Meet Your Training Team

Anjali Deshpande, PhD, MPH, Clinical Associate Professor, University of Iowa, College of Public Health

Vickie Miene, MS, MA, LMHC, Executive Director, Institute for Public Health Practice, Research and Policy

Abigail Stock, MPH, Admin Services Specialist, Institute for Public Health Practice, Research and Policy

Training provided in partnership with the Institute for Public Health Practice, Research and Policy through a contract from the Iowa Department of Health and Human Services

Data Training Opportunities
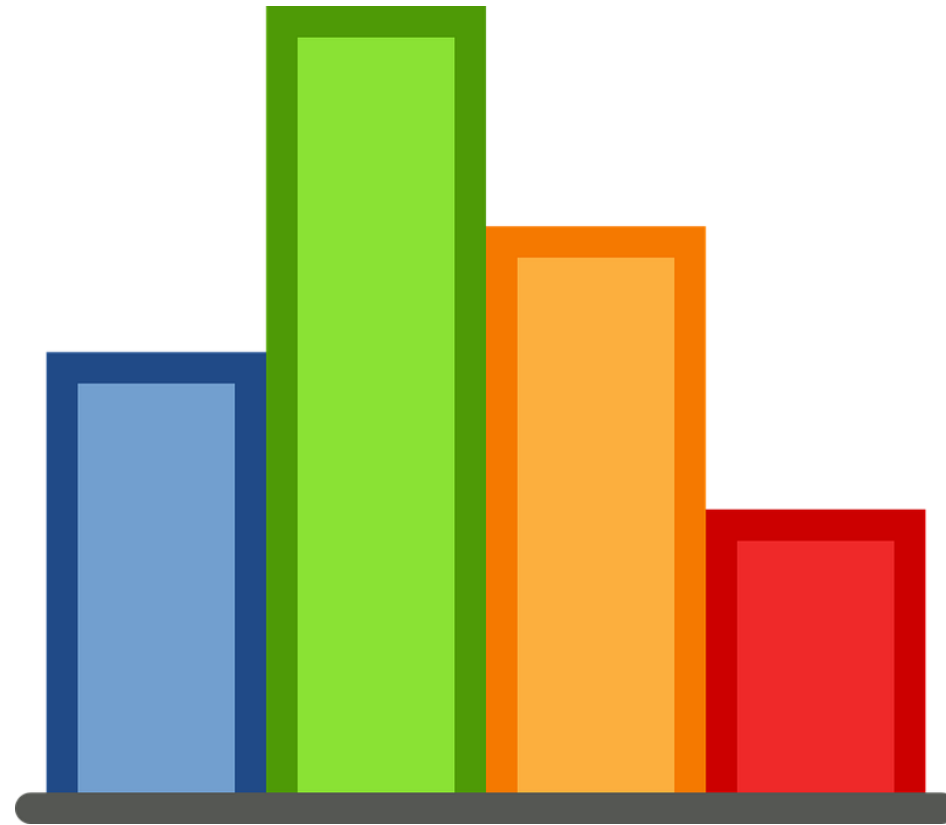
Data Basics

Tackling Data

Visualize This

Disaggregate It

Check out our website to see upcoming training dates!

Menti.com

Disaggregate It! Resources

Training Resources

BRFSS Prevalence and Trends Data (CDC)

Follow this link to look at colorectal cancer screening trends for the Disaggregate It! training. To view the colorectal cancer screening data, make sure Iowa is the selected location, and then choose "colorectal cancer screening" from the "Class" drop down list and "USPSTF Recommendations" from the "Topic" drop down list.

Learning Objectives – by the end of this session, participants will be able to:

- Understand why data disaggregation is important to public health practice

- Explain how bias can impact the collection, use, analysis, interpretation, and communication of public health data

