

Specific example

- Let $\alpha = 10^{-6} = 1/1,000,000$. Then

$$f(\alpha) = \frac{1}{10,102} \approx 10^{-4}.$$

- Again, what this means is that if a person tests positive, the probability they have the disease is only 10^{-4}
- But how can this be?? The test is 99% reliable?
- Let's think of a specific case where the population is 100,000,000.
 - Then 100 people have the virus. 99,999,900 do not.
 - Of the 100 people who are positive, 99%, or 99 people, test positive.
 - Of the 99,999,900 people who are negative, 1%, or 999,999 people, test positive
- The "false positives" vastly overwhelm the "true positives"!!!