

Data Visualization Webinar Series

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3:00PM



1. Reaching your audience
2. Developing your content
3. Designing your concept
4. Presenting your creation

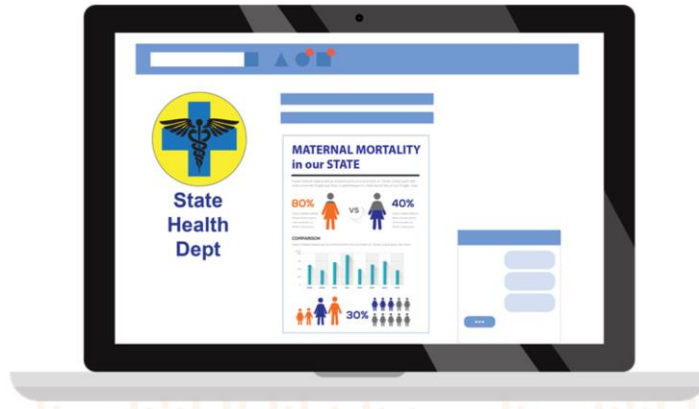


- Disseminating your visualizations
- Best of Best Practices
- Infographic from the Report on 9 MMRCs
- Presentations from Arizona and Delaware

**Webinar 4:
Disseminating Your Data
Visualizations;
Best of Best Practices;
Review of Team Visualizations**



Disseminating Your Data Viz and Infographics



MMRIA Data Visualization Webinar Series

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Your data can't change the world if no one sees it. Disseminating and marketing your data is just as important as the visualization itself if you want anyone to be able to do anything with it. If you're only creating your visualizations to present live or pass around to a select group, you could skip this section. But more than likely you'll eventually want to share some of your infographics with a wider audience. Social Media makes it look easy. You just post it and walk away, right? If you stopped there, you'd get some likes, maybe a few shares or retweets, but we have a few tips to help boost your ratings.

We want to add one caveat to this whole dissemination discussion: Generally speaking, once something is out on the web it's shareable, but there are times it's better to ask permission than beg forgiveness. Before you post anything yourself, make sure the information you're sharing isn't embargoed or restricted, and follow your department's guidelines.

Dissemination/Marketing Strategies:

- Know your audience
- Use the right channels
- Time your delivery
- Leverage your resources

Knowing who you're trying to reach determines how and when to get the message across. And it helps to have a crew and as many outlets as possible to help expand your reach.

Strategies: Audience

- Who do you want to reach?
 - Policy makers, health providers, the public, and/or others?
- How/where/when do they get their information?

From the beginning, we've been talking about audiences. Are you going for policy makers, providers, the public, specific demographics, or all of the above? Moms-to-be? Families of recently delivered moms? Different audiences get their information from different sources and channels.

Strategies: Channels

How will you deliver it?

- Social media
 - Keep track of comments and questions
 - Check your metrics (views, retweets, shares)
- Websites
- Blogs
- In-person (presentations, conferences)
- Print media (Op-Eds, journals, etc.)

Because of course, different channels funnel info to certain audiences better than others, and we've looked at some aspects of this in our previous webinars. If your audience is broad or non-specific, you may need to approach dissemination from several angles, or as many angles as possible all at once. We'll look at those options in just a minute.

Your department or organization may have communications staff to handle your social media and blogs (and maybe track the metrics*). They can help guide you through the protocols for getting something posted. If your organization's website is not static (i.e. just listing services provided, office hours and location, etc.), your web team may be able to guide you through the process for adding a featured image or news page or blog.

Other channels include the standard handouts and print media options.

*Another thing with the social media and websites/blogs: check to see if your department keeps metrics reports on its outreach. This can help you evaluate your efforts for future reference. How many views did your infographic receive? How long did viewers stay with it? Did they share it?

Strategies: Timing

- When should you share?
- When do audiences look for it? For example:
 - For healthcare, the best time to post on **Facebook** is Friday at noon.
 - Midday posting works best Sunday through Friday.
 - Other good time slots are Monday at 2 p.m., Wednesday from noon to 1 p.m., Thursday at 2 and 7 to 8 p.m. and Sunday at noon and 2 p.m.
 - Saturday has the least amount of engagement
 - Etcetera.
- Can you automate it?
- Are there other activities you can tie into?

