



South Southwest (HHS Region 6)

PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



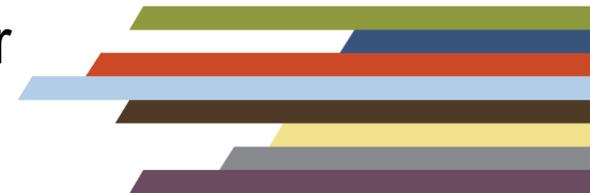
Ditching the Discomfort with Data Series Part One Overview

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November 18, 2021

South Southwest Prevention
Technology Transfer Center

SAMHSA
Substance Abuse and Mental Health
Services Administration



Funding and Disclaimer

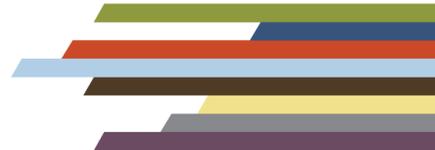
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Great Lakes (HHS Region 5) South Southwest (HHS Region 6)

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Overview of Series

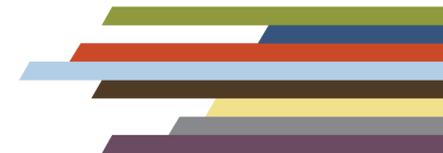
Ditching the Discomfort: A Data Literacy Journey

- 1 OVERVIEW
- 2 READING DATA
- 3 WORKING WITH DATA
- 4 ANALYZING DATA
- 5 COMMUNICATING DATA



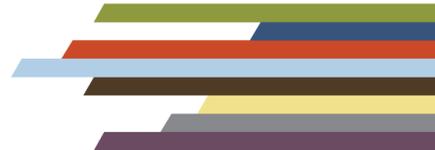
Part One Learning Objectives

- Define the “why” of data for prevention and its benefits.
- List two different types of data.
- Describe two methods you can use to communicate data graphically and when to use them.
- List two ways to build your capacity with data.

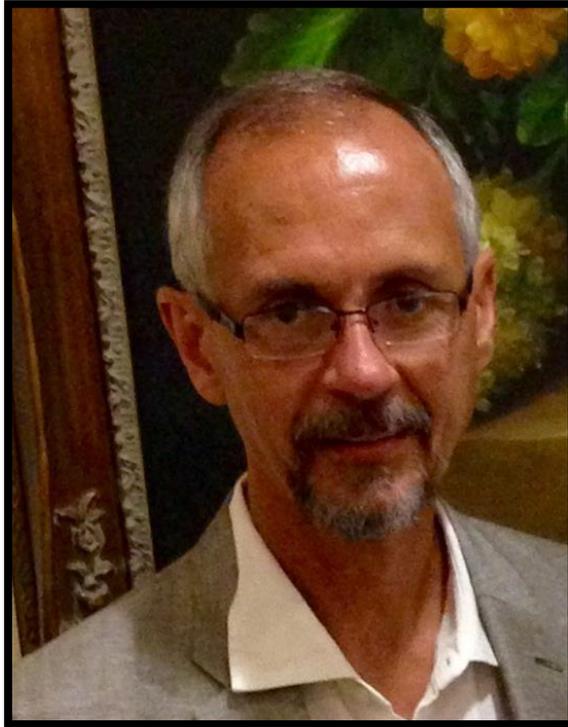


Agenda

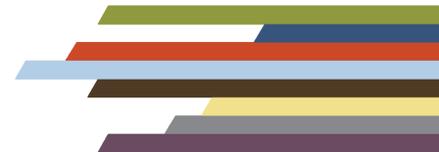
- Introductions
- Data and Prevention
- Reading Data
- Working With Data
- Analyzing Data
- Communicating Data
- Wrap-up
- Evaluation



