On Framing: Maternal Mortality Rates

Here are some facts about the current state of OBGYN care in Iowa, from a spring 2024 report in Medicine Iowa[1]:

1. Iowa currently has the fewest OBGYNs of any capita per state.
2. 11.3% of births are in maternity care shortage areas
3. 14% of women do not have a birthing center 30 minutes or closer, while the national average is 9.7%

Iowa also currently has two medical schools and one OBGYN training program. In any given year, only six residents will become licensed OBGYNs in the state of Iowa. According to the University of Iowa residency official website, around 25% of those will go onto fellowship. Those who go into fellowship, in areas like fertility and gynecologic oncology, will most likely seek jobs in more urban areas, as rural areas don't have the need for a fertility specialist.

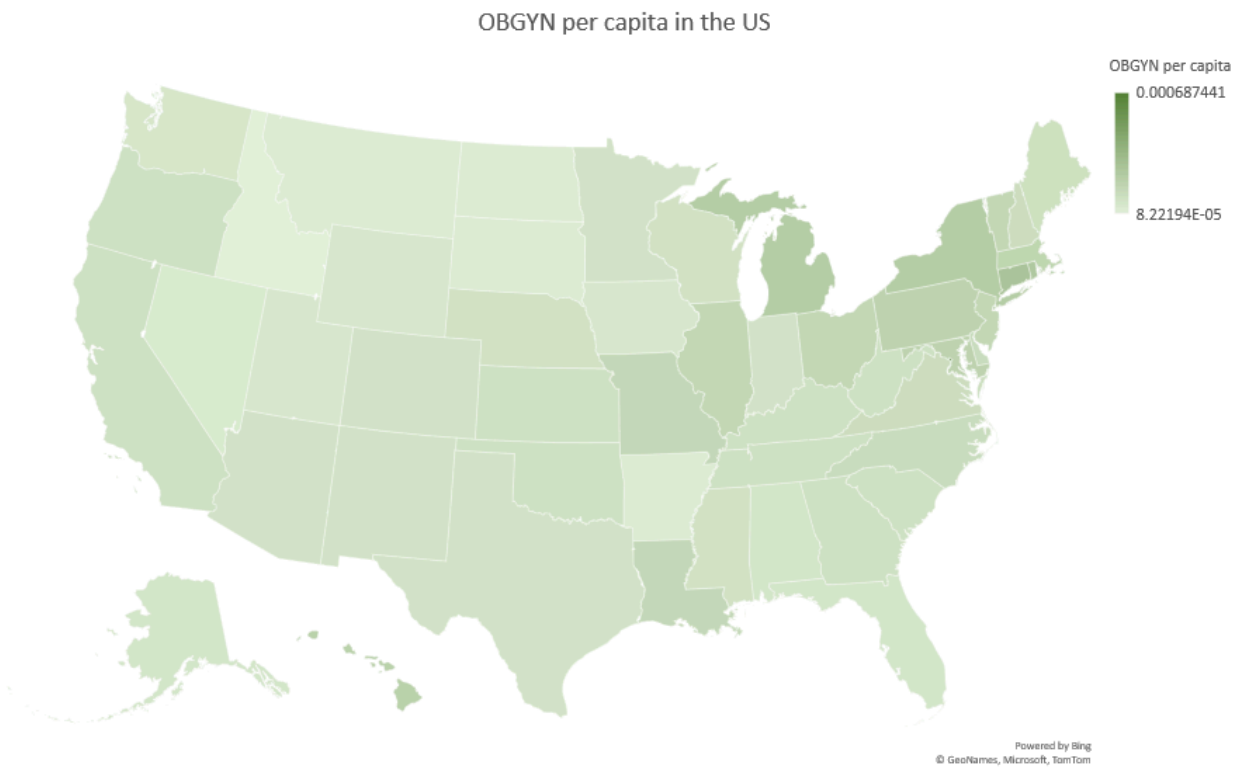
Sounds like the state of OBGYN practice in Iowa is quite bad, does it not? But let's take another approach. According to the CDC, Iowa's maternal mortality rate is about 20 deaths per 100,000 births, which is about average. But that's *ten times* Norway's maternal mortality rate, which is 2 according to World Bank. In other words, what data we chose to include and not to use can completely change our narrative. This can, however, sometimes be quite complicated.