<https://sproutsocial.com/insights/best-times-to-post-on-social-media/>

Did you know some days of the week and times of day are more effective for reaching a wider audience? As we see here, different social media platforms report better performances at different times of different days and according to types of industry or activity, as well as your... yep: audience! Healthcare performs best on Facebook Friday at noon. For Twitter, it's Wednesdays between 11 AM and 1 PM, but it's safe to post anytime M-F from 9-4. Non-profits fare better on different days and different platforms. If your post is time-sensitive, factor in time zones, daylight savings time, religious observations and other holidays. See the link included here for a rundown on many other industries and platforms.

Several online tools allow you to automate your postings. Hootsuite and dozens of other 3rd party tools let you schedule your Tweets and other posts so you can kind of set it and forget it, except don't really forget it. So let's say set it and monitor it.

Outside of social media, consider collaborations and tie-ins you might be

able to leverage to help promote your work. Is there a press release or news story coming out? another department or partner promoting similar findings? an observance day? a conference or hearing? Co-scheduling can give your efforts a big boost and free PR.

<https://sproutsocial.com/insights/best-times-to-post-on-social-media/>

Strategies: Resources

- Internal communications staff
- Partnerships
- Influencers and ambassadors
- Social media followers
- Online discussion forums
- Related professional organizations (civic or gov)
- Trusted bloggers

Think about how far you'd like your data to reach. Like we said earlier, if you're intentionally limiting your audience, traditional approaches may be the best methods to reach them.

But then again... if you've pinned down your audience as Everyone, narrowed down your channels and scheduled your posts, you've sweet-talked your web staff into featuring your infographic, someone's writing a blog post for you... and you want to build your viewership and make even more people to aware of what's going on... Enlist EVERYBODY! Siblings, your kids' teachers, your podiatrist; leave no stone unturned. Join online discussion groups, encourage colleagues outside your organization to share, request a shout-out and link from topic-friendly bloggers. If you're tweeting, include your hashtag on everything you send out and ask colleagues, friends, and family to share it too.

- Know your audience
 - (it's all audience, audience, audience)
- Find the story:
 - Objectives and scope
- Use the right type of chart or graph
 - Line, pie, or bar?
 - Attention to details
- Choose data viz or infographic
- Design your data:
 - Color and contrast (and 508 compliance)
 - Fonts
 - Images
- Disseminate and market

Let's do a quick recap of the Golden Rules of Data Viz. This is my personal condensed version. There are other variations in the links at the end of this deck and plenty more if you search around the net.

- To whom are you providing data? (providers/professionals, policy-makers, influencers, general public, other?)
- Do you know the audience's health literacy, numeracy, or reading level?
- Prioritize data by hierarchy of importance to each audience
- Who else may need or want the data?

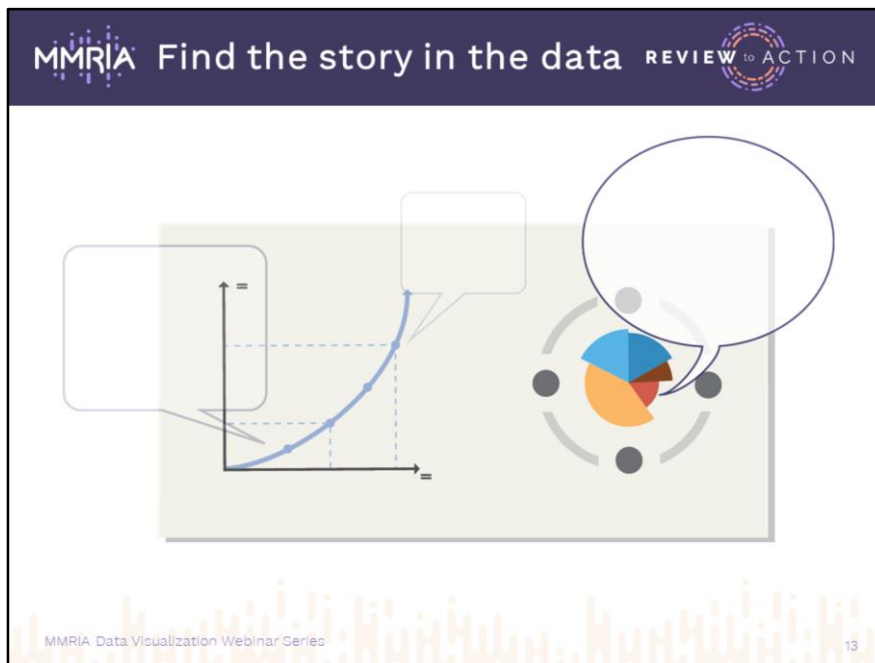


More often than not, your data will only speak to a few pretty specific groups. These groups make up your audience.

