

CONFERENCE

Session Report

DIY Graphics for Medical Writers

Laurie LaRusso, MS, ELS

Chestnut Medical Communications, Walpole, MA

By Jerm Day-Storms, PhD, MWC

Successful medical writers can clearly communicate a message to the intended audience. Many times, the written word alone may not be the most effective method of communication. The client may even ask the medical writer for help in designing a visual aid or presentation. Graphic design tools are available, but they may be cost-prohibitive or have steep learning curves for mastery. Instead, medical writers can use a familiar tool, Microsoft PowerPoint, for graphic design.

WHAT IS GRAPHIC DESIGN?

Graphic design is the art of visual communication using text, images, and symbols. Medical writers use the 3 aspects of graphic design—layout, color, and typography—to help convey the message of the project. The layout consists of how the information is organized as well as how visual elements are placed on the page or slide. The colors and typography used can enhance the visual appeal of the work.

Graphics work by medical writers can be diverse. Medical writers may be asked to format, lay out, or design slides or posters for presentations. They may create specific visual elements, such as charts, graphs, or diagrams. Typically, a client provides a template and color palette, but a medical writer may be required to design a simple color palette and template. Medical writers often transfer graphics from one format to another. For example, a single graphic element may be required to be transferred across manuscript, slide, and poster formats.

When designing graphics, medical writers must

- keep it simple by sticking to the main points,
- remove superfluous information,
- avoid an overwhelming number of objects and colors, and
- use a logical order to make the story easy to understand.

CHOOSING THE RIGHT TOOL FOR THE JOB

Deciding which graphical element best explains the data is important. Will the intended audience understand the story better if conveyed as a table, graph, diagram, or chart? Sometimes, text is the best option if it is formatted to make it visually appealing, such as by varying color or font. Other times, a medical writer may transform one less effective method into a better one for a particular point. For example, a table comparing 2 different treatments may be easier to understand as a graph.

Because medical writers must use graphics in a variety of projects, it is important to delve deeper into different types of graphics that can be produced using tools from the Microsoft Office suite.

Tables

Tables are the simplest graphical elements created by medical writers. For manuscripts, tables are created in Microsoft Word using the Table function of the Insert menu bar. Likewise, for posters and slides, tables are created in PowerPoint using the Table function. Tables created within either Word or PowerPoint are easily transferred by copying and pasting as a table with reformatting, as necessary. Tables never need to be recreated when information is moved from one format to another.

When using tables as a visual element in a project, it is best practice to keep color formatting consistent. For example, in a presentation or poster, the control group should be presented in tables as one specific color and the experimental group(s) in another throughout the project to increase the visual appeal and flow. Another option is to use different background shades (from the same color palette, of course) for the control and experimental groups.

Tables can also be used to make text easier to read. Data from bulleted lists can be transformed into a table with horizontal lines and light background, creating a visual element that is more scannable. Similarly, tables can be used to simplify potentially complex topics by using different shades and/or symbols to help classify groups of data (Figure 1).

Drugs Class	Weight change
Secretagogues	↑
Thiazolidinediones	↑
Insulin	↑
DPP-4 inhibitors	↔
Colesevelam	↔
Bromocriptine quick-release	↔
α-Glucosidase inhibitors	↔
Metformin	↓ or ↔
GLP-1 receptor agonists	↓
SGLT-2 inhibitors	↓
Amylin mimetics	↓

Figure 1. The table as a visual element. Tables can be used to create visual elements for classifying data by using shading and/or symbols.

Figures

PowerPoint offers built-in Excel functionality, including the ability to create visually appealing charts and diagrams. For figures that are data-driven, such as graphs and charts, the data are stored within the embedded spreadsheet. The data can be easily updated in the spreadsheet with the changes automatically reflected in the slide's graph. Also, the graph can be reformatted within the slide.

Figures created within one presentation can easily be copied across different platforms, including manuscripts using Word or posters using PowerPoint. When copying a figure from a slide into a manuscript, it is best to paste the figure as a picture to lock in the formatting. When copying the figure into a different PowerPoint file, do not paste the figure as a picture. From the Paste Options menu, choose "Keep Source Formatting & Embed Workbook" for data-driven graphs. For any figures that are not data-driven, choose either "Keep source formatting" to keep the graph formatting the same as in the original file or "Use destination theme" if the desire is to have the format match the new file.

