worth noting.

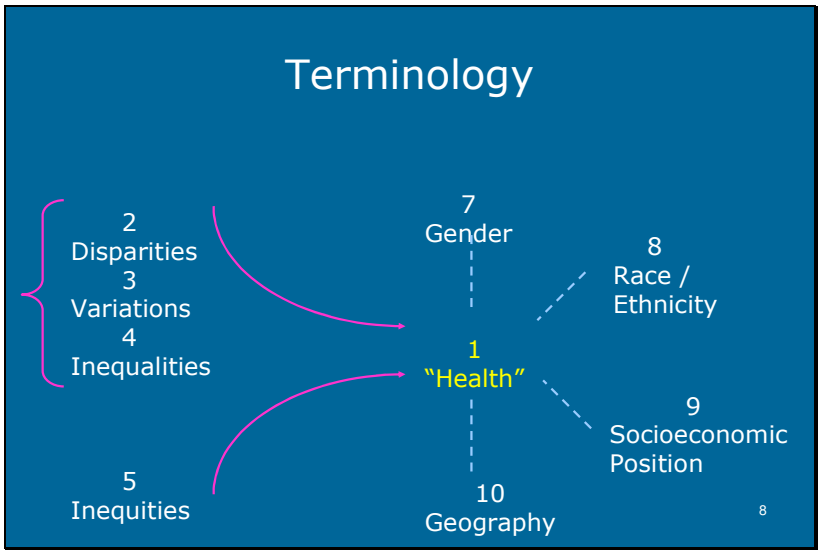
The National Center for Health Statistics is currently producing a handbook to measure health disparities.

There are also various initiatives across the National Institutes of Health. The National Cancer Institute, in particular, has a major initiative on health disparities.

The Health Resources and Services Administration, the Institute of Medicine, and many other bodies have produced documents and sponsored conferences and workshops focused on reducing or eliminating health disparities in the U.S.

In addition to these, there are many Healthy People 2010 efforts at the state level, such as Michigan's task force on health disparities. We have provided Internet links to these websites in the *Resources* section of this CD ROM.

The language of health disparity



The language of health disparities is varied, and different terms are used in different parts of the world.

In the United States we usually talk about "disparities."

In England they sometimes use the word "variations"

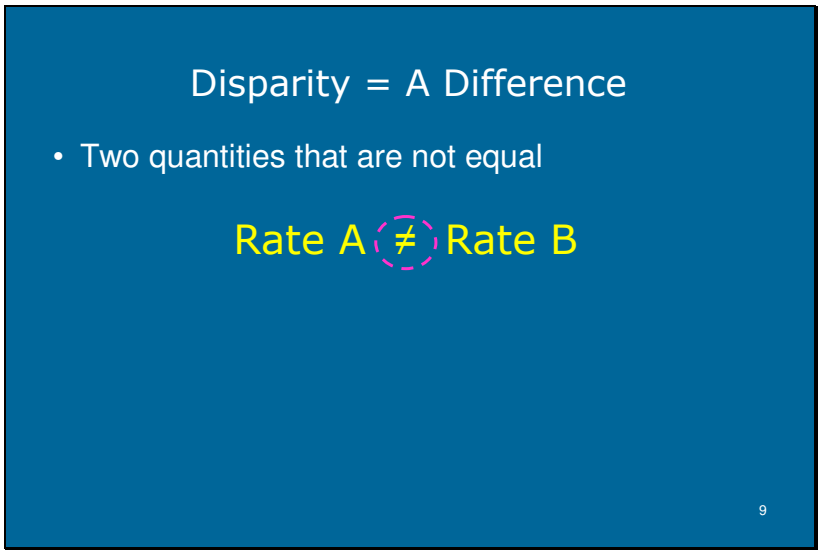
Throughout Europe they talk about "inequalities" in health.

You will also see the term "inequities" being used; specifically, you will hear it in the phrase: "inequities in health."

We can think about disparities, variations and inequalities as being very similar terms; whereas, the term "inequity" implies something different. We'll explore that distinction in a moment. But for now, you can think about inequalities, variations, or disparities or inequities in health according to gender, race/ethnicity, socioeconomic position, and geography. Note that these are some of the social categories that are reflected in HP 2010 Goal #2.

Now let's consider the word "disparity."

