

# Mass HIV Testing

cf "Screening for HIV: Can we afford the false positive rate?  
Meyer & Pauker NEJM 317 238-241, 1987

EXAMPLE OF A HIGHLY SENSITIVE TESTING PROCEDURE WHICH,  
EVEN WITH A VERY LOW FALSE POSITIVE RATE, WILL, IN A LOW-  
PREVALENCE POPULATION, PRODUCE ALMOST AS MANY FALSE  
POSITIVE AS TRUE POSITIVE TESTS.

e.g. 

SENSITIVITY* = 100%
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SPECIFICITY** = 99.995%
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{ FP=0.005 of 1% }

PREVALENCE*** = 0.01 of 1%
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{ P= 0.0001 or 0.01 of 1% or 1 in 10,000 }

Then, per  $10^5 = 100,000$  tested ...

5 False Positives

10 True Positives

15 Positive Tests

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\*SENS = PROB( Test +ve | Disease )

\*\*SPEC = PROB( Test -ve | No Disease)

\*\*\*PREVALENCE = PROB( Disease)