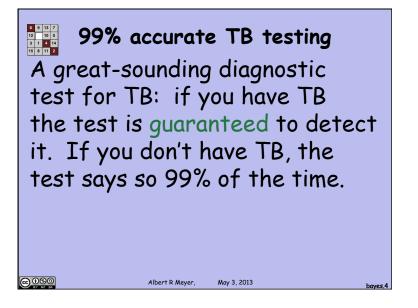


A great-sounding diagnostic test for TB: if you have TB the test is guaranteed to detect it.



99% accurate TB testing

A great-sounding diagnostic test for TB: if you have TB the test is guaranteed to detect it. If you don't have TB, the test says so 99% of the time. Your doctor gives you the test, and it says you have TB!

@ 0 90

lbert R Meyer

3. 2013

6 9 13 7 12 10 5 3 1 4 14 15 8 11 2

99% accurate TB testing

test says TB!

TB is a serious disease and the test is at least 99% accurate. How worried should you be? What is the probability that you actually have TB?

@ 0 8 0 8 7 No 58

May 3, 2

Do you have TB?

What is the probability that you have TB given that a 99% accurate says you do?

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Albert D Mayon

May 3 2013

6 9 13 7 12 10 5 3 1 4 14 15 8 11 2

Do you have TB?

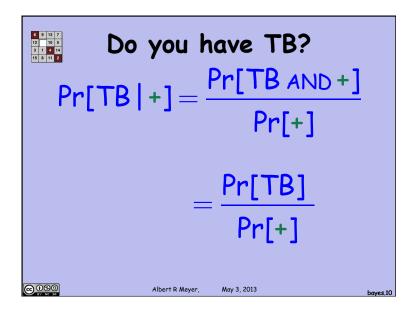
$$Pr[+ | TB] = 1$$

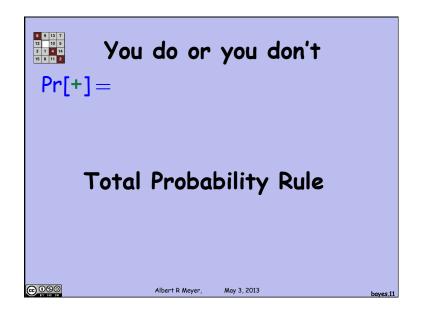