The language of health disparity

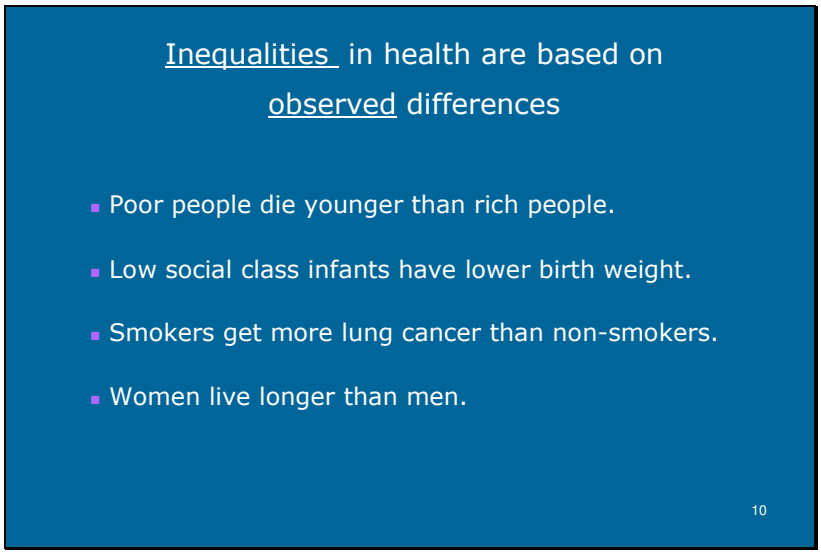


The dictionary defines ***disparity*** as ***a difference***, which means two quantities are not equal. We have a mathematical symbol for that.

It is very easy to decide when two things are not equal. We can easily say that a rate in Group A is not the same as—or is not *equal to*—a rate in Group B.

This provides a workable definition of health disparity that we will use from this point forward. According to this simple definition, a disparity is just a difference. In this sense, the word *disparity* has the same meaning as the word *inequality*—two quantities are not equal.

The language of health disparity



Now that we've defined disparity, let's move on to the next step—understanding what the inequalities in health are based upon. Inequalities in health are based on ***observed differences*** or ***disparities*** in health.

For example to conclude whether "poor people die younger than rich people," we simply compare death rates in the two groups and we find out whether they are the same.

If they are different, then an inequality exists—a disparity exists.

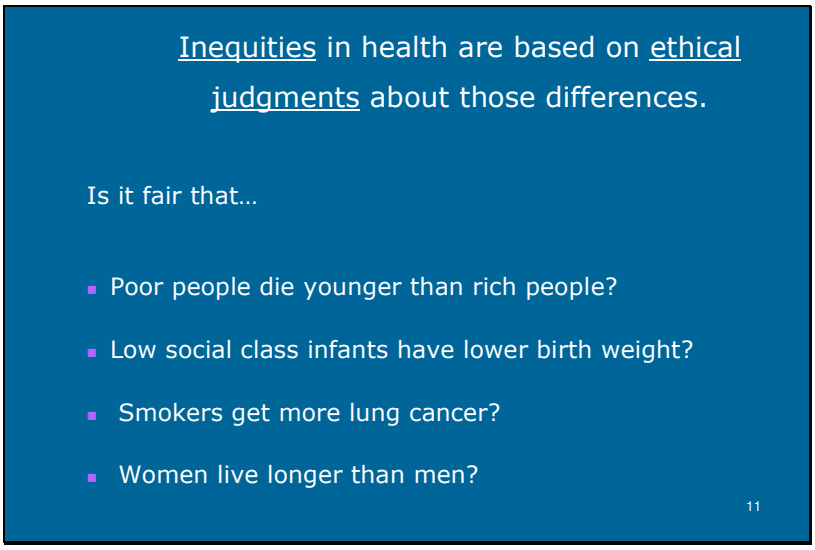
Infants born into a low social class have lower birth weight.

Smokers get more lung cancer than non-smokers.

Women live longer than men.

These statements can be made from simple, unambiguous observations of the relevant data.

