

Untitled

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```
knitr::opts_chunk$set(echo = F)
library(tidyverse)
library(kableExtra)
```

```
## Warning: package 'kableExtra' was built under R version
```

Four phases in architecture of diagnostic research

- ▶ **Phase I** Do test results in patients with the target disorder differ from those in normal people? Table 1 shows the architecture of this question.
- ▶ **Phase II** Are patients with certain test results more likely to have the target disorder than patients with other test results?
- ▶ **Phase III** Does the test result distinguish patients with and without the target disorder among patients in whom it is clinically reasonable to suspect that the disease is present?
- ▶ **Phase IV** Do patients who undergo this diagnostic test fare better (in their ultimate health outcomes) than similar patients who are not tested?

Measures of diagnostic accuracy

	D+	D-
T+	TP	FP
T-	FN	TN

Measures of diagnostic accuracy

	D+	D-
T+	TP	TN
T-	FN	FP

- ▶ Sensitivity = $TP/D+$
- ▶ Specificity = $TN/D-$
- ▶ PPV = $TP/T+$
- ▶ NPV = $TN/T-$

Slide with R Output

```
summary(cars)
```

##	speed	dist
##	Min. : 4.0	Min. : 2.00
##	1st Qu.:12.0	1st Qu.: 26.00
##	Median :15.0	Median : 36.00
##	Mean :15.4	Mean : 42.98
##	3rd Qu.:19.0	3rd Qu.: 56.00
##	Max. :25.0	Max. :120.00

Slide with Plot

