$$P(A \mid B) = \frac{P(B \mid A)P(A)}{P(B)}$$

$$P(\text{heart attack} \mid \text{S}, \text{FH}, \text{HBP}) \propto P(\text{S}, \text{FH}, \text{HBP} \mid \text{heart attack}) P(\text{heart attack})$$

$$P(\overline{\text{heart attack}} \mid \text{S}, \text{FH}, \text{HBP}) \propto P(\text{S}, \text{FH}, \text{HBP} \mid \overline{\text{heart attack}}) P(\overline{\text{heart attack}})$$

The Bayes in Naive Bayes

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$$P(A \mid B) = \frac{P(B \mid A)P(A)}{P(B)}$$

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$$P(\overline{\text{heart attack}} \mid \text{S}, \text{FH}, \text{HBP}) \propto P(\text{S}, \text{FH}, \text{HBP} \mid \overline{\text{heart attack}})P(\overline{\text{heart attack}})$$

The Naive in Naive Bayes

features are **conditionally independent** given the class label

$$P(\text{S}, \text{FH}, \text{HBP}) = P(\text{S}) \cdot P(\text{FH}) \cdot P(\text{HBP})$$