

# IOWA

Institute of Public Health  
Research and Policy

# Visualize This

**Storytelling With Data**

**2025 Session 1**



# Visualize This – Storytelling with Data



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**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**

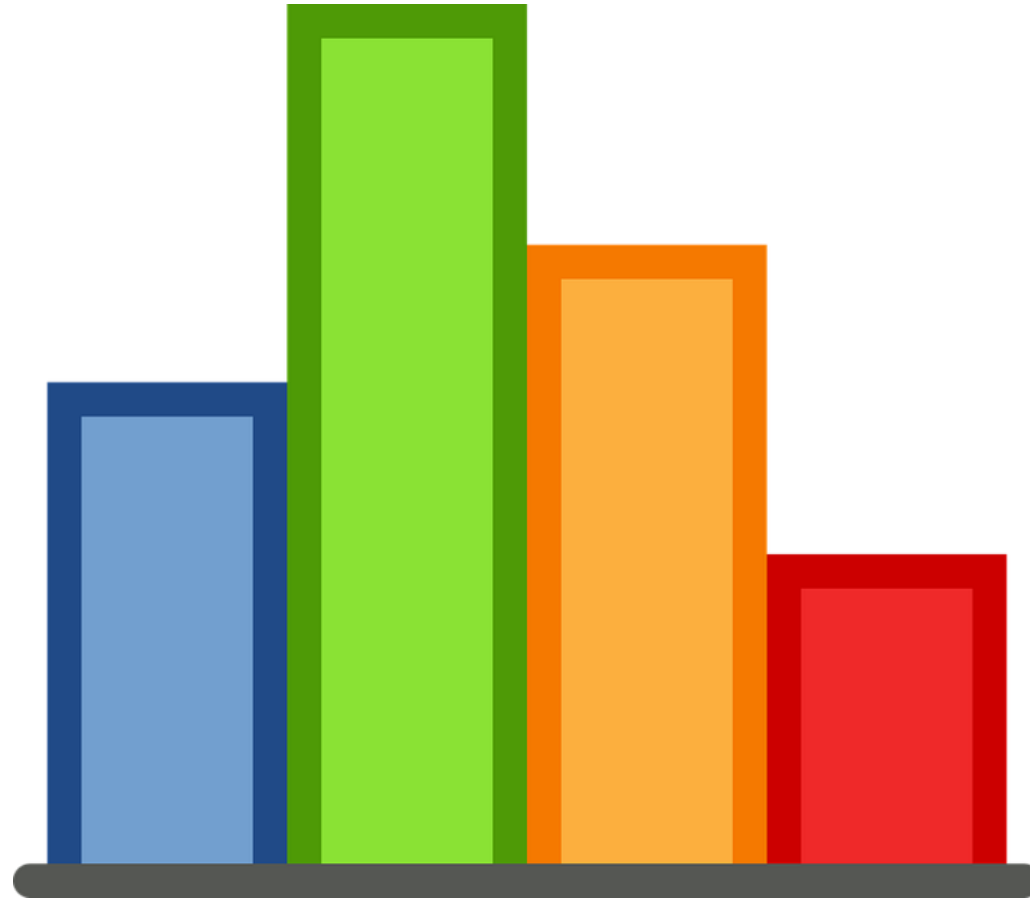
**Disaggregate It**

**Check out our website  
to see upcoming  
training dates!**



# Menti.com

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# Course Schedule



**Tuesday, October 21, 10:00am-11:30am CT Live Learning Session #1 – Kick off**



**“Work at home” Course 1** and  homework.



**Tuesday, October 28th, 10:00am-11:30am CT Live Learning Session #2**



**“Work at home” Course 2** and  homework.



**Tuesday, November 4th, 10:00am-11:30am CT Live Learning Session #3**



**“Work at home” Course 3** and  homework



**Thursday, November 13th, 10:00am-11:30am CT Live Learning Session #4**



# Accessing Training Resources

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- Visit the webpage that was dropped in the chat.
- View the documents in the "Preview" panes or click the buttons to download the documents.
  - Download the activity worksheet to fill in your answers.
- Will also be included in the follow up email.
- *We ask that you do not share these slides beyond what we are doing today as this is University of Iowa property. We appreciate you keeping this information and using it for training purposes.*



# Visualize This Resources – IHHS



## Training Resources



### Iowa Public Health Tracking Portal – HPV Workbook

Visit the HPV Workbook page from the Iowa Public Health Tracking Portal to view the HPV data for the training.

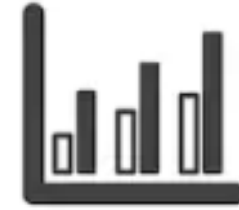
[VIEW THE HPV WORKBOOK](#)



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illustrate  
understandable interesting  
thought data patterns audience  
conclusions  
insight cloud attractive trends insights analysis simple effective easy  
powerful context word words fast

# visualization



It's not just a big-city problem, says Dr. Elizabeth Jacobs of the University of Wisconsin at Madison. "The largest rate of increase of limited-English-proficient people in our country is in rural areas," she said.

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# Overall Course Objectives

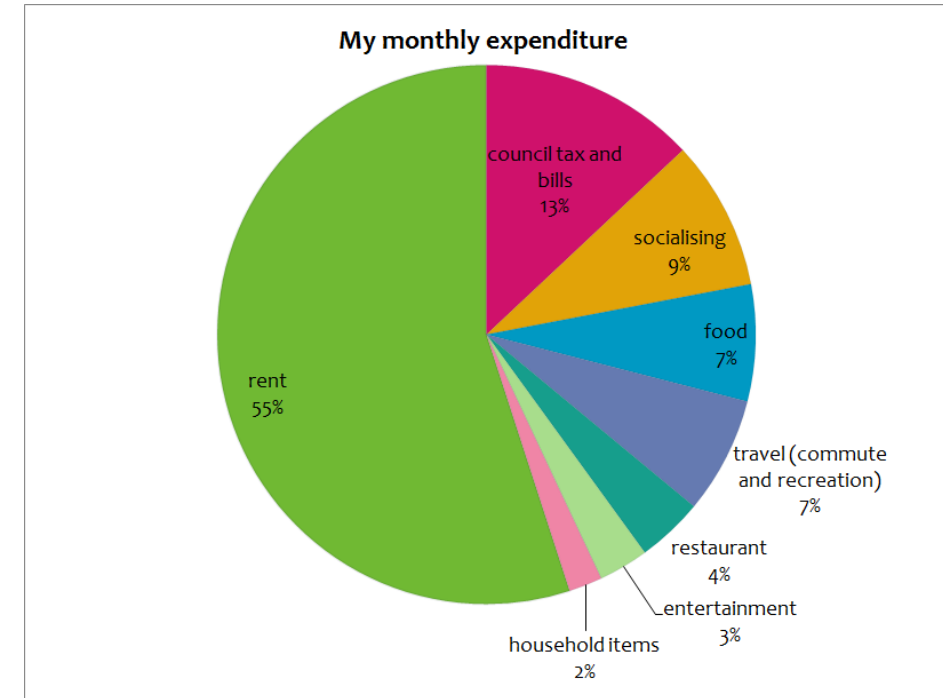
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By the end of this 4 week course, participants will be able to:

- Summarize the basics of communication theory
- Select strategies for creating effective messages, charts, and graphs.
- Design basic charts to visualize common epidemiologic data
- Access publicly-available resources that can be used for data visualization



People don't swing  
into action because  
of a pie chart.



