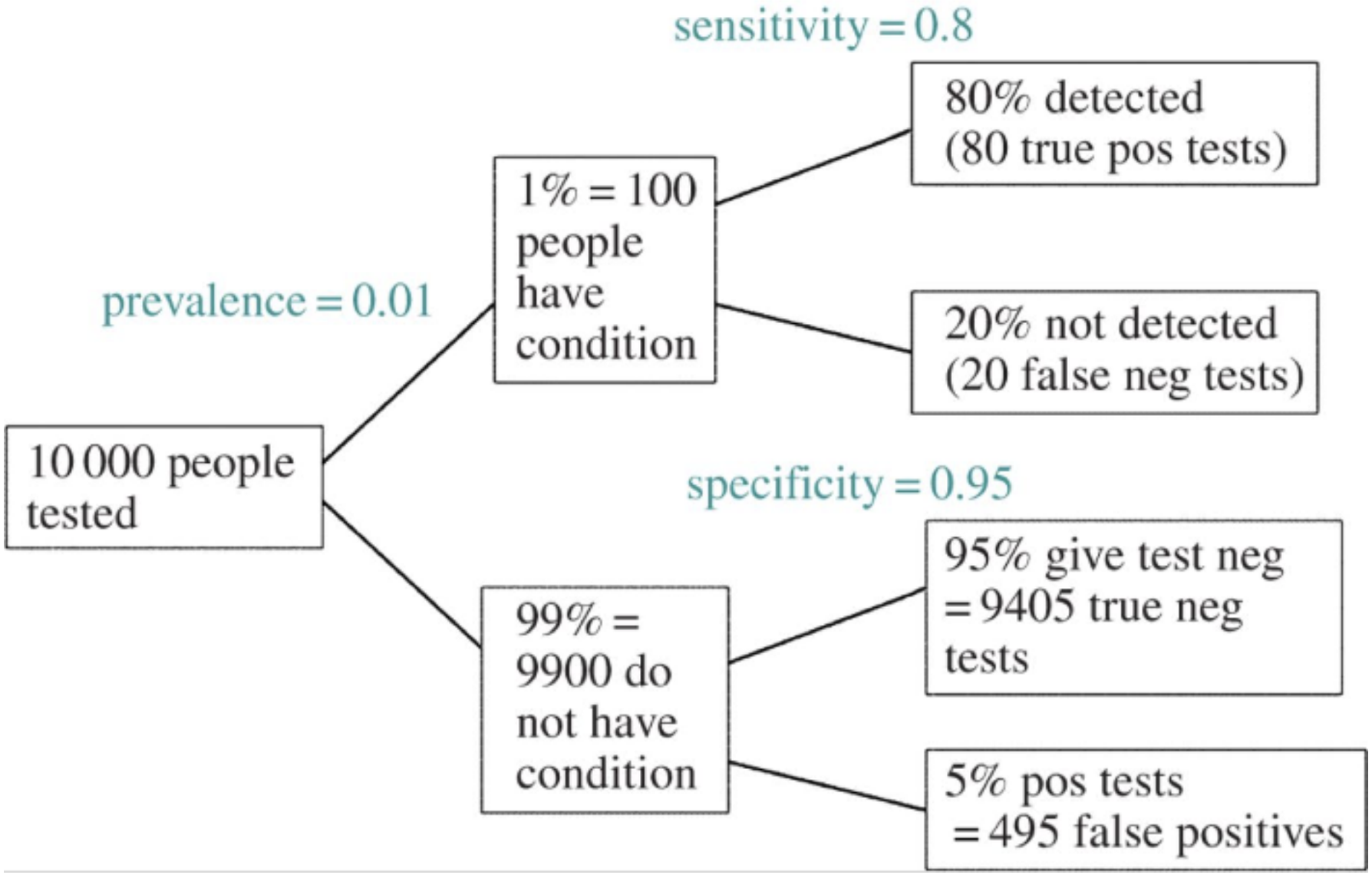
Why Understanding Statistics Matters…

- Imagine a test in which 95% of people without a medical condition will be correctly diagnosed as not having it (specificity = 0.95).

- Imagine the test is able to correctly diagnose 4 out of the 5 people who **do** have the medical condition (sensitivity = 0.8).

- Imagine the prevalence of the medical condition in the population is 1%.

From Colquhoun, D. (2014). An investigation of the false discovery rate and the misinterpretation of p-values. DOI: 10.1098/rsos.140216


sensitivity = 0.8
80% detected
(80 true pos tests)
1% = 100
people
have
condition
prevalence = 0.01
20% not detected
(20 false neg tests)
10 000 people
tested
specificity = 0.95
95% give test neg
= 9405 true neg
tests
99% =
9900 do
not have
condition
5% pos tests
= 495 false positives