Presenter



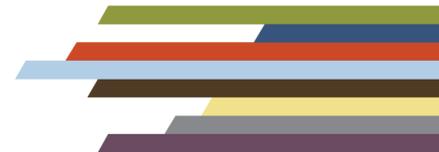
Hayden Center, Jr., Ph.D., LPC



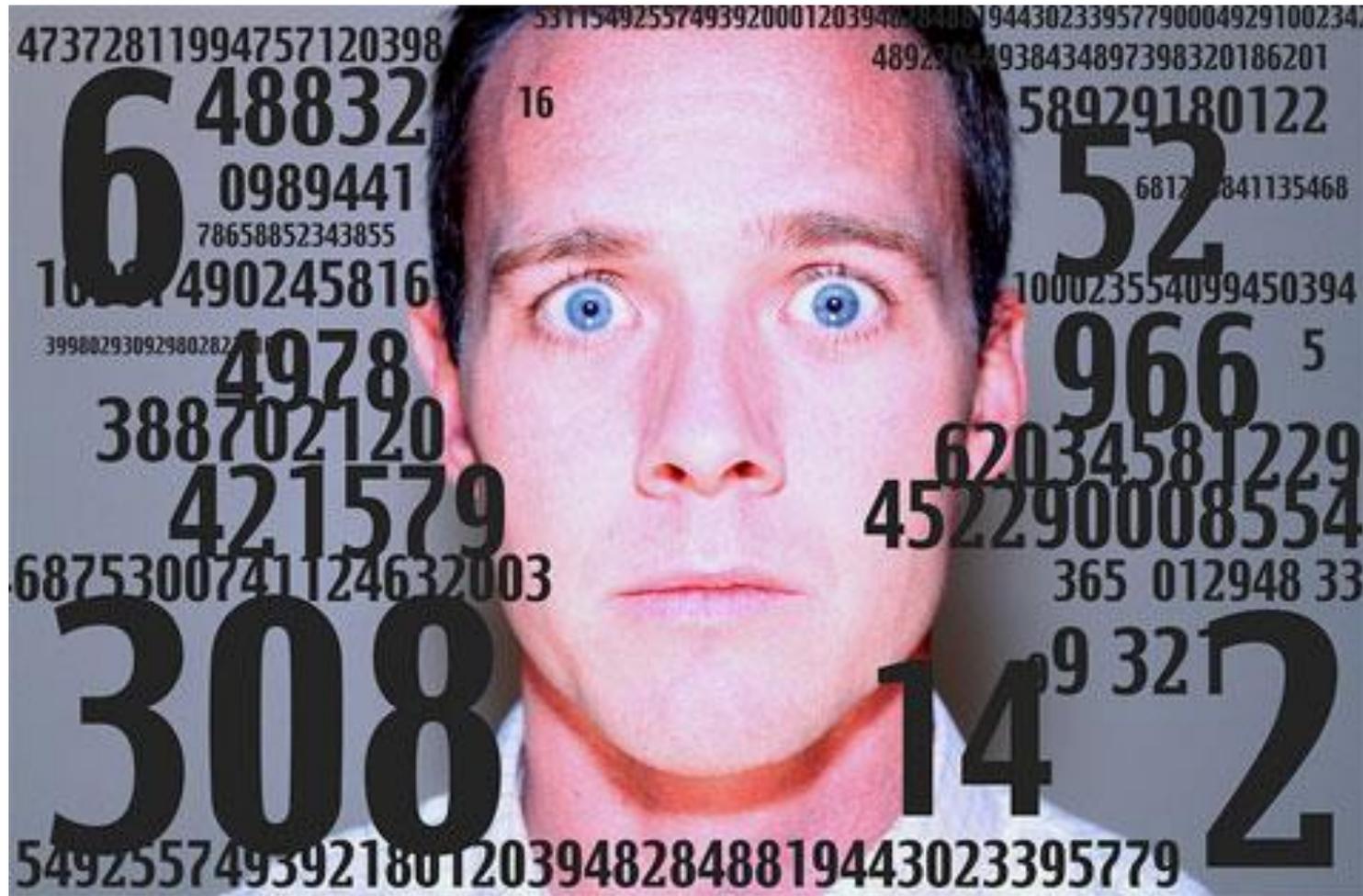
How Evaluation Began . . .

In the beginning...

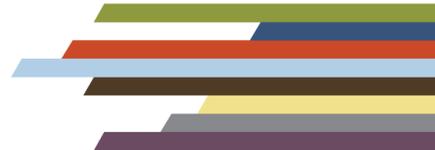
- Evaluation has been around for a long time
- People tell stories about what works and doesn't
- How do we tell these stories in ways that people will listen?



Data Discomfort Be Gone!

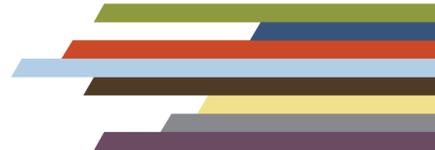


Tell Us Your Data Story



Telling Our Story Through Evaluation

- We are required to gather data
- Many times, lots of it
- What do we do with this information?
- How do we communicate it effectively?



