

Creative Ways to Present Your Data
Regional Center for Healthy Communities (Metrowest)
5/4/10, 9:30-12:30 (Registration at 9:00)

Desired Outcomes: By the end of the workshop, participants will be able to:

- Describe how to effectively use data to inform an audience about risk and science.
- Describe different goals and creative techniques for presenting data.
- Use a framework to select an appropriate and creative data presentation technique, based on goals, target audience and available data

Agenda

- 9:00-9:30** **Registration and breakfast** (please complete worksheet titled "Tell us about your data...")
- 9:30-9:50** **Intro and icebreaker**
- 9:50-10:30** **Dr. Vish: "Communicating risk and science: Formats that have an impact"**
- 10:30-10:45** **Steps to Choosing Data Presentation Techniques - how to choose the best technique for presenting your data**
- 10:45-11:00** **Break** (please turn in worksheet "Tell us about your data..." at this time if you haven't already)
- 11:00-11:30** **Examples of creative data visualizations**
- 11:30-12:15** **Group activity** - Planning a data visualization
 5 minutes for intro/instructions
 20 minutes - group work
 20 minutes - large group sharing/discussion
- 12:15-12:30** **Closing and evaluations**

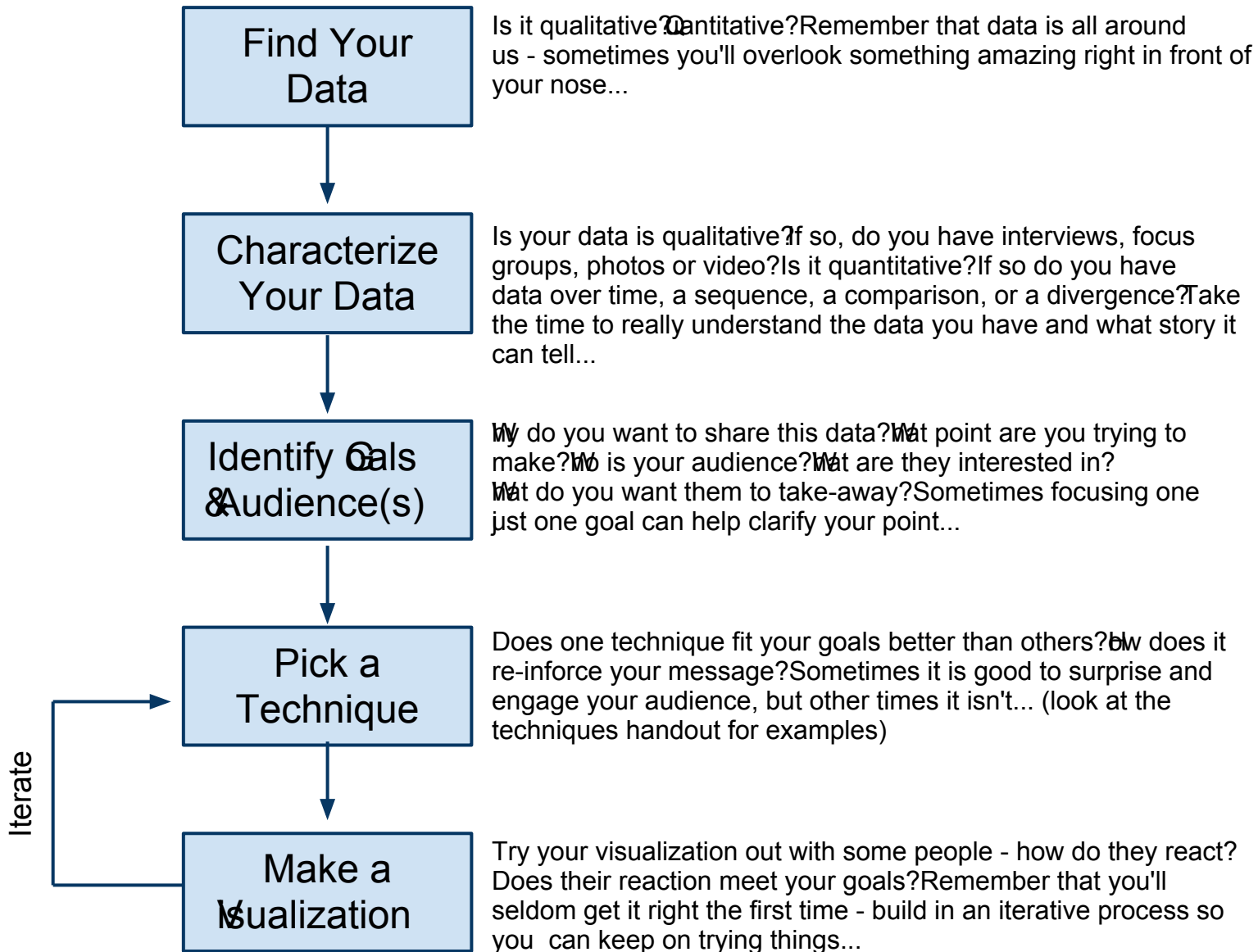
Presenters:

Dr. K. "Vish" Viswanath, Ph.D (Harvard School of Public Health)

Rahul Bhargava, M.S (Freelance Consultant)

Sarah Stewart, MPH, Med (Regional Center for Healthy Communities)

Steps to Choosing Data Presentation Techniques



Possible goals for visualizing data

1) To raise awareness of a problem or an issue

Sometimes your target audience might not know or understand an issue or problem. The right visualization can help people quickly digest data and raise their awareness of an issue.

