

# Effective Use of Data in Public Health Journalism

## Facilitator Guide

*For preview use only. For more information please contact [dataimpact@vitalstrategies.org](mailto:dataimpact@vitalstrategies.org).*

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## INTRODUCTION TO THE COURSE

### TRAINING GOALS

During the two-day training, journalists will increase their capacity to incorporate data to support and enrich their work. The training focuses on improving journalists' ability to source, understand and translate relevant data into rich and compelling stories.

By participating in exercises, reviewing sources of public health data and exploring best practices for interpreting data, journalists will improve their understanding of the role that data can play in their work. By the end of the program, participants will transform a general story idea into a draft outline of a story that makes extensive use of public health data.

### OVERALL TRAINING OBJECTIVES

This hands-on training is designed to enable participants to:

- Understand the role that data play in a good story
- Identify at least four major sources of credible public health data
- Access and understand data reports
- Assess public health data claims made by the public and private sectors
- Appropriately use data in storytelling
- Draft the outline of a data rich story

### OVERVIEW OF TRAINING

The training is designed to provide several opportunities for participating journalists to build their skills and to receive feedback from seasoned professionals. Highlights include:

- **Draft Outline for Article:** When they register for the training, participants are asked to secure commitment from a newspaper or website to publish a public health-related article. They will be asked to arrive on-site with an idea for that article, with the understanding that they will develop a draft outline of the article during the training, and that they will share the link (or a copy) of the article with Vital Strategies once it has been published. This provides a concrete way for participants to apply their skills and serves as a way for Vital Strategies to assess the effectiveness of its training and to increase the scope of its efforts to use public data in journalism.
- **Structured Mentoring:** During the training, participants will have opportunities to work with peers and facilitators to strengthen their skills in using data for public health reporting. In addition to participating in small group work, structured mentoring sessions are scheduled, allowing participants to get support on topics such as:
  - Feasibility of their idea(s) for a story
  - Relevance of their articles to public health

- Identifying useful data sources
- Suggesting ways to visualize data
- **Online, live demonstrations and practice:** The richness of this training is in the online demonstration/practice sessions that allow participants to navigate websites they can use in the future, while learning how to analyze the data they are looking at. Optimally, participants are seated in pairs, with Internet-accessible laptops. On their desktops, they should have access to Excel and to PowerPoint programs, as they use these in the Data Visualization session.

During these live demonstration/practice sessions, facilitators are careful not to assume that participants know how to read charts, graphs, etc. Before the facilitator interprets a graph, chart or other infographic, s/he asks the participants to explain, in their own words, what the data visualization means. This helps them understand the level of participants' knowledge, as well as giving the participants practice in data interpretation skills.

## MATERIALS

Training materials include this **Facilitator Guide**, which refers to exercises, references and checklists, all of which are found in the accompanying **Participant Manual**. Where there are exceptions, they are noted in the **Materials** section of the relevant session. Each session also includes a **PowerPoint presentation**, each of which is referenced in the Facilitator's Guide. This two-day training is designed to be supplemented by a third day of specialized skills-building or topical training.

Good practice for facilitators is to become familiar with the **Facilitator Guide**, **Participant Manual**, and accompanying **PowerPoint presentations** to ensure that they know when to refer to each set of materials. In addition, facilitators should **check all links** referenced in the Facilitator Guide to ensure that they work properly.

## FURTHER RESOURCES

Following are several online resources:

### **WHO Global Health Observatory data**

The World Health Organization (WHO) Global Health Observatory is a database of health-statistics for the 194 WHO member states. It measures over 1,000 health-related indicators of progress towards achieving the Sustainable Development Goals and is updated regularly.

<http://www.who.int/gho/en/>

### **PAHO PLISA (Health Information Platform for the Americas)**

The Pan American Health Organization (PAHO) PLISA is a database of health-related indicators for countries in the Americas. The core indicators include demographic-socioeconomic, health status, risk factors, services coverage, and health systems data. The database also lists full country profiles and country rankings.

<http://www.paho.org/data/index.php/en/>

### **United Nations World Population Prospects**

The United Nations (UN) World Population Prospects is a bi-annual report of global population estimates and projections of population, fertility, mortality, migration and dependency ratio trends. Data is available for each development group, income group, region, sub-region and country or area.

<https://esa.un.org/unpd/wpp/>

### **World Bank DataBank**

The World Bank DataBank is a compilation of secondary data covering development, education, gender, health, nutrition and population statistics. Users can easily create tables, charts and maps directly on the DataBank site. The country [pages](#) list all available data for a specific country.

<http://databank.worldbank.org/data/home.aspx>

### **UNICEF State of the World's Children**

State of the World's Children is a report that examines one critical issue impacting children throughout the world, such as . The report collates existing global and country data on children and is published annually.

<https://www.unicef.org/sowc/>

### **Global Health Data Exchange**

The Global Health Data Exchange (GHDx), supported by the Institute for Health Metrics and Evaluation (IHME) is a catalog of survey's, censuses, vital statistics, and other health data. The website includes an interactive custom data [visualizations](#) , country [profiles](#).

<http://ghdx.healthdata.org/>

### **The Demographic and Health Surveys Program**

The Demographic and Health Surveys (DHS), implemented by ICF, are country surveys that collect representative data on fertility, family planning, maternal and child health, gender,

HIV/AIDS, malaria, and nutrition. [Statcompiler](http://www.statcompiler.com/en/) is a website that allows user to create custom tables, charts, graphs and maps using DHS data.

<https://dhsprogram.com/>

<http://www.statcompiler.com/en/>

### **PRB World Population Data Sheet (WPDS)**

Population Reference Bureau (PRB) produces an annual world population data sheet data on key population, health, and environment indicators for the world, major regions, and more than 200 countries. Users can customize and export tables, maps, and charts with the WPDS data.

<http://www.worldpopdata.org/>

<http://www.prb.org/Publications/Datasheets/2017/2017-world-population-data-sheet.aspx>

### **Centers for Disease Control Health Literacy Visual Communication Resources**

This site contains several resources for public domain health pictures, as well as resources that help make decisions about choosing images that effectively communicate a message.

### **UNAIDSinfo**

UNAIDSinfo is a compilation of HIV and AIDS data at the regional, national, and sub-national levels. Users can review and export country factsheets and briefs with trends over the last decade.

<http://aidsinfo.unaids.org/>

### **Health Outbreaks Map**

Health Map tracks real-time intelligence on a broad range of emerging infectious from disparate data sources, including online news aggregators, eyewitness reports, expert-curated discussions and validated official reports, to achieve a unified and comprehensive view of the current global state of infectious diseases and their effect on human and animal health.

<http://www.healthmap.org/en/>

### **Institute for Health Metrics and Evaluation (IHME)**

The Institute for Health Metrics and Evaluation (IHME) is an independent global health research center at the University of Washington. Its objective is to create the most complete and up-to-date roadmap to help policymakers and donors determine how best to help people live longer, healthier lives. One of the Institute's hallmarks is the Global Burden of Disease enterprise, a key component in helping to ensure that all populations have equal access to health care.

<http://www.healthdata.org>

**Digital textbook** giving thorough introduction to basic epidemiology principles, concepts, and procedures useful in the surveillance and investigation of health-related states or events: Centers for Disease Control (2011) [Principles of Epidemiology in Public Health Practice](#), 3<sup>rd</sup> edition. An Introduction to Applied Epidemiology and Biostatistics.