Resizing figures can be simplified by using the sizing function for uniform resizing. Locking the aspect ratio maintains the same proportions of the original objects. It also allows for resizing multiple figures to precisely the same size.

Available figure options include traditional bar graphs, scatter plots, line graphs, and pie charts. Additionally, more complex biostatics charts, such as Forest plots and Box and Whisker plots, can be created or modified to help explain data. Labels can be added to the data even for select data points, if desired. Background shades or use of shapes can help highlight important data.

Creative use of shapes, graphs, and gradients can be used to visually tell a story. For example, a pie chart with a subchart can further sub-divide data into groups (Figure 2). This example is created using 2 pie charts connected by a trapezoid filled in with a gradient to indicate a faded zoom.

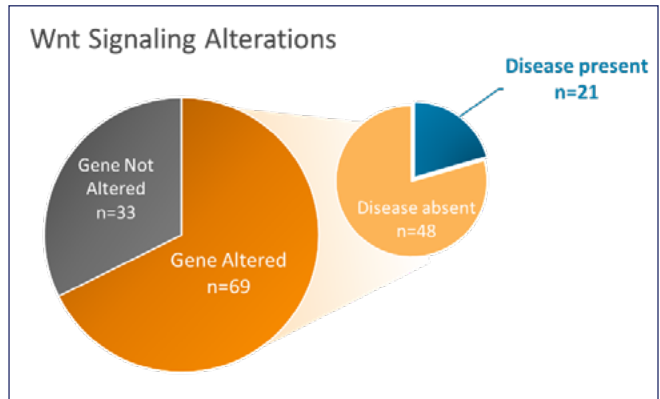


Figure 2. Complex figures to depict data. Using graphs and charts with shapes and gradients can help tell the story of complex data.

Slides

PowerPoint's reputation for creating robust slide presentations is well-known and well-documented. Generally, the basics of any slide presentation consist of template, color, and graphics. The client will usually provide the medical writer with a slide template containing the approved color palette and appropriate layouts. Occasionally, the medical writer may be tasked with developing a template which can be accomplished either by using or modifying one of the many theme templates from Microsoft or by creating a template within the Slide Master menu of PowerPoint.

Color can be used to organize information throughout the presentation to aid in the flow and to make it easier for the audience to understand. Colors can be chosen from a list, gradient, or wheel, depending on the chosen menu. It may be difficult to precisely match 2 colors. Each color has a unique six-digit hex code. If the hex code is known, it can be entered in to choose a color. However, if the hex code is unknown, the eyedropper tool can easily be used to select and match a desired color. This is helpful, for example, when trying to match legend colors to specific colors within a figure.

Slide presentations should be visually appealing, so graphical elements should comprise at least 2 out of every 3 slides. Keep text at a minimum by converting as much text as possible to graphical elements. Keep any bullet points to a single line of text, and do not use more than 2 levels of bullet points on a single slide.

Boring bullet point slides can be transformed into visually appealing graphical elements. For example, the bullets

could be changed into vertical boxes with different shades of color to help each point stand out. Rather than having a bulleted list of dates or events, a timeline figure can be created from the simple chevron shape in PowerPoint. Insert the chevron and stretch it out to create a timeline figure. The figure can even be filled in with a gradient of colors to help emphasize the passing of time or events. Likewise, lines and icons can be added to the timeline. The color of icons can even be altered to match the timeline color. Also, a simple bulleted list can be turned into an eye-grabbing visual aid with the addition of color and stock figures. For example, see how the following list is radically changed (Figure 3).

