



## Design Integrity Notes

It is key that when you build plots you maintain integrity for the underlying data.

One of the main ways discussed here for looking at data integrity was with the **lie factor**. The lie factor is calculated in the following way

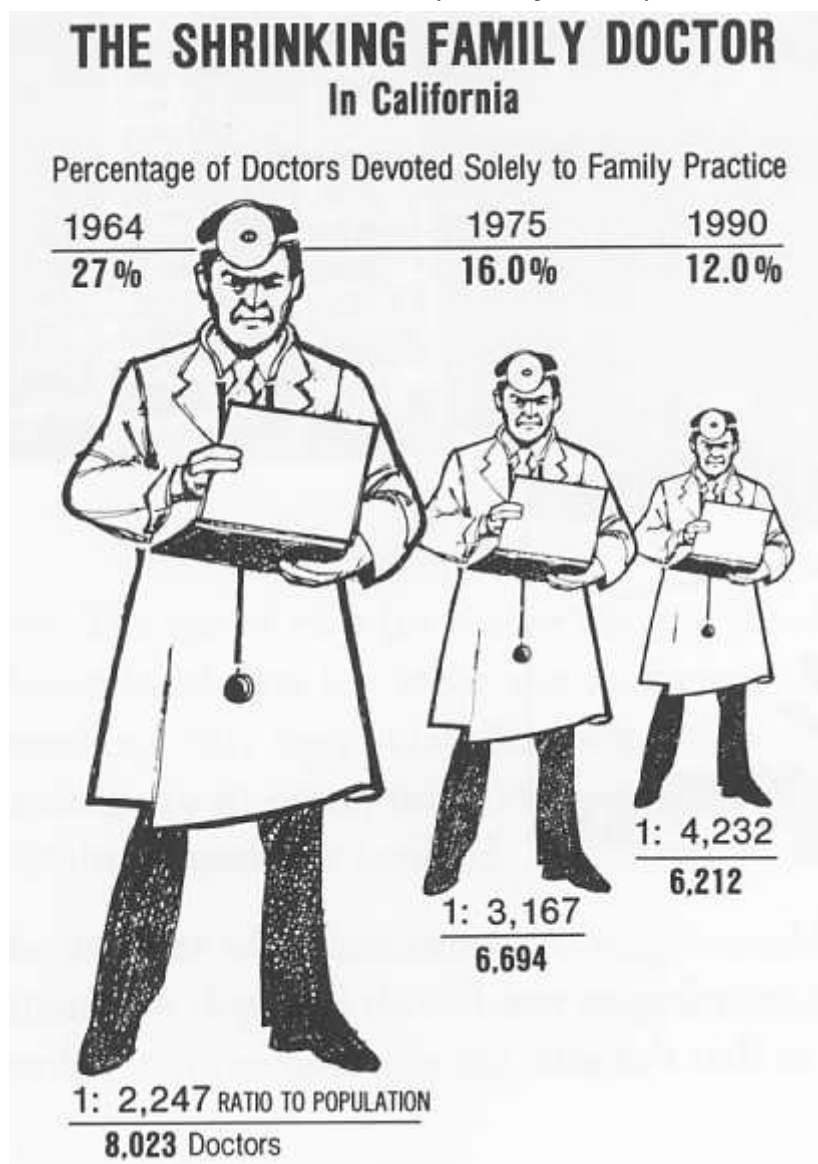
$$lie\ factor = \frac{\Delta visual / startVis}{\Delta data / startData}$$

That is the shown relative change in the graphic divided by the actual relative change in the data.

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## Lie Factor in the Video

The lie factor shown in the video was in comparing the largest to the smallest doctor in terms of pixels.



The number of pixels related to the largest image is 79,000 and 16,500 for the smaller. The percentage change is 27% to 12%. So, the lie factor is calculated as:

$$lie\ factor = \frac{(79000 - 16500)/16500}{(27 - 12)/12} = 3.03$$

### Further Reading

- Flowing Data: [How to Spot Visualization Lies](#)

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