

## Effective Use of Pictographs

- Purpose** This tool provides guidelines and tips on how to effectively use pictographs to communicate research findings.
- Format** This tool provides guidance on pictographs and their purposes, and shows examples of preferred practices and practical tips for pictographs.
- 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.

# Pictographs

- ▶ Pictographs are a type of Infographics, typically based on a Column Chart, in which the unadorned vertical columns are replaced by images of various sizes.
- ▶ Pictographs are typically used for public-facing materials (flyers, brochures, newspaper graphics) and are not generally recommended for research purposes.
- ▶ The images in a pictograph are related to the measure to be displayed.
- ▶ For example, if plotting the number of flu shots provided at a health department by week during the flu season, one might be tempted to use an image of a syringe scaled to various sizes to depict the volume of flu shots administered by week.

# Pictographs

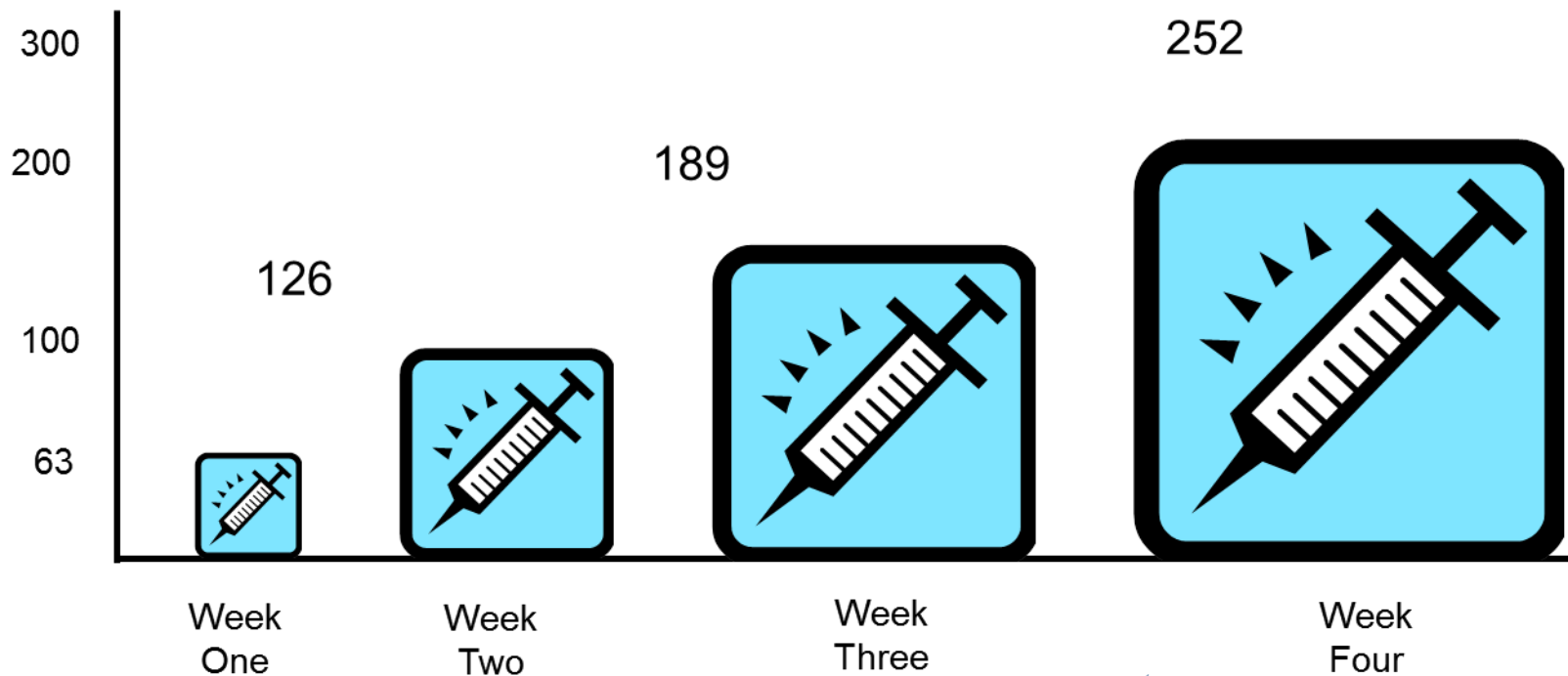
- ▶ The main problem with pictographs is the frequent confounding of image height vs area.
- ▶ If flu shots were two times higher in week two than in week one, scaling the syringe image two-fold for week two actually increases the area of the image four-fold ( $\text{area} = \text{height} * \text{width}$ ) which provides a misleadingly large visual impression of the actual number of flu shots provided in week two.
- ▶ If, however, you stacked up syringe images (for week two) that were the same width and height as the syringe images used in week one, then the visual impression of the increase would be accurate.