### **General resources on use of data in journalism:**

International Journalists' Network. 8 reasons why journalists should use data to improve their stories. Accessed at <https://ijnet.org/en/blog/using-data-journalism-to-tell-better-stories>

Data Journalism Handbook. Why Journalists Should Use Data. Accessed at [http://datajournalismhandbook.org/1.0/en/introduction\\_1.html](http://datajournalismhandbook.org/1.0/en/introduction_1.html)

Global Investigative Journalism Network. Accessed at <https://gijn.org/resources/data-journalism/>

Data Driven Journalism. Doing Journalism with Data: First Steps, Skills and Tools. Accessed at [datadrivenjournalism.net](http://datadrivenjournalism.net)

**Infographics:**

Internews in Kenya. Data Dredger. Accessed at <http://internewskenya.org/dataportal/>

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## PROPOSED SCHEDULE

Note: All times are approximate, and flexibility is built in for trainers to solicit participants' experiences with given topics.

Session Number	Time	Session Title	Time Allocation
0	9:00 - 10:00	Introductions, Overview of Training + Sharing Ideas for Stories	60 minutes
1	10:00 – 11:45	Providing Context: Why Data Matter	90 minutes
		<b>Tea Break (taken as part of Session 1)</b>	
2	11:45 – 1:00	Finding the Story in the Data	75 minutes
	<b>1:00 – 2:00</b>	<b>Lunch</b>	
3	2:00 – 3:30	Sources of Public Health Data	90 minutes
4	3:30 – 4:30	Mentoring Session #1	60 minutes
	4:30	Wrap-Up and Evaluate the Day	15 minutes

Session Number	Time	Session Title	Time Allocation
0	8:30 – 8:45	Review /Preview	15 minutes
5	8:45 – 12:00	Data Visualizations + [Very] Basic Excel Skills	180 minutes
		<b>Tea Break (taken at a convenient point)</b>	15 minutes
		Data Visualizations + [Very] Basic Excel Skills (cont.)	(cont.)
	<b>12:00 – 1:00</b>	<b>Lunch</b>	
6	1:00 – 2:30	Evaluating Public Health Claims	90 minutes
7	2:30 – 3:30	Mentoring Session #2	60 minutes
8	3:30 – 4:00	Refine “Journalists’ Code of Conduct”	30 minutes
	4:15	Evaluate the Training	

## MODULE 0: INTRODUCTIONS & OVERVIEW OF TRAINING

### SESSION OBJECTIVES:

By the end of the session, participants will be able to:

- Introduce themselves to one another and the trainers
- Preview the goals, objectives and schedule of the training
- Reveal their ideas for a public-health related article

**Purpose:** To give everyone in the training (including trainers) the opportunity to introduce themselves to one another and to set the tone for the training. To preview the objectives and the schedule of the training. To give participants the opportunity to discuss the ideas for public-health related articles that will become the basis for the outline they will work on during the training.

**Format:** Icebreaker, presentation

**Materials:** PPT presentation #0  
Participant's Manual (PM), Session 0

**Preparation:** Make sure that all trainers and organizers participate in the introductory icebreaker, as this will help set an informal tone for the training and familiarize participants with resource people available to them.

**Time needed:** 1 hour (60 minutes)

### ACTIVITY DESCRIPTION:

RESOURCES & REFERENCES	STEPS
PPT#0/Slide #2	<p><b>Step 1: Introductions: You are the headline!</b><sup>1</sup> Welcome everyone to the training.</p> <p>Get started by conducting an icebreaker to introduce everyone in the training to one another. Ask each participant to write two headlines about themselves. Ask them to focus on themselves as journalists. Explain that they will then reveal their headlines and introduce themselves to the rest of the participants, using their headlines, plus the following:</p>

<sup>1</sup> Adapted from Rosenkranz, Rolf, Road Safety Journalism Training (2018). Global Health Advocacy Incubator of the Campaign for Tobacco-Free Kids, Washington, DC. Pages 13 – 14

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
	<ul style="list-style-type: none"> <li>• Name</li> <li>• Title/position/responsibilities</li> <li>• What do you want to get out of the training?</li> <li>• What do you bring to the training (what can you contribute to the training?)</li> </ul> <p>Allow 10 - 15 minutes for this step.</p>
<p>PPT#0/Slide #2</p> <p>Flipchart titled “Expectations”</p>	<p><b>Step 2: Participants introduce themselves</b></p> <p>Reconvene the plenary. Ask volunteers, in quick succession, to reveal their headlines and to introduce themselves to the remainder of the group. Make sure all trainers and organizers participate in this activity.</p> <p>As the participants state what they would like to get out of the training (Expectations), create a flipchart titled “Expectations” and have a fellow trainer list the participants’ responses. Make sure to include all trainers and organizers in this activity as well.</p> <p>Once everyone has stated their expectations and what they can contribute to the training, review expectations to say how they will be met. Be honest if you think that an expectation may not be achievable during the training, and if possible, indicate that a trainer can work with that participant to find other resources for meeting his/her expectation.</p> <p>Tape the flipchart to the wall and revisit it at the end of the training to put checkmarks by each expectation that has been met.</p>
<p>PPT#0/Slide #3</p> <p>PM #0.1 Training Objectives &amp; Agenda</p> <p>PM #0.2</p>	<p><b>Step 3: Preview training objectives &amp; agenda</b></p> <p>Describe the training objectives and agenda, highlighting the rationale behind the training design:</p> <ul style="list-style-type: none"> <li>• Combines theory and practice by providing hands-on opportunities for participants to build skills</li> <li>• The facilitators (and, as possible, other experienced journalists) are on-site to act as mentors and resources for participants</li> <li>• Time is structured for participants to work with peers in small groups to help develop an outline for a story that uses public health data</li> <li>• The outline serves as a foundation for an article that (it is hoped) the participants will publish and share with organizers</li> </ul>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
Training Schedule	<p>Briefly preview the schedule and point out any logistical issues such as where the lavatories are located, where food breaks are served, and who is in charge of answering logistical concerns.</p> <p><i>Note: At this point, some trainers conduct a “norming” activity that gives guidelines for group behavior during the training. If you feel that is necessary, conduct a brainstorm of norms and post them on the wall. If you feel the group is well acquainted with workshop behavior, instead of a full brainstorm, set the tone by stating your expectations that everyone will work together, respect opinions, and keep mobile phones on vibrate. Note that time has been scheduled into lunch breaks for answering emails, texts, etc.</i></p>
PPT#0/Slide #4	<p><b>Step 5: Participants reveal ideas for stories</b> Explain that participants will now share the public health-related story idea that they would like to work on during the training.</p> <p>Explain that they will write another headline, this time one that describes their idea. They should be ready to present it, and to give a brief summary of its main point. <i>Note: Instruct them to write their headlines on a piece of paper, with a brief description of the main idea. Be sure they include their names. Trainers will collect these papers and use them to determine how to configure small mentoring groups.</i></p>
	<p><b>Step 6: Participants present story ideas</b> Reconvene the plenary. Ask volunteers, in quick succession, to reveal their headlines. This is not meant to be a time for analyzing the ideas, but just to get a sense of the types of stories that they will work on, and to help figure out how to configure mentoring groups.</p>
	<p><b>Step 7: Transition to next session</b> Close this session and make the transition to the next session.</p>

## MODULE 1: PROVIDING CONTEXT ON WHY DATA MATTER

### SESSION 1: WHY USE DATA IN YOUR JOURNALISM?

#### SESSION OBJECTIVES:

By the end of the session, participants will be able to:

- State the role data play in a good public health-related story
- Identify how data can make a story more meaningful
- State how using data contributes to a culture of accountability

**Purpose:** To set the context for the importance of using data in journalism, this session provides an example of a well-crafted story that uses data to illustrate its major point, and helps participants see how using data in public health stories can strengthen and enrich them while increasing their publisher's credibility and accountability.