2) To achieve a policy change

In order to achieve a policy change, you must be able to quickly and convincingly make your case that a problem exists, and that a policy change is the best solution. Raw numbers are often not enough to make a compelling argument for policy makers, who have to juggle many priorities. Creating a convincing data visualization is often the best way to do this. Personal stories and other qualitative data can be especially impactful.

3) To achieve a behavior change

In public health, data is often shared as a strategy to prevent people from engaging in an unhealthy behavior or to encourage them to engage in a healthy behavior. (For example, nutrition labels provide data intended to help consumers make healthy choices.) A word of caution: most of the time, knowledge is not sufficient to achieve behavior change. Sharing data must be part of a comprehensive strategy.

4) To grow membership in your group

Creating change is often a community effort. Finding a creative way to share data about an issue or about your organization could be one way to help increase community involvement in your work.

5) To change social norms

People often overestimate the rate of unhealthy behaviors such as underage drinking, making these behaviors seem more normal than they actually are. By reporting data about the real rates, you might be able to change the perceptions of your target audience and the social norms about that behavior. Visualization can be a great way to get your point across.

6) To convince granters or individuals to fund you

Funders are increasingly expecting grantees to use data to demonstrate that their programs address needs that exist in the community, and that their programs are effective in changing health outcomes. Creating a visualization can help you stand out from the crowd and make the case that your program is the right one to fund.

7) To inspire activism

Sharing data in a compelling way can be a useful tool in inspiring people to take action on an issue. Sharing stories and other qualitative data can be especially effective ways to inspire people.

8) To understand or learn something from your data

Often, programs are looking at data internally in order to answer questions like 'what needs exist?', 'how successful are we?', 'who are we serving? (or not serving?)' Even though the data won't necessarily be reported outside of your organization, it can still be helpful to create a visualization so that you look at your data in new way. For example, a map of your data might help you see a pattern that might not otherwise be apparent.

Your Ideas:

Techniques for Presenting Data

Below is a list of different techniques for presenting data, with examples of data presentations related to obesity. Remember, the technique you choose will depend on the type of data you have, your target population, and what your goals are in presenting the data. These techniques are not mutually exclusive, and many complement each other nicely.

1) Tell a personal story (photos, testimonials, quotes, videos, artwork, etc.)

Personal stories are an evocative way to get a message to stick. Sometimes charts and numbers can blur together, but a simple story, picture or quote gives a human-scale glimpse of the data. Use a real story about a real person to connect with your audience.

Example 1: In her work on childhood obesity, Michelle Obama frequently recounts the challenges she faced as a working mother - the busy lifestyle of her family meant that her daughters often ate unhealthy (but fast and easy) foods, like pizza. She uses this message to connect with people who are experiencing the same challenges.

Example 2: The billboard to the upper right makes a statement about the impact of food advertising on childhood obesity.



Source: <http://static.pyzam.com/img/funnypics/misc/dueling-billboards.jpg>

2) 'Physicalize' your data

We live and breathe in a 3-d, interactive world. Take advantage of this fact when presenting your data - making metaphors to physical things the connect with your audiences' everyday experiences. If appropriate be literal in your representations.

Example 1: WebMD, the popular health information website, uses everyday objects like baseballs and dice to illustrate serving size. This helps people understand what 'one medium apple' really means.

Example 2: Old North Church in Boston hangs dog tags to represent the number of US soldiers killed in Iraq and Afghanistan. Showing the numbers in this way is intended to make an emotional impact on the viewer.



Source: <http://www.webmd.com/diet/healthtool-portion-size-plate>



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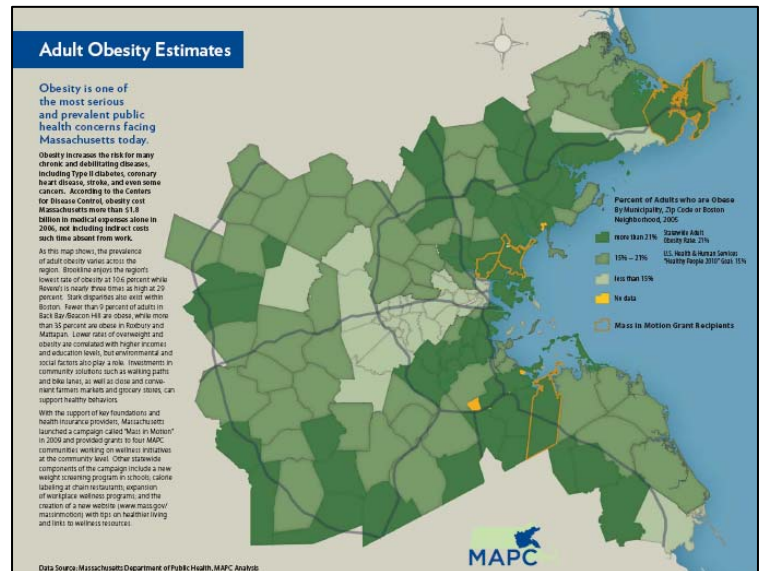
A program of Mount Auburn Hospital and funded by the MA Department of Public Health

