

Common issues in tables and graphs

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Checklist for tables

- Reduce precision to integer; (max 2 decimals). General rule for precision: usually a maximum of 2, and rarely more than 3 significant digits, regardless of source data precision. In many cases (eg percentages) integers suffice!
 - A significant digit is one that carries information; results are rounded to the nearest significant digit (in case of 5, to the nearest even digit).
 - This applies to all statistical parameters, eg mean, SD, median, min, max, percentiles etc; and all percentages.
 - Going to 3 significant digits might be required for some primary outcome (usually specific efficacy) measurement instruments, and in cases where results range between powers of ten (eg 0.50-9.00, or 35-128); and 2 significant digits would be enough for almost all other measures.
- alignment:
 - named categories, dates: left
 - numbers: right, and on decimal point (if applicable)
 - multiple entries in one cell: specific advice
- logical order of categories (rows) and results (columns)

Checklist for graphs

- general
 - increase resolution (minimum 300 dpi)
 - delete background color/shading
 - increase font size of tick labels, axis titles
 - avoid stacked bars, pies, 3-D depiction of 2-D data
 - use bar graphs only for results that are natural quantities (eg counts, percentages of a whole, but not for mean concentrations)
 - depict low numbers of observations as individual symbols, not (only) as summary measure
 - depict as many summary measures as possible:
eg. box plot better than mean \pm error bar
- data depiction
 - increase thickness of data series
 - do not use dashed lines for data series: use greyscale tones instead (or color)
 - do not use patterns for shading: use greyscale tones instead (or color)
 - increase size of data symbols
 - change data symbols:
 - delete outline around bars
 - decrease thickness of error bars
 - delete horizontal whiskers on error bars
- axes
 - decrease thickness of axis lines and ticks
 - put y-axis title horizontal left aligned above y-axis, or centered above panel
 - scale: optimize scale for spread of data (i.e. try to prevent large areas of white space), but try to be consistent across figures
 - axis offset: if necessary, use offset to avoid axis lines superimposed on data
 - axis break: best avoided. Never use with bar graphs. If unavoidable, the break should be through the whole figure (e.g. no lines crossing the break) and clearly marked on the axis. Use a scale marker (eg, a small bar) if the scale differs before and after the break.

- matrix (multipanel) plot:
 - move panels very close together;
 - For both the group of y-axes and also the group of x axes, strive to make the axis scale (numerical range, or categories) the same. If this is possible, the tick labels of the inner panels can be removed:
 - for panels in columns: delete x-axis title and tick labels (keep ticks) of all except bottom panel, and move panels very close together.
 - for panels in rows: delete all y-axis titles and tick labels, put y-axis title horizontal left aligned above y-axis, or centered above top panel
- In-figure legend:
 - avoid if possible (alternatives: place in caption text, or use labels close to series) or place well out of the way of the data.
 - If essential, and placed outside data frame, on top or below is better than to the right (graph will be downsized to fully fit on page).