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Effective Use of Dot Charts

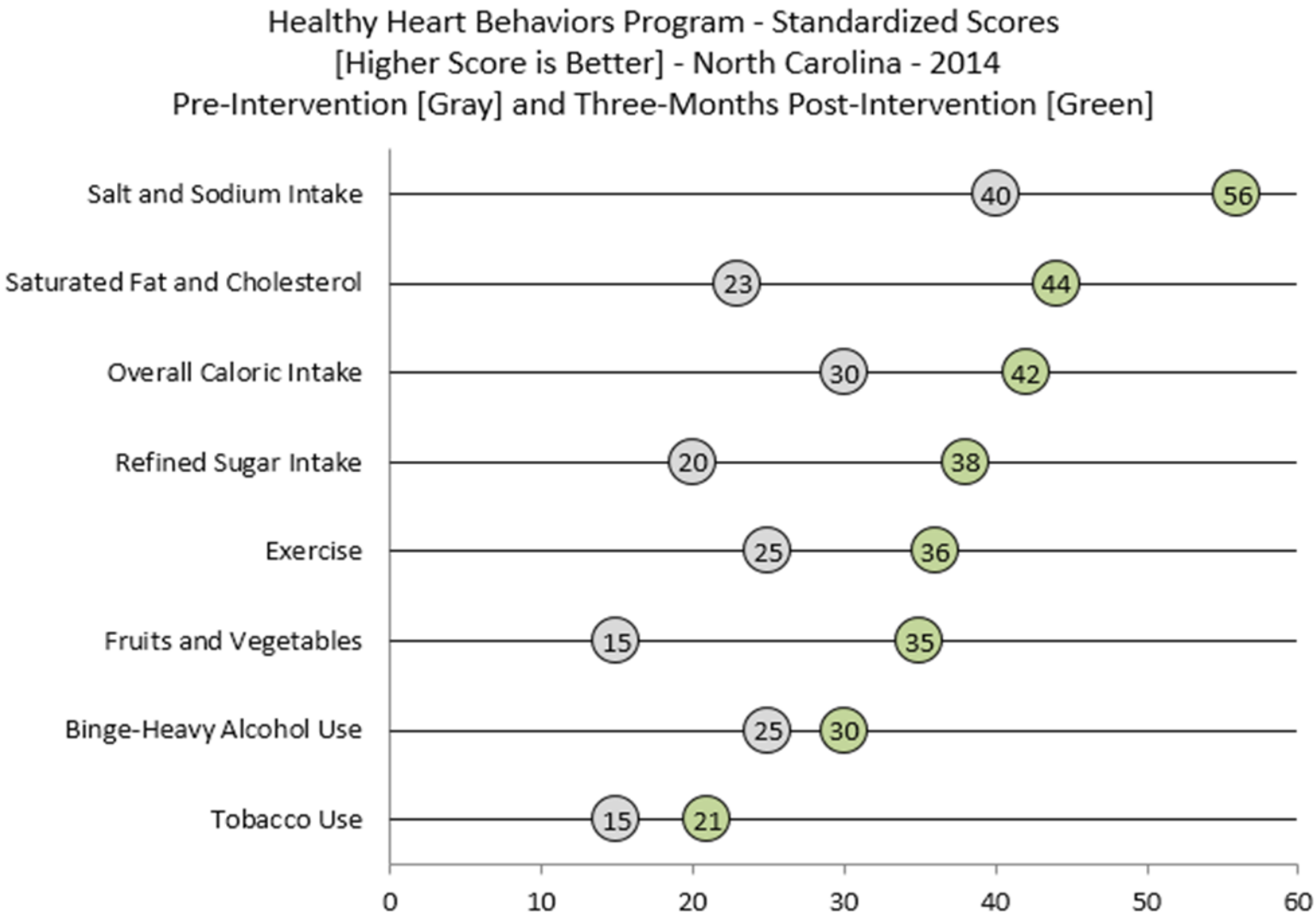
Purpose	This tool provides guidelines and tips on how to effectively use dot charts to communicate research findings.
Format	This tool provides guidance on dot charts and their purposes, and shows examples of preferred practices and practical tips for dot charts.
Audience	This tool is designed primarily for researchers from the Model Systems that are funded by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR). The tool can be adapted by other NIDILRR-funded grantees and the general public.