**Format:** Presentation + Demonstration/practice on live, online websites; participants work in pairs

**Materials:** PowerPoint presentation #1

#### Online articles:

[See how hot your city could be in 2100](#) (02 Oct 2018) FastCompany.com

[How every part of the world has warmed](#) (26 Sept 2018) CarbonBrief.org

*Note on these articles: The map is current, interactive, shows all parts of the world, so it is applicable no matter where the training is held. Easy to verify the credibility of the data; easy to read English. Accompanying article at FastCompany.com is short and easy to read. While the article and map are not directly public health related, the effects of warming have public health implications, which would have to be a deliberate discussion point.*

#### Checklist: What to include in a data-driven story

Flipchart: Journalists' Code of Conduct

*Note: You may decide to keep a running list of best practices on a flipchart. At the end of the training, participants can recap and prioritize. Post the flipchart in a visible place where you can easily add to it.*

**Resources:** Checklist: What to include in a data-driven story  
Kuang Keng Kuek Ser, [Best Practices in Data Journalism](#) (2014?) Media Development Investment Fund, NYC, NY. Page 8

**Time needed:** 1.5 hours (90 minutes)

## Key Learning Concepts

- If the data that you include are accurate and relevant to the central focus of the story, they can greatly strengthen your story
- Visualizing (illustrating) data can bring the story to life more quickly than words alone
- As with all journalism, data is a way to help humanize the story
- Using data effectively means including in the story the date and source of the data as well as funding for the research that produced the data, the publication in which the research was published, and any other details that lend credibility to the data

## ACTIVITY DESCRIPTION

RESOURCES & REFERENCES	STEPS
PPT#1/Slide 2	<p><b>Step 1: Introduce the session</b> Use the session objectives and key learning concepts to introduce the session.</p>
<p><a href="#">See how hot your city could be in 2100</a> <a href="#">How every part of the world has warmed</a></p>	<p><b>Step 2: Provide example of good use of data</b> Divide participants into random groups of 4 – 5. Refer them to the online article, with accompanying map. Ask them to read the article and explore the data, looking for information that they find compelling and useful.</p>
PPT#1/Slide 3	<p><b>Step 3: Analyze use of data in selected article</b> Still in their small groups, ask participants to analyze the article from a journalistic point of view. Have them answer these questions:</p> <ul style="list-style-type: none"> <li>• What would this story have been like if it had not included data? (Why do the data matter?)</li> <li>• How were the data used?</li> <li>• How were they illustrated (visualized)?</li> <li>• How did the data play a role in making the article interesting?</li> <li>• How did the data play a role in making the article (and publisher) credible and accountable?</li> </ul> <p><i>Note: Explain that the term “visualize data” refers to the ways in which data are illustrated, e.g., charts, graphs, maps, etc. That will be covered in more detail in a later session.</i></p>
PPT#1/Slide 3	<p><b>Step 4: Discuss the role data play in a good story</b></p>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
	<p>Reconvene the plenary and lead a discussion on the role that data played in the article. Ask participants to respond to:</p> <ul style="list-style-type: none"> <li>• How the data made the story more meaningful</li> <li>• What the article would have been like if the data were not visualized</li> <li>• How the data lend credibility to the article</li> <li>• How the data make the writer and publisher accountable to its audience</li> </ul>
<p>PPT#1/Slides #4 – 5</p>	<p><b>Step 5: Changes in the media business</b> Focus on the changes in the media business that make the use of data more important now than in the past.</p> <p>Stress the fact that journalism has great power to influence people’s beliefs and behaviors, and it is critical that the journalist take serious responsibility for validating any data and sources that they use, and for holding themselves accountable for their reporting.</p>
<p>PPT#1/Slide 6</p>	<p><b>Step 6: Discuss ways to use data in public health reporting</b> <i>Before showing the slide:</i> Remind participants of the article that they read earlier in the session. Ask them to tell you the ways data were used in that article.</p> <p>Then use the slide to briefly discuss some of the “technical” ways that data are used in reporting.</p>
<p>PPT#1/Slide 7</p>	<p><b>Step 7: Discuss role of data in public health reporting</b> Explain that, by using data to quantify, compare, explain and predict, the data are:</p> <ul style="list-style-type: none"> <li>• Providing a snapshot of a situation</li> <li>• Providing a context</li> <li>• Promoting fact finding</li> <li>• Being used to advocate for a position</li> <li>• Generating even more stories</li> <li>• Promoting accountability</li> </ul> <p>Provide examples (or ask participants to provide examples) of each of these roles. Lead into a deeper discussion of “promotes accountability”.</p>
<p>PPT #1/Slide 7</p>	<p><b>Step 8:</b> <i>Before showing the slide,</i> find out why participants think that it is important to be accountable (transparent) and credible when using data in their stories. Ask:</p>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
	<ul style="list-style-type: none"> <li>• What are the advantages of being accountable and credible?</li> <li>• What are the pitfalls if you are not credible or accountable?</li> <li>• How do data contribute to accountability?</li> </ul> <p>Then use the slide to generate a discussion on the need for accountability and the challenges journalists face in a fast-paced news cycle to maintain their accountability and credibility.</p>
<p>Checklist: What to include in a data-driven story</p> <p>PPT #1 Slide 8</p>	<p><b>Step 9: Determining credibility and accountability of an article</b></p> <p>Give participants a chance to think about how to determine if an article is credible and the writer can be held accountable.</p> <p>In their small groups, instruct them to use the <b>Checklist: What to include in a data-driven story</b>, to decide if they think the article they read earlier in the session is meaningful, credible and accountable. (<i>Note: You may review some of the points on the checklist, or you may have them become familiar with it by using it.</i>)</p> <p>Instruct them to write a list of questions that they would use to “interview” (or interrogate) the data.</p> <ul style="list-style-type: none"> <li>• What would they ask?</li> <li>• Of whom would they ask the questions?</li> <li>• How would they know that responses were valid/credible?</li> </ul> <p>Ask them to be able to present and justify their responses.</p> <p>Lead a discussion on whether the participants think the article is credible, and to justify their responses. For example, they should be able to show where the article is cited, the date of the data, etc.</p>
<p><a href="#"><u>See how hot your city could be in 2100</u></a></p> <p><a href="#"><u>How every part of the world has warmed</u></a></p>	<p><b>Step 10: Making a local story from international data</b></p> <p>Before closing the session, briefly ask participants if they could use the data from these articles for their own purposes. Ask:</p> <ul style="list-style-type: none"> <li>• Do these data have a story that you could tell your audiences?</li> <li>• What would that story be?</li> <li>• How would you adapt it to interest your audiences?</li> </ul>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
<i>Flipchart: Journalists' Code of Conduct</i>	<p>Wrap up the session by asking:</p> <ul style="list-style-type: none"> <li>• What is the best practice for holding yourself accountable when writing a data-driven article? (Or, if you were generating a code of conduct for yourself, what would it include?) For example: <ul style="list-style-type: none"> <li>• Be skeptical. Be very skeptical. Verify the validity of the data just as you would verify the validity of any other source.</li> </ul> </li> </ul> <p>Write their contributions on the Flipchart: Journalists' Code of Conduct and post in a place where it can be added to throughout the training.</p>
	<p><b>Step 11: Transition to next session</b> Summarize this session and give a quick preview of the next session.</p>

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## SESSION 2: FINDING A STORY IN DATA

### SESSION OBJECTIVES:

By the end of the session, participants will be able to:

- Define key public health terms
- Become familiar with an internationally-recognized database
- Identify at least three types of data visualization tools
- Use a data visualization tool to identify and analyze a public health trend
- Identify a story within the data trend
- List two or three questions that they would want to have answered to provide the context for the data trend

**Purpose:** Participants will use the Institute for Health Metrics and Evaluation (IHME) website to identify a trend in tobacco usage in a selected country. Based on that trend, they develop questions that they would need to research to provide a context and storyline for the trend.

