+ = positive test result

- = negative test result

D = has disease

DC = doesn’t have disease

C = Complement, i.e. DC = 1 - D

Sensitivity = P (+ | D) = Probability of a + test result, given that a person has a disease

Specificity = P (- | DC) = Probability of a - test result, given that a person doesn’t have a disease

False Positive (+ test; no disease) = P (+ | DC) = 1 – Specificity

False Negative (- test; diseased) = P (- | D) = 1 - Sensitivity

Positive predicted value = P (D | +)

Negative predicted value = P (DC | -)

Prevalence of disease = P (D)

Sensitivity 99.7%

Specificity 98.5%

Population with a .1% prevalence of HIV

**Disease Given a Positive Test**

**No Disease Given a Negative Test**