- Identify key data sources and methods for data disaggregation in public health

Creating a Conceptual Framework for Early Onset CRC
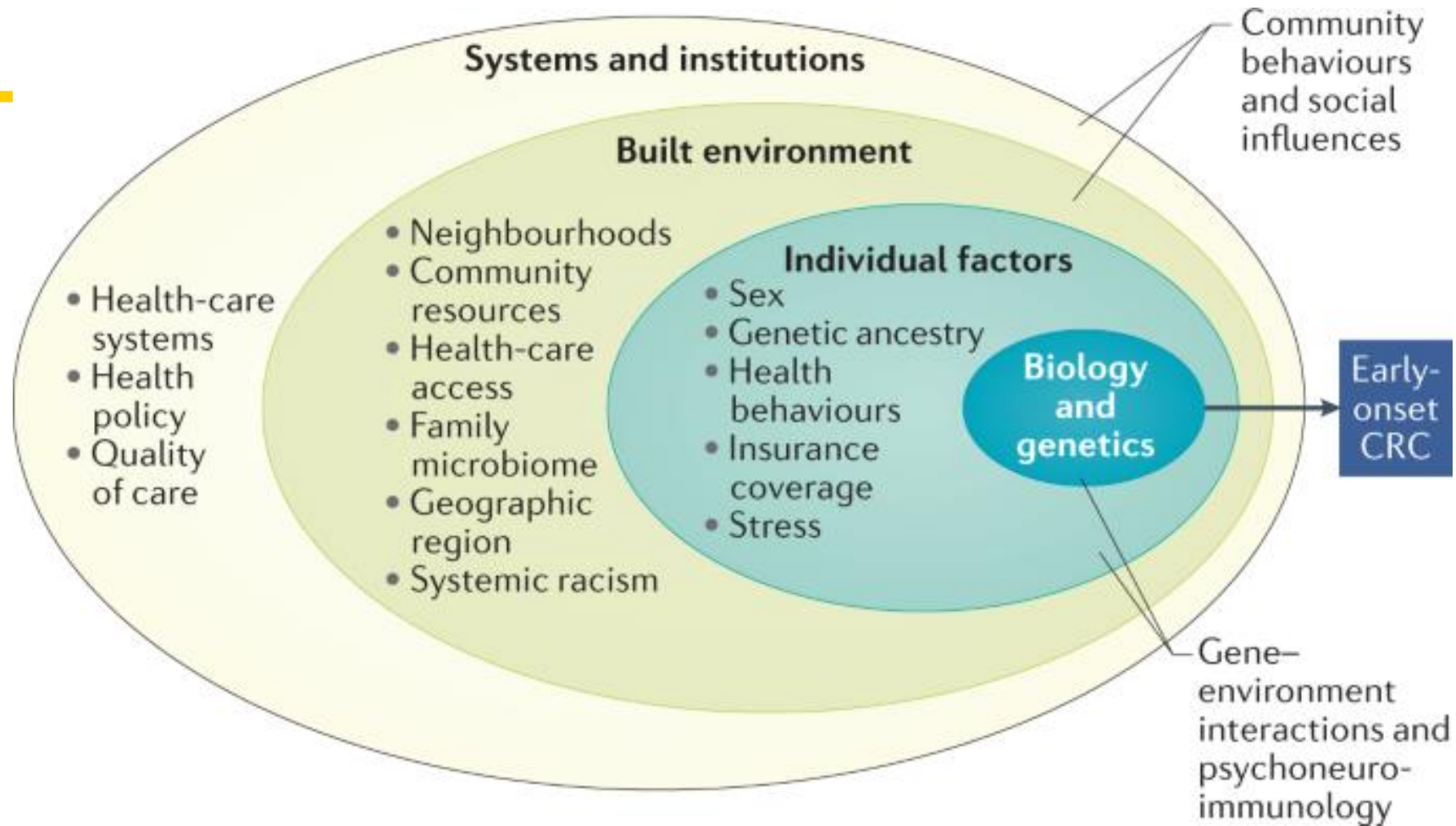
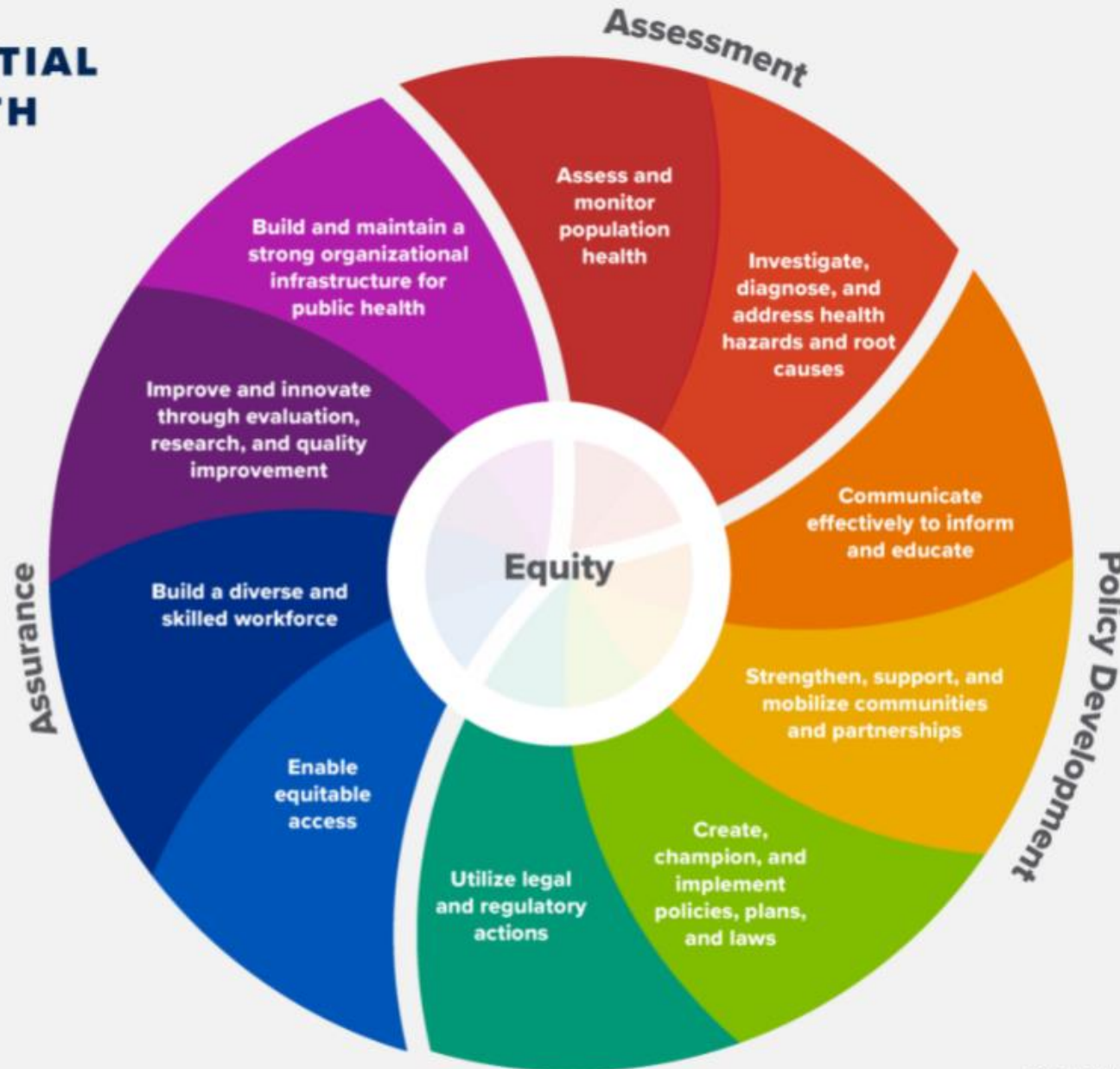# What is Data Disaggregation and Why is it Important to Public Health?

- "Disaggregated data refers to the separation of compiled information into smaller units to elucidate underlying trends and patterns." (PAHO Understanding Data Disaggregation in Public Health Toolkit 2020)

THE 10 ESSENTIAL PUBLIC HEALTH SERVICES

To protect and promote the health of all people in all communities

The 10 Essential Public Health Services provide a framework for public health to protect and promote the health of all people in all communities. To achieve optimal health for all, the Essential Public Health Services actively promote policies, systems, and services that enable good health and seek to remove obstacles and systemic and structural barriers, such as poverty, racism, gender discrimination, and other forms of oppression, that have resulted in health inequities. Everyone should have a fair and just opportunity to achieve good health and well-being.

Assessment

Assess and monitor population health

Investigate, diagnose, and address health hazards and root causes

Build and maintain a strong organizational infrastructure for public health

Improve and innovate through evaluation, research, and quality improvement

Equity

Communicate effectively to inform and educate

Assurance

Build a diverse and skilled workforce

Enable equitable access

Strengthen, support, and mobilize communities and partnerships

Policy Development

Utilize legal and regulatory actions

Create, champion, and implement policies, plans, and laws

Created 2020

We may have goals related to DESCRIBING what is happening and/or IDENTIFYING differences and/or MONITORING disparities.

What is a Health Equity Data Analysis?

- A health equity data analysis (HEDA) is a process that uses data to identify and examine health differences between populations, and the causes of those differences.

HEDA: Conducting a Health Equity Data Analysis: A guide for local health departments in Minnesota, version 2.1 (2022)

Data to Advance Health Equity Conducting a Health Equity Data Analysis

https://www.health.state.mn.us/data/mchs/genstats/heda/index.html

STEP	Definition	Data Sources
Connection	Expand your understanding of the multiple determinants of health	Existing scientific literature and research
Population	Description of community and identification of populations that may experience health inequities	Census, local survey, vital statistics
Differences	Description of health differences between population groups	Health surveys, vital statistics, other health surveillance systems, program data
(Re)Connection	Understanding the connections between social and economic factors and health	Existing scientific literature and research
Conditions	Description of the living conditions that create the health differences between population groups	Qualitative data such as focus group findings
Causes	Description of what causes differences in living conditions - policies, systems, structures	Qualitative data such as document reviews or policy analysis

Challenges in doing a Health Equity Data Analysis

- Important to do a complete needs assessment to really know your population (quant and qual)
- Social and economic factors are difficult to measure
- Data may not be available for population sub-groups
- Data may not be available at the geographic level of interest
- Relevant data may be collected outside your organization (do you have access?)