# Learning Objectives

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1. Understand the principles of effective data communication as applied to different audiences.
2. Understand the data communication model including source, message, audience, and channel.
3. Identify key characteristics of your audience for effective data communication.



# **Module 1**

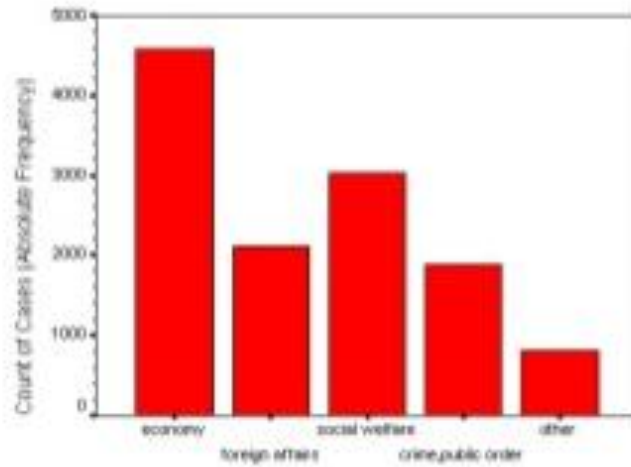
## Communication Basics

# Houston, we have a problem...

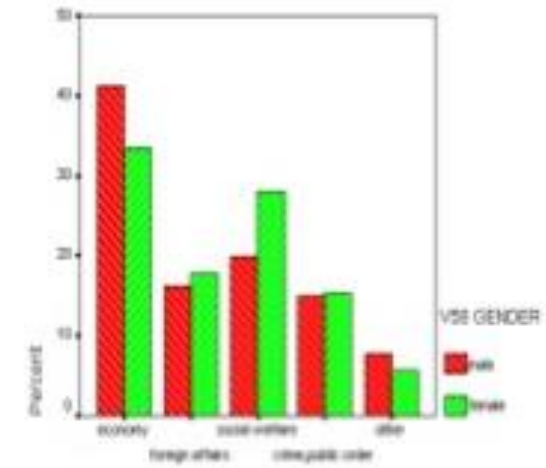
Leading Cancer Sites ↓	→ Count ↑↓	↕ Population ↑↓	← Age-Adjusted Rate Per 100,000 ↑↓
Brain and Other Nervous System	22,376	323,405,935	6.3
Breast *	247,506	323,405,935	66.3
Cervix Uteri	12,984	164,162,118	7.7
Colon and Rectum	141,270	323,405,935	37.4
Corpus Uteri	54,930	164,162,118	26.4
Esophagus	17,478	323,405,935	4.4
Gallbladder	4,075	323,405,935	1.1
Kidney and Renal Pelvis	63,639	323,405,935	16.8
Larynx	12,243	323,405,935	3.1
Leukemias	48,082	323,405,935	13.1
Liver	28,254	323,405,935	6.9
Lung and Bronchus	218,229	323,405,935	56.0
Melanoma of the Skin	82,476	323,405,935	22.3
Myeloma	25,286	323,405,935	6.5
Non-Hodgkin Lymphoma	68,403	323,405,935	18.3
Oral Cavity and Pharynx	45,543	323,405,935	11.7
Ovary	20,418	164,162,118	10.3
Pancreas	49,093	323,405,935	12.7
Prostate	192,443	159,243,817	101.4
Stomach	24,146	323,405,935	6.4
Thyroid	47,755	323,405,935	14.0
Urinary Bladder, invasive and in situ	73,469	323,405,935	19.2

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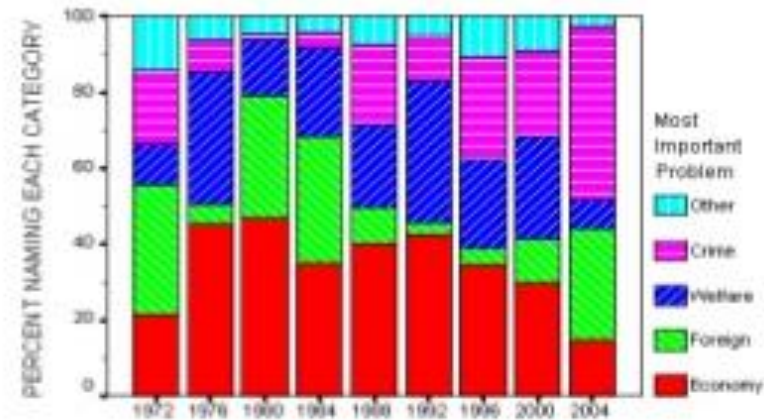