The language of health disparity

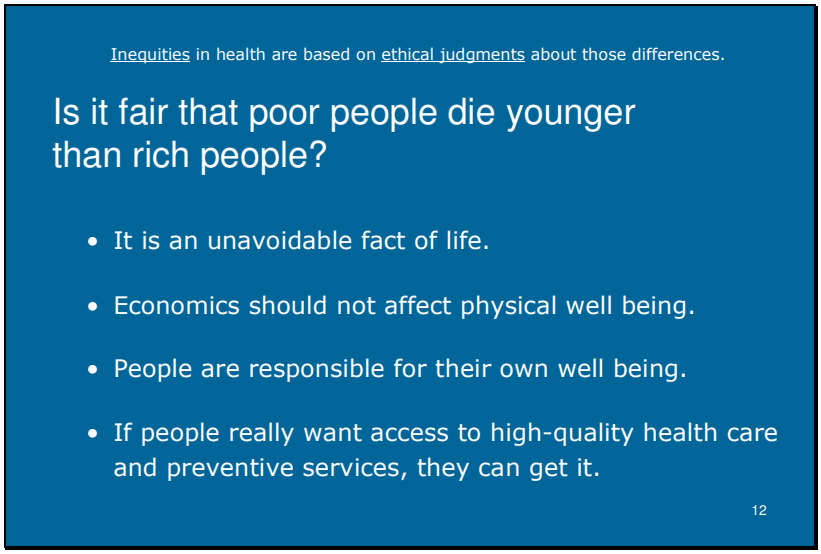


When we begin to discuss inequities in health, things get a little more complicated. Deciding if something is an "inequity" means we have to make an ethical judgment about the fairness of the health differences we observe.

This extends beyond recognizing that things are different. You need to get to the point of thinking, "It is true poor people die younger than rich people, but should they – is it fair? Should infants born into a low social class have a lower birth weight? Should smokers get more lung cancer? Should women live longer than men?"

Here is a question for you to think about:
Are all health *inequalities*, also health *inequities*? In other words, are all the observed health differences among social groups unfair? Are health inequalities always health inequities?

The language of health disparity



In this interactive exercise, you have an opportunity to decide which inequalities may also be inequities. Decide and indicate your level of agreement with the following statements by sliding the tear-drops to the right or left with your mouse. The bar along the top measures the sum of your responses suggesting an answer to the question “Is it fair that poor people die younger than rich people?” When you have finished, you will have the chance to think about the answer to several other, similar questions.

The language of health disparity

Inequities in health are based on ethical judgments about those differences.

Is it fair that low social class infants have lower birth weight?

- Preventing lower birth weight among low social class infants should be a top priority for society.
- Low birth weight is an indicator of irresponsible parenting.
- Babies are innocent. Their health should not be determined by the social class of their parents.
- It would cost society too much to prevent all undesirable birth outcomes.

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The language of health disparity

Inequities in health are based on ethical judgments about those differences.

Is it fair that smokers get more lung cancer?

- Smoking is a choice.
- Smokers are victims of the tobacco industry.
- If people were not so stressed, they would not smoke as much.
- Smokers understand the health risks of smoking, and should be held accountable for their behavior.

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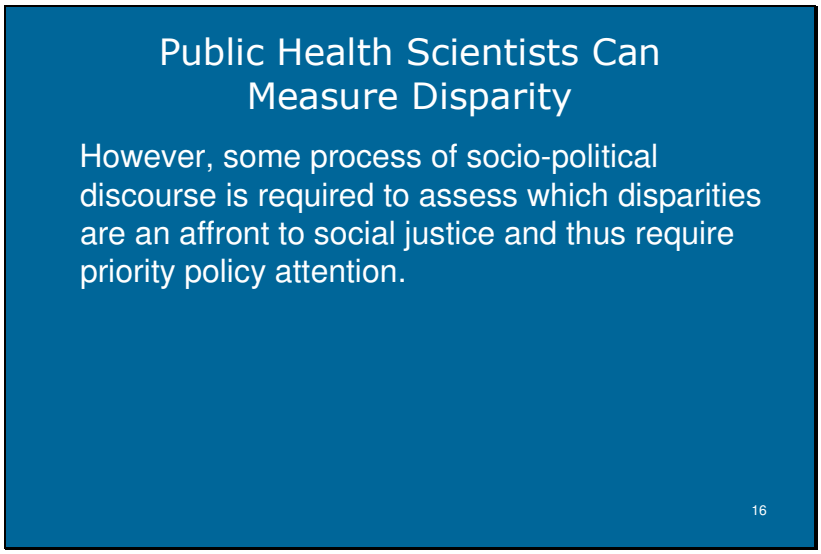
The language of health disparity

Inequities in health are based on ethical judgments about those differences.