What is error/bias? Why is this important?

- Sampling/random error – we think of this as sampling variability
  - Small samples lead to imprecise estimates. Therefore, any observed small differences based on small samples are more likely to be due to random error and not true differences.
- Systematic error/bias—we think of this as external threats to the validity of the study

Bias in our perceptions

- Each of us has our own "view" of the world based on our experiences, our interactions, what we read, who we talk to, what we watch on TV etc. This has led to a preference for/aversion to a person or group (Implicit bias)

- What is necessary is to realize that we have these biases.

- Be aware of our own biases and help others to be aware of theirs. Provide information in ways that tap into yet expand people's view
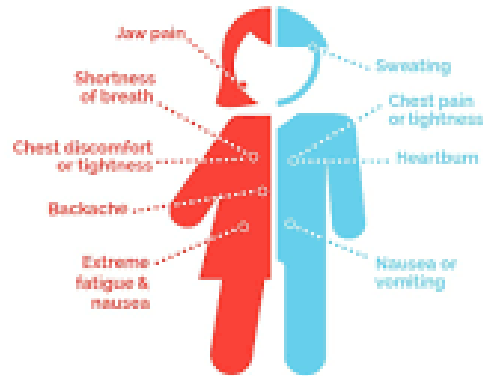
Invisibility

NURSE

Know the difference
Warning signs differ between men and women.

TODAY'S WORD OF THE DAY WAS SELECTED BY NASA

NASA

astronaut

noun [**as**-truh-nawt, -not]

The Appalachian Region

Jaw pain
Sweating
Shortness of breath
Chest pain or tightness
Chest discomfort or tightness
Heartburn
Backache
Extreme fatigue & nausea
Nausea or vomiting

How does implicit bias affect the data?

- Lack of bias awareness leads to poor evaluation of the language you use in your research question, what data you collect, who you collect data from, and how you interpret data findings

but why?
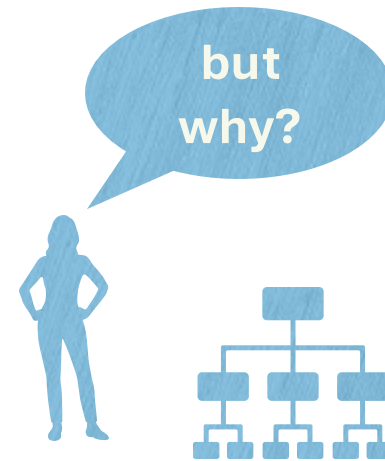
Key groups to consider – what biases might they have?

Stakeholders

Priority population

Target Audience

Stakeholders

- Could be people who are directly impacted by the health issue (priority population)

- People who have expertise in the issue of interest

- Cross-sector partners

- People who will make decisions about what to do (target audience)

Think about what biases your stakeholders might possess

Target Audience

Know your audience

- Identify the primary audience, the more you know about them, the better
- Could be policymakers, experts in a specific field, advocates for specific groups, health care providers, local media

Your audience will influence your decisions about how you display your data, emphasis, organization and tone

Priority population

What population(s) is most impacted by the health issue?

May be defined by:

- Demographic factors like age, gender race/ethnicity, income, education, health care access

- Geography - county/city/state/country

- Setting - school, church, workplace etc

Think: who, what, where, when?

Are there other characteristics of the priority population that must be considered when collecting data?

https://health.mo.gov/data/InterventionMICA/AssessmentPrioritization_5.html

We want to approach our work with cultural humility.

We can ask the following types of questions:

- What is the community's history?

- What traditions and norms exist in the community?

- What are the community demographics and trends?

- What are the community's specific interests, needs, and assets?

https://www.cdc.gov/asthma/program_eval/cultural_competence_guide.pdf

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Who are some of the audiences <u>you</u> share information with?

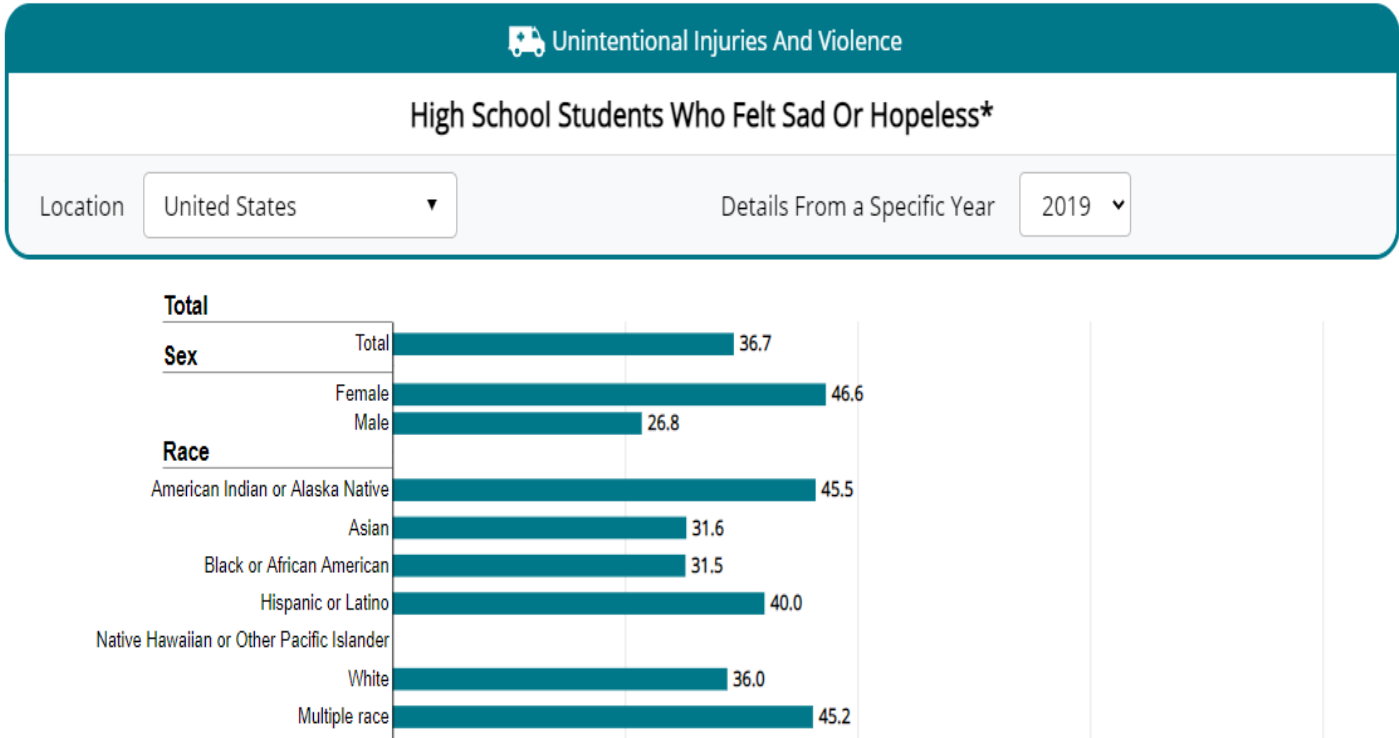What are the important characteristics you need to consider to communicate with them?