V30 MOST IMPORTANT NATIONAL PROBLEM



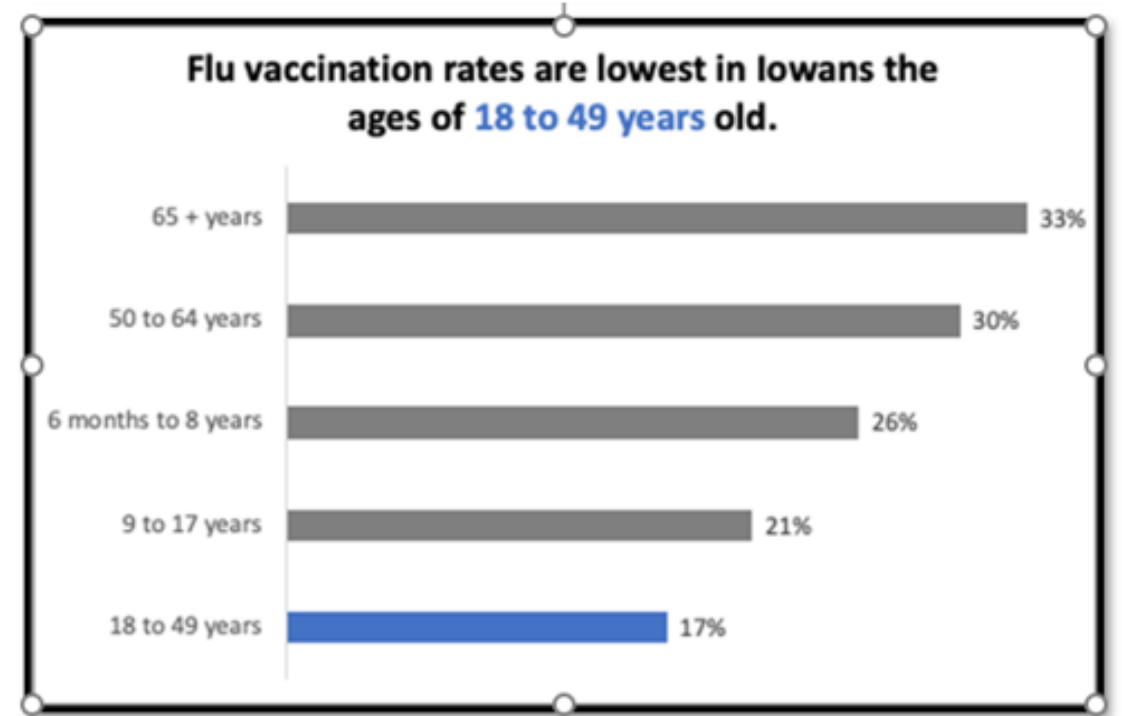
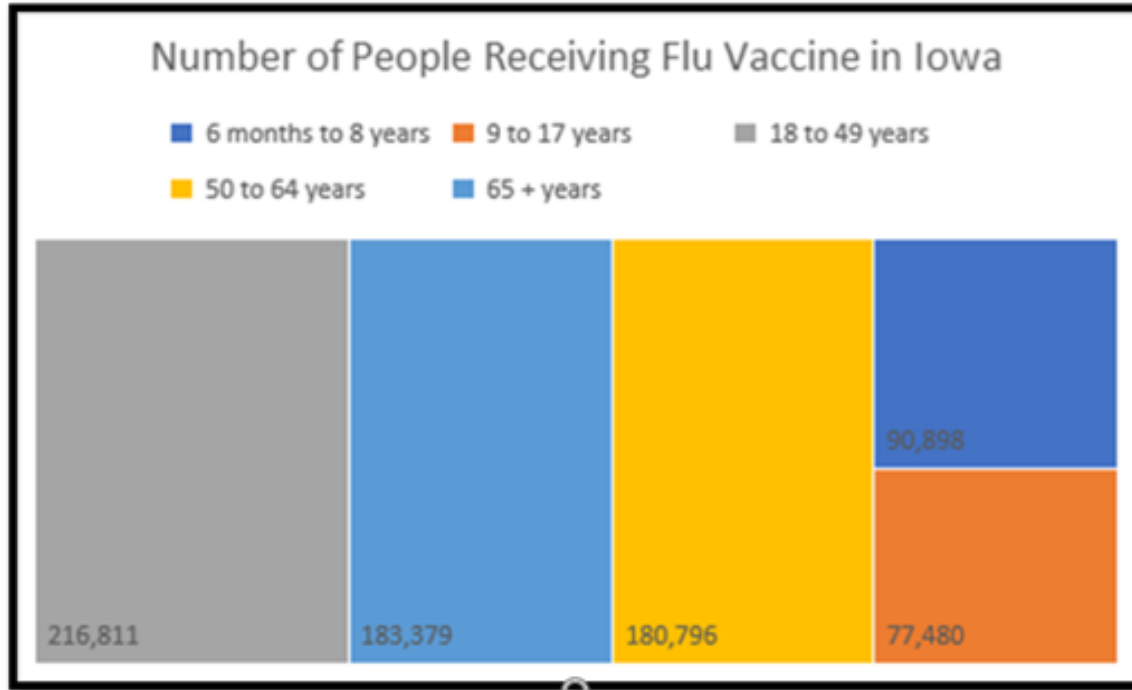
V30 MOST IMPORTANT NATIONAL PROBLEM



V01 YEAR OF SURVEY







Two things that work? Two things that don't work?



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# 3 Questions to Ask

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- What is the **purpose** of this communication?
- **Who will use** the information?
- What are the **key messages** for this audience?

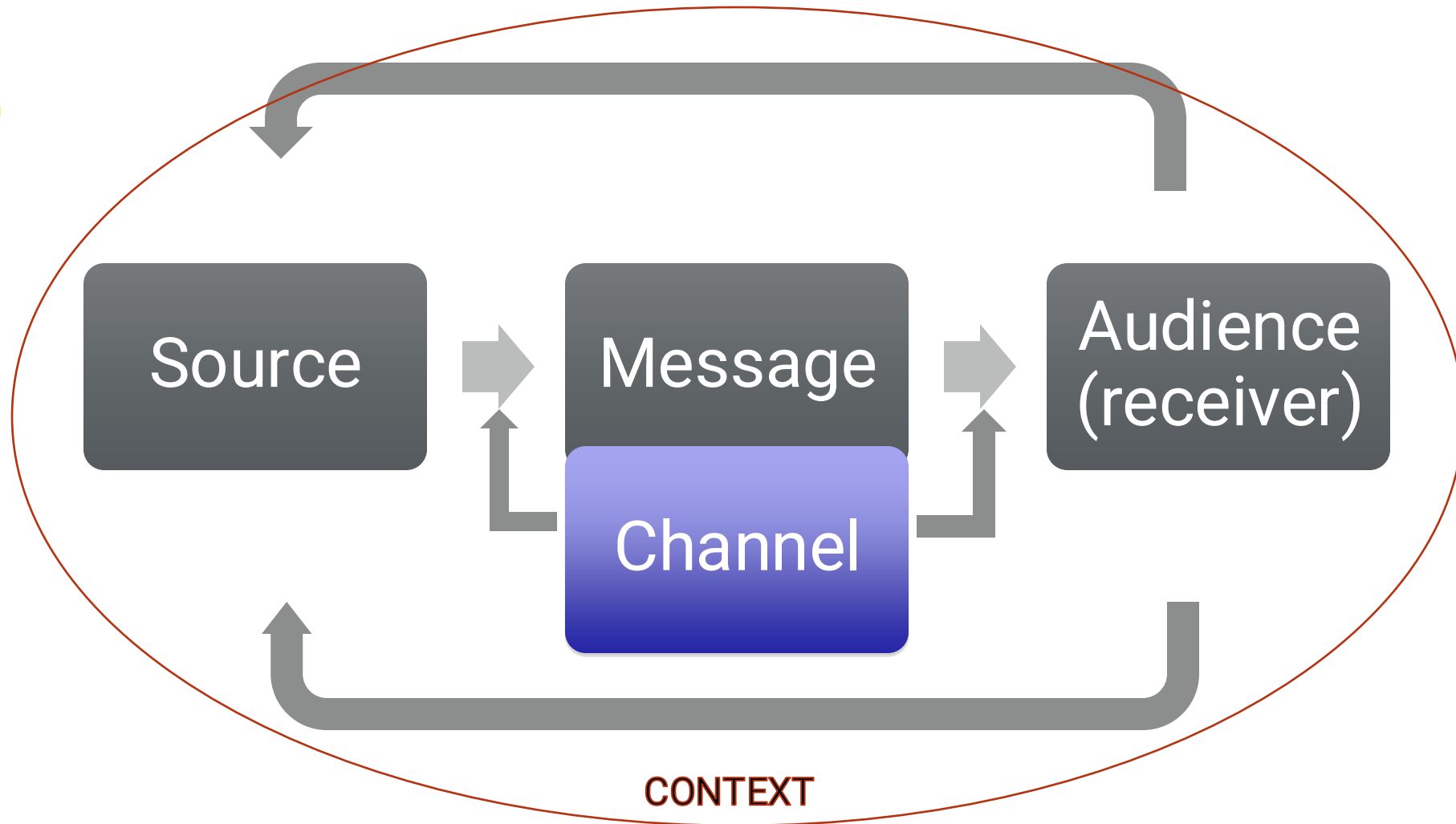
# Purpose?