 $Pr[+ | not TB] = \frac{1}{100}$

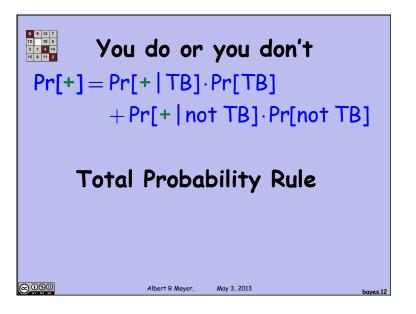
false positive rate only 1%

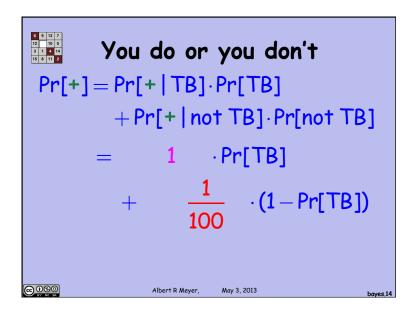
 $\bigcirc 0 \otimes 0$

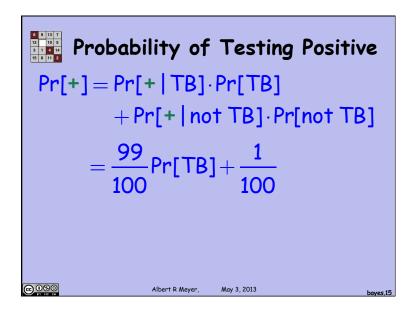
Mayon May 3 2

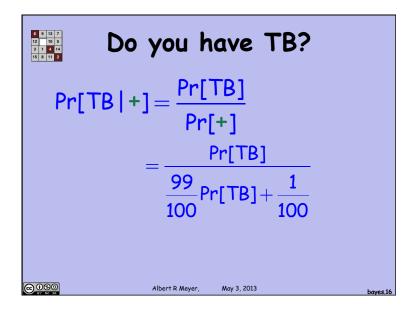


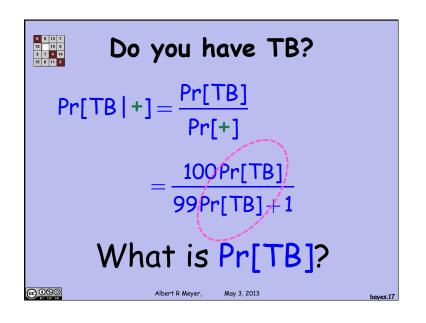


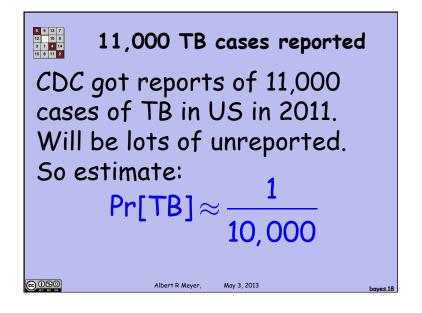


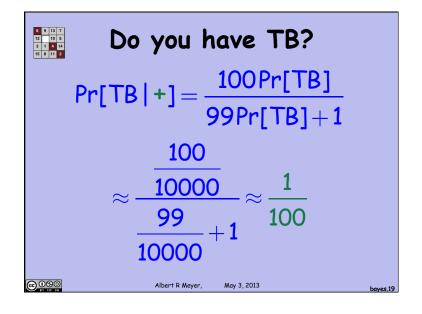


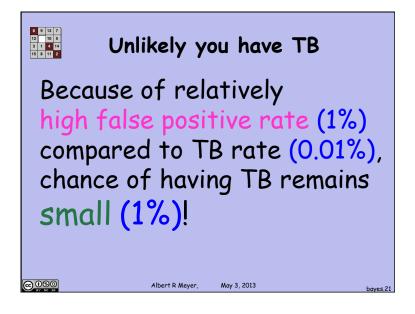


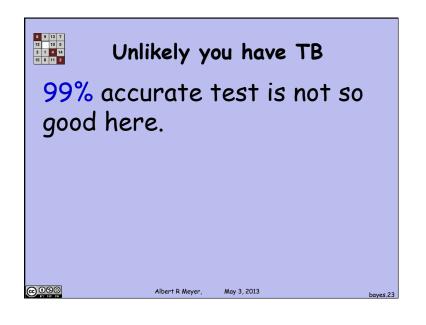


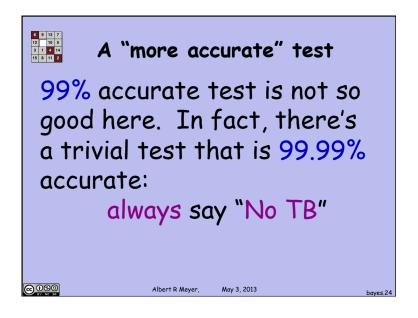


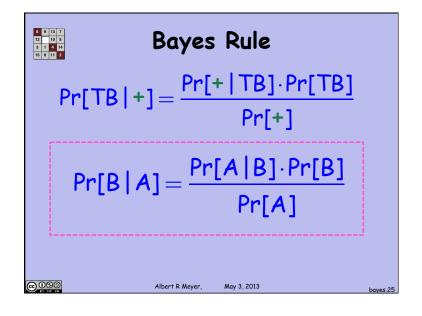


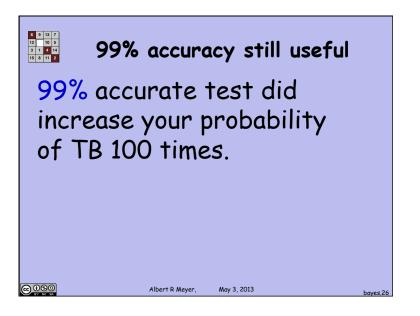














99% accuracy still useful

99% accurate test did increase your probability of TB 100 times. If you only had 5M medicine doses for a population of 350M, whom should you medicate?



99% accuracy still useful

Medicate the 3.5M who test positive, and you're likely to cure nearly all the cases.



Albert R Meyer

r. May 3, 20

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