**Format:** Demonstration/practice on live, online websites; participants work in pairs

**Materials:** PowerPoint presentation #2  
Checklist: Public Health Terminology  
Web-enabled laptops for each pair of participants

**Resources:** [Global Health Data Exchange](#) accessed at Institute for Health Metrics and Evaluation (IHME) website  
[Tobacco Viz](#) webpage, accessed at the IHME website  
Checklist: Public Health Terminology  
Vital Strategies (2017) *Communicating with data: A guide to writing public health reports*, pages 8 – 13 provides good guidance on graphics

**Time needed:** 1.25 hours (75 minutes)

### Key Learning Concepts

- Begin to learn public health terminology, focusing on “prevalence,” “incidence”, “correlation” and “causation”
- Begin to learn about trend lines
- Begin to explore and work with large, internationally-recognized public health databases to provide context for developing local stories
- Data are important for telling a story, but they need a background, or context, to make them meaningful and relevant

### ACTIVITY DESCRIPTION

RESOURCES & REFERENCES	STEPS
PPT#2/Slide 2	<p><b>Step 1: Introduce the session</b></p> <p>Use the Session Overview (above) to introduce the objectives and purpose of this session.</p>
PPT#2/Slide 3	<p><b>Step 2: Explore the IHME database</b></p> <p>Instruct participants to work in pairs, and to share a laptop or other web-enabled device between them, preferably one with a fairly large screen so that both can see the data well.</p> <p>When all participants are situated, direct them to the <a href="#">Global Health Data Exchange</a> website. Allow a few minutes for them to explore the site. Ask:</p> <ul style="list-style-type: none"> <li>• What’s the website’s name?</li> <li>• Who publishes it?</li> <li>• What articles do you see on it?</li> </ul> <p>Give a brief background about this, and other credible sources of online data that can be used in their reporting. <i>(Note: More detail on sources of data will be provided later in the training.)</i></p>
PPT#2/Slide 4	<p><b>Step 3: Explore data visualizations</b></p> <p>Direct participants to the <a href="#">Tobacco Viz</a> page of the GHDx. Ask:</p> <ul style="list-style-type: none"> <li>• What is the title of the database?</li> <li>• Have them explain, in their words, what the title means.</li> </ul> <p>Let them explore the database for a few minutes.</p> <p>Show the difference among the three visualizations on the page. At the top of the page is a map, below that is a bar chart, and on the right side is a pie chart. <i>(Note: more time will be spent on data visualization later in the training.)</i></p>
PPT #2 Slide 5	<p><b>Step 4: Define “prevalence” and “incidence”</b></p> <p>Let them explore the database for a few minutes. Then define two key terms used in epidemiology. Explain that they are important for understanding public health data.</p> <p>Refer them to the webpage they’ve been looking at. Ask:</p>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
<p>Checklist: Public Health Terminology</p> <p>PPT #2 Slide 6</p>	<ul style="list-style-type: none"> <li>• What does “prevalence rate” mean? (<i>Number of people who have a particular disease (or engage in a particular behavior) at a given point in time per 1,000 population</i>)</li> </ul> <p>Refer participants to the Checklist: Public Health Terminology. Ask them to look at “incidence rate” and to say what the difference between prevalence and incidence is. (<i>Incidence is the number of <u>new</u> cases of a particular disease at a given point in time per 1,000 population.</i>)</p> <p>Use the Epidemiology “Bathtub,” to illustrate the difference between the two terms.</p>
	<p><b>Step 5: Identify a trend in public health</b></p> <p>Lead participants in a guided question and answer session based on the <a href="#">Tobacco Viz</a> website. Participants work in pairs to answer a series of questions, and co-trainers circulate among the pairs to ensure that they are on the right web page, etc.</p> <p>For the first set of questions, focus on the map, “Daily smoking patterns for both sexes, all ages”. Instruct participants to:</p> <ul style="list-style-type: none"> <li>• Find highest prevalence in the world (Greenland @45.6%)</li> <li>• Find daily smoking prevalence for Thailand (17.9%)</li> <li>• Find daily smoking prevalence for their respective countries.</li> </ul> <p>Move to the graph at the lower half of the page. Direct participants to enlarge the graph.</p> <ul style="list-style-type: none"> <li>• Ask them to find where to change settings from “both” to “male” and “female”. <i>Note: There is a slight delay in loading the data, so caution against impatience.</i></li> <li>• Ask them to find where they can highlight locations on the bar chart.</li> <li>• Instruct them to change the location to highlight <u>Wales, daily smoking patterns, both sexes, all ages</u>. Ask: <ul style="list-style-type: none"> <li>○ When did the data tracking begin? (1980)</li> <li>○ When did it end? (2015)</li> <li>○ What was the prevalence in 1980? (~28%)</li> </ul> </li> </ul>

RESOURCES & REFERENCES	STEPS
PPT#2/Slide 7	<ul style="list-style-type: none"> <li>○ What was the prevalence in 2015? (~21%)<sup>2</sup></li> <li>● Ask participants to describe, in their own words, what the line indicates. (<i>A trend, generally downward, showing decreasing prevalence of daily smokers among both male and females of all ages in Wales.</i>)</li> </ul> <p>Reinforce the definition of “trend” as used in public health.</p> <p>Continue using Wales as an example, ask them to change “sex” to female and “age” to 10 – 14. Note what happens to the trend line.</p> <ul style="list-style-type: none"> <li>● Ask what the prevalence was at the beginning of the time that data was measured. (~24%)</li> <li>● Ask the participants to describe, in their own words, what the line shows. (<i>A trend slightly upward until about 1995, and then a sharp downward trend in the prevalence of daily smoking in females aged 10 – 14 in Wales.</i>)</li> </ul>
PPT #2/Slide 8	<p><b>Step 6: Research the background behind the story</b></p> <p>Ask:</p> <ul style="list-style-type: none"> <li>● Why are trends an interesting change to explore? (<i>Show patterns over time; can show patterns over time between groups; can help predict (?)</i>)</li> <li>● What circumstances (or context/background) could have caused this change in the trend?</li> <li>● As a journalist, what questions would you need to know to explain this trend?</li> </ul> <p>Explain that, while the data may look dramatic, without a context for why they changed, there is very little story behind the data. To make the data meaningful, there must be a context.</p> <p>Instruct them to work in their pairs to write two or three questions to which they would need answers to provide a context for the trend in daily smoking in females aged 10 -14 in Wales from 1980 – 2015.</p>
	<p><b>Step 7: Discuss research questions</b></p>

<sup>2</sup> Note that these are estimates. The database provides only 0 – 60% as its range, so a pitfall is that it is difficult to give precise percentages.