On a lighter note, Is it fair that women live longer than men?

- Men could really use the extra life years to mature.
- Women deserve the extra time for all the barriers they endure in reaching their full potential.
- Men deserve to live longer for the emotional haranguing they endure.
- Tips in Cosmo and Glamour magazines add years to women's lives.

The language of health disparity

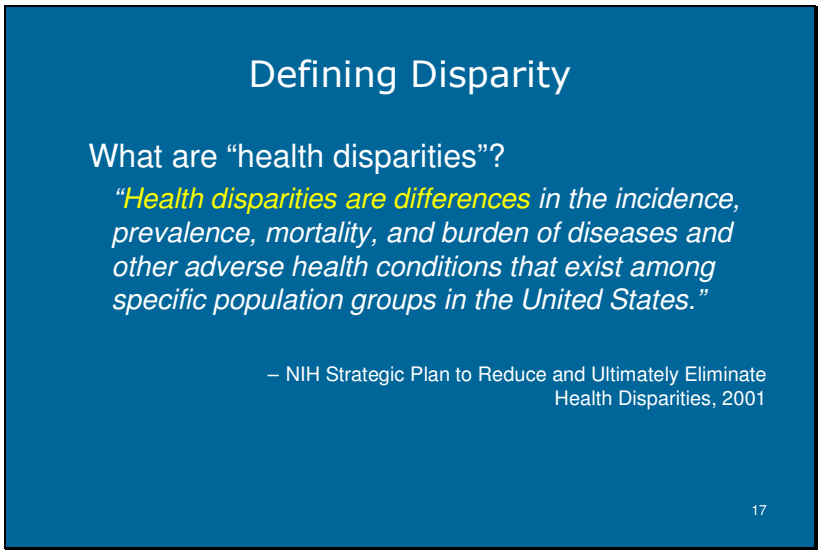


Public health scientists can measure differences or inequalities or disparities in health. We can measure differences in health status between groups. However, as you have just seen, we require some process of social and political discourse to assess which disparities—which differences—are unjust and intolerable in our society. Which disparities are unfair and thus require priority policy attention?

As you will see, one of the challenges in addressing health disparities lies in moving beyond the drawing board. Different endeavors to reduce health disparities have frameworks and approaches that complicate interpretation.

Next we will discuss some examples of how the conceptualization of health disparity differs.

The language of health disparity

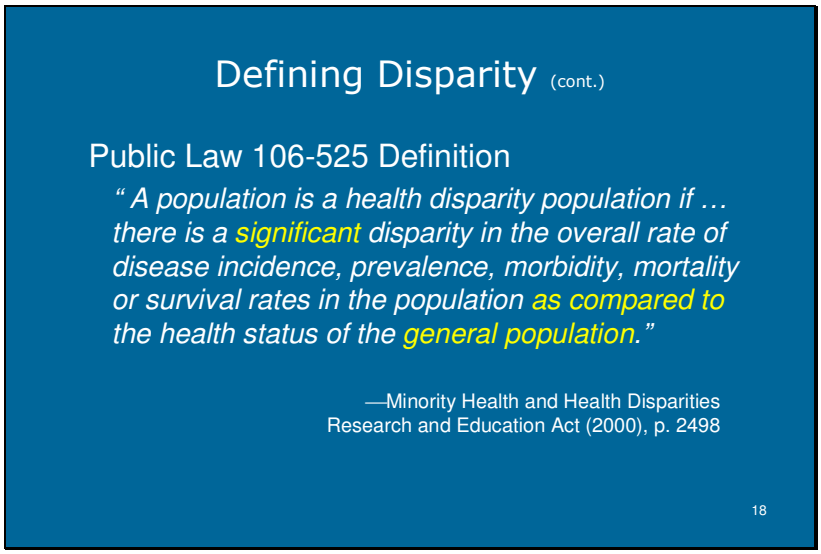


…the National Institutes of Health (NIH) Strategic Plan to Reduce and Ultimately Eliminate Health Disparities—the plan that guides NIH research—defines health disparities in this way:

It says, “health disparities are differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States.”

Note that this definition is very similar to the one we agreed upon earlier—a disparity is a difference.

