

Point in Time Survey Data Use Considerations

What is Data Visualization and why is it important?

Data visualization is the process of representing data graphically in order to identify trends and patterns that would otherwise be unclear or difficult to discern from a data set. Data visualization serves two purposes:

1. To bring clarity during analysis and
2. To communicate findings

Incorrect visualization can lead to confusion and misinterpretation.

What Data Visualization type should I choose?

The choice of what type of graph or visualization to use depends greatly on the nature of the variables you have, such as relational, comparative, time-based, etc. Reference the categorization system used by [ManyEyes](#).

Andrew Abela from [Extreme Presentations](#) provides a good representation of different types charts that can be used to visualize data. Click on the [graphic](#) to download a pdf version.

How do I create a Data Visualization?

Visualizations can be created using a range of software. They are generated based on data that has been previously collected, processed, and cleaned utilizing the same or different software. Programs utilizing data stored with different software than they will be using to visualize their data may need to convert the file type.

| Data Collection and Storage | Data Processing and Cleaning | Analysis and Visual Display |
|--|-------------------------------------|------------------------------------|
| REDCap | REDCap | Python |
| Google forms | Google sheets | Google sheets |
| Excel | Excel | Excel |
| Airtable | Airtable | Java |
| Filemaker Pro (Claris) | R | R |
| | Tableau Prep | Tableau |
| | SAS | SAS |
| | STATA | STATA |

Assessing the quality of Data Visualizations

When creating visualizations, please keep the following rules of thumb in mind. We will also be using this checklist as a discussion guide during our TA session to make sure the visualizations you create are legible to your audiences.

Top 10 Data Visualization Checklist

- 1. Type:** The type of graph is appropriate for the data.
- 2. Title:** 6 to 12 words that contains key takeaway, or “so what”
- 3. Subtitle:** Contains explanatory text as needed to answer questions a viewer might have.
- 4. Text size:** Titles are in larger size than labels and annotations. No font size is smaller than 9 on paper or 20 on screen.
- 5. Text direction:** Text is horizontal with the limited exception of certain axes
- 6. Data labels:** Data is clearly labeled, and legends are integrated to the extent possible. Redundancy is limited.
- 7. Proportions:** Relative scale, difference, and proportions can be assessed visually to get an accurate sense of the relationship. Bar chart scale starts at 0.
- 8. Order:** Data is displayed in a logical order.
- 9. Accessibility:** Colors are color-blind friendly, legible when printed in black and white, high contrast. The display is free of decoration, and graph is two dimensional.
- 10. Simplicity:** Limit use of tick marks, borders, and gridlines.

Checklist adapted from: <https://stephanieevergreen.com/wp-content/uploads/2020/12/EvergreenDataVizChecklist.pdf>

Related resources: <https://stephanieevergreen.com/blog/>



Data Dissemination Goals

It is recommended that SSPs consider how and why they are planning to communicate their data. Unlike a data analysis plan, this is not necessarily a technical

Step 1. Please share at least 3 key findings you would like to explore further

| Finding # | Explain the finding of interest | We are interested in this because... |
|-----------|---------------------------------|--------------------------------------|
| 1 | | |
| 2 | | |
| 3 | | |

Step 2. Please describe what you'd like to communicate about these key findings.

| Finding # | What we believe is important to communicate about this finding is... | How we plan to communicate it (e.g. graph, chart, table, text, infographic, etc. - be specific!) |
|-----------|--|--|
| 1 | | |
| 2 | | |
| 3 | | |



Step 3. Please share at least 3 data dissemination goals.

| As a result of reporting out these findings we hope to.... | We'll know we met this goal when... |
|--|-------------------------------------|
| | |
| | |
| | |