

## Bayes' formula and how to use it

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Given a proposition and a 'new finding', then set as:

a, a prior probability estimate for the proposition [prevalence],

b, estimate of prob. of this if the new finding is *true* [sensitivity]

c, estimate of this if new.f. is *false* [false-positive rate, 1-specificity]

(b & c are estimates for how a new finding changes its likelihood)

now the probability of the proposition can be reassessed as:

$$a.b / a.b + c(1-a)$$

Source. Nate Silver, *The Signal and the Noise* 2012