How can we use quantitative & qualitative data to identify and describe health disparities?

What is Disaggregated Data?
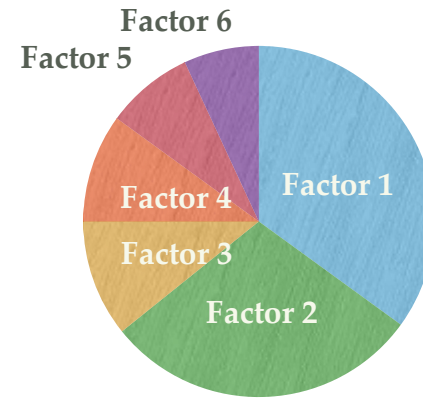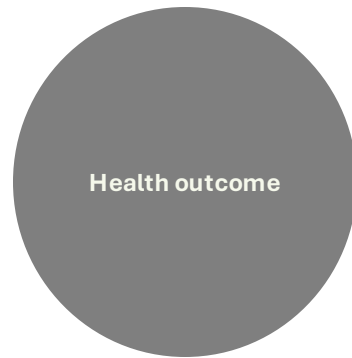## Can we better describe the situation?

- Data that has been separated into detailed sub-categories or sub-populations.

Unintentional Injuries And Violence

High School Students Who Felt Sad Or Hopeless*

| Location | United States ▾ | Details From a Specific Year | 2019 ▾ |

Total

Total		36.7
Sex		
Female		46.6
Male		26.8
Race		
American Indian or Alaska Native		45.5
Asian		31.6
Black or African American		31.5
Hispanic or Latino		40.0
Native Hawaiian or Other Pacific Islander		
White		36.0
Multiple race		45.2

Disaggregate it!

What is Disaggregated data?

Stratify data by factor(s) of interest

Health outcome

Factor 6
Factor 5
Factor 4
Factor 3
Factor 2
Factor 1

State of Iowa Measure - 2015-2019

|	
Infant Mortality (Per 1,000 Live Births)	4.55

Disaggregated by Ethnicity

State of Iowa Infant Mortality by Ethnicity - 2015-2019

Ethnicity	Infant Mortality (Per 1,000 Live Births)
Hispanic	6.47
Non-Hispanic	4.39

Ethnicity
- Hispanic
- Non-Hispanic

State of Iowa Infant Mortality by Ethnicity - 2015-2019

Ethnicity

https://tracking.idph.iowa.gov/People-Community/Reproduction-and-Birth/Infant-Mortality/Infant-Mortality-Data
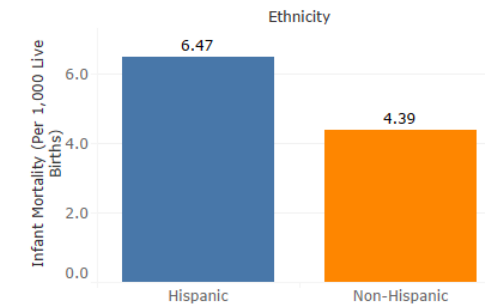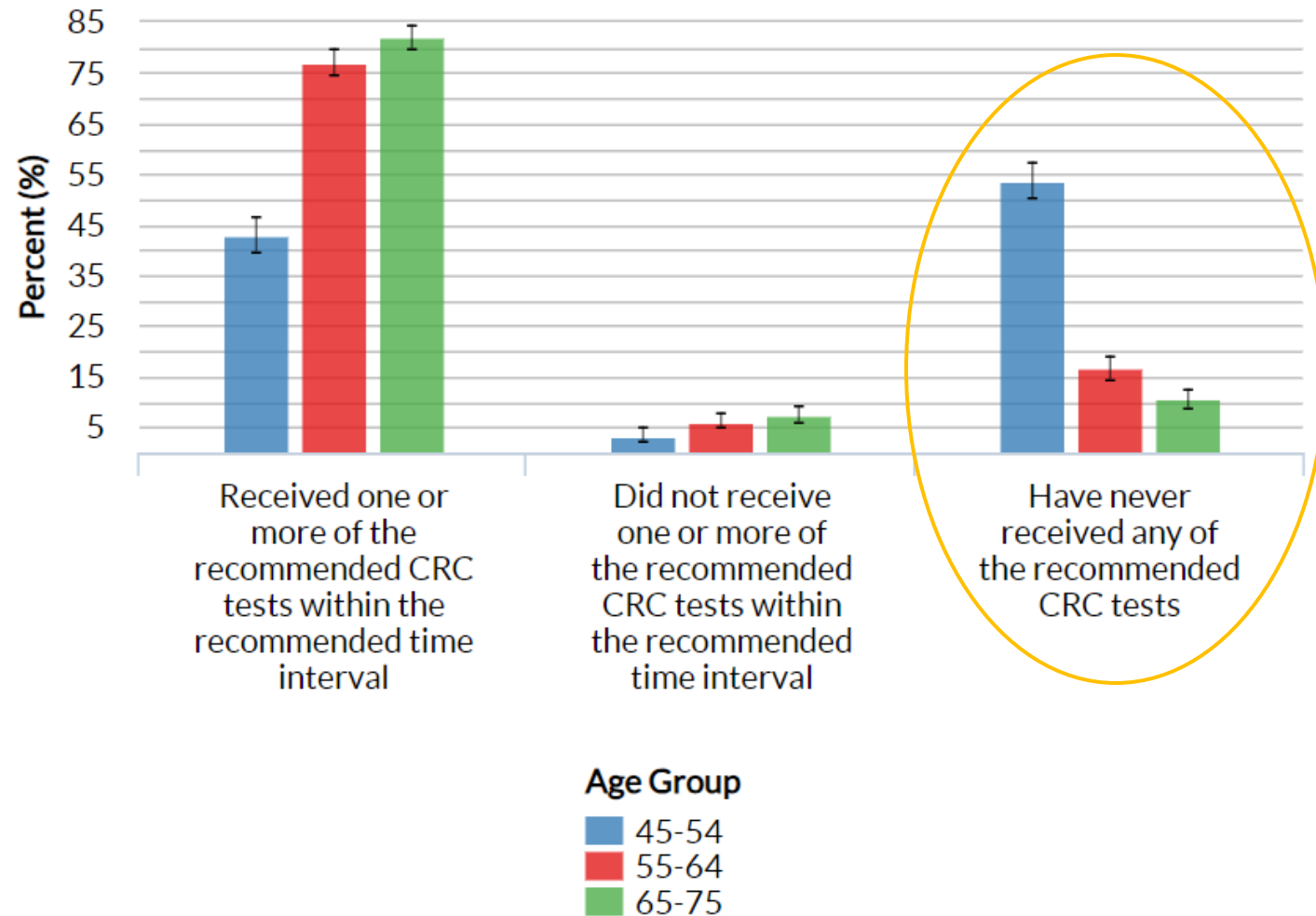
Example: CRC Screening

• What conclusions do you make about who is at risk for not being adequately screened for CRC?

