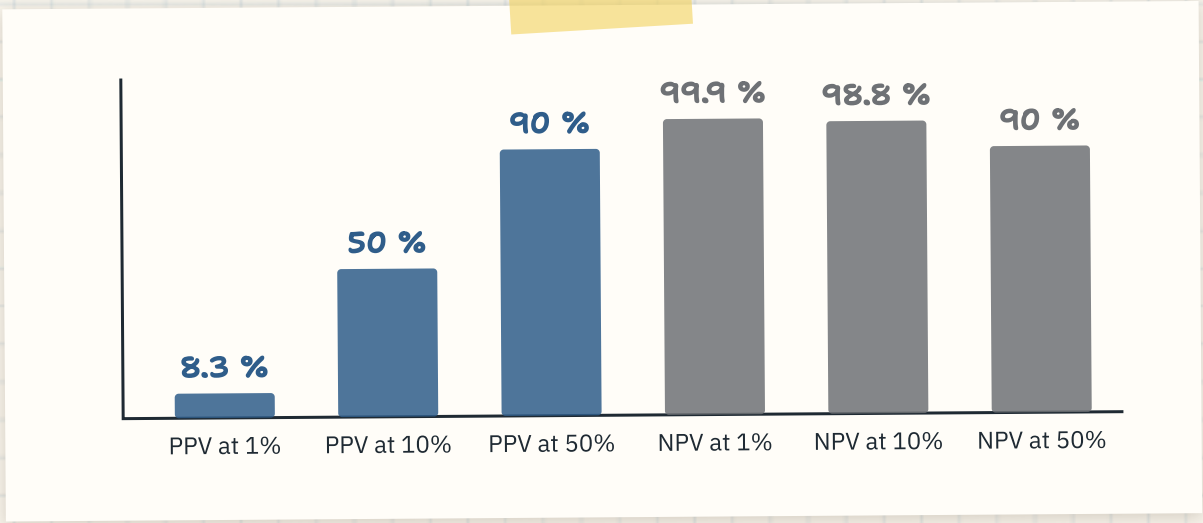
PPV and NPV on one page

Why prevalence moves the predictive values



Step by step

1. Prevalence × 1000 gives the sick; the rest are healthy
2. Sensitivity × sick = TP; specificity × healthy = TN
3. FN and FP are what is left in each group
4. PPV and NPV: divide across the rows

Prevalence	TP	FP	PPV	NPV
1%	9	99	8.3%	99.9%
10%	90	90	50%	98.8%
50%	450	50	90%	90%

Same test: 90% sensitivity, 90% specificity (N = 1000)

PREDICTIVE VALUES

```
PPV = TP / (TP + FP)
NPV = TN / (TN + FN)
```

Read across the rows of the 2×2 table.

Columns versus rows

Columns (truth): sensitivity, specificity

Rows (result): PPV, NPV

Prevalence up: PPV up, NPV down

Exam traps

- Sensitivity and specificity do not change with prevalence; PPV and NPV do.
- At low prevalence, false positives swamp true positives.
- Prevalence is the chance before testing, not the PPV.

PPV, NPV and prevalence explained

Video, written lesson, practice question and sources: medservatory.com/usmle-step-1/biostats-ethics/ppv-npv-prevalence

For exam study only, not medical advice. Follow local guidelines and your lab's ranges.
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