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Awareness? Or Knowledge? or Action?

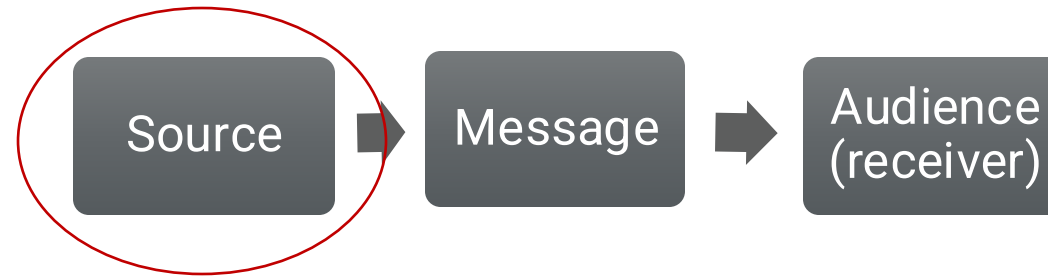
# Basic communication model



# SOURCE:

## The effective persuader

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- Seen as
- Delivered by someone trusted
- Unbiased
- Relevant to constituent





# Two key characteristics of the Source

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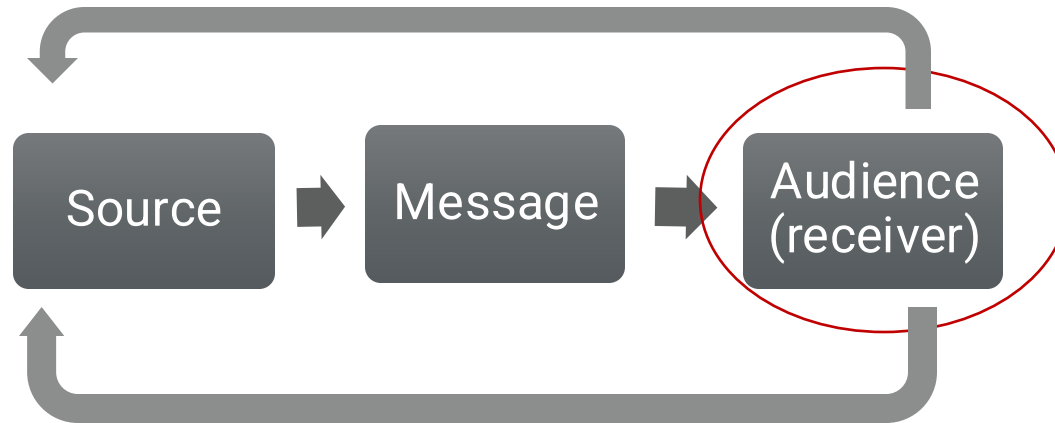
- Credible—how trustworthy is the source?
- Reliable—how consistent is the source?

“Audience is more likely to be influenced by a credible source when they don’t have prior knowledge about an issue, when they do not have prior attitudes about the issue, or when the message is provided only once.”

J Appl Soc Psychol. 2010 June 1; 40(6): 1325–1356.



# AUDIENCE



Communicate  
for someone.....  
not about  
something.



# AUDIENCE:

## Who are you communicating with?

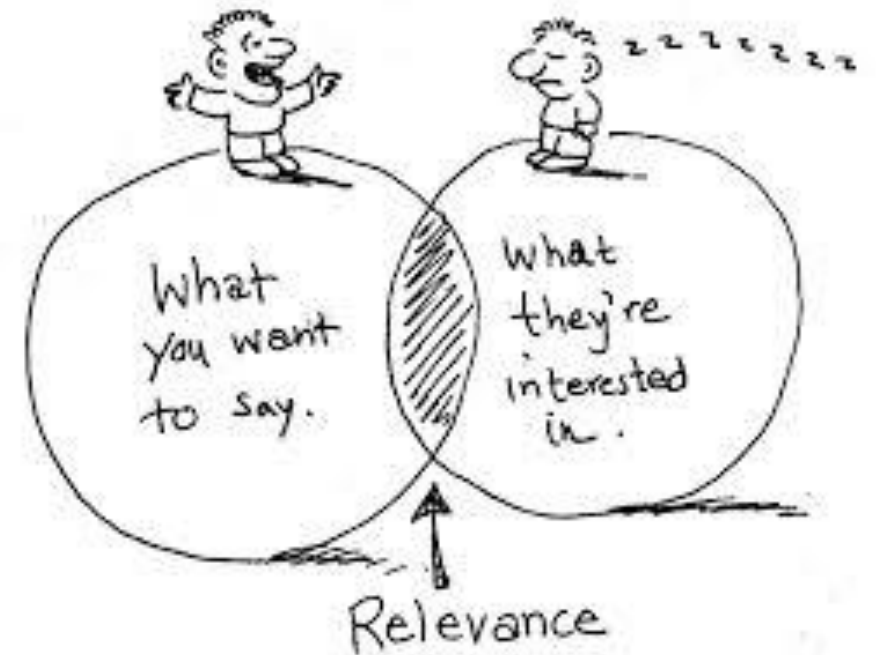
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- Elected Officials
- Legislative Staff
- Agency/Organization Leaders
- Community Groups
- Media
- Other?