# Pictographs

| Flu Shots Provided By Week<br>Hamlet Chapel Health Department<br>November 2014 |     |
|--|-----|
| Week One   | 63  |
| Week Two   | 126 |
| Week Three   | 189 |
| Week Four  | 252 |

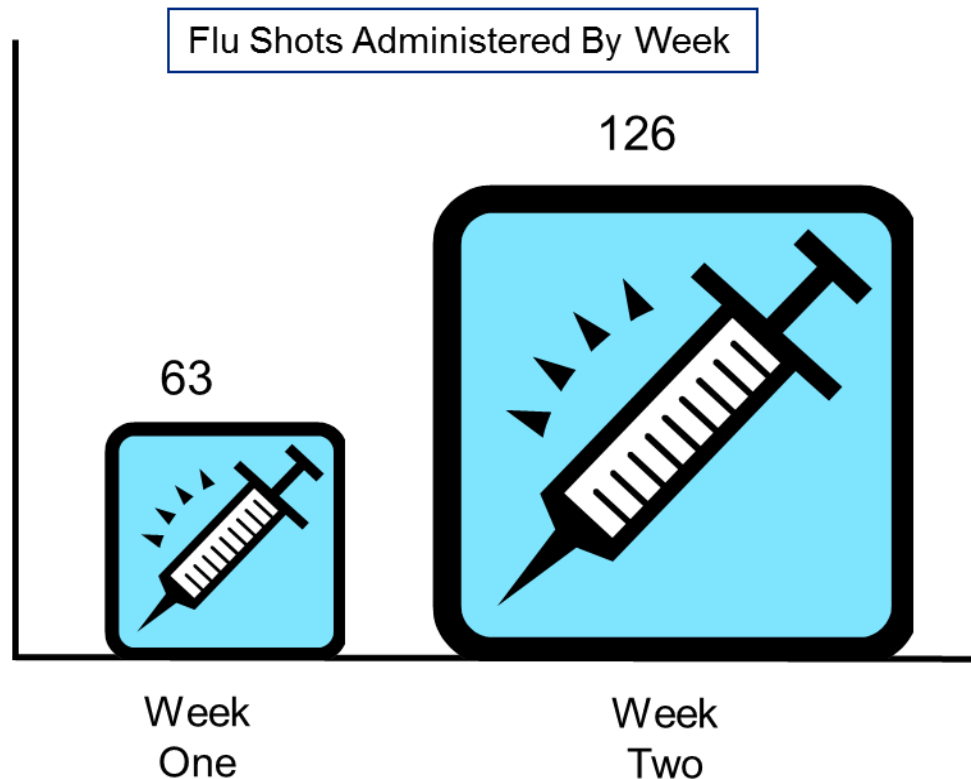
Someone suggests that we create a graphic trend and send it in a news release to the media. We use a syringe graphic. And since the number of flu shots in week two is twice as many as in week one, we scale up the week two graphic by a factor of two and so on.

Flu Shots Administered By Week – November 2014



# Pictographs

The problem is that scaling the image up to twice its height for Week Two also scales up the image's width by twice as much as well. Therefore, the area of the Week Two image is actually four times the area of the Week One image ( $\text{Area}=\text{Height}\times\text{Width}$ ). Thus, the misleading visual impression of the Pictograph (based on the area of the pictures) is that Week Two flu shots were four times as many as in Week One.



The Week Two image is four times the size as the Week One image.



To match the raw numbers, the Week Two image should be only twice as large in area as the Week One image

# Pictographs

- ▶ You can use pictographs and still be visually representative of the numbers by, for example, stacking up standard size syringe images for week two that were the same width and height as the syringe images used in week one.
- ▶ In essence, maintain the width of each image but stack the height.
- ▶ Such a pictograph yields that same (correct) visual impression as a standard column chart of the same values.

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