

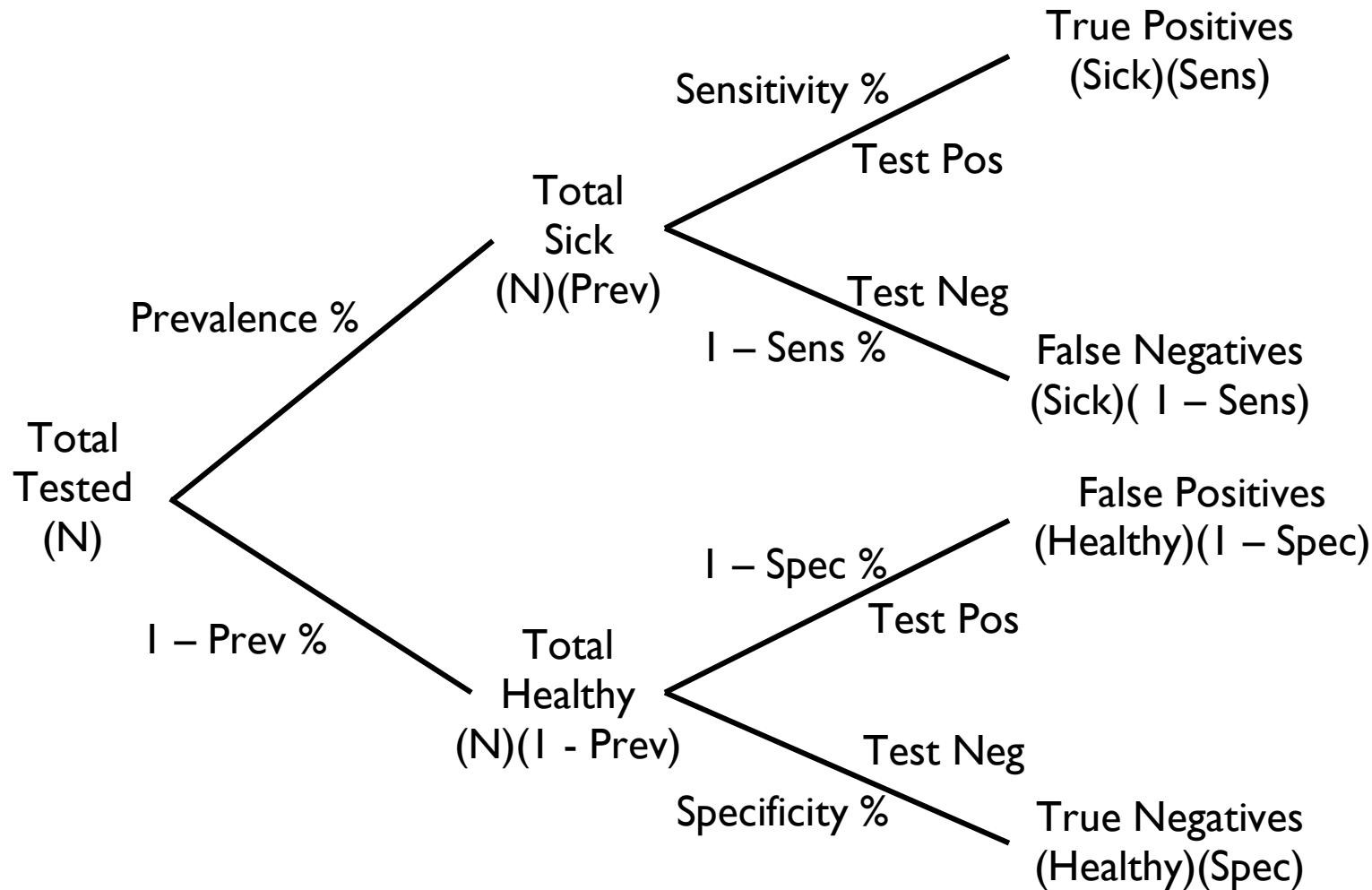


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Probability Tree for Predictive Values of a Diagnostic Medical Test



$$\text{PPV} = P(\text{sick} \mid \text{positive}) = \frac{\text{TruePositives}}{\text{AllPositives}}$$

$$\text{NPV} = P(\text{healthy} \mid \text{negative}) = \frac{\text{TrueNegatives}}{\text{AllNegatives}}$$

Two-Way Table for Predictive Values of a Diagnostic Medical Test

	Sick	Healthy	Total
Positive Tests	True Positives	False Positives	Total Positives
Negative Tests	False Negatives	True Negatives	Total Negatives
Totals	Sick	Healthy	Tested

Start with the Total Tested, then

Total Sick = Total Tested $\times$ Prevalence

Total Healthy = Total Tested – Total Sick

True Positives = Total Sick $\times$ Sensitivity

True Negatives = Total Healthy $\times$ Specificity

False Negatives = Total Sick – True Positives

False Positives = Total Healthy – True Negatives

Total Positives = True Positives + False Positives

Total Negatives = True Negatives + False Negatives

Check: Total Tested = Total Positives + Total Negatives



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