# Connect with your audience

- Understand your audience/ their current position
- What do they care about?
- What are their information needs?
- How does your message solve their problem?
- Where, when and how do they seek information?
- What challenges are they likely to have?



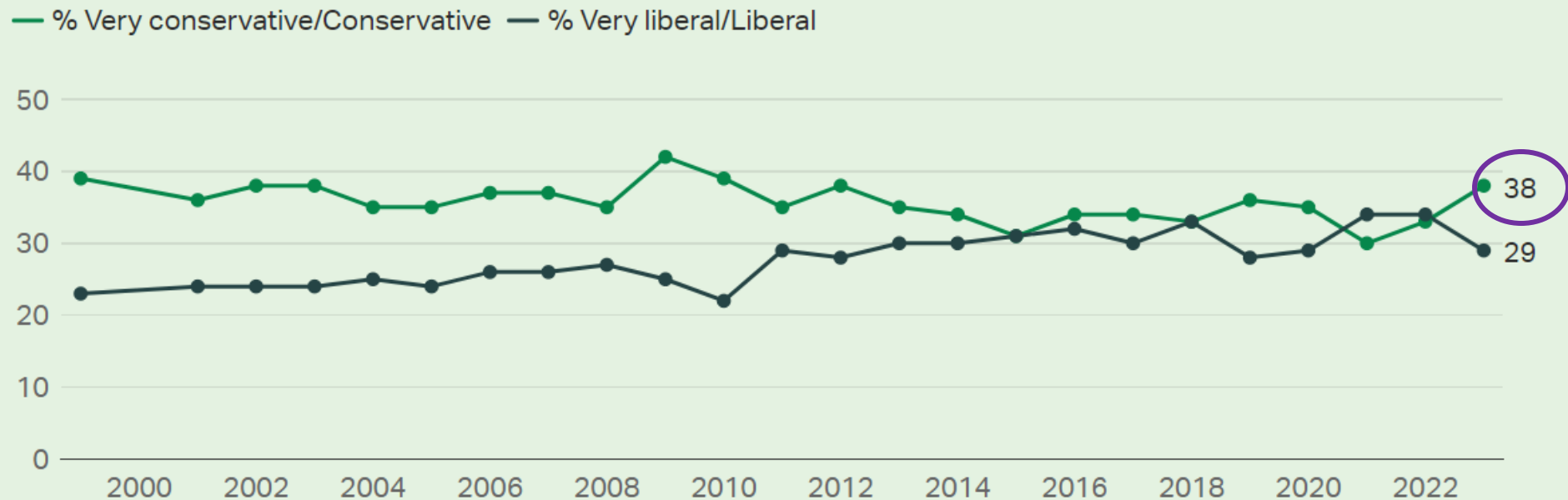
**When it comes to SOCIAL issues, do you usually think of yourself as...**

	<b>US state legislators Percentage (n)</b>	<b>EBPH Class PH Practitioners (IA 06/23)</b>
<b>Liberal</b>	29 (235)	75 (21)
<b>Moderate</b>	20 (165)	7 (2)
<b>Conservative</b>	51 (418)	18 (5)

# When it comes to SOCIAL issues, do you usually think of yourself as...

## Americans' Liberal/Conservative Self-Identification on Social Issues

Thinking about social issues, would you say your views on social issues are -- [ROTATED: very conservative, conservative, moderate, liberal (or) very liberal]?



Percentage who identify as moderate is not shown. Figures are average for each year, which was one May survey in each year except for 1999, 2003 and 2007. The question was not asked in 2000.

[Get the data](#) • [Download image](#)

GALLUP



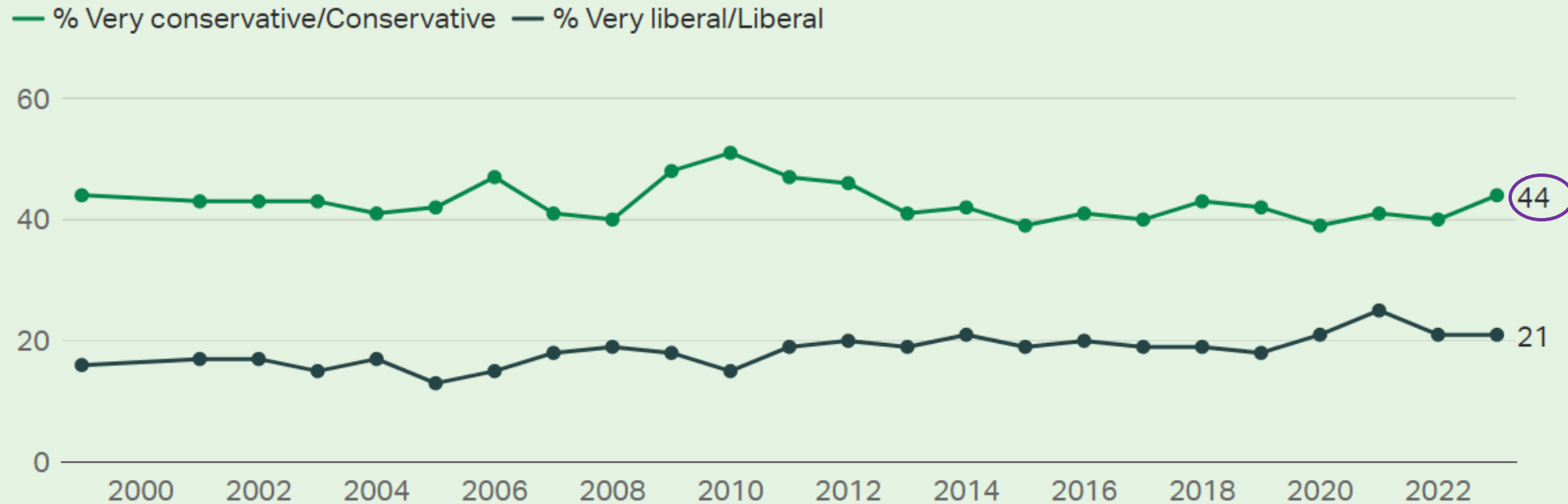
**When it comes to FISCAL issues, do you usually think of yourself as...**

	<b>US state legislators Percentage (n)</b>	<b>EBPH Class PH Practitioners (IA 06/23)</b>
<b>Liberal</b>	10 (86)	53 (15)
<b>Moderate</b>	21 (174)	29 (8)
<b>Conservative</b>	69 (568)	18 (5)

# When it comes to FISCAL issues, do you usually think of yourself as...

## Americans' Liberal/Conservative Self-Identification on Economic Issues

Thinking about economic issues, would you say your views on economic issues are -- [ROTATED: very conservative, conservative, moderate, liberal (or) very liberal]?