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
	<p>When the participants have completed their research questions, ask them to present them. Some examples could be:</p> <ul style="list-style-type: none"> <li>• Was there a public health policy that affected the prevalence of daily smoking for females aged 10 – 14? What would it have been?</li> <li>• Were there other regulations that affected the prevalence, for example, high levels of taxation on cigarettes that made it financially difficult for girls to afford tobacco products?</li> </ul>
	<p><b>Step 8: Discuss “correlation” and “causation”</b></p> <p>Once participants have presented their research questions, present them with some possible correlations between policies enacted in Wales and the decreasing trend in prevalence of daily smokers among girls 10 – 14.</p> <p><i>Possible answers: The Cardiff (Wales) School for Social Sciences and the Health Promotion Division of the National Assembly of Wales conducted a study of schools where there were strong no-smoking policies in place, and schools where there were either no policies or they were not strongly enforced. The study “suggested” an <u>association</u> or <u>correlation</u> between strong school no-smoking policies, strong enforcement of those policies and a reduction in pupils’ smoking behavior. These policies could have been one reason for the reduction in daily smoking among females seen in the mid-1990’s.</i><sup>3</sup></p>
PPT #2/Slide 9	<p><b>Step 9: Define “correlation” and “causation”</b></p> <ul style="list-style-type: none"> <li>• Correlation: When two things tend to occur at about the same time and seem to be associated with each other. However, one does not necessarily cause the other to occur.</li> <li>• Causation: When one thing or event is the result of another thing or event.</li> </ul> <p>Relate correlation and causation to the example given earlier. Ask participants for examples from their own experience of “correlation” and “causation.”</p>
	<b>Step 6: Pitfalls &amp; making local stories from big databases</b>

<sup>3</sup> Moore, Laurence, et. al. School smoking policies and smoking prevalence among adolescents: multilevel analysis of cross-sectional data from Wales (2001). Tobacco Control Journal 2001; 10: 117 – 123. Accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1747541/pdf/v010p00117.pdf>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
	<p>To conclude the session, ask:</p> <ul style="list-style-type: none"> <li>• What are some of the advantages of using databases such as this?</li> <li>• What are somethings that you need to be aware of (what are some of the pitfalls of using these large databases?)</li> <li>• Sample size can make a difference in results <ul style="list-style-type: none"> <li>○ Give example from <a href="#">Amazon shopping experience</a>, in which the product rating was 2.5/5 stars. Even though 80% of the reviewers gave the product 5 stars, 1 reviewer gave it 1 star; with a sample size of 5 reviewers, the overall effect of the 1 star review was significant. The same can be true for databases, so be careful about sample sizes.</li> </ul> </li> <li>• Be careful when reading (analyzing) graphs: <ul style="list-style-type: none"> <li>• In the daily smoking prevalence example for Wales, watch the left column, and how the percentage changes when ages are changed. When “all ages, both sexes” are loaded, there is a relatively smooth downward trend.</li> <li>• When “females aged 10 – 14” is loaded, the downward curve is much more dramatic, but the starting point of 26% is much different. Must be careful to notice these changes, or conclusions may be erroneous.</li> </ul> </li> </ul> <p>Ask participants if they could use the data from these articles for their own purposes. Ask:</p> <ul style="list-style-type: none"> <li>• What stories can you find in these databases?</li> <li>• How would you adapt it to interest your audiences?</li> </ul>
	<p><b>Step 7: Add to the Code of Conduct</b></p> <p>Based on the discussion during this session, add to the Code of Conduct posted on the wall. Ask:</p> <p>Based on the discussions from this session, what best practices can you add to the Code of Conduct? For example:</p> <ul style="list-style-type: none"> <li>• Watch the sample size</li> <li>• Be careful when analyzing graphs and charts</li> </ul> <p>Note that this session was meant to provide a context for how journalists can use big databases, to introduce journalists to a few public health terms</p>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
	and to different types of visualization. Future sessions will explore sources of public health data and data visualization.

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## MODULE 2: RESEARCHING

### SESSION 3: SOURCES OF PUBLIC HEALTH DATA

#### SESSION OBJECTIVES:

By the end of the session, participants will be able to:

- Identify credible sources of public health data
- Identify limitations of those sources
- Validate the quality of data presented in selected sources
- Identify how to handle “bad” data

**Purpose:** Teach journalists to distinguish among the major sources of Public Health data and discern when the appropriate time is to use each source. Provide them with opportunities to explore and practice using databases and help them analyze scholarly articles to ensure they are using credible data appropriately.

**Format:** Demonstration/practice on live, online websites; participants work in pairs

**Materials:** PowerPoint presentation #3  
Flipchart: Code of Conduct

**Resources:** [Can You Spot the Deceptive Facebook Post?](#)  
Institute for Health Metrics and Evaluation (IHME) [Global Health Data Exchange \(GHDx\)](#)<sup>4</sup>  
[Centers for Disease Control](#) (CDC)  
[World Health Organization](#)  
MEASURE DHS (July 2012) [Journalists’ Guide to the Demographic and Health Surveys](#)  
[How to Analyze a Scholarly Article](#) (2014) Colorado State University at Pueblo

**Time required:** 1.5 hours (90 minutes)

#### Key Learning Concepts:

- Identify key databases of PH data (WHO/IHME/CDC)
- Identify key sources of PH databases (censuses, CRVS, DHS, etc.)
- Practice reading/interpreting data sources
- Know and employ key terms
- Understand how to work around missing or incomplete data
- Know how to analyze scholarly articles

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<sup>4</sup> Note: This is the site used in a previous session, so participants should be somewhat familiar with it.

