Isabella R. Ghement, Ph.D.
Ghement Statistical Consulting Company Ltd.
301-7031 Blundell Road
Richmond, B.C.
Canada, V6Y 1J5
Tel: 604-767-1250
Fax: 604-270-3922
E-Mail: isabella@ghement.ca
Web: www.ghement.ca

Some General Principles for Designing Statistical Tables

1. Statistical consultants should know when a table is and is not appropriate. If reproducibility of results is an issue, tables are a better choice. If conveying a specific message or wanting to familiarize the audience with a data set/model/finding), then graphs are a better choice.

2. Tables are used to communicate precise numbers. (There seems to be a "misconception" out there that, while graphs require a message and need more careful and elaborate design, tables do not. However, both tables and graphs require thoughtful thinking about what should be presented, how it should be presented and why it should be presented.)

3. Tables are (generally) easier to produce than graphs, but this is not necessarily a reason to use tables over graphs.

4. Tables facilitate comparison of similar/related items. However, one should be mindful that it is easier to make comparisons of items within columns than within rows. Similarly, it is easier to compare items that are in closer proximity in a table than those which are far apart.

5. Results presented in a table can be made more digestible by using ordering and/or grouping. The ordering can be done according to the values of a numerical attribute (e.g., Age, where age category 18-25 is listed first, etc.). The grouping can be done according to some pre-defined criteria (e.g., Before/After).

6. Numbers presented in a table should have no more than 2, 3 or 4 significant digits. However, one should be careful when rounding numbers so as not to eliminate useful information.

7. Some tables can be enhanced by clever use of colour for each row (e.g., one row is white, one row is light grey). Colour can also be used to highlight table cells which have special properties (e.g., cells reporting significant p-values can be highlighted with light grey colour).

8. Tables can be strengthened when combined with graphs. As an example, one can present a table of regression coefficients and corresponding confidence intervals side-by-side with a forest plot of these confidence intervals. Another example is the use of sparklines (tables which show mini-graphs in each cell of a particular table column).

9. Tables can be made easier to interpret in the presence of "anchoring". This is a technique whereby the table includes an additional row (or column) which reports numbers which make it easier to interpret the numbers presented in the other rows (or columns).

10. Trends are not easily discernible from a table, especially if the table is large. Graphs can do a much better job at uncovering and displaying trends.