

E. coli example

		Infected <b>D</b>	Not Infected <b>D'</b>
Test Positive	<b>B</b>	9500	100
Test Negative	<b>B'</b>	500	9900
Total		10000	10000

True Positive

False Positive

True Negative

False Negative

Bayes' Rule Example: The Rare Disease Problem

A blood test is 95% effective in detecting a Disease when present.

Suppose it has a 1% *false positive* rate, and

the prevalence is 0.5% for the disease in the population.