## ACTIVITY DESCRIPTION

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
PPT#3/Slide 2	<p><b>Step 1: Introduce the session</b> Use the Session Overview (above) to introduce the objectives and purpose of this session.</p>
PPT#3/Slides 3 - 5	<p><b>Step 2: Can you spot the deceptive post?</b> Ask participants to name a few sources of information that they trust, and then ask them why they trust them. For example, do they trust Facebook news? Or Wikipedia? Why or why not?</p> <p>Direct participants working in pairs to the <a href="#">Can You Spot the Deceptive Facebook Post?</a> and take the test together. For each post, ask them to vote on which posts they think are “real” or credible.</p> <p>Allow 5 minutes. After they complete the quiz, show a sample of the posts from the quiz, and ask which ones participants thought were real and which were fake.</p> <p>Ask how they decided if a post was real or not. Make the points:</p> <ul style="list-style-type: none"> <li>• Just as it’s difficult to know what is “fake news” or credible news, it can be difficult to know how credible databases are</li> <li>• Journalists must be diligent in researching the accuracy of the data that they use.</li> </ul>
PPT#3/Slide 6	<p><b>Step 3: Characteristics of good quality data</b> Find out how participants already decide about the quality of data. Ask:</p> <ul style="list-style-type: none"> <li>• What do you look for when you are trying to see if data are good quality?</li> </ul> <p>Explain that there are a set of characteristics that help determine the quality of data. Define each:</p> <ul style="list-style-type: none"> <li>• Reliability</li> <li>• Validity</li> <li>• Representative</li> <li>• Applicability</li> <li>• Timeliness</li> <li>• Credibility</li> </ul>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
PPT #3/Slide 7	<p><b>Step 4: Characteristics of good data sources</b></p> <p>Make the point that good sources of data will all have the following characteristics:</p> <ul style="list-style-type: none"> <li>• Clearly titled</li> <li>• Clearly labeled x and y axes</li> <li>• Clear date given</li> <li>• Source(s) for the data will be cited</li> <li>• Any caveats about the data will be noted</li> <li>• Often the methodology for data collection and analysis will be noted</li> </ul> <p>Relate each of these characteristics back to good quality data. For example,</p> <ul style="list-style-type: none"> <li>• Data with clear dates allow the journalist to know if the data are timely</li> <li>• Sources of data will help the journalist cross-check, and determine if the sources are credible</li> </ul>
<p>Live websites projected on screen.</p> <p>Participants work in pairs at shared laptop.</p>	<p><b>Step 5: Explore public health data sources</b></p> <p>Show three or four credible websites that are easily accessible and can be trusted to have reliable information on public health topics. For example:</p> <ul style="list-style-type: none"> <li>• Institute for Health Metrics and Evaluation (IHME) <a href="#">Global Health Data Exchange</a> (GHDx)</li> <li>• <a href="#">Centers for Disease Control</a> (CDC)</li> <li>• <a href="#">World Health Organization</a></li> </ul> <p>For each, give participants the opportunity to practice navigating some of the more important aspects of the databases. For example:</p> <ul style="list-style-type: none"> <li>• On the <a href="#">CDC</a> site, ask them to find <a href="#">Overweight and Obesity</a></li> <li>• Then ask them to click <a href="#">Data, Maps and Trends</a></li> <li>• Ask them to find the map “Prevalence of self-reported obesity among US adults by state and territory, BRFSS 2017”</li> <li>• Ask them what the prevalence of obesity for the state of Texas (TX) was in 2017 (30% - &lt;35%)</li> <li>• Ask them to name the source of the data for this map (Behavioral Risk Factor Surveillance System)</li> </ul> <p>Explain that the data for these large databases comes from a variety of sources. For example:</p>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
	<ul style="list-style-type: none"> <li>• WHO analyzes data from its 194 member states. Statistics are generated from multiple sources, including household surveys, routine reporting by health services, civil registers, censuses and disease surveillance systems.</li> <li>• IHME’s Global Health Data Exchange operates similarly</li> </ul>
<p>PPT#3/Slides 8 – 16</p>	<p><b>Step 6: Identify types of data sources</b>  Show most important sources and discuss the advantages and limitations of each. Include:</p> <ul style="list-style-type: none"> <li>• Civil registers and vital statistics (CRVS) <ul style="list-style-type: none"> <li>○ <a href="https://www.cdc.gov/nchs/nvss/index.htm">https://www.cdc.gov/nchs/nvss/index.htm</a> U.S. National Vital Statistics System (maintained by CDC)</li> </ul> </li> <li>• Disease registries</li> <li>• Population health surveys <ul style="list-style-type: none"> <li>○ Link to download <a href="#">Demographic and Health Survey Philippines 2017</a></li> </ul> </li> <li>• Censuses <ul style="list-style-type: none"> <li>○ <a href="https://www.census.gov">https://www.census.gov</a> U.S. Census Bureau</li> </ul> </li> <li>• Health Management Information Systems (HMIS) <ul style="list-style-type: none"> <li>○ <a href="https://www.measureevaluation.org/measure">https://www.measureevaluation.org/measure</a> (MEASURE Evaluation)</li> </ul> </li> <li>• Data sheets and compilers <ul style="list-style-type: none"> <li>○ <a href="http://www.prb.org">www.prb.org</a> (Population Reference Bureau)</li> </ul> </li> <li>• Research journal articles <ul style="list-style-type: none"> <li>○ <a href="http://www.thelancet.com">www.thelancet.com</a> (Lancet)</li> </ul> </li> </ul> <p>Advantages of large databases include:</p> <ul style="list-style-type: none"> <li>• Based on large sample sizes, so can be relatively confident that the sample represents the population</li> </ul> <p>Limitations include:</p> <ul style="list-style-type: none"> <li>• May not all measure the same things, in the same way. Must be careful when comparing data from different sources to make sure they are measuring ‘apples to apples’</li> </ul>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
	<ul style="list-style-type: none"> <li>• Know who the funders are, and/or what the political leanings of the publisher might be, as those might have a bearing on their objectivity</li> </ul>
PPT #3/ Slide 17  <a href="#">How to Analyze a Scholarly Article</a>	<p><b>Step 7: How to analyze a journal article</b>            Refer to Journal Articles. Explain that research articles can be difficult to interpret but there are ways to quickly know if they will be helpful if participants know a few shortcuts.</p> <p>Show the video and then respond to any questions.</p>
	<p><b>Step 8: Practice analyzing a journal article</b>            If time allows, give participants the opportunity to practice the same analysis on an online article. For example:</p> <p><a href="#">Global, regional, and national age-sex-specific mortality and life expectancy, 1950 – 2017: a systematic analysis for the Global Burden of Disease Study 2017</a></p>
PPT #3/Slide 18	<p><b>Step 9: How to manage missing data</b>            Provide a brief summary of how to manage missing data by following the flowchart on the slide.</p>
Flipchart: Code of Conduct	<p><b>Step 8: Add to Code of Conduct</b>            To summarize the session, ask participants to brainstorm 2 – 3 guidelines from this session that they can add to the Code of Conduct.</p>

## APPLYING NEW SKILLS

### SESSION 4: MENTORING SESSION #1

#### **SESSION OBJECTIVES:**

By the end of the session, participants will be able to:

- Meet with a resource person to get feedback on story ideas
- Strengthen their story ideas by applying concepts used in previous sessions, including identifying data sources that they can use in their own stories

**Purpose:** This session provides guidelines for participants to think about as they work with experienced journalists to develop story ideas, research data sources and think about how to visualize data for their stories.

**Format:** Presentation and mentoring group work

**Materials:** Checklist: Numbers to Narrative

**Time needed:** 60 minutes

#### **Key Learning Concepts**

- Assembling the pieces of a data-driven story includes writing a compelling but concise lead, inserting a “so what” paragraph, using data in a meaningful and transparent way, and adding perspective with context and background.

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## ACTIVITY DESCRIPTION

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
	<b>Step 1: Introduce the session</b> Use the Session Overview (above) to introduce the objectives and purpose of this session.
Checklist #4: Numbers to Narrative	<b>Step 2: Tips for writing effective stories using data</b> Use <b>Checklist: Numbers to Narrative</b> to provide some tips on how to structure a story that uses data to support a story.
	<b>Step 3: Mentoring session #1</b> Ask participants to meet with mentors in small groups to review their story ideas. Ask them to focus on those concepts covered so far the training: <ul data-bbox="500 827 1317 898" style="list-style-type: none"><li>• Value-added by using data as part of the story</li><li>• Researching and using credible sources of public health data</li></ul>

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## MODULE 3: INTERPRETING

### SESSION 5: DATA VISUALIZATIONS

#### SESSION OBJECTIVES:

By the end of the session, participants will be able to:

- Read and extract information from common visual presentations of PH data (tables/charts/graphs)
- Understand the value of infographics
- Explore the concept of storytelling with images
- Create a data visualization using basic Excel skills

**Purpose:** As journalism transforms into a more concise, visually-driven field, it is important to know how to understand and employ visualizations in reporting.