The contents of this tool were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90DP0012-01-00). The contents of this fact sheet do not necessarily represent the policy of Department of Health and Human Services, and you should not assume endorsement by the Federal Government.

Dot Charts

- Dot charts can effectively display two or more series (or two or more subgroups of one series) on one chart with the values expressed as dots (or other symbols) along parallel lines.
- Dot Charts are useful for efficiently displaying subgroup distributions and subgroup differences.
- Dot Charts are also useful for displaying time-based differences in group performance – such as pre-post data.
- Dot Charts are typically used as an alternative to clustered bar charts.
- Dot charts combine features of horizontal bar charts and scatter charts.
- The imagery of a dot chart is similar to that of beads along a horizontal abacus.
- Dot Charts are also called Dot Plots.

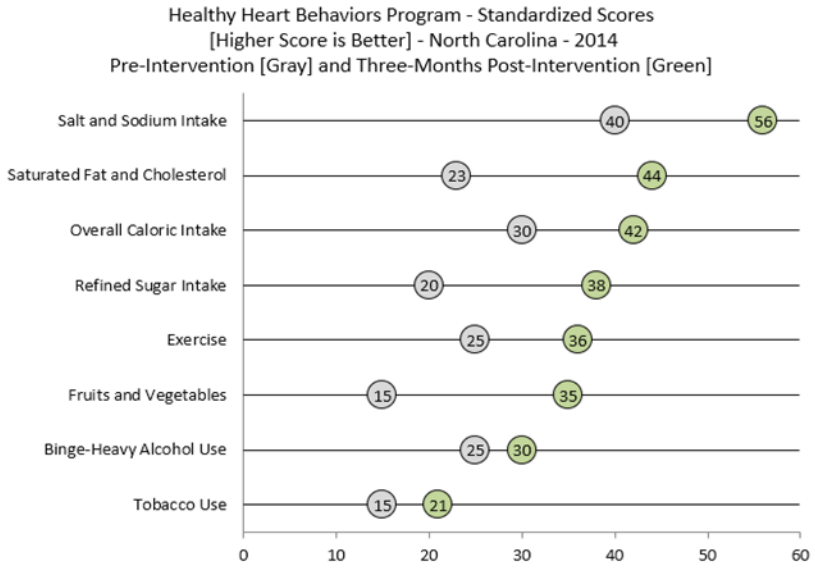
Dot Charts – Pre-Post Comparisons



Dot Charts useful for pre-post comparisons. Can see performance at two points in time and the relative improvement in each area.

Source: Mock data.

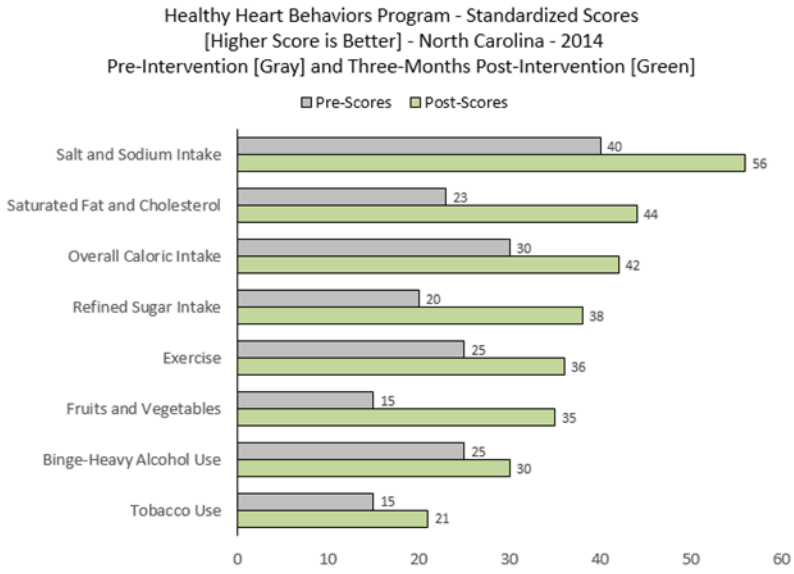
Dot Charts – Pre-Post Comparisons



Can code series with different symbols instead – such as a Square symbol for Post-Intervention – so that can print in black-white.