Percentage who identify as moderate is not shown. Figures are average for each year, which was one May survey in each year except for 1999, 2003 and 2007. The question was not asked in 2000.

[Get the data](#) • [Download image](#)

GALLUP

# What about other audiences?

## Employers? Parents? “General Public”?

- What do they care about? What are their interests?
- What do they know?
- Where do they get information?
- How to best provide information?



# Decision-makers look for health information/research that is:

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Understandable

Concise

Unbiased

Accurate

Relevant  
(locally)

Actionable, with  
options

Timely/current

Cost-effective  
(when data  
exist)



# Audiences have expectations for the information they receive:

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1. They expect to be told why they should believe or do what is recommended.
2. They expect to be given the rationale for how experts reach their conclusions.
3. They expect to know what to do with the information they receive.



# Be aware of challenges

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- Health literacy
- Accessibility
- Numeracy – misunderstanding of risk and probability
- Cognitive processing limits – the 7 digit phone number
- Uncertainty – go ahead, just embrace it!
- Framing – loss vs. gain
- Defensive processing
- Role of emotion





**Questions?**



# MESSAGE - Persuading your audience

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- The purpose for most communication in public health, but especially with decision makers, is persuasion.
- To persuade is to:
  - Create, strengthen, or change attitudes or behaviors

# MESSAGE

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Determine your *objectives*:

- What do you want your audience to **think/believe/know**?
- What do you want your audience to **feel**?
- What do you want your audience to **do**?



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If a speaker spoke in the forest  
And no one did anything different--

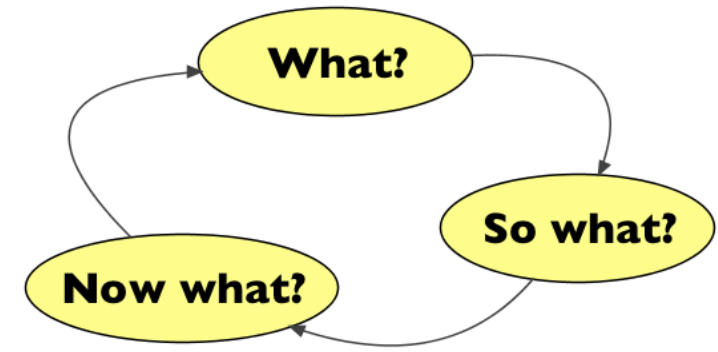
Did they really speak at all?



--Apologies to George Berkeley



# MESSAGE: What? So What? Now What?



- What?
  - What is the health issue/current status in the population? What are the primary risk factors for this health issue?
  - Are there disparities in the outcome/in the risk factors?
  - Descriptive epi profile of issue/risk factor (person, place, time)
- So What?
  - Why is this an important issue? What would we expect to happen if we don't do anything? How to make this most compelling?
- Now What?
  - What is the appropriate/relevant action to take?

Who is your audience?



# MESSAGE: SOCO

(Single Overriding Communication Objective)

The change you want to see in your audience as a result of this communication

One audience, one message, one issue

- Define your purpose:
  - We want **[audience]** to **[do what]** in order to **[benefit how]**
- Who is the *main* audience?
- What is the *call to action* (i.e., what you want them to do. Consider what is realistic and doable?
- What is the *main benefit* of taking action?