• What actions would you take?

Iowa - 2022

Respondents aged 45-75 who have fully met the USPSTF recommendation (variable calculated from one or more BRFSS questions) (Crude Prevalence)

View by: Age Group

Response: (All)

Age Group
- 45-54
- 55-64
- 65-75

Data Source: Behavioral Risk Factor Surveillance System (BRFSS)

Where/How Do We Get Disaggregated Data?

- Survey Data

- Small Area Estimates
  - We often think of SAEs for county level estimates of data collected at the state level, but SAEs can also be calculated for demographic subgroups.
  - Small area estimates are calculated using statistical methods that allow different data sources to be combined

- Geographic Information Systems (GIS/Mapping)

Benefits of Disaggregated Data

Equity monitoring

Problem detection

Increase the understanding of a population's characteristics

Identification of data patterns - trends and comparisons

Identify which groups could benefit from additional resources and tailored intervention

Intersectionality and Health Equity

- **Intersectionality** is an <u>analytical framework</u> for understanding how aspects of a person's <u>social and political identities</u> combine to create different modes of <u>discrimination</u> and <u>privilege</u>.
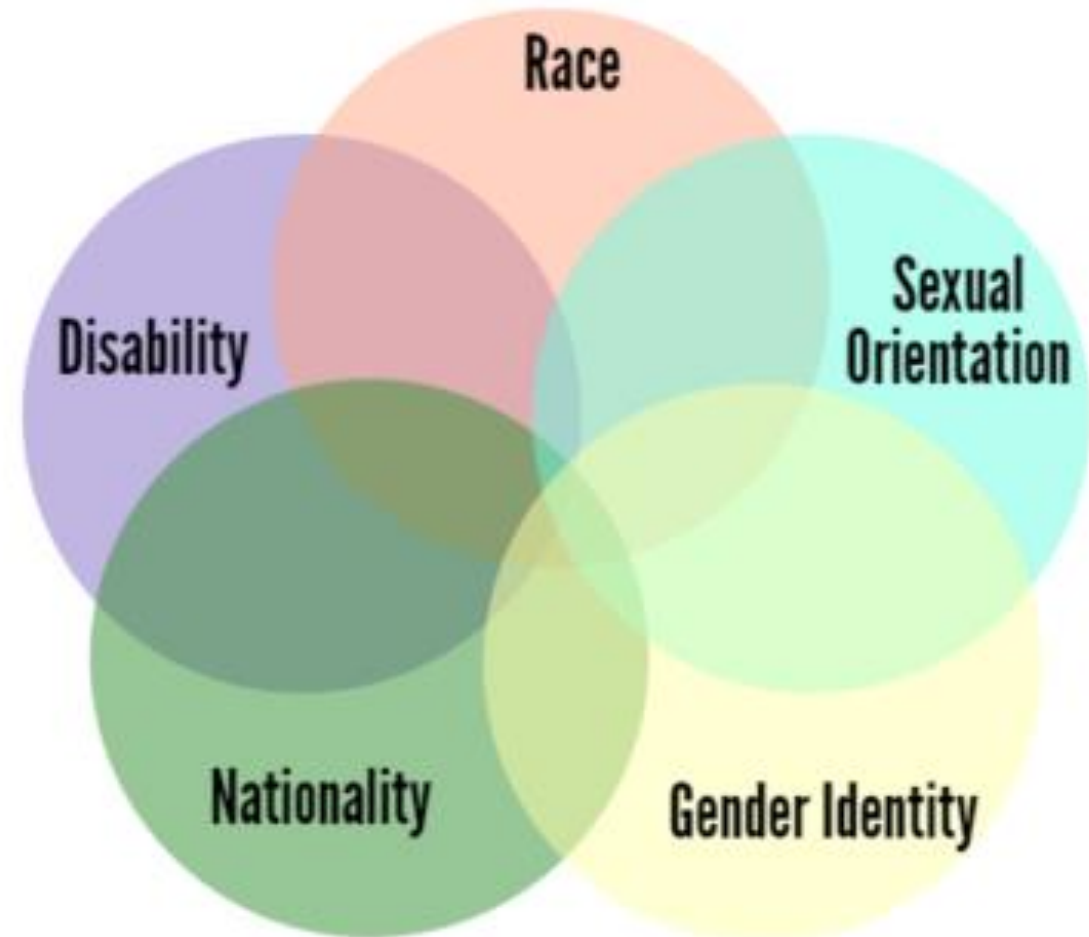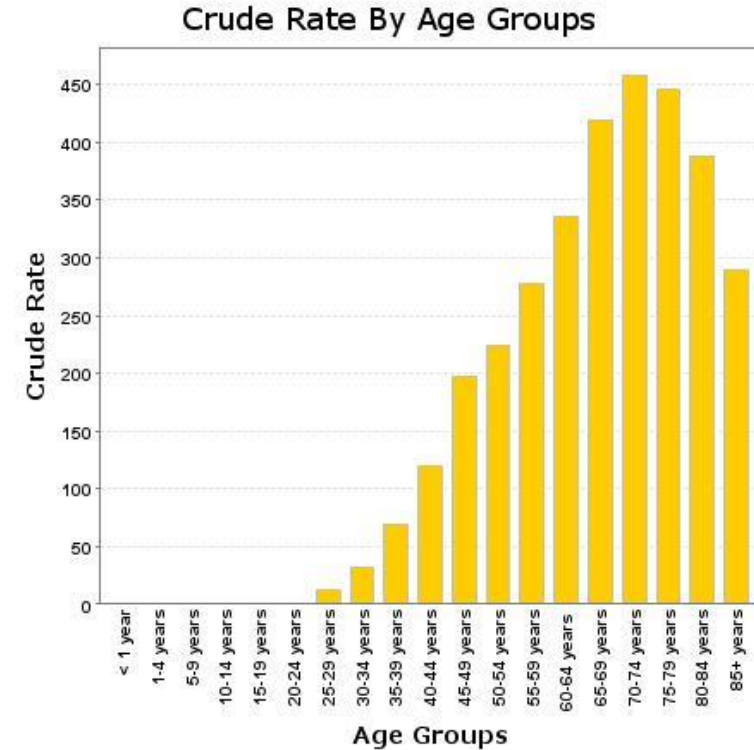

Wikipedia, 2021

Public Health Data Resources

- To use publicly available data resources to inform public health practice and advance health equity

