*Author’s Note: I set out to write a very different story. The opposite story, in fact. But as the scientific process dictates, I set aside my prior hypothesis in lieu of the one data supports.*

“7,500 cases today”, I hear a TV news anchor report with shock. “And 150 deaths this weekend!” The news is both a reprieve and a stressor for my sweet mother, who enjoys brewing a cup of tea and settling down to catch up. A long shift caring for elderly and disabled earns her a indulgence through the consumption of her choice, I reckon as I walk past and catch the daily COVID case count for our county, city, or country. A coupling of COVID and complacency confines me to her cellar, where I tenaciously type these thoughts.

Overhearing the news, I wonder if 7,500 is a lot or a little in my community. I scratch my head to the previous night’s number: better or worse? Up or down? 150 deaths, but what was it back in April? The news just reports these “shocking” numbers, but with such little context I feel forced to query Google for a chart. Raw numbers in isolation don’t help me understand if things in my area are getting better or worse.

Overhearing the news, I wonder if 7,500 would be a lot or a little to my co-workers across the globe. What’s it like in their urban world? Their rural landscapes? Our discussions usually entail a quick Google search for city or state populations and a division thereafter. “Ah, it’s much worse for you,” one of us says. “We have half the cases per 100 people!”

As rancid as raw numbers are, I wonder if per capita comparisons aren’t a perfect metric either. For non-communicable diseases – cancer, cataracts, constipation – per capita fares fine. But a relationship between density and death dares to defile linearity with highly infectious diseases like COVID. Transmission rates depend on density, not just population count… in theory.

But the data from Covid don’t suggest such a relationship. There is no evidence that population density and COVID case or death count have practical correlation. If anything, actually, the two move opposite directions: When density increases, cases and deaths actually decrease. Huh!

Diagram

Description automatically generated

Chart, line chart

Description automatically generated

“7,500 cases!” isn’t perfect; a case per capita would go a long way. Thankfully, there doesn’t appear a need for a metric of cases per capita per land area. For now, a simple line chart – cases over time – is a nearly perfect solution.

Sources and Inspiration:

<https://robjhyndman.com/hyndsight/logratios-covid19/>

<https://twitter.com/jburnmurdoch/status/1242904596856614912>