

Good Visualizations & how to spark enthusiasm for them in a big company

Tina Lang, Research & Pre-Clinical Statistics, Bayer AG, Berlin, Germany

Herbstworkshop AG Non-Clinical Statistics, IBS-DR 16/17 November 2023

Abstract

The visualization of data is a universal tool for a multitude of purposes. In the pharmaceutical industry, e.g., information on safety and efficacy of a compound derived from different assays, studies and trials are oftentimes presented as annotated graphs.

However, the quality of graphs varies substantially, and the percentage of graphs with potential for improvement is very large.

Thus, I build on the initiative on visualization by Novartis (Vandemeulebroecke et al, 2019) and adapted it to the Bayer world. This led to a three-step improvement for the graphical display of scientific data:

- 1) Improve any graphic with regard to how the brain can best digest information
- 2) Tailor graphs to the research question they should answer
- 3) Combine data from different studies into one graph / graphs on one slide

I will show both the insights on graphics as well as the process of how to bring the knowledge into the company from a position of no managerial power.

References

Vandemeulebroecke M, Baillie M, Margolskee A, Magnusson B. Effective visual communication for the quantitative scientist. *CPT Pharmacometrics Syst Pharmacol*. 2019;8:705–19.

(<https://ascpt.onlinelibrary.wiley.com/doi/full/10.1002/psp4.12455>)

Vandemeulebroecke M, Baillie M, Carr D, Kanitra L, Margolskee A, Wright A, Magnusson B. How can we make better graphs? An initiative to increase the graphical expertise and productivity of quantitative scientists. *Pharm Stat*. 2019;18:106–14.

(<https://onlinelibrary.wiley.com/doi/10.1002/pst.1912>)