**Format:** Presentation and exercises

**Materials:** PowerPoint presentation #5  
Excel: Visualizing Data (for Steps 5 & 6)  
Vital Strategies (2017) *Communicating with data: A guide to writing public health reports*, pages 8 – 13 provides good guidance on graphics  
Checklist: Design Principles from **Participant Manual**, page 25

**Resources:** [Museum of Natural History Earth Day 1970 – 2018: Sea Changes Internews Kenya](#), Data Dredger  
[Sizing up the blue wave](#) (Nov 7, 2018) NY Times  
[Social Explorer](#)

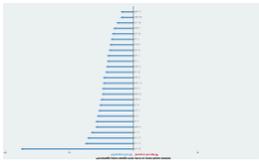
**Time needed:** 180 minutes (3 hours)

**Preparation:** The majority of this session is based on live, online websites that participants link to as the facilitator demonstrates different visualizations and their uses. Participants should be paired with a peer, and together they should have access to a laptop and the internet, and they should have Excel uploaded on their laptops.

#### Key Learning Concepts:

- Value of visualizations in journalism today
- Interpretation of common data presentations
- Which visualizations to use for what purpose
- Role of images in storytelling

## ACTIVITY DESCRIPTION

RESOURCES & REFERENCES	STEPS
<p>PPT #5/Slide 2</p>	<p><b>Step 1: Introduce the session</b>            Use the Session Overview (above) to introduce the objectives and purpose of this session.</p> <p>Ask participants what types of graphics they have seen during the training to “visualize” data. Should include:</p> <ul style="list-style-type: none"> <li>• Maps</li> <li>• Bar charts</li> <li>• Graphs</li> </ul>
<p><a href="#">Museum of Natural History Earth Day 1970 – 2018: Sea Changes</a></p>	<p><b>Step 2: Stimulate thinking about use of visualizations</b>  <b>Show</b> a short video/infographic that uses data in multiple, dynamic ways to illustrate the changes in Earth’s oceans since 1970. Before beginning the video, ask participants to look for the different types of visualizations in it and to think about how they might influence people. (Shows ways people can change their behaviors and/or practices and illustrates what is being done to curtail harmful effects, and what individuals can do to take positive actions.)</p>
 <p><a href="#">Sizing up the 2018 blue wave</a></p> 	<p><b>Step 3: Demonstrate maps and a graph (chart)</b>            To demonstrate a variety of visualizations in one example, direct participants to <a href="#">Sizing up the 2018 blue wave</a> from the New York Times. Scroll down the map, and each time it changes function, ask:</p> <ul style="list-style-type: none"> <li>• What kind of visualization is this? (map, map with trend lines, dot map showing location and proportion of vote, etc.)</li> <li>• Why did the publishers choose a map? (Wanted to show geographic location/proportion of votes from respective locations, etc.)</li> </ul> <p>The map then becomes a chart, showing percentages of change from one party to the other. Ask:</p> <ul style="list-style-type: none"> <li>• What kind of visualization is this?</li> <li>• In your own words, what does this graph indicate?</li> <li>• Why did the publishers choose a chart? (Wanted to show percentage of change from one party to another.)</li> </ul> <p>To reinforce the need to check <b>credibility</b> of the data, ask:</p>

RESOURCES & REFERENCES	STEPS
	<ul style="list-style-type: none"> <li>• Where do the data for this article come from? (<a href="#">Social Explorer</a> for demographic data and Associated Press for election results.)</li> </ul> <p>Allow a few minutes for participants to explore the Social Explorer site, and to see if they can find citations for the AP election results. Then ask:</p> <ul style="list-style-type: none"> <li>• How credible do you think the data are? How can you tell? Note that Social Explorer’s data is largely taken from <u>censuses</u>.<sup>5</sup></li> </ul> <p>Note potential <b>pitfalls</b>. For example:</p> <ul style="list-style-type: none"> <li>• It may take persistence to figure out validity of AP data, if it is possible at all.</li> <li>• For data that are used in the article, it’s important to find the actual results. In this case, it is difficult because they are reported by each state. The NY Times report uses a huge database gathered by other source(s) from yet other sources (state election results.)</li> <li>• The same holds true for public health data – if you cannot verify the data’s validity from the reporting site, it is best to try to find it through known, credible sites such as WHO, IHME, etc.</li> </ul>
 <p><a href="#">Inter News Kenya</a></p>	<p><b>Step 3: Demonstrate infographics</b></p> <p>To demonstrate infographics related to public health, direct participants to <a href="#">Inter News Kenya</a>. Allow a few minutes for them to explore the site’s home page. Then ask:</p> <ul style="list-style-type: none"> <li>• What infographics do you see on the page? (Name a few topics.)</li> <li>• What is their purpose? (Usually to quickly inform; often used for people with lower levels of literacy but can be very effective with all education levels. Quick to understand visually.)</li> </ul> <p>Choose the infographic <a href="#">The killer no one suspects</a> and ask:</p> <ul style="list-style-type: none"> <li>• In your own words, what is this infographic saying?</li> <li>• Who would be its target audience?</li> <li>• Can you spot the trend line “hidden” within the infograph? (Stunting levels from 2000 – 2008)</li> </ul>

<sup>5</sup> Social Explorer. [Breadth and Depth of Data](#), 2018. (accessed 10 Nov. 2018)

RESOURCES & REFERENCES	STEPS
	<ul style="list-style-type: none"> <li>• What does that trend line tell you? (Stunting among Kenyan children had been on the decline; is now on the rise. Ask for precise percentages.)</li> <li>• Why did the publishers use an infographic for their messages?</li> </ul> <p>Ask about pitfalls the participants can see to using infographics. For example:</p> <ul style="list-style-type: none"> <li>• Must work as a team with a graphic designer</li> <li>• Must be very clear about the message(s)</li> <li>• Take a while to develop</li> <li>• Must be field tested to ensure that they are correctly understood</li> </ul> <p><i>Note:</i> You may want to introduce <a href="#">Data Dredgers</a> as another source of public health information, specifically for Kenya. Ask if they know of others in their regions or countries; point out others you know about.</p>
<p>PPT #5 Slide 3</p> <p>Communicating with data: A guide to writing public health reports, pages 8 – 13</p> <p>Checklist: Design Principles</p>	<p><b>Step 4: Recap useful data visualizations</b></p> <p>Review the types of visualizations that have been covered in the session.</p> <p>Refer participants to <i>Communicating with data: A guide to writing public health reports</i>, pages 8 – 13. Explain that it provides good guidance on the use of graphics for visualizing public health data.</p> <p>Also refer them to the Participant Manual, page</p>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
<p>PPT #5 Slides 5 – 10</p> <p>Excel: Visualizing Data Create a Chart</p>	<p><b>Step 5: Practice creating a data visualization</b></p> <p>The goal of the activity is to show participants the role of Excel in gathering and visualizing data, and then for them to create their own very simple visualization.</p> <p><i>Note:</i> Participants should have Excel uploaded on their laptops, as they will be creating a simple table and chart. They should continue to work in pairs.</p> <p>Lead participants through the process of creating a table and then visualizing the data in that table. Facilitators should circulate around among the participants to troubleshoot any problems and to ensure that they are able to follow instructions.</p>
<p>PPT #5 Slide 30 - 58</p> <p>Excel: Visualizing Data Improve Charts</p>	<p><b>Step 6: Participants create an infographic and/or a pictograph</b></p> <p>Use Excel: Visualizing Data and PowerPoint #4 to demonstrate how to make an infographic and/or a chart.</p> <p>Circulate among them to troubleshoot and instruct.</p> <p>When complete, lead a discussion about the role of Excel in gathering, analyzing and visualizing data.</p>