Several Questions to Ask



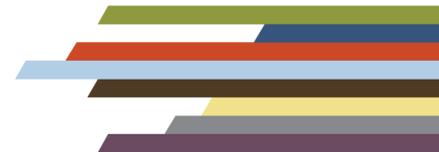
What is the data that you are presenting?

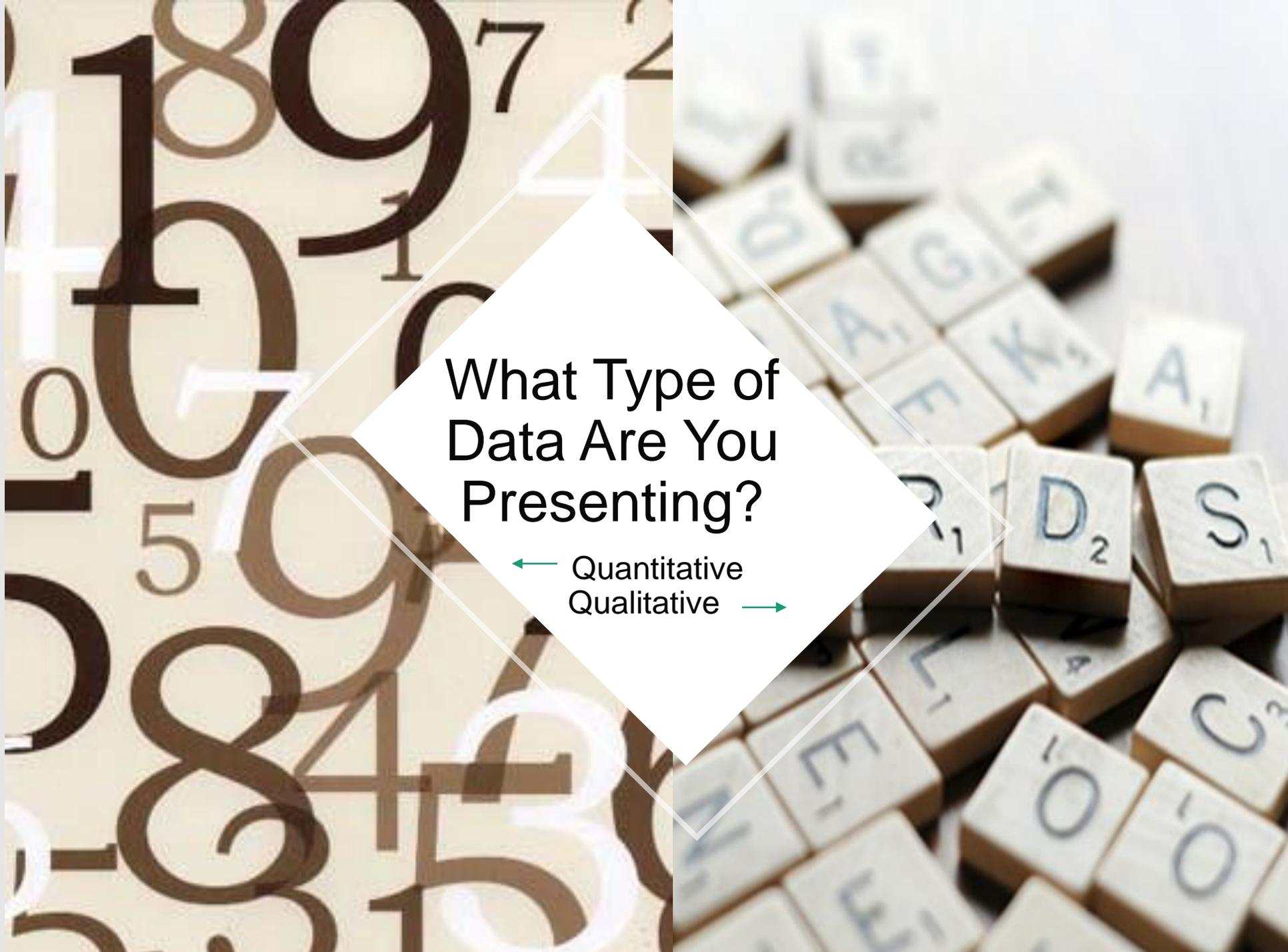


Why do you want to present the data?



To whom are you going to present the data?