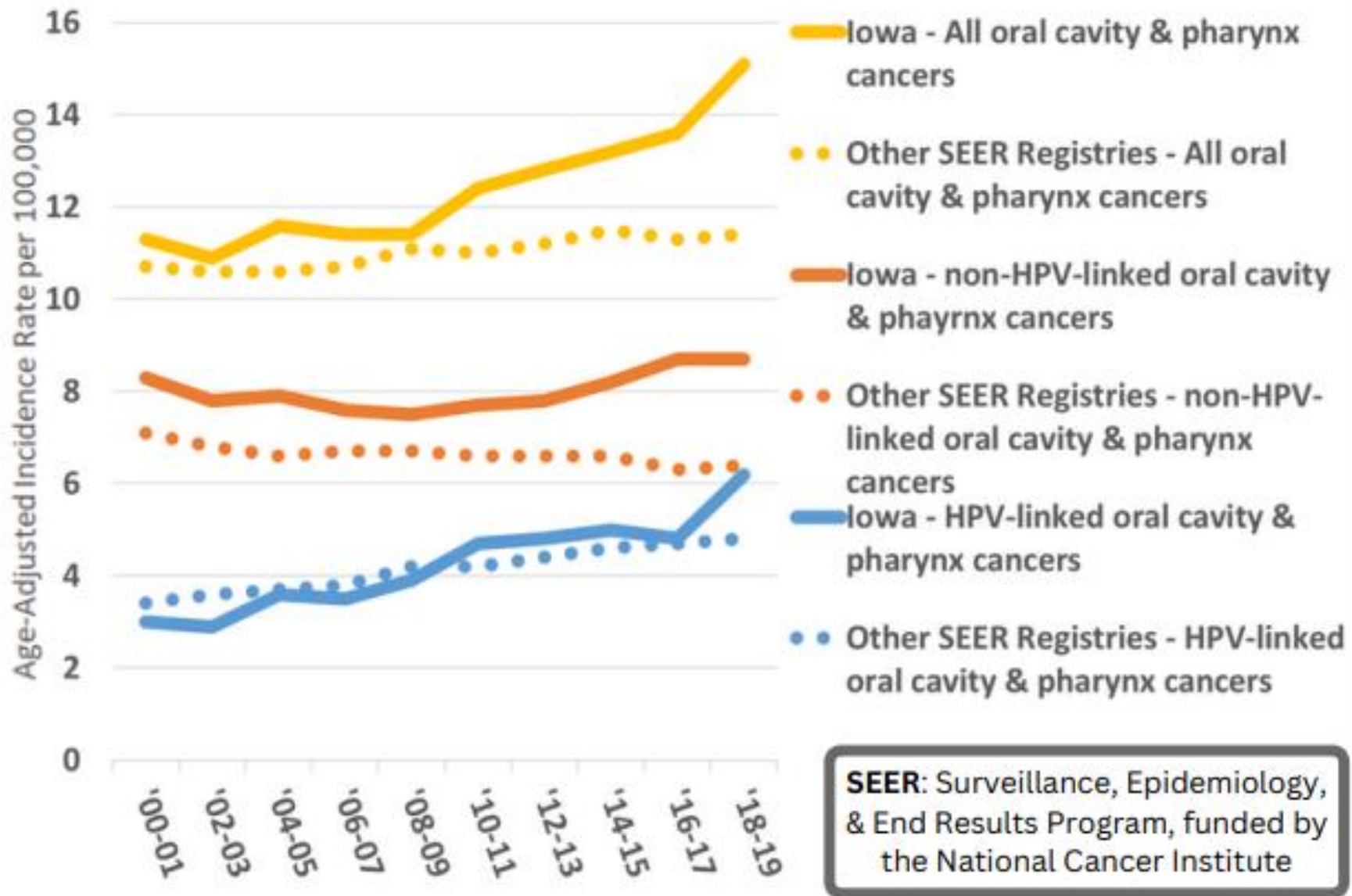


# Small Group Activity

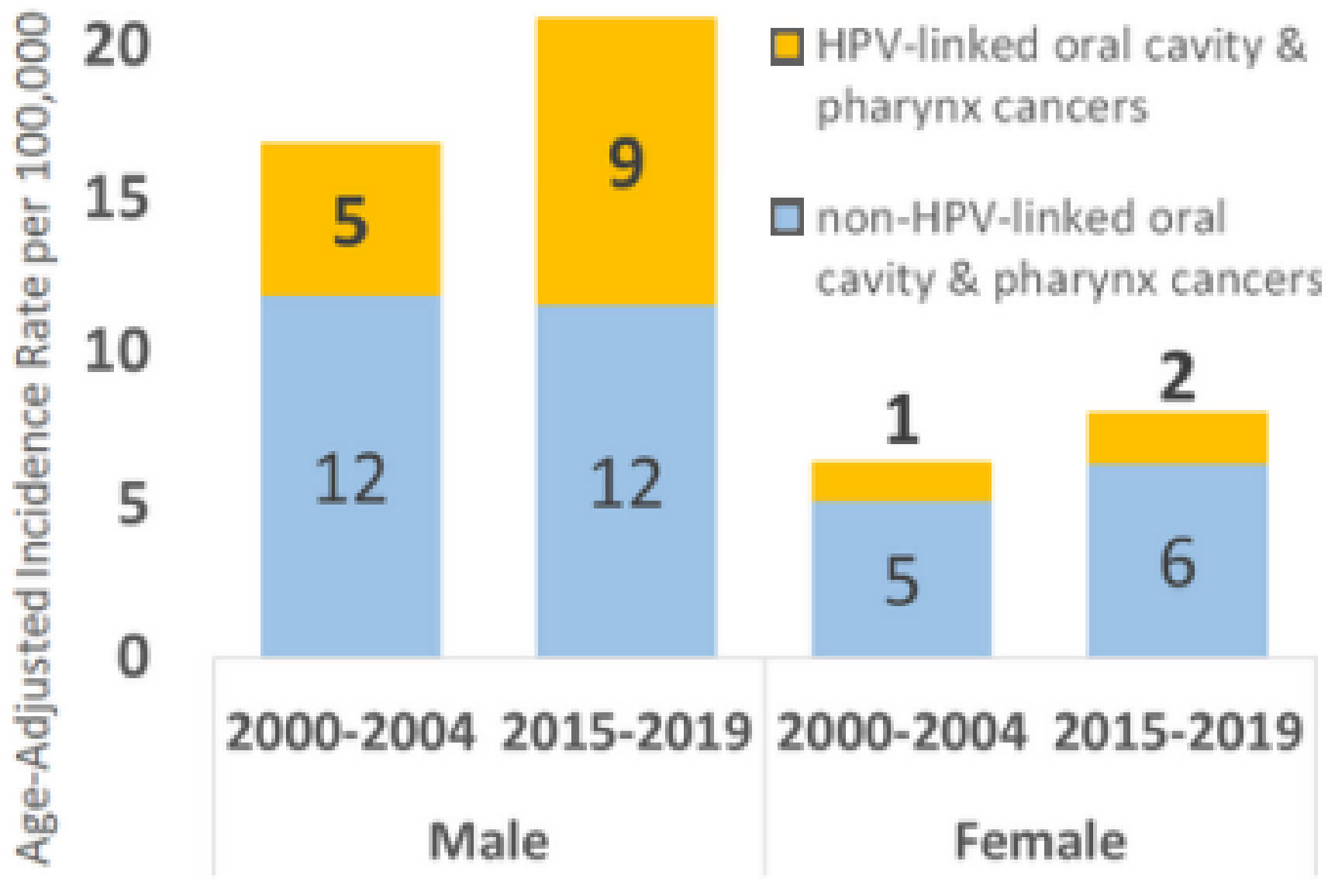
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- Using the Iowa oral cancer and HPV vaccination data provided, create a What? So What? Now What? message that you could use to communicate this issue to either parents of 9-10 yr old children or state legislators (choose one audience).
- You might not have all the data that you need but use what you have and what you know about this disease/intervention to develop your message.