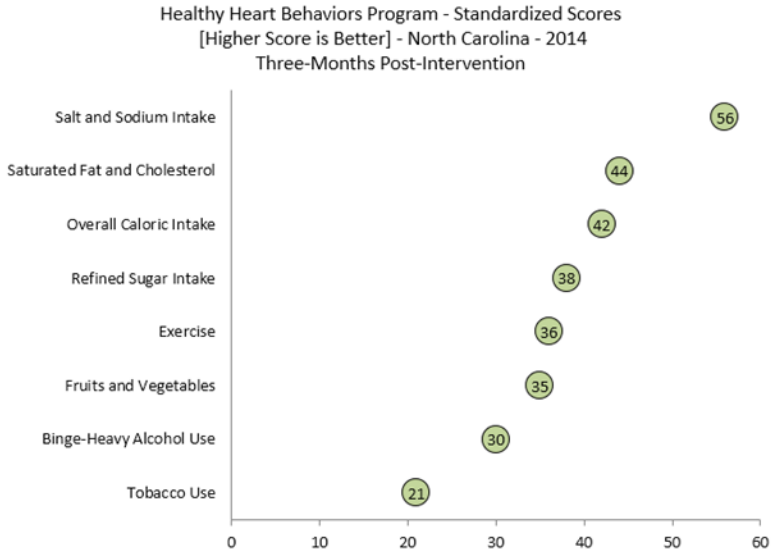
Can include or exclude the numbers in the symbols.

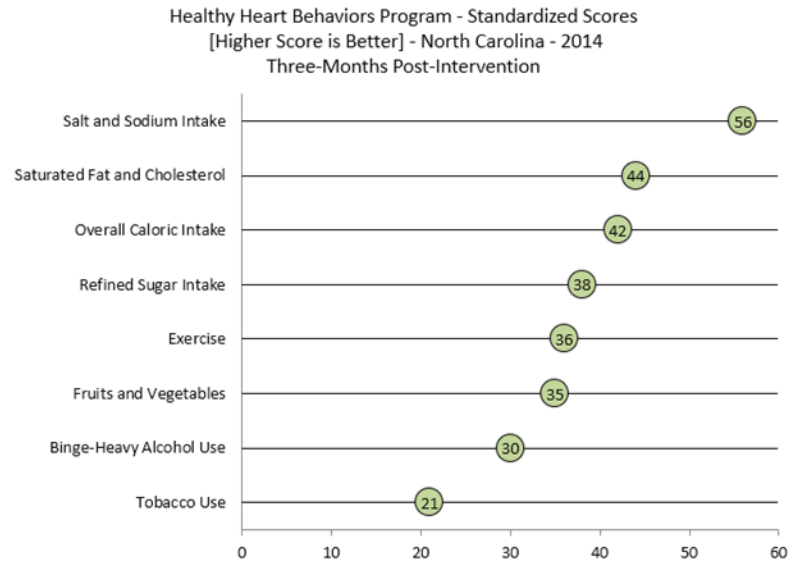
Note: For visual clarity, sorted the Dot Chart using the Post-Intervention values, descending.



Dot Charts with two or more series are easier to read and less cluttered than Clustered Bar Charts.