The language of health disparity

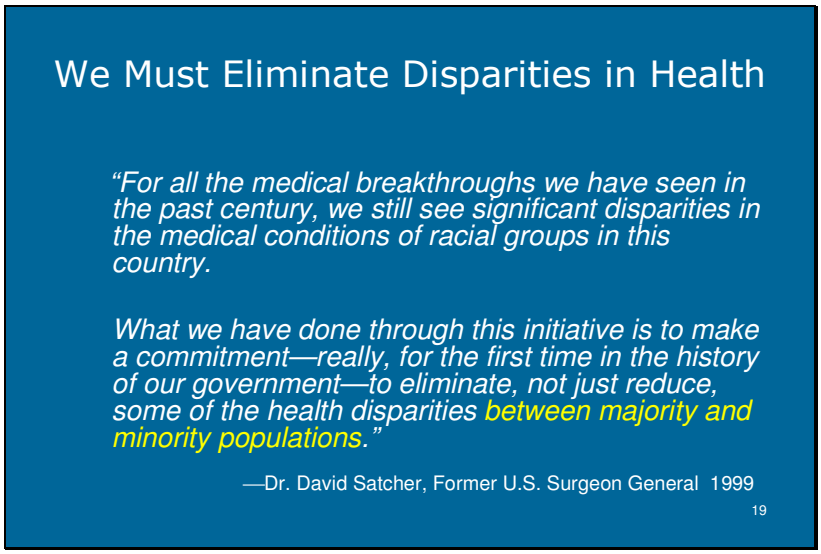


By contrast, the Act that actually set up some of these research endeavors—the Minority Health and Health Disparities Research and Education Act of 2000—states:

"A population is a health disparity population if there is a significant disparity in the overall rate of disease incidence, prevalence, morbidity, mortality, or survival rates in the population as compared to the health status of the general population."

Comparing the two definitions for disparity, you may note that the first one just says that ***disparity is a difference,*** without indicating from where the difference should be measured. The second definition, on the other hand, says that a disparity has to be ***significant*** when ***compared*** to the general population.

The language of health disparity



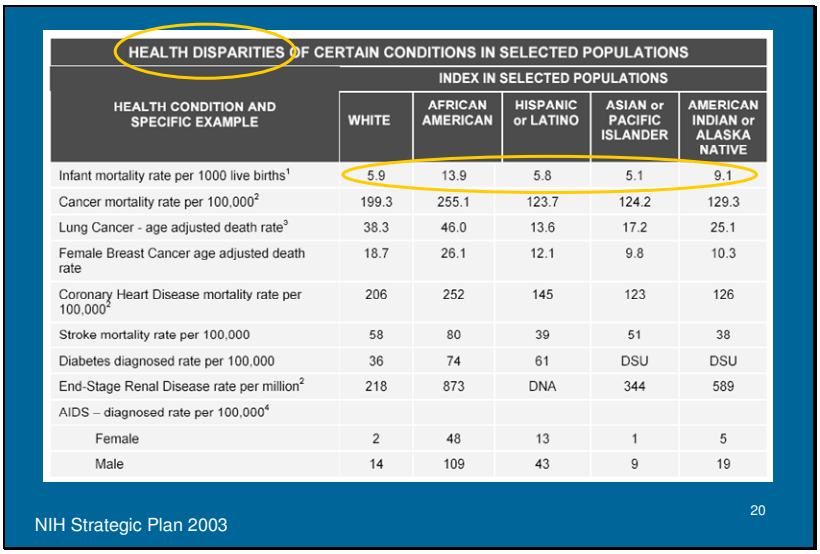
Former U.S. Surgeon General, David Satcher, has written about the importance of disparities, and he offers a third perspective. He argues that we must **eliminate** disparities in health.

The central part of his statement is the aim "to eliminate, not just reduce, some of the health disparities between majority and minority populations."

How does this statement differ from the earlier definitions? Dr. Satcher explains that the disparity of concern exists between **the majority** and the **minority populations**. The previous definition we saw stated that differences should be compared to the **general population**, not to the majority population.

As you can see, differences in language reflect different understandings about 1) which elements are most important in assessing the extent of health disparity and 2) which groups are of concern.

How do we summarize health disparity?