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3) Map your data

There's just something about maps. For some reason the majority of people respond to maps unlike other visualizations. Maybe it is because we grow up seeing them, or maybe there is something about the representation of a physical space... for some reason people connect to maps. Maps are a great way to localize your data and make it seem relevant. They are also a great way to find patterns and 'hot spots' in your data that are not otherwise apparent. Maps make it easy to compare data from different places, and to compare different types of data for the same place.

Example: The map to the right gives a snapshot of obesity rates in the Metro-Boston area. (Darker green indicates higher rates of obesity.) This map makes it easy to quickly compare rates in different regions. A map like this might be shown alongside another map of Metro-Boston with income data to illustrate the association between obesity and lower incomes. Maps can be made easily using google maps, or even simple pencil and paper. Comparisons can be shown easily and effectively by printing maps on overheads, and overlaying them on top of each other.



Source: http://www.metrobostondatacommon.org/pdf/Calendar2010_10_Obesity.pdf

4) Chart your data (flow charts, graphs, counts, lists, Venn diagrams, etc.)

Don't underestimate the power of a good graph - sometimes the data tells the story all by itself. There are a wide variety of standard graphing techniques that the majority of the population knows how to read. Graphs can be made more or less complex, depending on your audience and the story you want to tell with the data. This is an amazing tool you can use to a high level or detailed overview of your story.

Example: The bar graph to the right shows childhood obesity rates overtime in the US. This bar graph adds a level of complexity by including a margin of error to show that there was no statistically significant increase in childhood obesity between 1999 and 2005.



Source: <http://www.nytimes.com/imagepages/2008/05/28/health/28obesity.graphic.ready.html>



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5) Put your data in a chart-like format (e.g., pictographs)

Mix up your graphing with pictogram-based charts. Sometimes a regular graph can fall flat. Don't be afraid to sprinkle in some icons (free clip art is easy to find!), or re-think some basic rules of graphing. Just because graphs have been around for hundreds of years doesn't mean you can't improve on them.

Example: The pictographic below shows the rates of obesity in the 50 states. The actual rates are listed as numbers, and the states are ranked from the lowest to highest rates (allowing a quick comparison). The t-shirt color and t-shirt size also indicate relative obesity rates, with darker colors and larger t-shirts indicating higher rates. This pictograph is rich in details but is very easy to read.



Source: <http://www.visitmix.com/labs/descrip/theobesityepidemic/>

6) Get your audience to interact with the data (e.g., games, roll plays, using 'clickers'*)

People remember experiences, and share them as stories with other people. Harness that power by creating an interactive experience to present your data. This could be a game, a question-answer session, or a simple stand-up / sit-down exercise to represent a dataset.

Example: Let's say you're giving a presentation, and you have 10 rows of people in your audience. You ask 4 rows of people stand – these people represent the 40% of Massachusetts adults who were overweight or obese in 1990. You then ask 2 more rows of people to stand (for a total of 6 rows) – the group standing now represents the 60% of Massachusetts adults who are overweight or obese. This engages the audience and helps them experience the data in a way that a graphical representation does not allow.

* 'Clickers' are devices that look like remote controls. Each member of an audience would get a clicker, which they would use to answer questions posed by the presenter. The clickers allow the presenter to gather data from the audience and immediately show them the results, making this an engaging way to both collect data and share it back.



Tools and Resources

Web-based tools and resources for creating data visualizations (these are pretty accessible/easy-to-use):

- **Google maps:** Visit this website for instructions on how to create your own google maps:
<http://maps.google.com/support/bin/answer.py?hl=en&answer=68480>
- **Prezi:** Visit this website to create your own *non*-PowerPoint presentation (like the one we used in the training): www.prezi.com
- **Many Eyes** – has a multitude of visualizations of data. Excellent source for ideas, also allows you to create visualizations. In their words, "Our goal is to "democratize" visualization and to enable a new social kind of data analysis."
<http://services.alphaworks.ibm.com/manyeyes/app>
- **Survey Monkey** can help you collect data and offers graphics for the results of the data collected. <http://www.surveymonkey.com/>
- **Presentation Zen:** This blog contains many tips and tools for creating effective presentations. (Some examples relate to presenting data.)
<http://www.presentationzen.com/>

Some other tools for creating data visualizations (these are a bit more complex):

- **Tableau:** Free software for more complicated digging into datasets. Import data and visualize it in many different ways. Not for the faint of heart.
<http://www.tableausoftware.com/>
- **Click2Map:** Free online service for more complicated map making on top of Google Maps. Add drawings, pictures, and more to maps. Not for the faint of heart. <http://www.click2map.com/>