The catalyst for this article was a FiveThirtyEight dashboard on mortality rates in the US over time. In the main dashboard, you can see the rates of death per 100,000 people over time in a map of the US. We can also subset this data to look at, among other things, death from maternal disorders. Run the sequence over time and it will flash like a strobe light. Why? The maternal mortality rate is correlated to the fertility rate, which has gone up and down over that same time period.

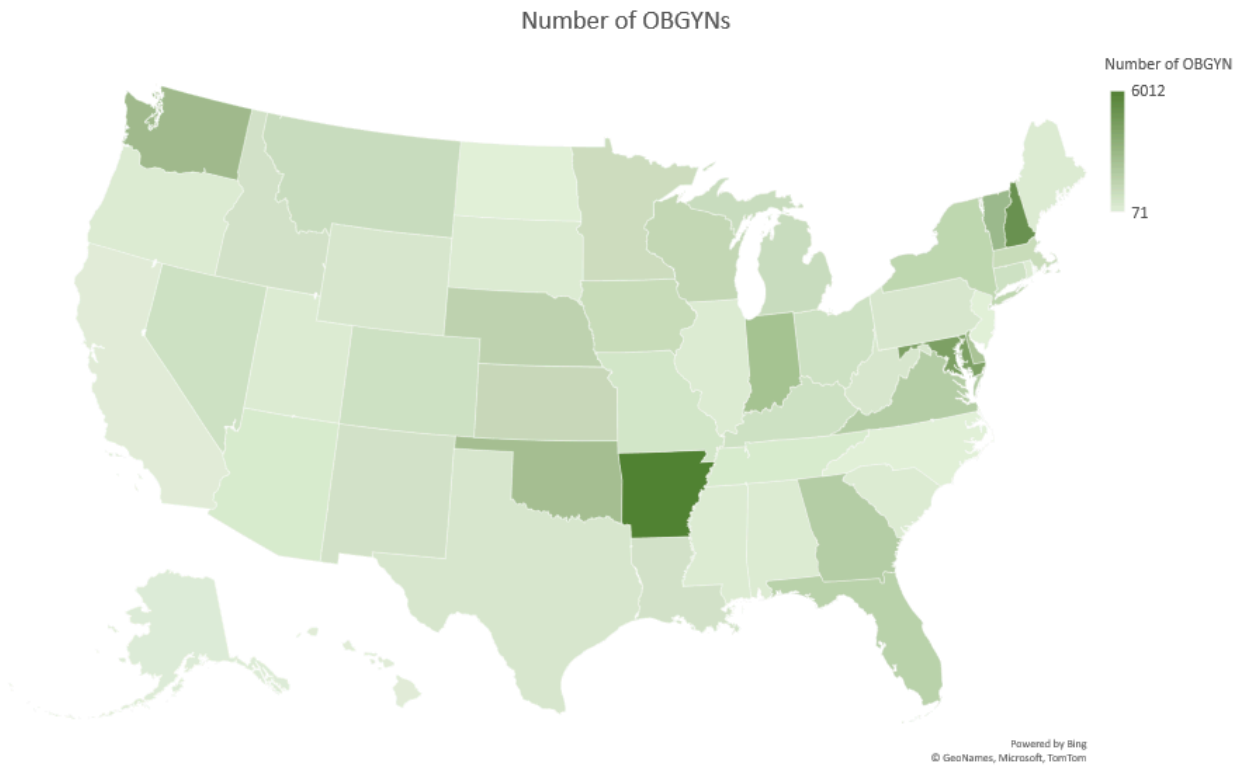
For the maternal mortality data to be useful in the context of the problem, we cannot adjust for live births per capita. If we did, we could not compare those outcomes to the overall death per capita as easily. Nor can we adjust everything by rate of live birth so it matches.

But sometimes looking at the total is also useful. Consider this data I used from kff.org. If I plot the number of OBGYNs per capita things look pretty reasonable.

1



But now let me plot the number of OBGYNs per state.



There are not 6,000 OBGYNs in Arkansas, so there must be some sort of fundamental issue with this data.

This example highlights the importance of both proper data exploration and a proper understanding of the context of the problem. A statistician who is working with an OBGYN to reduce maternal mortality rates needs to adjust for fertility. The goals and priorities of the analysis need to be clear. Good statistics are not just about the numbers; they are also about strong critical thinking skills.