Dot Charts



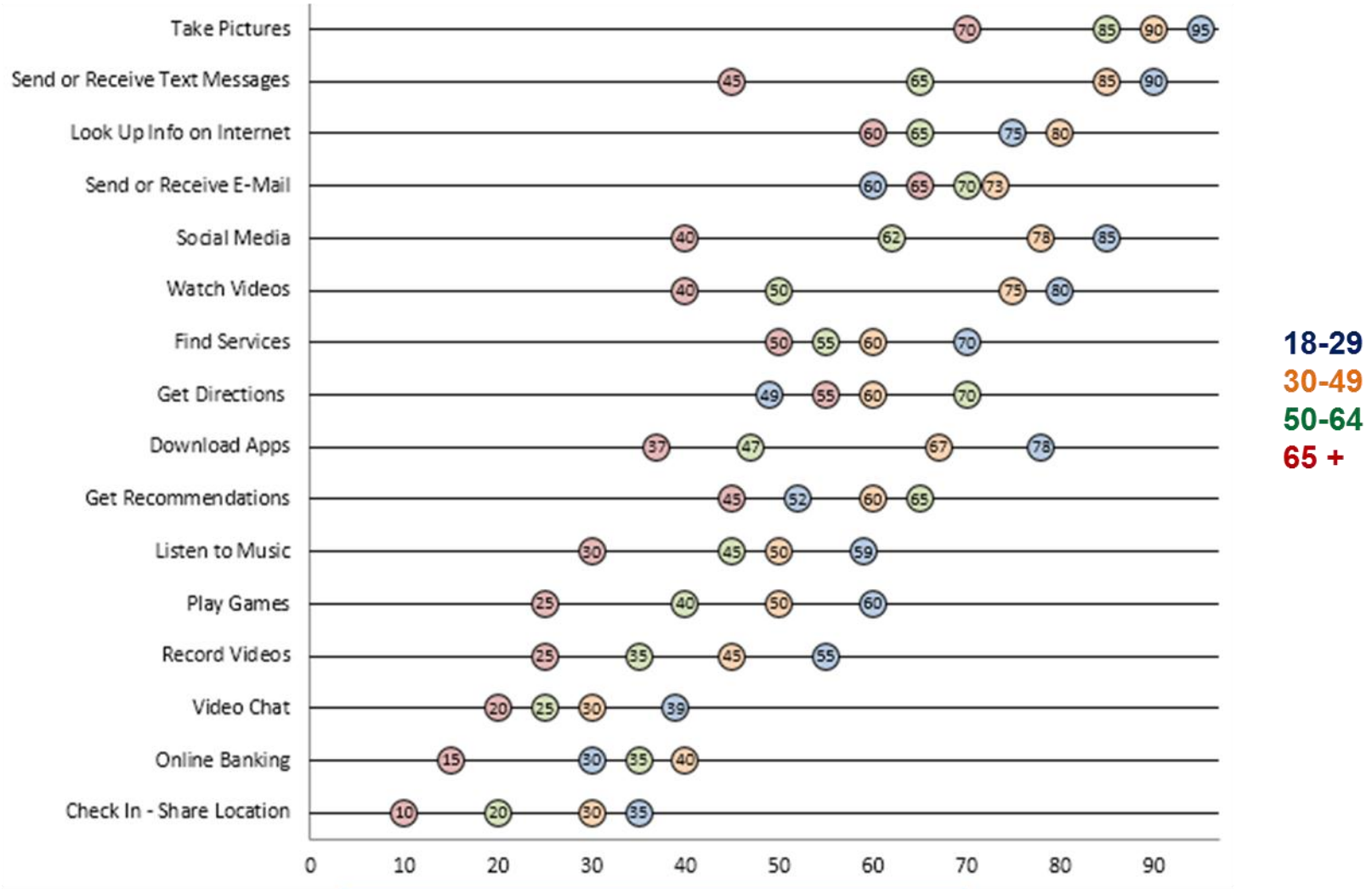


Can also use Dot Charts to display only a single series – with or without the horizontal lines.

Dot Charts are less cluttered and more efficient than horizontal Bar Charts – making such chart types effective for dashboards and other visualizations with limited display space.

Some studies suggest that Dot Charts are interpreted more quickly and more accurately than Bar Charts of the same data.

