

☆ Sensitivity and Specificity

Jan 21st, 2:30 pm

This is certainly very pertinent today and an interesting discussion. I remember in STAT 203: Introduction to Probability & Statistics and MATH/STAT 304/404: P&S when the equation for Bayes' Theorem was used to illustrate that even if a test had sensitivity and specificity rates in the (90%,95%] range, there was still a large chance the result could be inaccurate. This is critically important because tests are still in short supply and high demand and are also very expensive, which makes retesting inaccessible for many. Also, I wonder if those who test regularly will eventually receive a false positive result by chance because of the number of tests they have taken (I think something to do with the geometric distribution, where p is the FP rate).

This may not be directly related, but I'm interested to see how accurate positivity rate is as a statistical measure. I have seen this cited many times as a measure of surges, but the positivity rate does not take into account several factors, like testing availability, those getting tested not being a representative sample of the overall population, retesting the same subject, testing after isolation/while still contagious, etc. For example, at the beginning of the pandemic, positivity rates were anywhere between 10-50%. However, during Summer 2021 when cases, hospitalizations, and deaths (both total and per capita) were much higher, I have seen positivity rates as low as <1%, perhaps due to more widespread testing.

Read by Maria, Jason, Annemarie, Lance, Rob and 20 others

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