Who is your audience and how do they interact with information? How can you improve your chances of getting them to understand and hopefully act on the message you've taken from your data?

Charts, graphs, and data maps can be very effective tools for communicating data, but use them appropriately and cater to your constituents. If you're trying to reach an audience that you don't know much about, there are many free resources online (e.g. U.S. Census data). Census data can help flesh out info about regional population age; income, employment, and education levels; and languages spoken, among many other details. If a condition disproportionately affects a specific demographic, this data can be used to help craft your visualization to that audience.

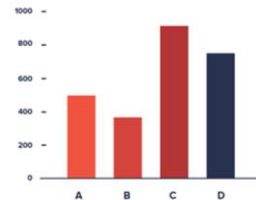
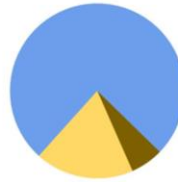
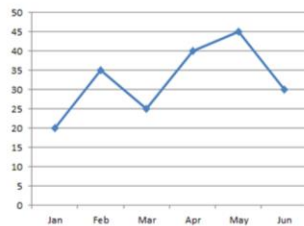
Find out if your organization or partners have access to any paid subscription services, (Pew, Forrester's Technographics, to name two) which can help pinpoint your audience's behaviors. These services track trends in a population's housing, healthcare habits, technology use, and other everyday patterns, so your team may be able to find detailed information about many different audiences' preferences and traits. We've listed several resources and links at the end of this presentation and we'll walk through a few of those when we get there.



An infographic presents a high-level snapshot of the facts in language that can be grasped by the audience. One key tool to helping your audience gain better understanding of a topic is The Story. Raw data is likely to confound a public not trained to understand it. Instead of presenting just the facts, it helps to coax a narrative from the data, to translate the information into an appealing format that interests as many people as possible. An infographic should also connect inquisitive viewers to more in-depth information by linking them to website or subject matter experts.

Sort the storyline elements into a hierarchy that places the most compelling data at the top of the hierarchy. For example, your data reveals a disproportionate burden of cardiomyopathy in non-Hispanic Black populations; your committee has indicated that deaths due to cardiomyopathy could be reduced by maternal care providers doing screening and echos (when appropriate) resulting in reduced maternal deaths.

So the overall tale told by this infographic would be mortality burden, causes, steps to mitigate causes, number of deaths potentially prevented, and potential impact on reducing the disparity. Jot down an example particular to your jurisdiction for discussion later in the webinar.



Until pulling this webinar together, I'd never thought much about there being a difference between a graph and a chart. Verbally, kind of like the terms data viz and infographic, there is and there isn't a huge separation. But there are a few technical points that divide them:

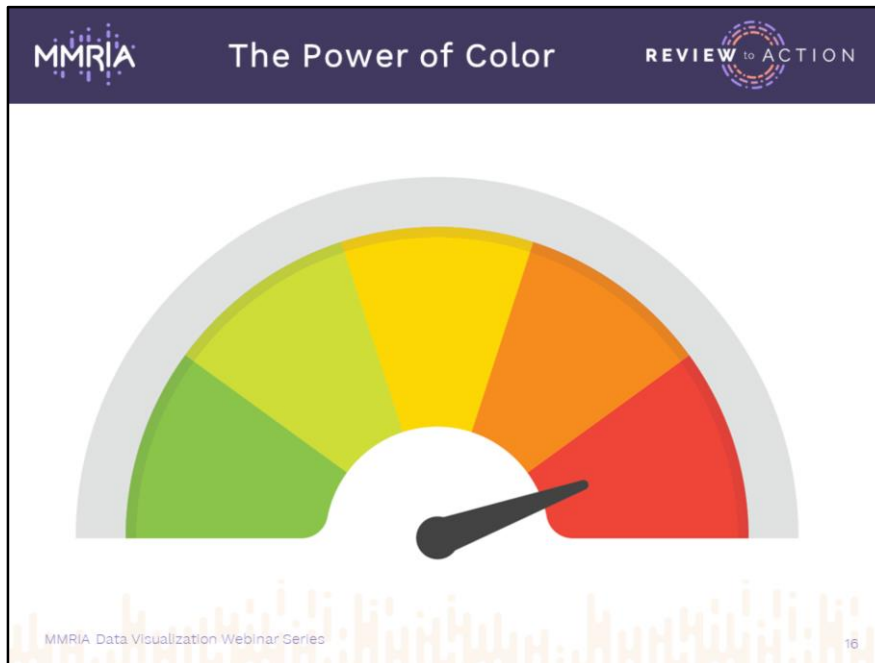
- **plots** – data points marked on a coordinate matrix
- **graphs** – use lines drawn between points to show relationships in the data
- **charts** – can **include** line graphs, but usually use other shapes or objects. Bars or pie wedges are relevant to us today but others, like bubbles, are common.