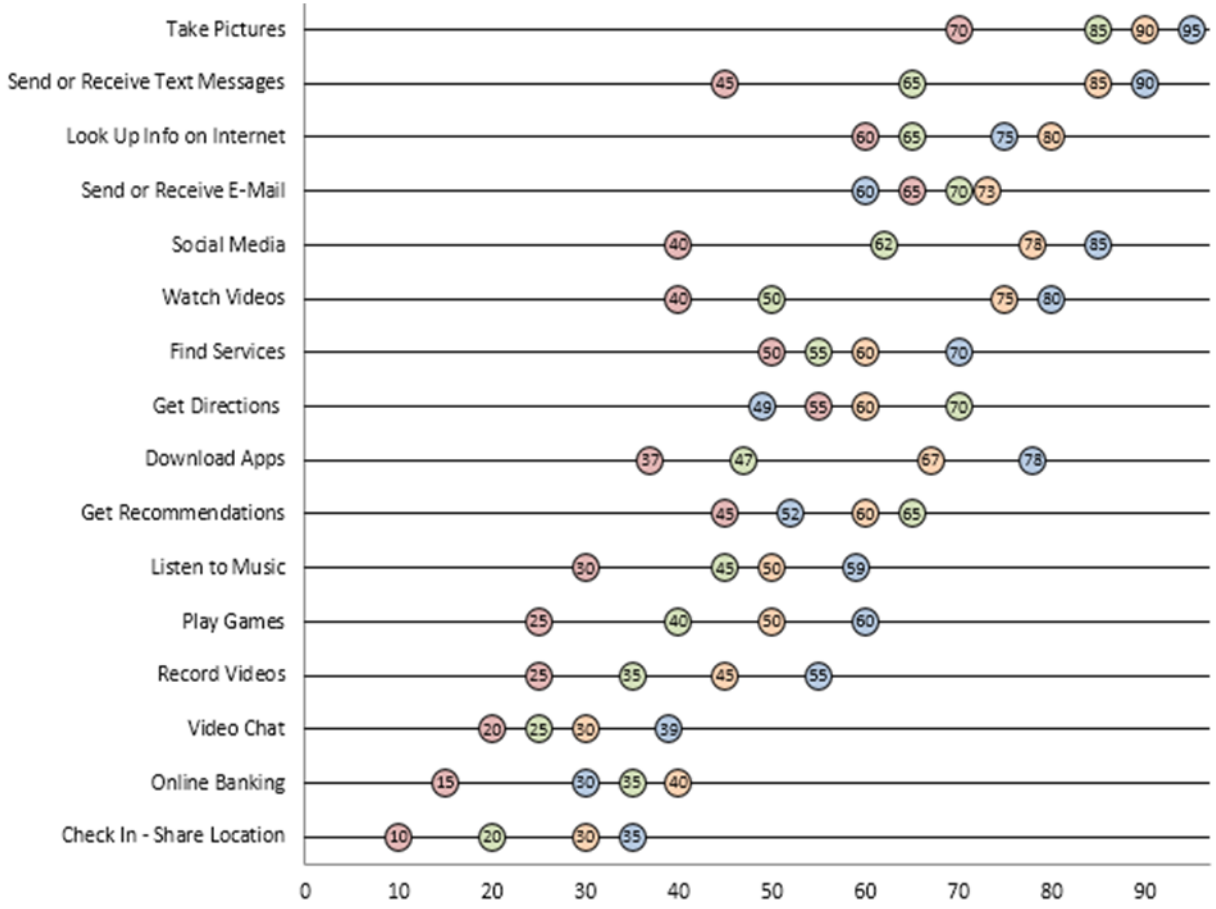
Percent of Smart Phone Owners Who Use Their Phones in the Following Ways By Age Group - North Carolina - December 2014



Dot Charts useful for displaying subgroup distributions and subgroup differences.

Source: Mock Data

Percent of Smart Phone Owners Who Use Their Phones in the Following Ways By Age Group - North Carolina - December 2014



18-29 30-49 50-64 65 +

Dot Charts useful for displaying subgroup distributions and subgroup differences.

Can see the general ranking of the uses of smart phones.

And can see the relative spread in each specific use by age group.

The age series are grouped approximately by age – youngest age groups typically the earliest and most prevalent adopters of each practice.

Generally, do not attempt to place 5 or more subgroups on one Dot Chart – becomes too cluttered.
Also if your data has a lot of tightly-clustered values, some values may be obscured and the Dot Chart may be difficult to read.