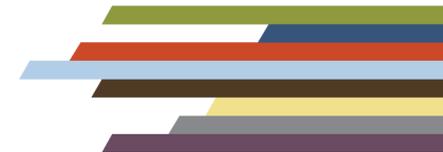




What Type of Data Are You Presenting?

← Quantitative
Qualitative →

Data and the Strategic Prevention Framework



Benefits of Data

Develops
Understanding

Develops
Partnerships

Helps
Monitor
Progress

Helps Restrain
Over Promising

Facilitates
Project
Reporting

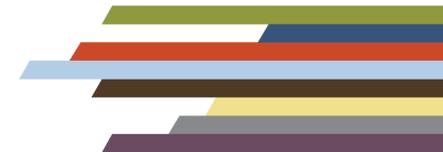
Promotes
Communication

Serves as an
Assessment and
Evaluation Tool

Data Literacy



“Data literacy describes the ability to read, work with, analyze, and argue with data.” -Raul Bhargava and Catherine D'ignazio from MIT and Emerson College

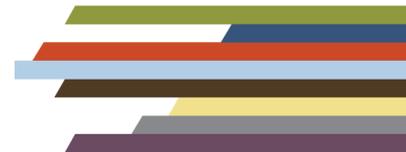


Step 1: Read It!

“Reading data involves understanding what data is, and what aspects of the world it represents.”¹



¹D'Ignazio, C., & Bhargava, R. (2016). DataBasic: Design principles, tools and activities for data literacy learners. *The Journal of Community Informatics*, 12(3), 83-107.



Identifying Types of Data

	Qualitative Data	Quantitative Data
<i>What is it?</i>	Data that consists of descriptive information that cannot be expressed as a number.	Data that can be measured and expressed numerically.
<i>What are the types of data?</i>	Text-based, images, behaviors, objects	Numbers, statistics
<i>How is it collected?</i>	Interviews, focus groups, written documents, observations, open-ended survey questions.	Surveys, tests, assessments, measurements, observations, interviews
<i>What are some examples?</i>	Favorite food, gender, quotes, race/ethnicity	Weight, IQ score, distance



Activity

What's My Data Persona?

Share your results in
the poll!

<https://thedataliteracyproject.org/assessment>



Step 2: Work With It!

“Working with data involves creating, acquiring, cleaning, and managing it.”¹



¹D'Ignazio, C., & Bhargava, R. (2016). DataBasic: Design principles, tools and activities for data literacy learners. *The Journal of Community Informatics*, 12(3), 83-107.

Collecting Data



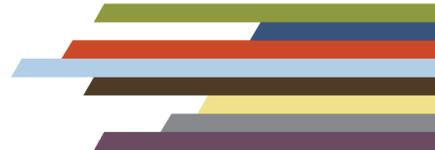
Focus Groups

Key Informant Interviews

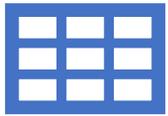
Observation

Surveys

Service Records



Acquiring Existing Data



How was the data collected (method, format, etc.)?



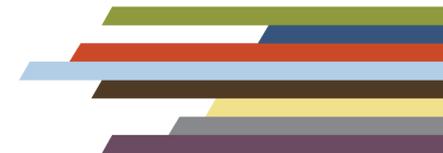
What was the original intent of the data?



Is there a request process to access the data?

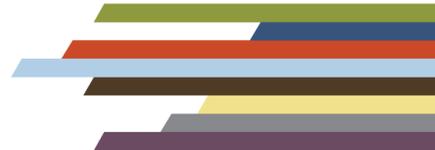


Is the data anonymous?
Are there permissions or confidentiality concerns?



Cleaning the Data

- Explore the data and get familiar with it
- Change the data to match a specific format.
- Perform basic calculations in Excel to check for errors in numerical data
- Explore using OpenRefine <https://openrefine.org/>, which is a free software that helps you clean up messy data.
- Refer to the data dictionary.

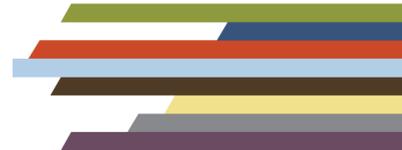


Step 3: Analyze It!

“Analyzing data involves filtering, sorting, aggregating, comparing, and performing other such analytic operations on it.”¹

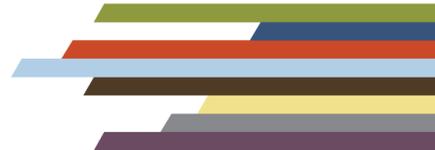


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Questions to Ask Yourself

- Am I being systematic?
- Is this useful?
- Does it have impact?
- Does it affect the quality of a program or strategy?
- Can it be effectively communicated to stakeholders?