Same data, different results. But don't be scared.

I wouldn't attempt to make the version on the right, and we're not going to ask you to come up with anything remotely similar. It doesn't say anything different from the chart on the left, but I get a lot more enjoyment from it and I'll remember it. Visualizations of this caliber are not within most people's capabilities, but it's not hard to produce effective and attractive ones yourself.

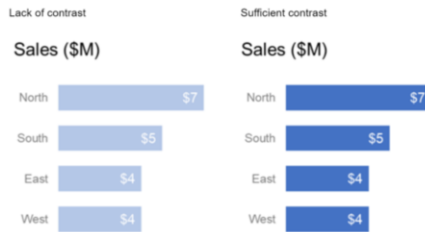
Let's start by figuring out when and where you need what.



We are constantly bombarded by visual stimulation. Driving, walking, TV, our phones, the internet, everywhere we look, there are so many images thrown at us, and many people have trouble filtering through them. How many of them are throw-away and which ones are important? With so much data floating around, it's easy to miss or dismiss a lot of it.

One way to corral perception and comprehension is to mesh your data with various visual elements fine-tuned in ways which build a theme and bring your story to life. Today we're going to focus on some simple steps to apply color, typography, and images which will help you deliver your information more clearly. Let's start with color.

Consider color contrast, too.



Along with color blindness, many people have problems with color contrast. The interplay of text and background colors can prevent many from being able to read data. This is why it's important to pay attention when using white text on light backgrounds or dark text on dark colors.

<http://www.storytellingwithdata.com/blog/2018/4/23/accessibility-considerations-for-visuals>

The Americans with Disabilities Act (ADA)
Design Standards

www.ada.gov/2010ADASTandards_index.htm

While it's a loooooong and tedious read, everything you need to know about the legal aspects of color and contrast in design can be found here at the ADA.gov website. It covers every aspect from facility design to the web. More than likely, your department's website is required to comply, and there's probably someone on staff or on your web development team with some expertise in the field.

At the end of this deck we have some links to sites that will help you assess your color choices and to help ensure you stay within compliance regulations. These also come in handy when building color palettes, as we discussed a few slides back, to make sure your contrast and text combinations are bold enough on light, dark, or different color backgrounds.

These standards are generally monitored only for electronic and online documents, but most of the color and contrast practices mandated in the guidelines hold true for print design as well.