Breast Cancer Incidence by Age, GA 2020

Crude Rate By Age Groups

CDC Wonder
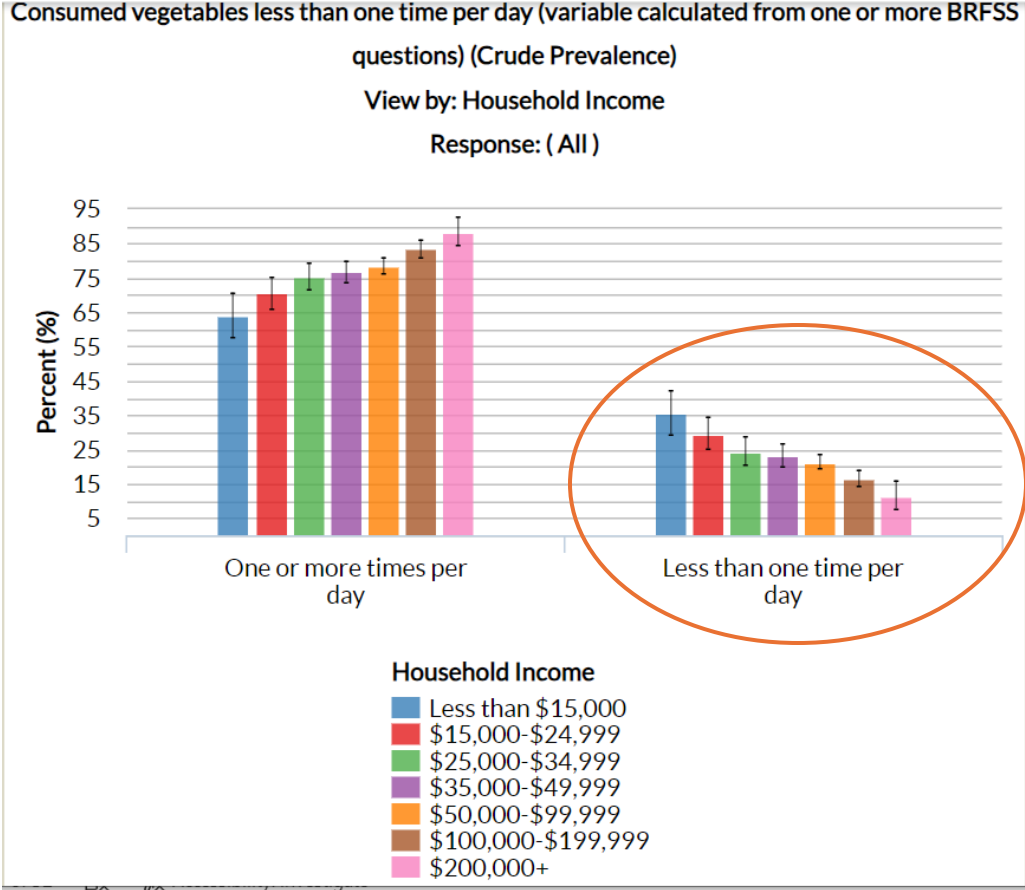
Public Health Data Resources

Iowa - 2021

Consumed vegetables less than one time per day (variable calculated from one or more BRFSS questions) (Crude Prevalence)
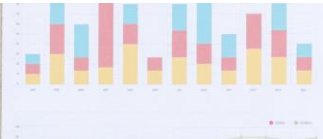
View by: Overall

Response: (All)

	One or more times per day	Less than one time per day
Percent (%)	77.0	23.0
95% CI	75.8 - 78.2	21.8 - 24.2
n	6546	2004

Data Source: Behavioral Risk Factor Surveillance System (BRFSS)

Consumed vegetables less than one time per day (variable calculated from one or more BRFSS questions) (Crude Prevalence)

View by: Household Income

Response: (All)

Household Income
- Less than $15,000
- $15,000-$24,999
- $25,000-$34,999
- $35,000-$49,999
- $50,000-$99,999
- $100,000-$199,999
- $200,000+

Data Source: Behavioral Risk Factor Surveillance System (BRFSS)

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Some final things to think about when using public health data to advance health equity

- Accuracy of the data
  - Credible source? Valid and Reliable measures?
- Completeness
  - Include all cases/events? Data elements missing?
- Representativeness
  - Does the data include all of the population of interest?

Small Group Activity

Colorectal cancer (CRC) has been a significant health concern in Iowa. We know that the incidence of early onset CRC has been increasing across the US. One area of focus is the relatively lower rates of CRC screening among various groups in the population.

Using the data available in the data packet on the Resources page, answer the following questions:

• What is the overall rate of your outcome of interest?

• What health disparities can you identify?

• What data gaps exist for your outcome of interest? (e.g. lack of disaggregated data; important data on contributing factors not available; data not recent or not at geographical level of interest)

How do we interpret data on health disparities/inequities for actionable impact?

