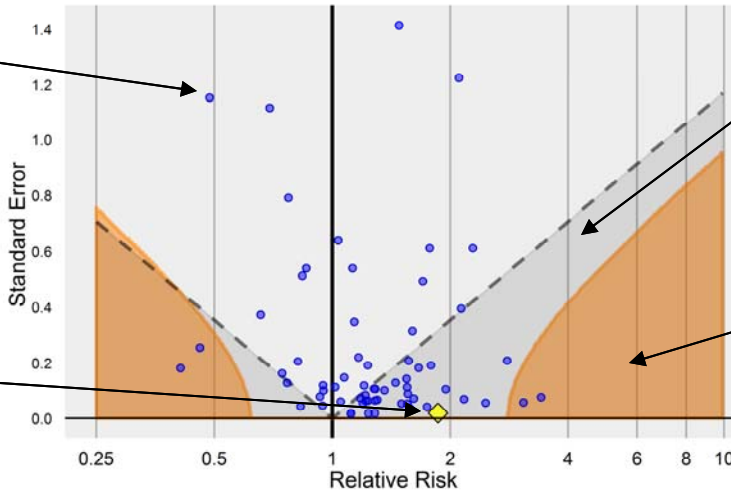


# An empirical approach to null hypothesis testing – Martijn Schuemie

Blue dots represent negative controls

The yellow diamond represents the drug of interest



Estimates that fall in the gray area (below the dashed line) have a p value below .05, using traditional (theoretical) p-value calculation

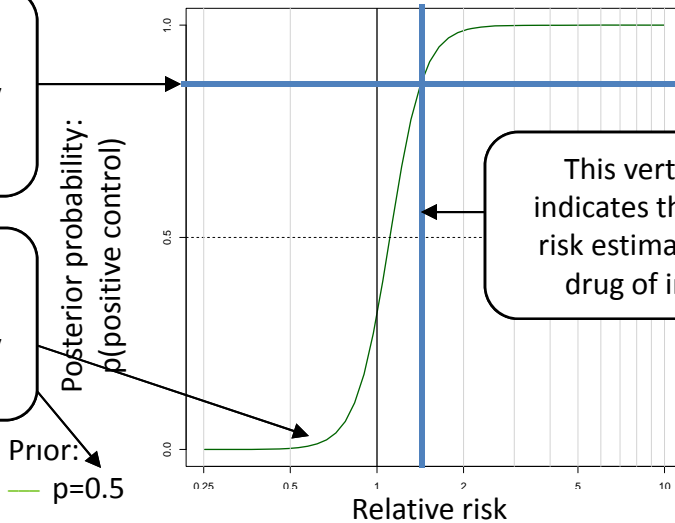
Estimates that fall in the orange area have a p value below .05, using empirical p-value calculation

# Computing the probability of a true association – David Madigan

Method: CC-2000314, Source: CCAE, HOI: GI Bleed

At the estimated relative risk, the posterior probability that an association exists is 0.9

The green line indicates the posterior probability when the prior = 0.5

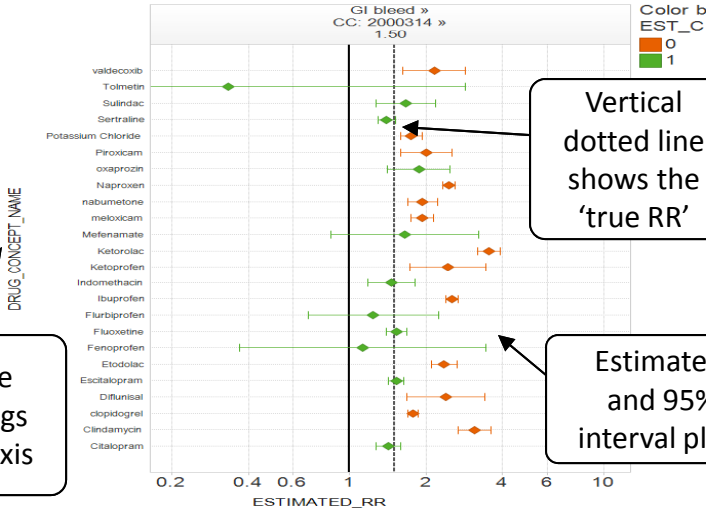


This vertical line indicates the relative risk estimate for the drug of interest.

Different methods, outcomes, SEs and priors have different posterior probability curves

# Interpreting effect sizes from confidence intervals – Patrick Ryan

Original estimated effects



**Coverage probability:** Proportion of test cases where the estimated confidence interval contains the true effect

If properly calibrated, **95%** of graph should be **green** (contained true RR) and only 5% should be **orange**

Vertical dotted line shows the 'true RR'

Estimated relative risk and 95% confidence interval plotted on x-axis

All 'positive control' drugs listed on y-axis