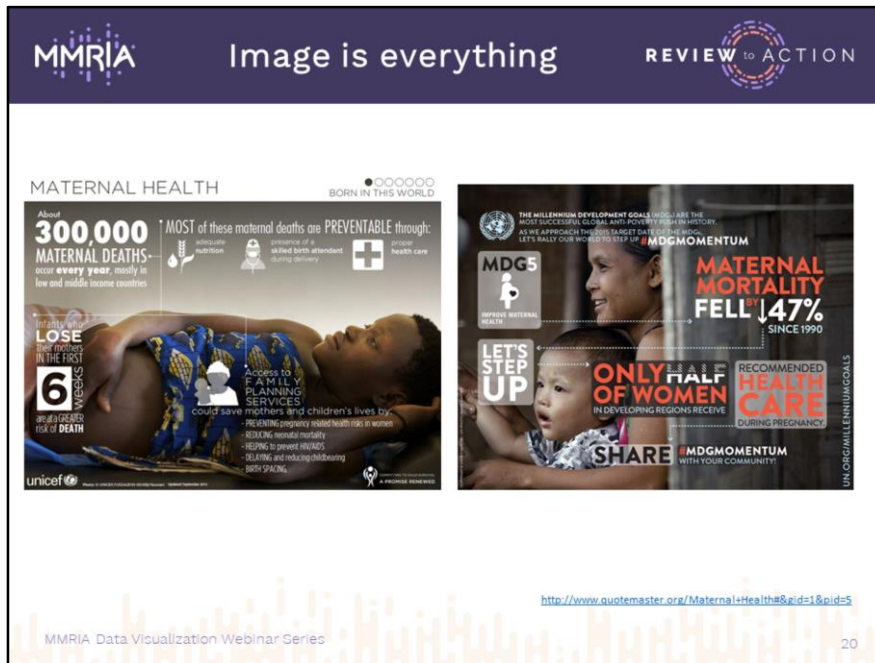
www.ada.gov/2010ADASTandards_index.htm

Maternal Mortality
Maternal Mortality
Maternal Mortality
~~Maternal Mortality~~
MATERNA MORTALITY

Maternal Mortality

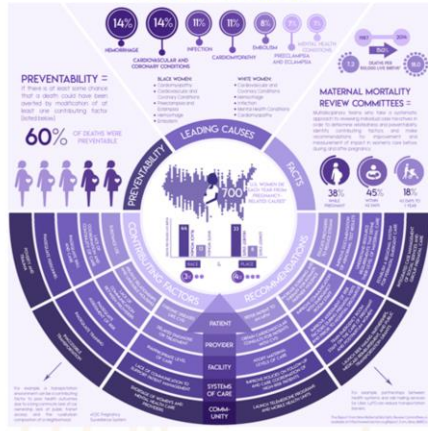
So, specific to the focus of MMRCs, it's easy to see how using some of the fonts from the previous slide can affect the "feel" of the words set in that typeface.

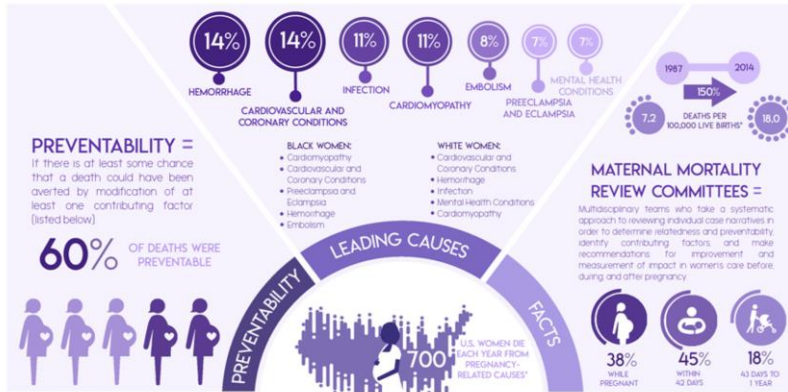
It becomes obvious very quickly that nothing above the blue line fits the bill. These fonts are all too formal, happy, or goofy. And going the opposite doesn't work well either, so don't look for morose fonts. Finding a neutral font is best, rather than one that looks too stylized.



Along with matching photos to subject matter, matching the mood in a photo can make or break a visualization. As we saw when dealing with fonts, Maternal Mortality isn't a topic to be cavalier about. That's not to say everything you do needs to be gloomy and depressing. The image on the right shows a smiling woman associated with data about improvements in mortality rates, a tricky choice but one that works very well. Both of these also show a wonderful use of design and photo combination; on the left, everything is laid out horizontally, aligned to subject of the picture, on the right, the image splits the page roughly in half vertically, and the design elements were spread across to fill this space and the gap between. Whatever type of illustration you choose, your content and image should not fight each other for space or placement. Overlapping is often necessary and can work beautifully as seen here, but don't let either one block the other or interfere with legibility. Watch for color overlaps as well; light text over bright backgrounds, or dark over dark, make reading difficult, as we've mentioned. At the end of the day, your data is the star; the visuals are there to help explain it rather than compete with it.

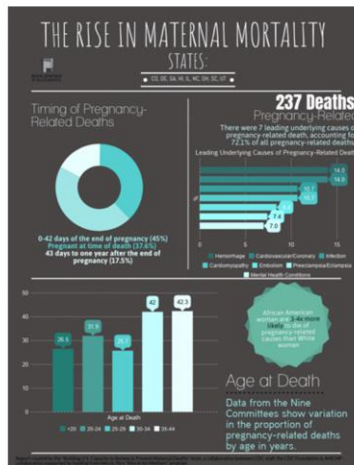
PREVENTING PREGNANCY-RELATED MORTALITY IN THE U.S.