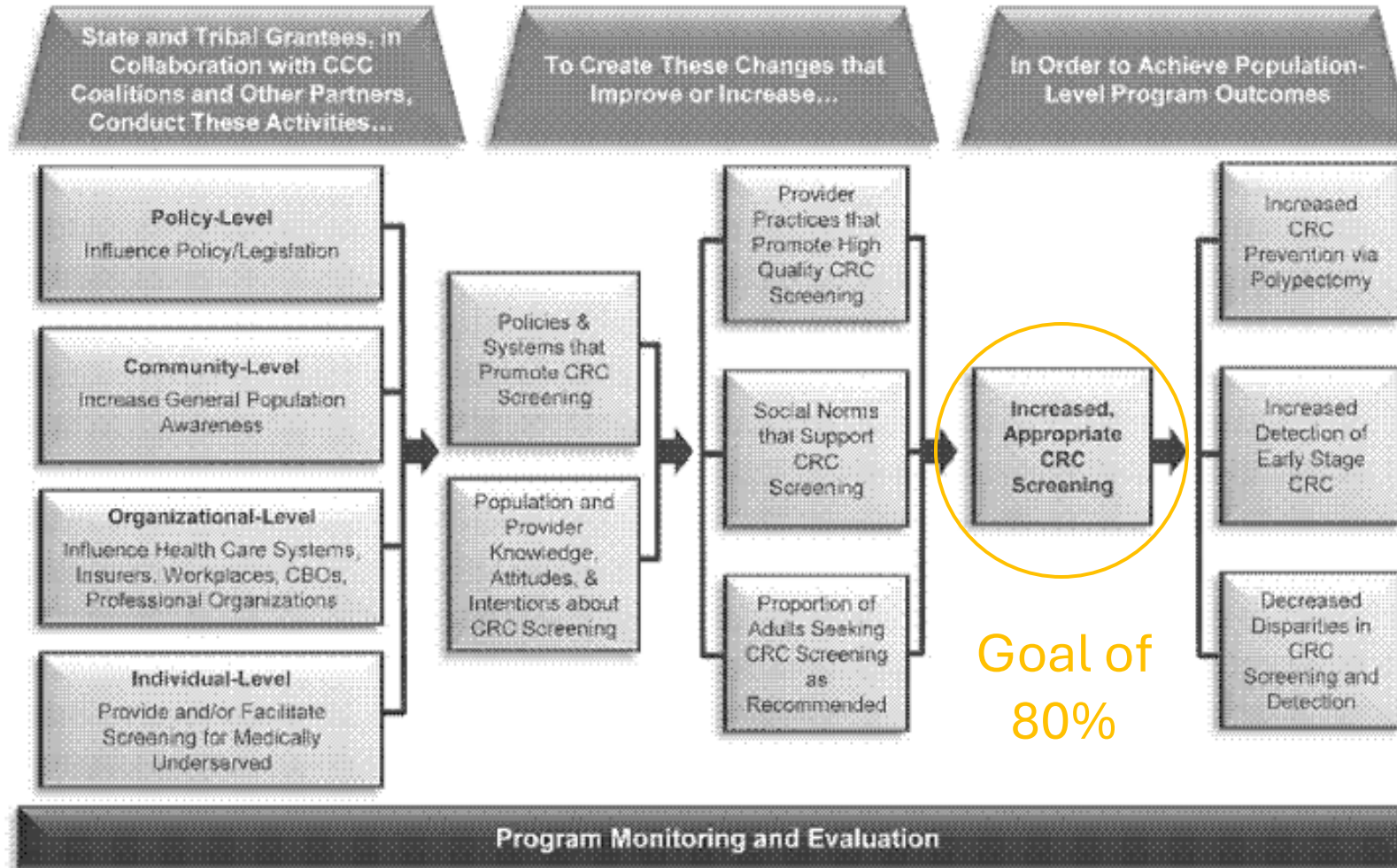# Systems Thinking in Public Health

Figure 3. Colorectal Cancer Control Program simplified logic model.

Cultural humility

- Understanding the importance of social and cultural influences on health beliefs and behaviors
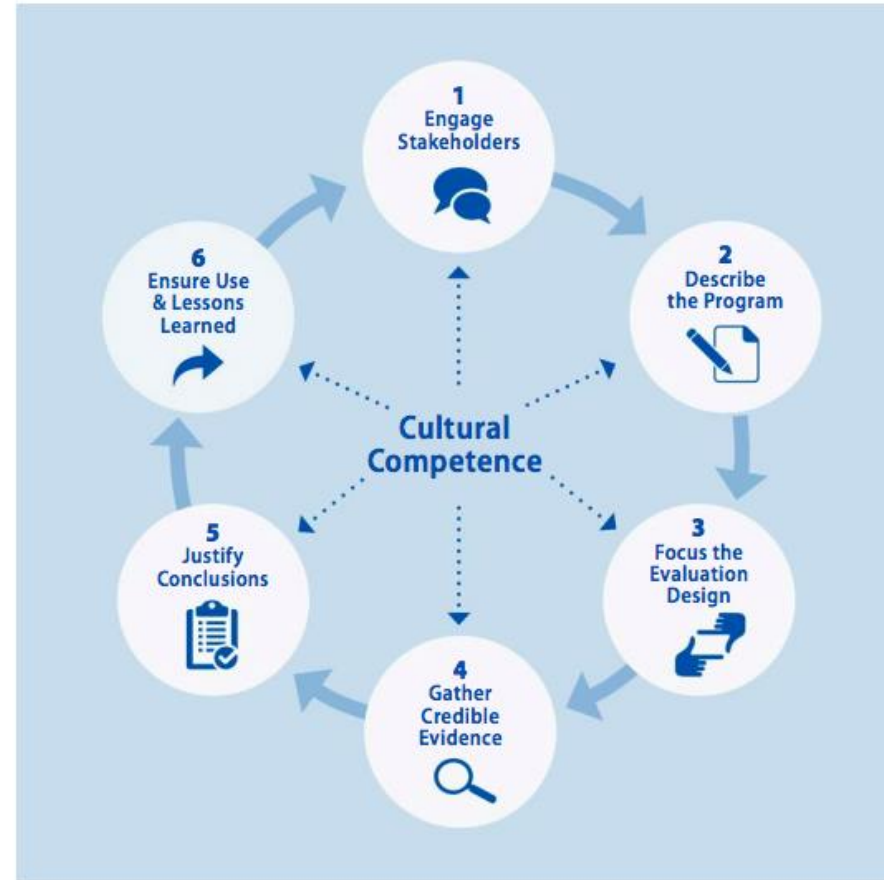
Have the capacity to:

- Value diversity
- Conduct self-assessment
- Ability to adapt to diversity and the cultural concepts of the community
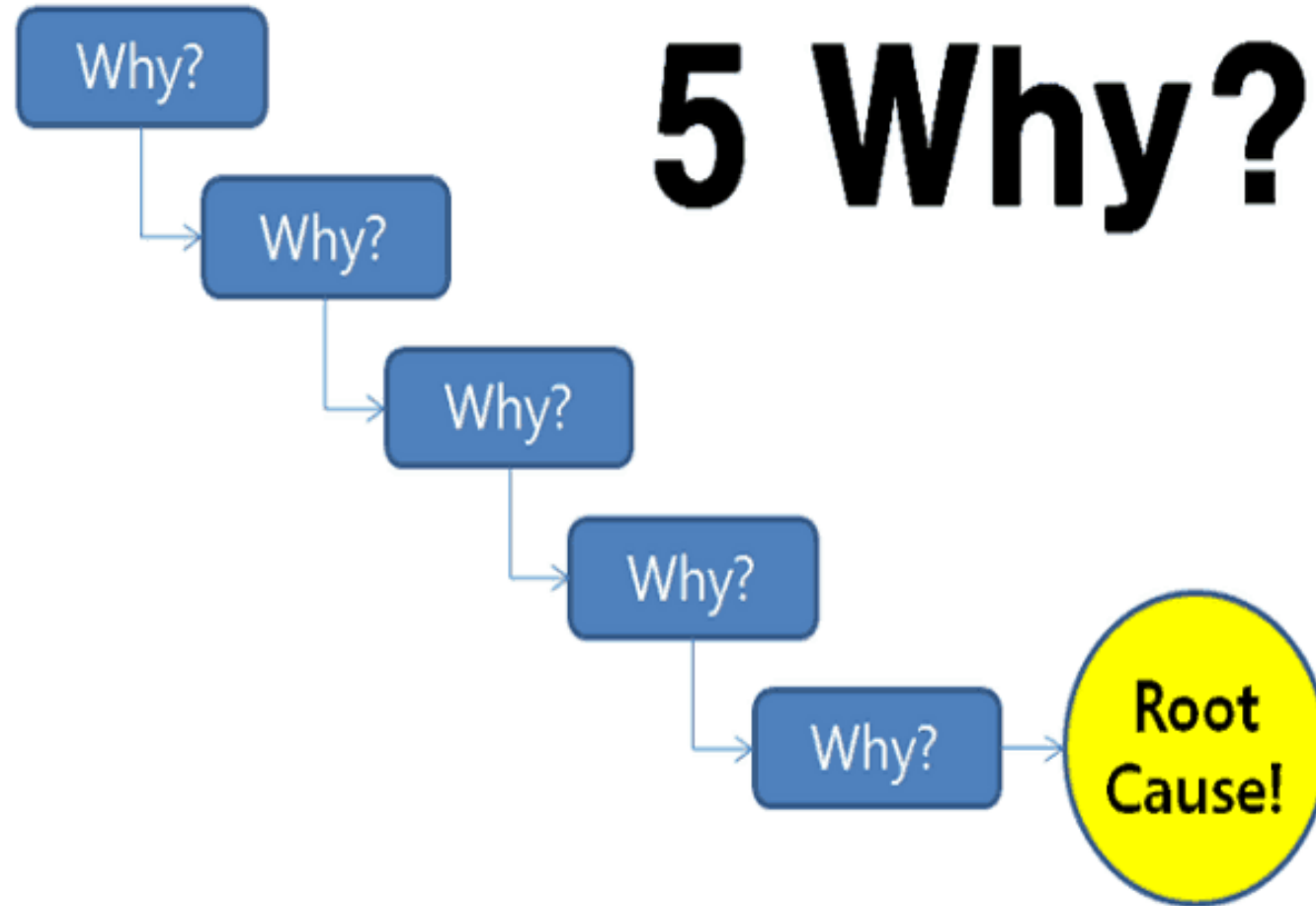- Acquire cultural knowledge

