

Health Science Statistics using R and R Commander by Robin Beaumont

Chapter 30 Sensitivity, specificity, predictive values and likelihood ratios

Learning Outcomes

*** = more advanced outcomes**

Learning outcome	Tick box
Be able to explain the difference between a sign, symptom and test	q
Be able to explain and calculate by hand the true and false positive/negative rates using the tree diagram approach	q
Be able to explain why both variables involved in the above calculations should be binary	q
Be able to calculate the positive and negative predictive values given an appropriate tree diagram	q
Be able to define the term likelihood ratio, and be able to state the two types of Likelihood ratio concerned with testing	q
Be able to explain how the likelihood ratio affects the pre-post test probability (and odds ratio)	q
Be able to describe and interpret both the standard and the 2 step modified Fagan normogram	q
Be able to specify the three range bands used to help interpret LR+	q
Be aware that the likelihood ratio approach can also be use for tests that produce interval/ratio level results	q
Be able to produce a confidence interval using the OpenEpi software	q
*Be able to explain the difference between sample estimates and population values for the prevalence of a disease	q
*Be able to create the R code using the <i>Fagan.plot()</i> function in the <i>TeachingDemos</i> package to produce a Fagan normogram	q