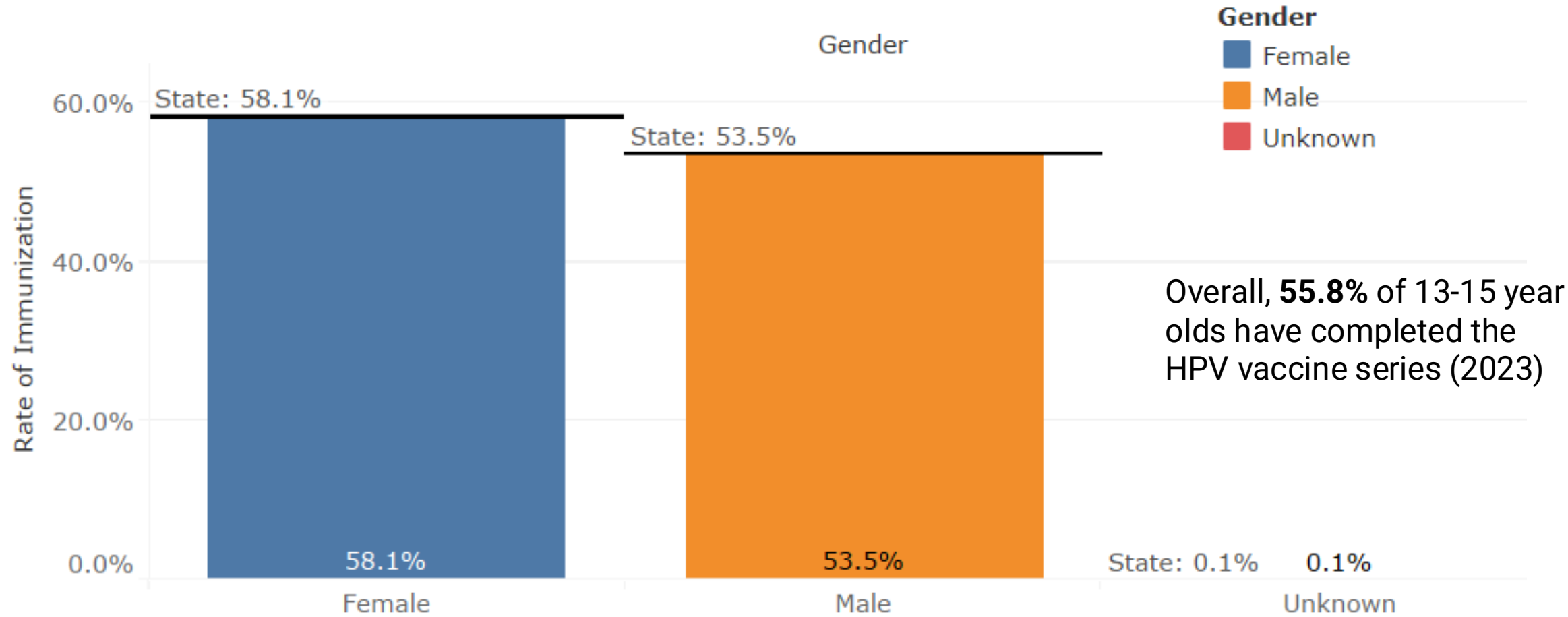






# Complete HPV Vaccine Series in 13-15 year olds in All County - 2023 - Census Population

Percent of 13-15 Year Olds with Complete HPV Vaccine Series



# Debrief





# Single Overriding Communication Objective (SOCO)

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Iowa's incidence rate of oral cavity and pharynx cancer is #1 in the nation, and it is rising faster than all other states. HPV is thought to be responsible for about 60-70% of oropharyngeal cancers, making vaccination crucial for prevention. In Iowa specifically, only 55.8% of 13-15 year olds are fully vaccinated against HPV, with males being less likely to be vaccinated than females. Addressing misconceptions about the safety and necessity of the HPV vaccine is crucial to increasing uptake, and subsequently decreasing the rate of oropharyngeal cancer in Iowa.



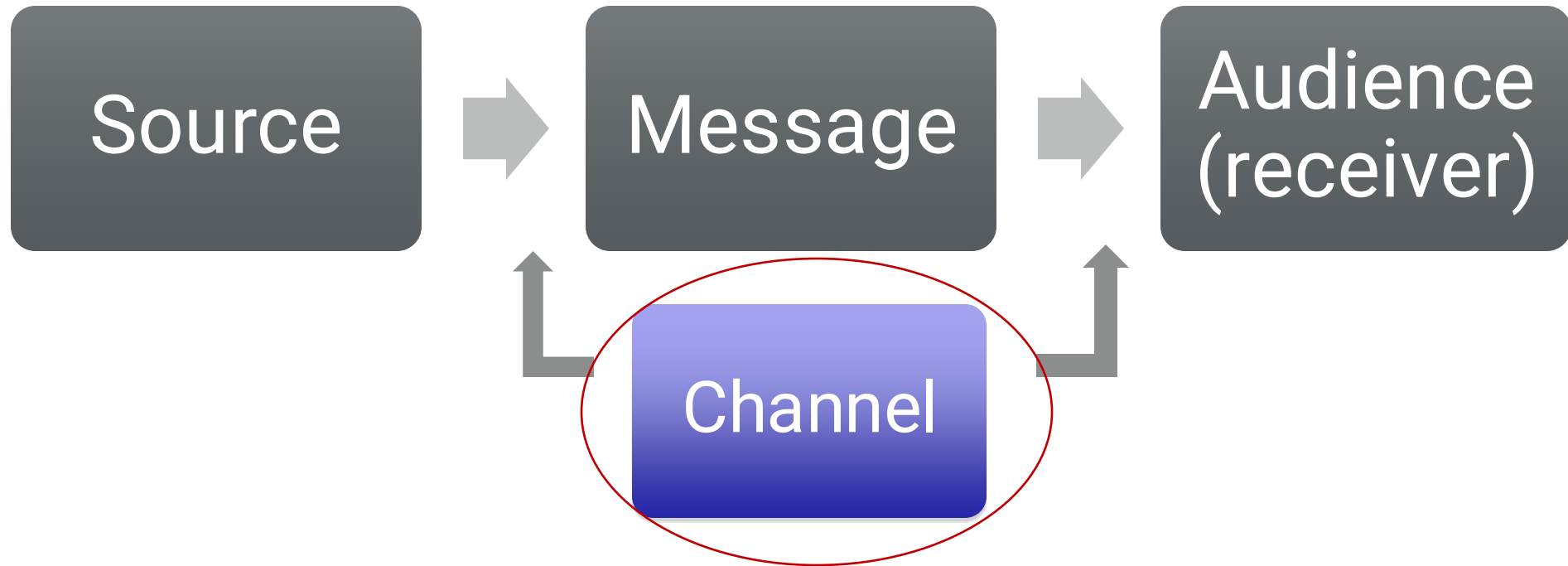
# Creating Effective Messages

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1. Define your issue and your audience
2. Use data to focus on one topic
3. Find and use reliable data sources
4. Find meaningful comparisons for your specific audience
5. Inspire action—tell your audience what you want them to do.
6. Turn your story into a visualization!



# What is the most effective channel (method) for reaching my audience?



# CHANNEL: Means of communication

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- Written (briefs, reports, infographics)
- Internet/email
- Social media, newspaper, television
- Face-to-face (with assistant, family member, physician as channels)
- Legislative testimony
  - 12% of state legislators say testimony is “very influential”
- Stories (may be embedded in any of these)  
*(The easiest may not be the most effective.)*



**Questions?**





# Resources

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- NCI: Making Data Talk: A Workbook  
<https://www.cancer.gov/publications/health-communication/making-data-talk.pdf>
- Using Graphics to Report Evaluation Results  
<http://learningstore.uwex.edu/assets/pdfs/G3658-13.PDF>
- Public Health Reaching Across Sectors (PHRASES) toolkits <https://www.phrases.org/>
- WHO Risk Communication training  
<https://www.who.int/risk-communication/training/Module-D1.pdf?ua=1>



# Homework

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- Select data to use throughout this course – it will be used to complete your final homework assignment
  - This data can be any data that you are interested in
  - Raw or analyzed
  - Program or surveillance data
  - You can work alone or in a pair



**IOWA**

**Thank you!**

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