Cultural Humility in Data Interpretation

Figure 1: CDC's Framework for Program Evaluation in Public Health[2, 6]

https://www.cdc.gov/asthma/program_eval/cultural_competence_guide.pdf

Tools to Understand the Root Causes

Activity: Systems Thinking in Public Health—5 Whys Tool

Rising Rates of Colorectal Cancer in a Community (screening example)

1. Why are colorectal cancer cases increasing?

Systems Thinking in Public Health—5 Whys Tool

Rising Rates of Colorectal Cancer in a Community (screening example)

1. Why are colorectal cancer cases increasing?
   a. Fewer people are getting regular colorectal cancer screenings.
2. Why are fewer people getting regular screenings?

Systems Thinking in Public Health—5 Whys Tool

Rising Rates of Colorectal Cancer in a Community (screening example)

1. Why are colorectal cancer cases increasing?
   a. Fewer people are getting regular colorectal cancer screenings.
2. Why are fewer people getting regular screenings?
   a. Many individuals lack access to healthcare services or are unaware of the need for regular screenings.
3. Why do people lack access to healthcare or awareness?
   a. There are barriers such as cost, limited healthcare facilities in certain regions, and a lack of educational outreach regarding cancer prevention.
4. Why are there barriers to healthcare and education?
   a. Public health infrastructure in certain communities is underfunded, and there is inadequate emphasis on cancer screening programs and awareness campaigns.
5. Why are the public health infrastructure underfunded and screening programs insufficient?
   a. Limited resources so other healthcare needs may be prioritized, and policies may not focus enough on preventative care, especially in underserved areas.

Using this method allows us to drill down to the underlying or root causes of the health issue!

Communicating Data

What is the goal of your data analysis?

Whom do you need to reach? Clearly define your target audience

Who should the information be shared with? Who are the stakeholders at the table?

How is the information being shared with the priority population?

What is the best format to share the information?

Make your partner look good (AD)

Adapted from HEDA by Minnesota Department of Health

Creating a Good Story with your Data is a Process!

It's about the message—not the software!

What?

So What?

Now What?

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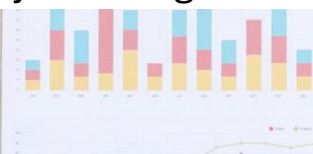
Common misconceptions about health equity

- ACCESS=EQUITY Access to health care and insurance coverage are the most important factors to good health.

- We can achieve equity by providing equal access to health care/resources to all people

- Some groups have worse outcomes because they make poor choices, don't take of themselves, or are non-compliant…

- Health disparities are based solely on race.

- Disparities only occur in urban settings.

- Socio-economic data is just more noise in an already data-overloaded world

How can we communicate the importance of equity vs. equality?

- Why should we even care that there are disparities/inequities? Why not just intervene with everyone to try and improve population rates?

- What is the value of improving outcomes among marginalized/disadvantaged groups?

- Is it enough to give everyone an intervention or is it more effective to give each group the intervention that it needs/that is culturally relevant?

- Some might say that given the great diversity of the US it makes sense that there are differences between population groups and we can't do anything about it—what is your response?

The Sum of Us: What Racism Costs Everyone and How We Can Prosper Together by Health McGhee

Debrief and Final Thoughts

- Disaggregating data helps us understand our community and any issues of health inequity

- One size does not fit all – disaggregating our data gives us the evidence

- Storytelling allows us to share high impact data effectively

- Use short, concise, data-driven messages with visualizations!

- Health equity = social justice

THANK YOU!

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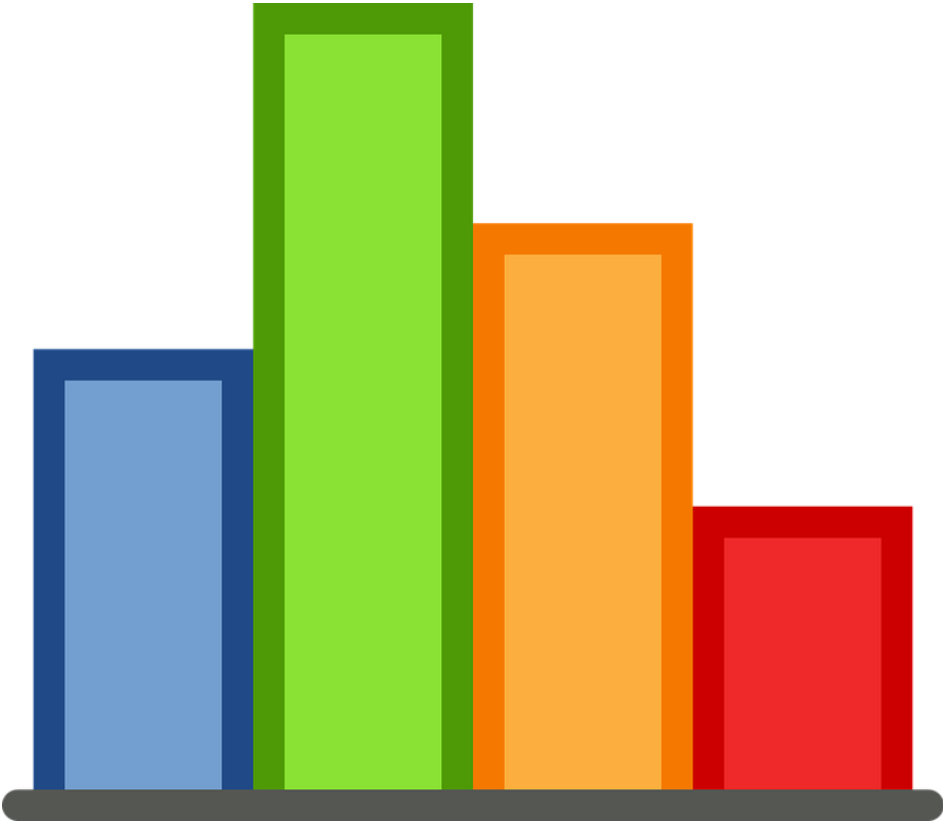
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Thank you!

anjali-deshpande@uiowa.edu
vickie-miene@uiowa.edu
abigail-stock@uiowa.edu

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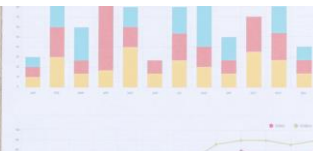
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