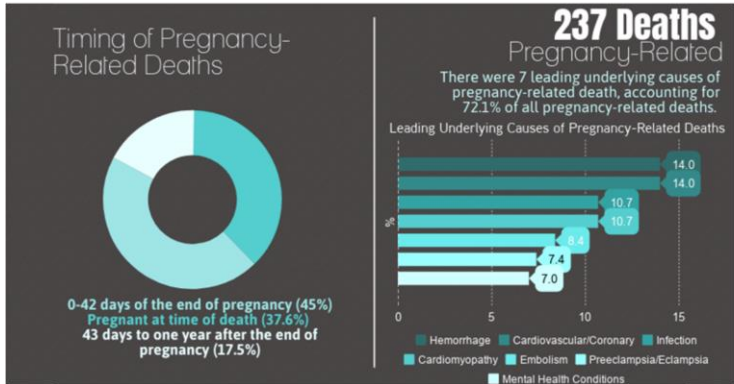


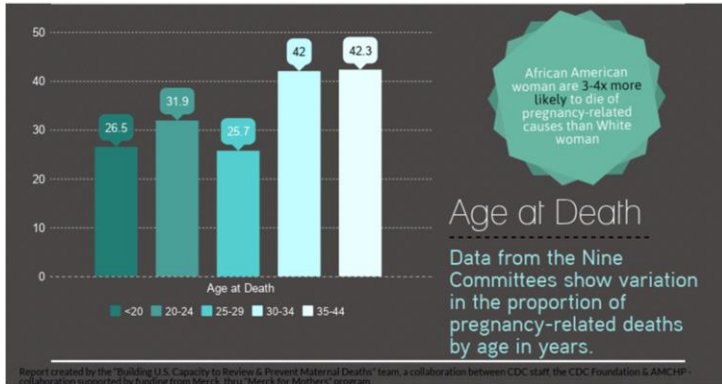


Arizona Department of Health Services

Jessica Perfette, MPH
 Child Fatality and Maternal Mortality Review Program Manager
 Office of Injury Prevention







Delaware Child Death Review Commission,
Administrative Office
of the Courts.

Meena Ramakrishnan, MD, MPH
Epidemiology Consultant to the
Child Death Review Commission

Anne Pedrick, MS
Executive Director of the
Child Death Review Commission

Joan Kelley, RN
MMR Coordinator

MMRIA Data Visualization Webinar Series



Maternal Health Outcomes

Maternal mortality review (MMR)
examines the circumstances around a maternal death in-depth and looks for contributing factors and actionable recommendations to improve systems of care

Maternal death

Near miss: severe maternal morbidity

Maternal morbidity requiring hospitalization

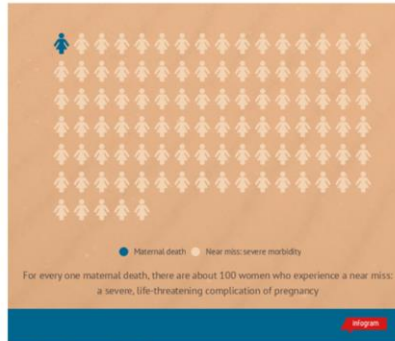
Maternal morbidity requiring ED or outpatient visit

Risk factors for maternal morbidity among women of child bearing age

Growing efforts of Review, Community Action

Maternal deaths are the tip of the pyramid

Maternal deaths are the rarest, most dire outcome for women during or after pregnancy. Studying these outcomes provides insights on the more common conditions causing ill-health in women; conditions that cause women to be admitted to the hospital or see a doctor. The lessons from maternal mortality reviews have more far-reaching implications for issues that are affecting the health of women during their reproductive years in general.



MMRIA **Resources** **REVIEW to ACTION**

Writing tools

- [Making Data Talk: A Workbook \(National Cancer Institute\)](#)
- [CDC Health Literacy Recommendations](#)

Design tools (mostly free, but registration is required and most send a lot of e-mails)

- [Canva](#)
- [Piktochart](#)
- [Venngage](#)

Marketing/Dissemination

- [Marketing Data Visualizations](#): Cleverism's excellent masterclass with videos, examples, and lots of guidelines and tips

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Making Data Talk is an incredible resource for understanding how to effectively speak to an audience at their level. Though its topic is largely cancer-specific, the information is applicable in any science-to-public application.