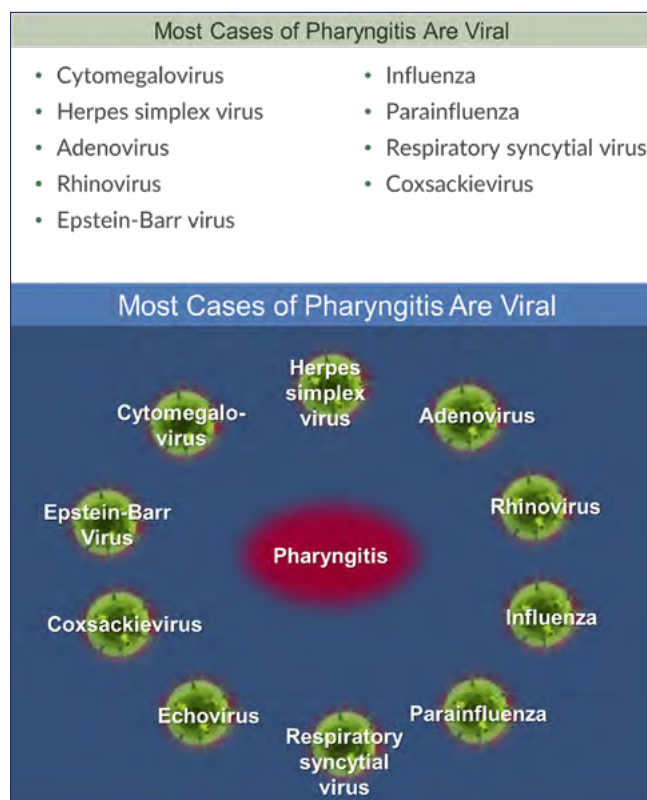


Figure 3. Transforming bullets. Simple bulleted lists (top) can be transformed into visually appealing graphical elements by using color and images (bottom).

Slide animations should be used sparingly. Do not use animations as devices to transition from one slide to the next, such as the spinning slide, because it can distract from the presentation rather than enhance the story. Only use animation to help the audience follow the story. For example, a build can be used to show progression or highlight important trends. If a graph, gel, or image contains large amounts of data, then an animation can be used to help the audience digest the information in smaller pieces.

When creating graphics, remember to keep it simple so that the intended audience can follow the story and to not distract from the message by overloading with graphical elements or an overabundance of colors.

Posters

Poster presentations can be created using PowerPoint's Slide Size menu function in which the poster is created on a single slide of the appropriate poster dimension. The poster layout, which plays a vital role in the presentation organization, may be either portrait or landscape. For portrait posters, the presentation is divided into horizontal sections whereas it is divided into vertical sections for landscape posters. Regardless, the largest section of the poster organization should be reserved for the results. The title and authors are always listed across the top of the poster. Additional poster sections include introduction/background, methods, and conclusions/summary. One way to economize space, if possible, is to move any acknowledgments, references, and disclosures to the bottom of the poster in a smaller font. Posters should be saved as a PDF.

Like a slide presentation, color is an important aspect of the graphic design. Use one main color with 2 accent colors chosen from the color palette. Some graphs or figures that contain more data may require additional colors. The colors should be used consistently throughout the poster to maintain clarity and flow.

Poster content should primarily be visual elements with text at a minimum. The graphs, tables, and figures should be easy to understand without requiring extraneous textual details. Section headings, such as background and results, should be one color with any subheadings in an accent color to help visualize hierarchy.

MEDICAL WRITERS DO NOT NEED EXPENSIVE TOOLS FOR DO-IT-YOURSELF GRAPHICS

Visually appealing, easy-to-follow graphical elements add clarity to a presentation or manuscript. Medical writers can successfully create their own graphics without using expensive tools because Microsoft PowerPoint with its built-in Excel function can create high-quality, editable visual elements. Usually, clients are familiar with Microsoft Office

products and are happy that the graphics can be easily transferred from one format to another. When creating graphics, remember to keep it simple so that the intended audience can follow the story and to not distract from the message by overloading with graphical elements or an overabundance of colors. By knowing which Microsoft Office product can be used to create the project and how to transfer it (Figure 4), medical writers can design their own graphical elements or projects at lower cost and lower learning curve than an expensive graphics program when using a platform that most clients use.













	Manuscripts	Posters	Slides
File type	 Word	 PowerPoint	 PowerPoint
Graphics software	 PowerPoint	 PowerPoint	 PowerPoint
Paste figures as	 Picture	 Graphic object	 Graphic object
Submission/presentation	 Word	 PDF	 PowerPoint

Figure 4. Do-it-yourself graphics for medical writers. Medical writers can use inexpensive tools, such as Microsoft PowerPoint, to create, transfer, and present graphical elements.

Jerm Day-Storms is the owner and Principal Medical Writer at Day-Storms Medical Writing & Research, Lakeland, FL.

Author declaration and disclosures: *The author notes no commercial associations that may pose a conflict of interest in relation to this article.*

Author contact: jerm@day-storms.com