HEALTH DISPARITIES OF CERTAIN CONDITIONS IN SELECTED POPULATIONS

HEALTH CONDITION AND SPECIFIC EXAMPLE	INDEX IN SELECTED POPULATIONS				
	WHITE	AFRICAN AMERICAN	HISPANIC or LATINO	ASIAN or PACIFIC ISLANDER	AMERICAN INDIAN or ALASKA NATIVE
Infant mortality rate per 1000 live births[1]	5.9	13.9	5.8	5.1	9.1
Cancer mortality rate per 100,000[2]	199.3	255.1	123.7	124.2	129.3
Lung Cancer - age adjusted death rate[3]	38.3	46.0	13.6	17.2	25.1
Female Breast Cancer age adjusted death rate	18.7	26.1	12.1	9.8	10.3
Coronary Heart Disease mortality rate per 100,000[2]	206	252	145	123	126
Stroke mortality rate per 100,000	58	80	39	51	38
Diabetes diagnosed rate per 100,000	36	74	61	DSU	DSU
End-Stage Renal Disease rate per million[2]	218	873	DNA	344	589
AIDS – diagnosed rate per 100,000[4]					
Female	2	48	13	1	5
Male	14	109	43	9	19

NIH Strategic Plan 2003

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This data table is from the NIH strategic plan to reduce health disparities. To review this table, read across the rows, as we've highlighted here.

For example, when assessing the impact of health disparities on the infant mortality rate, we can see that the rates differ in each of the selected populations. Whites experience an infant mortality rate that is 5.9 per 1000, while African-Americans experience a rate that is 13.9 per 1,000, and so on. From this information we can infer that there are differences, or disparities, in the rates across selected populations, but it is hard to know the size of these disparities in total.

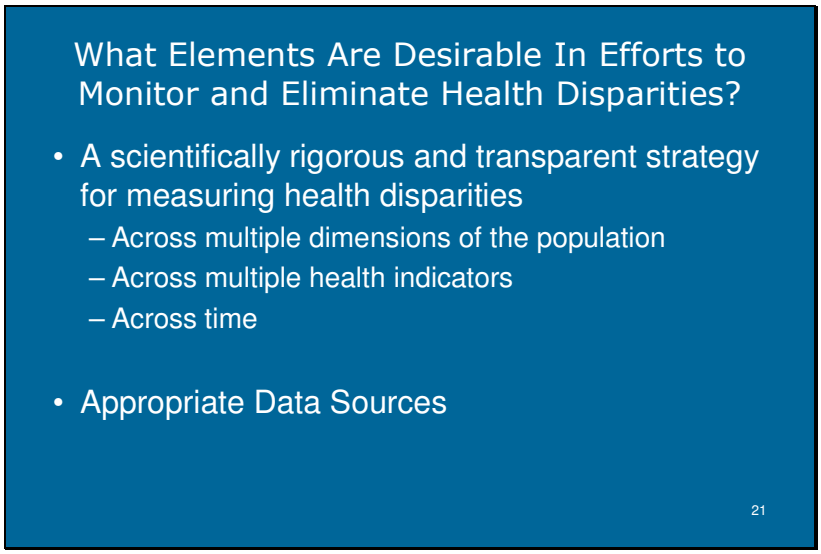
You may also want to compare the size of the disparity in infant mortality to the size of the disparity in cancer mortality or the female breast cancer death rate. How should we do this when they are measured on different scales? In judging these health disparities, we are expected to draw our conclusions by simply eyeballing these numbers. There is no assessment here of the size of the infant mortality disparity compared to the size of the disparity for cancer mortality or

breast cancer. The only conclusions we can deduce are based on inspection across the rows and noticing that these differences exist.

To allocate resources and plan programs to monitor and eliminate health disparities, we may want to know the size of the disparity to be addressed and how it compares across different types of health indicators.

The rest of this CD-ROM describes methods for measuring health disparities more systematically.

How do we summarize health disparity?