CDC Health Literacy Recommendations cover a huge array of communications topics and tools. They focus on plain language skills and health literacy, with formulas for assessing your writing and graphics for clarity and correct reading levels. Also covers usability for digital products and websites.

The design tools listed are all online good resources for making basic data viz and more “graphic” infographics. They’re all relatively fool-proof and offer ready-made icons and graphic elements to let you build great visuals just by copying and pasting your information. Be warned, though, that signing up for some of these puts you into the e-mail centrifuge.

[10 best data visualization blogs](#)

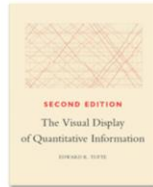
U.S. Government Resources

- <https://www.census.gov/>
 - <https://www.usa.gov/statistics>
 - <https://www.census.gov/quickfacts/fact/table/US/PST045217>
 - <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>
- <https://www.data.gov/>
- <https://www.healthdata.gov/>

Commercial, Non-Government Resources

- [CensusScope](#) (free)
- [Socrata](#) (free)
- [Qlik/Data Market](#) (subscription-based)
- [Pew Datasets](#) (no charge for some services, but registration is required)

- <https://www.usa.gov/statistics>: 5- and 10-year household and business surveys to help you find quick facts about national and state populations and demographics.
- <https://www.data.gov/> houses a wide range of data, along with data visualization design tools that can help you build your infographics and presentations
- <https://www.healthdata.gov/> A clearinghouse for datasets from federal, state, and city agencies (HRSA, Indian Health Service, HHS, and CDC included among many others)
- CensusScope is a tool from the University of Michigan's Social Science Data Analysis Network (SSDAN), using recent Census data. Great exportable graphics and maps for use.
- Socrata operates a huge data resource pulling from federal, state, city and county government organizations, and host community-of-practice events for idea-sharing among government agencies and employees
- Qlik offers data analytics and visualization tools, primarily for businesses but may have wider uses as well, and they show some great examples of visualizations
- Pew Databases offer non-partisan public opinion polling, demographic research, media content analysis, and other empirical social science research

[Edward Tufte](#)[Gestalten](#)[Taschen](#)[Extreme Presentation](#)[Chart UX](#)[Save the Pies for Dessert](#)[Duke Univ. Chart Dos and Don'ts](#)[Google Books Ngram Viewer](#)[CDC Infographic Standards](#)[Data Visualization 101: How to Choose the Right Chart or Graph for Your Data](#)

Many of you may be familiar with Edward Tufte, who's been the reigning arbiter of data visualization for years. He's got 4 books out, and they're all worth a read if you interested in this field.

Data Flow was published by Gestalten Press ten years ago. It's slightly dated on some software recommendations and is mostly centered around BIG data, but it's full of great theory, recommendations, and examples that are still relevant. Apparently it's not in the publisher's catalog anymore, but copies are still available so I've provided a link to it via Amazon

Understanding the World is the most recent in a series of books from Taschen. They're all superb in their inclusion of examples across centuries of practice. And they weigh a ton.

The rest of the links here go to various sites about making charts, graphs, and infographics. Second down on the left is the "Save the Pies for Dessert" article I mentioned earlier

Photos (Public Domain)

- [USA.gov](#)
- [National Library of Medicine](#)
- [Wikipedia Public Domain Resources](#)
- [PHIL](#)

Free Photo and images

- [Pexels](#)
- [Unsplash](#)

**Photo/Illustration Sources
(Subscription or points)**

- [iStock](#)
- [Getty Images](#)
- [Shutterstock](#)
- [Adobe Stock](#)
- [VectorStock](#)

Tables

- [Table Magic](#)

Design

- [Piktochart](#)
- [Canva](#)
- [Venngage](#)
- [Venngage color picker*](#)
- [Visual.ly](#)
- [Smashing](#)

Fonts

- [DaFont](#)
- [1001 Free Fonts](#)
- [Google Fonts](#)

508 Compliance

- [Color Blind Stimulator](#)
- [ADA Guidelines](#)
- [WebAim Contrast Checker](#)

Social media

- [SproutSocial image specs](#)



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