Prevention Analysis Basics

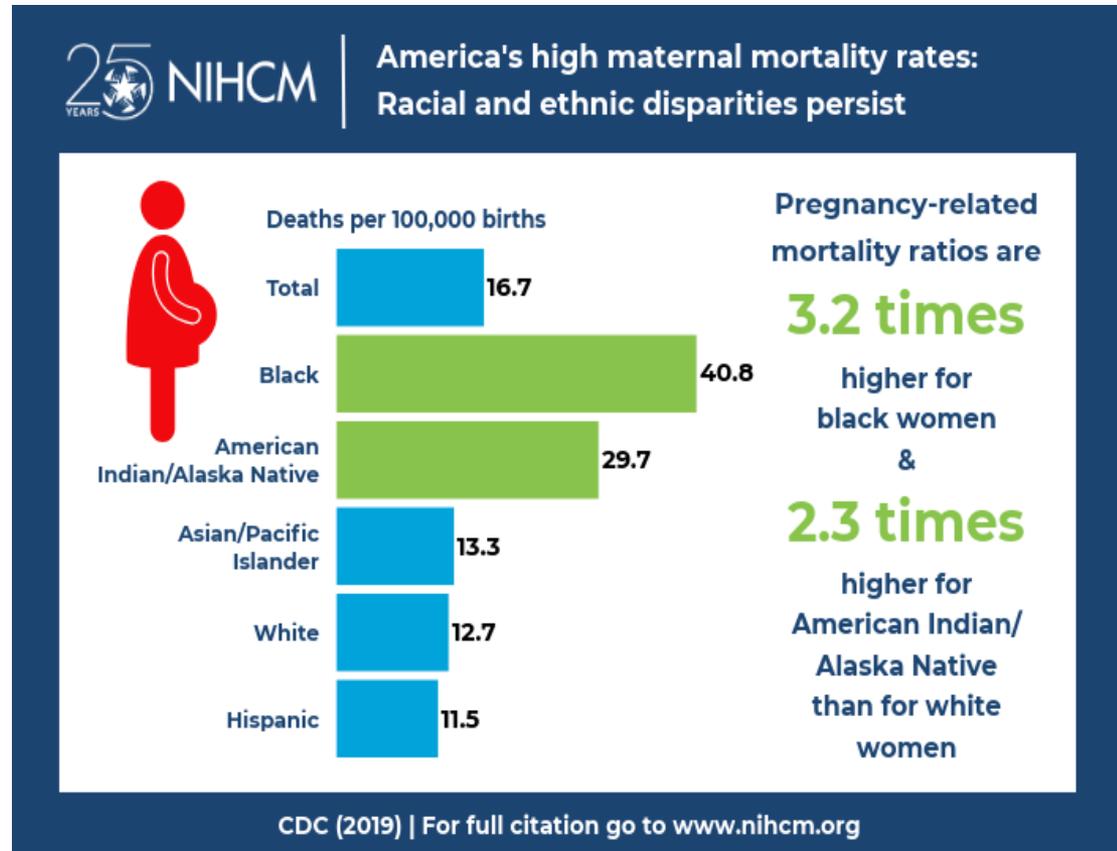
- **Ratio: Relationship between two numbers**
e.g. Males/ Females
- **Proportion: A ratio where the numerator is included in the denominator**
e.g. Male babies born / Total babies born
- **Rate: A proportion with the specification of time**
e.g. In 2016, the national rate of opioid-related hospitalizations was 297 per 100,000 population.

The following calculation provides a rate per 1,000 people per time period:

$$\text{Rate} = \frac{\text{Number of cases}}{\text{Population over time period}} \times 1,000$$