## SESSION 6: EVALUATING PUBLIC HEALTH CLAIMS

### SESSION OBJECTIVES:

By the end of the session, participants will be able to:

- Identify a series of questions to ask for evaluating validity of public health data used in a story
- Demonstrate how they will verify the credibility of the data they will use in their article(s)

**Purpose:** To explain the process of validating research findings and how to question researchers about their findings

**Materials:** PowerPoint presentation #6  
Checklist: Evaluating Public Health Claims

**Resources:** [India tries to stop sex-selective abortions](#) NY Times (15 July 2007)  
[Environmental factors cause 1 in 4 deaths](#) Myanmar Times (18 March 2016)  
[Researchers may have 'found' many of China's 30 million missing girls](#)  
Washington Post (30 November 2016)  
[Corroborating study found at China's 'missing girls' theory likely far overblown, study shows](#) University of Kansas (29 November 2016)

**Time needed:** 1.5 hours (90 minutes)

### Key Learning Concepts

- It is important to evaluate the credibility of the public health data presented to journalists to ensure that the articles that they write are accurate and based on reliable data.
- Always question the quality of the data used.
- Apply the same journalism ethics and standards, such as accuracy and accountability, to data-driven stories.

## ACTIVITY DESCRIPTION

RESOURCES & REFERENCES	STEPS
PPT #6 Slide 2	<p><b>Step 1: Introduce the session</b> Use the Session Overview (above) to introduce the objectives and purpose of this session.</p> <p>Explain that it is important to be skeptical about the data that are presented in articles and reports, and it is the job of the journalist to determine if data are credible (valid).</p>
PPT #6: Slides 3 - 5  Checklist Evaluating Public Health Claims	<p><b>Step 2: Introduce process for determining validity of data</b> Use <b>PowerPoint presentation #6</b> to familiarize participants with scientific process and demonstrate how journalists can ask researchers for confirmation and explanation of their findings.</p> <p>Refer participants to <b>Checklist: Evaluating Public Health Claims</b> as a resource for their reference in the future.</p>
<p><a href="#">India tries to stop sex-selective abortions</a></p> <p><a href="#">Environmental factors cause 1 in 4 deaths</a></p> <p><a href="#">Researchers may have 'found' many of China's 30 million missing girls</a></p>	<p><b>Step 3: Practice evaluating public health claims</b> Ask participants, in small groups, to read an article based on a public health claim. Instruct them to follow the process outlined in the previous step and to use the <b>Checklist: Evaluating Public Health Claims</b> to describe how they would validate the credibility (“interview the data”) in the articles.</p> <p>Instruct them to answer:</p> <ul style="list-style-type: none"> <li>• What questions would you need to ask about the data?</li> <li>• Who (or what) would you need to ask?</li> <li>• How would you ensure their responses are valid? (Cross-referencing, triangulation, etc.)</li> </ul> <p>Allow ~20 minutes for the small group work.</p>
	<p><b>Step 4: Discuss results of small group work</b> Reconvene the plenary and ask how participants would evaluate the data used in each article they discussed.</p>
	<p><b>Step 5: Add to the Code of Conduct</b> To summarize the session, ask participants to brainstorm 2 – 3 guidelines from this session that they can add to the Code of Conduct. For example:</p> <ul style="list-style-type: none"> <li>• Be skeptical of all data</li> <li>• Cross-check, validate as much as possible</li> </ul>
	<p><b>Step 6: Make transition to next session</b></p>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
	Explain that participants will have the opportunity to put the concepts from the previous session into practice in the Mentoring session.

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## APPLYING NEW SKILLS

### SESSION 7: MENTORING SESSION #2

#### SESSION OBJECTIVES:

By the end of the session, participants will be able to:

- Meet with a resource person to get feedback on story ideas
- Strengthen their story ideas by applying concepts used in previous sessions

**Purpose:** This session provides guidelines for participants to think about as they work with experienced journalists to develop story ideas, research data sources and think about how to visualize data for their stories.

**Format:** Mentoring group work

**Materials:** Checklist: Data Do's and Don'ts

**Time needed:** 60 minutes

#### Key Learning Concepts

- Assembling the pieces of a data-driven story includes writing a compelling but concise lead, inserting a “so what” paragraph, using data in a meaningful and transparent way, and adding perspective with context and background.

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## ACTIVITY DESCRIPTION

RESOURCES & REFERENCES	STEPS
	<p><b>Step 1: Introduce the session</b> Use the Session Overview (above) to introduce the objectives and purpose of this session.</p>
<p>Checklist: Data Do's and Don'ts</p>	<p><b>Step 2: Mentoring session #2</b> Ask participants to meet with mentors in small groups to review and deepen their story ideas. Ask them to focus on those concepts covered in the training:</p> <ul style="list-style-type: none"> <li>• Being sure to understand and define the public health terminology that they will use in their stories</li> <li>• Using visualizations to enhance the data-rich story</li> <li>• Evaluating the credibility of the data they wish to use</li> </ul> <p>Provide <b>Checklist: Data Do's and Don'ts</b> to participants as guidance for drafting their story ideas.</p>

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## SESSION 8: REFINE THE JOURNALISTS' CODE OF CONDUCT & WRAP UP TRAINING

### SESSION OBJECTIVES:

By the end of the session, participants will be able to:

- Review and refine the journalists' code of conduct
- Ask any outstanding questions they have about topics or resources used in the training

**Purpose:** Throughout the training, participants have been adding to the Code of Conduct. In this session, they will prioritize the top five (or ten?) guidelines from their Code. Organizers can choose to send them the Code after the training is over, or all can take a picture of the Code for their future reference.

**Format:** Large group work

**Materials:** Flipchart: Code of Conduct

**Time needed:** 20 minutes

**Key Learning Concepts:**

- Every journalist should follow a code of ethics, or conduct
- The same code that governs every journalists' research and writing should govern their work when they use data and data visualizations in their stories

RESOURCES & REFERENCES	STEPS
	<p><b>Step 1: Introduce the session</b> Use the Session Overview (above) to introduce the objectives and purpose of this session.</p>
Flipchart: Code of Conduct	<p><b>Step 2: Review and refine the code of conduct</b> Post the Flipchart: Code of Conduct in the front of the group. Review each guideline on the Code and ask if there are any questions or clarifications. (<i>Note:</i> If there are redundancies, you may want to combine some points on the Code of Conduct.)</p>

<b>RESOURCES &amp; REFERENCES</b>	<b>STEPS</b>
	<p>If there are more than 10 guidelines on the Code, ask participants to prioritize the 10 most important ones. That can be done by voting on them, asking participants to place a mark next to the guidelines they think are most important.</p> <p>Once finished, explain that organizers will send participants a clean list of guidelines on the Code of Conduct as part of their follow up to the training.</p>
	<p><b>Step 3: Answer any outstanding questions</b>  Allow some time for participants to ask any questions that they have about topics that have been covered in the training. Respond to them as possible.</p>

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