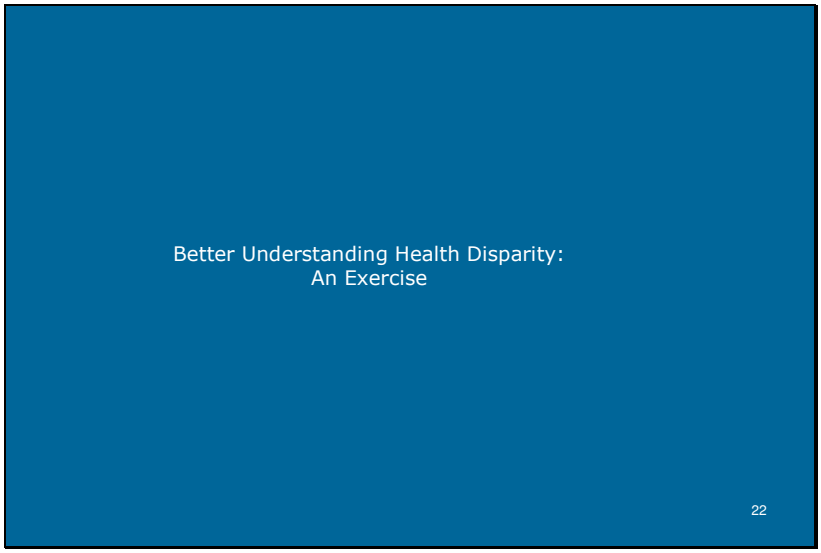


To intervene to reduce health disparities, it would be useful to have a scientifically rigorous and transparent strategy for measuring disparities across multiple dimensions of the population, such as race/ethnic groups or socioeconomic groups, and across multiple health indicators.

This is necessary if we are going to evaluate whether the disparity in infant mortality is larger than the disparity in prostate cancer, or in depression, for example. We also must consider monitoring these conditions over time. Presumably, if we want to intervene to eliminate or at least reduce disparities, we need to monitor our progress. We need to be able to show that our measure of disparity at one point in time is comparable to the measure of disparity at a later point in time, if we hope to determine that our intervention was effective.

Of course, all this assumes that the relevant data exists for us to monitor disparities in this way.

Better understanding health disparity – an exercise

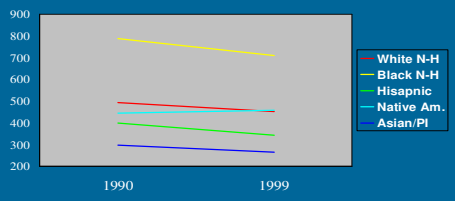


Let's do an exercise to reinforce your understanding of the core material we have just covered. The exercise gives you an opportunity to apply these concepts we're discussing to a problem.

Better understanding health disparity – an exercise

Exercise: Think About the Following

Mortality Rates by Race/Ethnicity 1990 - 1999

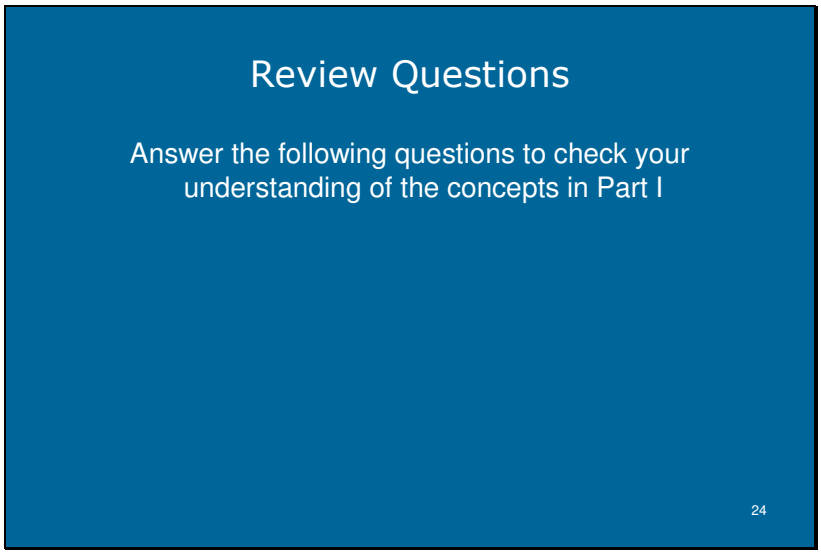


1) What could this graph look like if we eliminated mortality disparities among these race/ethnic groups by 2010?

2) What could this graph look like if we eliminated the disparities between the majority and minority populations in 2010?

3) Ideally, how do we want disparity to look in 2010?

Review – Part I



At the conclusion of each part of this CD-ROM, you will be provided with questions to reinforce your understanding of the concepts presented.