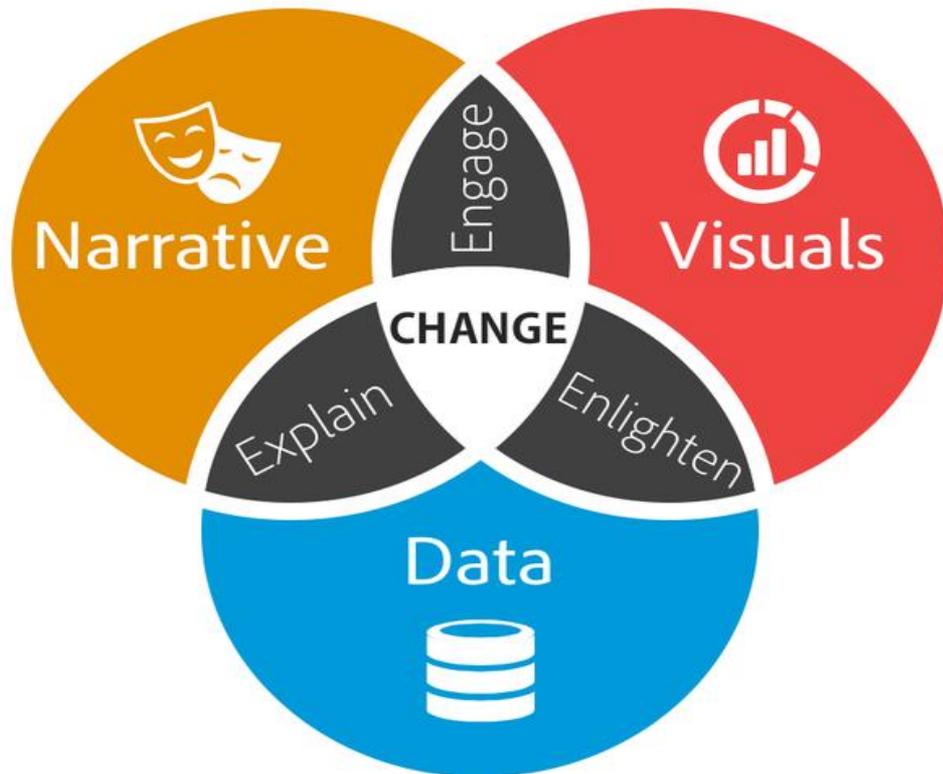
Step 4. Communicate It!

“Arguing with data involves using data to support a larger narrative intended to communicate some message to a particular audience.”¹

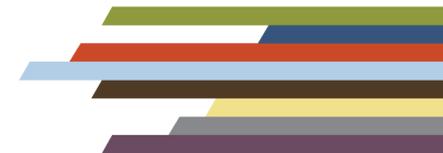


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Telling Your Data Story



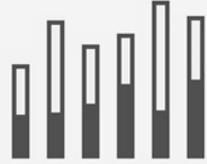
- Intentional
- Purposeful
- Visually pleasing
- Independently interpretable



Composition



Pie chart



Stacked column chart



Column chart



Bar chart



Stacked area chart



Waterfall charts



Line chart



Radar charts

Comparison

Relationship



Scatter chart



Bubble chart

Distribution



Histogram chart



Scatter chart

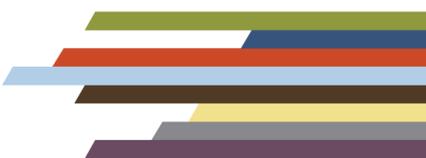
What chart would you use?

You want to display rates for substance use by year over a ten-year time period to show an increasing trend?

You want to compare different percentages by grade level for parental monitoring? Percentages do not add up to 100%.

You want to show the participants by gender who participated in your recent SAPST training. The data captures 3 gender categories, and the total adds up to 100%.

You want to show the distribution of scores on the prevention specialist exam in your region.





A Call to Action

“Data, I think, is one of the most powerful mechanisms for telling stories. I take a huge pile of data and I try to get it to tell stories.”

Steven Levitt, Economist and Author of "Freakonomics"



Wrapping up



Questions



What's Next?

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Resources

Data Literacy Quiz: What is your data persona?

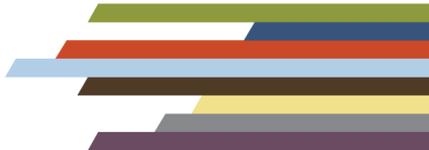
<https://thedataliteracyproject.org/assessment>

Data Visualization 101:How to Design Charts and Graphs

https://cdn2.hubspot.net/hub/53/file-863940581-pdf/Data_Visualization_101_How_to_Design_Charts_and_Graphs.pdf

How to Tell a Story With Data: A Guide for Beginners

<https://venngage.com/blog/data-storytelling/>



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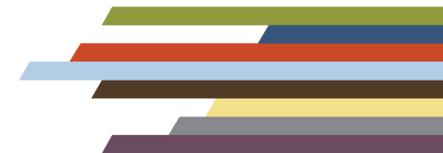
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Thank You

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