Visually Communicating Public Health Data

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STORY

London’s 1854 Cholera Outbreak

- Public health example of storytelling with data
- The beginning of disease mapping and epidemiology
Public Health’s Role Today

- 10 Essential Public Health Services
- Data + Communication
- Serving many audiences

Question for the Viewers

Who is your primary audience?

A. Public health professionals
B. Community leaders or policy makers
C. Healthcare providers
D. Public or special populations
E. Other

Health Communication Defined

"...influence, engage, empower, and support individuals, communities, healthcare professionals, patients, policymakers, organizations, special groups, and the public so that they will champion, introduce, adopt, or sustain a health or social behavior, practice, or policy that will ultimately improve individual, community, and public health outcomes."

(Renata Schiavo, 2014)
“[Information design] helps users understand complex data by organizing and simplifying data and information in ways they can quickly grasp.”
(Society for Experiential Graphic Design)

Information Design Defined

Making Sense of Data

“Data sensemaking is what we do to make sense of data... Helping people understand the world based on data is important work. Without understanding, we often make bad decisions.”
(Shephard Fiske, 2019)

Our Approach

- Know your Content
- Know your Audience
- Know your Purpose
- Show your Story
Know Your Content

- Investigate
- Collaborate
- Iterate

Know Your Audience

How well do you know the audience?

- Culture, geography, ethnicity, age, gender context
- Perceptions, beliefs, attitudes, behaviors
- Friendly? Apathetic? Uninformed? Hostile?

- Familiarity – what do they already know about the topic?
- Time – how much time will they spend with the data?
- Preference – how do they like to receive information?
- Develop a persona for the target audience
Know Your Purpose

So What?
Single Overriding Communication Objective (SOCO):
- Target, primary audience
- 1 key message
- 3 supporting facts

Know Your Purpose

- What do you want people to DO?
- How do you want people to use the information you are delivering, and they are receiving?
- Is your call-to-action communicated clearly?

Show Your Story

"The person who is communicating something is responsible for how well the other person follows him... If I tell you something without making sure you got it, did I really communicate anything?"

(Mark Hob, 2013)

"An effective data presentation may look pretty, but the true goal is to support audience cognition."

(Stephanie Evergreen, 2017)
Visual Communication Definitions

Graphic Design
Art with a purpose
Thoughtfully improving the appearance and function of messages and information

Information Design
Discipline within graphic design
Efficient and effective display of concepts or information

Data Visualization
Subset of information design
Graphical representation of data using visual elements like charts, graphs, and maps

Infographic
Product of information design and data visualization
Includes data, copy, or both

Design Fundamentals

- Alignment
- Contrast
- Hierarchy
- Proximity
- Repetition
- Space
Data Visualization Function

- Explain
- Explore
- Experience

Data Visualization Form

Question for the Viewers

How do you typically present your data?

A. Live presentation (ex. PowerPoint)
B. Online publication (ex. PDF)
C. Printed report or data brief (ex. Paper)
D. Online dashboard (ex. Tableau)
E. Other
What is Changing

Data is big
- Access to data
- Creation tools
- Data literacy

What is Needed

Effective data viz
- Clear intention
- Critical thinking
- Good design — Form follows function

Emulate Modern Masters

Three teachers, three angles
- Alberto Cairo
- Stephanie Evergreen
- Cole Nussbaumer Knaflic
Alberto Cairo

Four principles of good data visualization

- Good visualizations are based on good data
- They attract your attention
- They represent the data accurately
- They show the right amount of data

Stephanie Evergreen

Four step visualization process

- What's the point?
- Who is the audience and how will it be delivered to them?
- What is the best chart type?
- How can you sharpen the point?

Cole Nussbaumer Knaflic

Five key lessons

- Understand the context
- Choose an appropriate visual display
- Eliminate clutter
- Focus attention where you want it
- Tell a story
How Cole Eliminates Clutter

**BEFORE**

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How We Do It

**Creative process**

- Consultation: Pre-design questions
- Agreement: Creative brief or proposal
- Creation: Collaboration and iteration
- Review and approval
- Audience testing
- Publish or disseminate

Creative Process Q&A with Julie Pawlowicz
What You Can Do

- **Look** for examples of good data visualization and good design
- **Learn** more about the ideas presented here today
- **Ask** for help in areas that are not your expertise
- **Know** your content, audience, purpose, and explore more
- **Practice** creating effective data visualization
- **Help** raise the bar for data visualization in public health

Resources

- Information Design, Society for Experiential Graphic Design: https://segd.org/what-information-design
- SOCO template, CDC: https://www.cdc.gov/healthywater/emergency/dwa-comm-toolbox/before/toolbox/SOCO-Worksheet.docx
- Alan Alda, If I Understood You, Would I Have This Look on My Face? My Adventures in the Art and Science of Relating and Communicating, 2017
- Storytelling With Data, 5/13/19 blog: http://www.storytellingwithdata.com/blog/2019/05/13/declutter-and-question-defaults
- Colours in Culture: https://informationisbeautiful.net/visualizations/colours-in-cultures/
QUESTIONS?

To ask a question, please click the icon in the Zoom toolbar to open your Q&A Pod.