Report on Clinical Accuracy and Utility

15 August, 2017

1. Introduction

Welcome to the NIHR Diagnostic Evidence Co-operative Newcastle's Clinical Diagnostic Accuracy and Utility application report. The results of your analysis are reported below.

The test Example: Test detects the condition Example: Disease with sensitivity 90% and specificity 80%. These accuracy statistics were measured in a study population size of 300 where the prevalence of Example: Disease was 40%.

Figure 1. is a plot of the post-test probability of having Example: Disease againist the pre-test probability of having Example: Disease, the prevalence. The green and orange ribbons represent the 95% confidence interval around these values.

The vertical line indicated the pre-test probability or prevalenceof Example: Disease (40%). Where this cuts the green and orange lines, give the probabilities that if the result of Example: Test is negative, then Example: Disease is absent, and if the the result is positive, then Example: Disease is present.

Figure 2. shows how decisions are made with information from a diagnostic test. The clinical utility of the test is the net benefit to patients, and is determined by the outcomes which follow from the management decisions made on the basis of the test's results. Thus, the first step to assessing clinical utility is to understand the factors that determine decision-making.

The threshold for decision making to Example: start treatment is 0.5. This is shown by the orange line. The threshold for Example: rule out the condition is 0.5. This is shown by the green line.

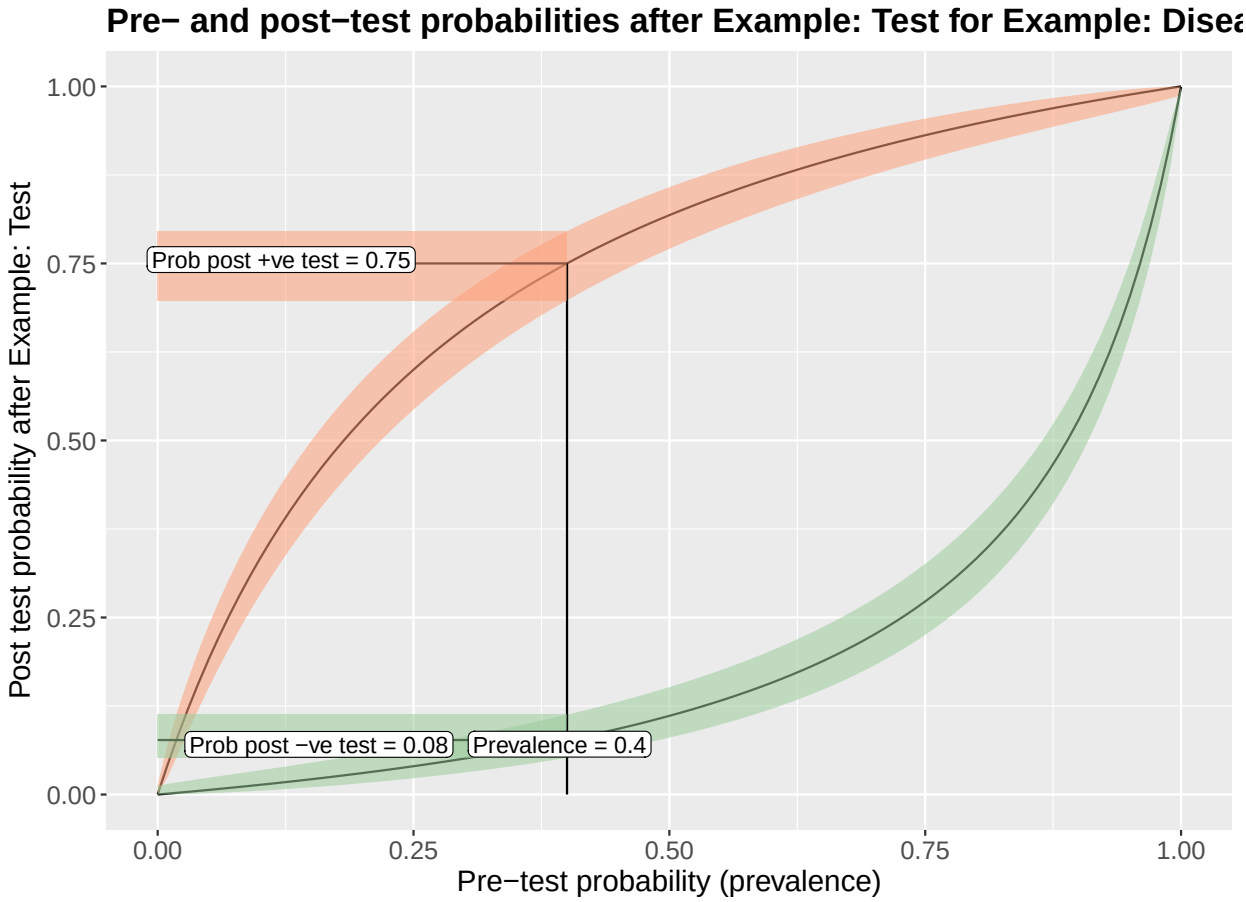

Figure 1: Post test probabilities

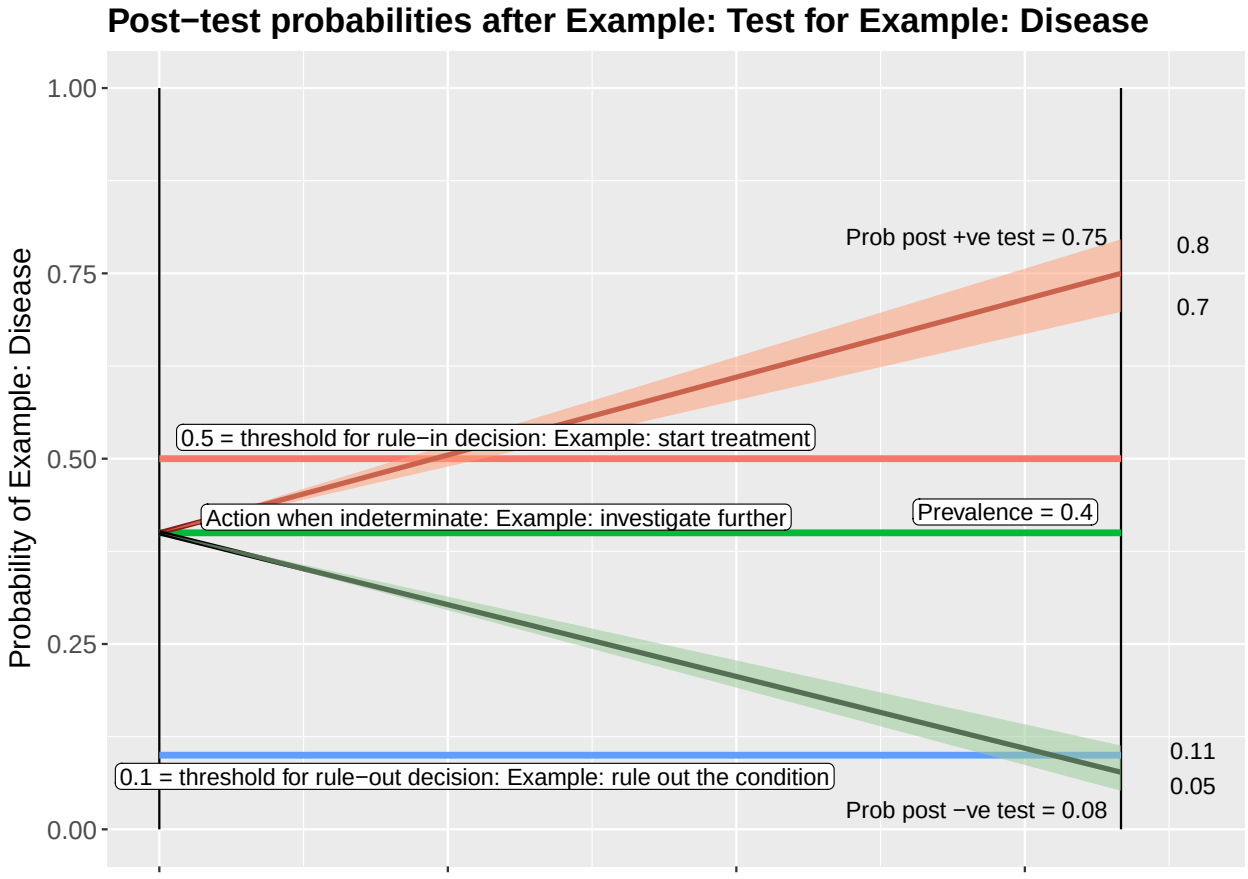

Figure 2: Clinical decision making thresholds