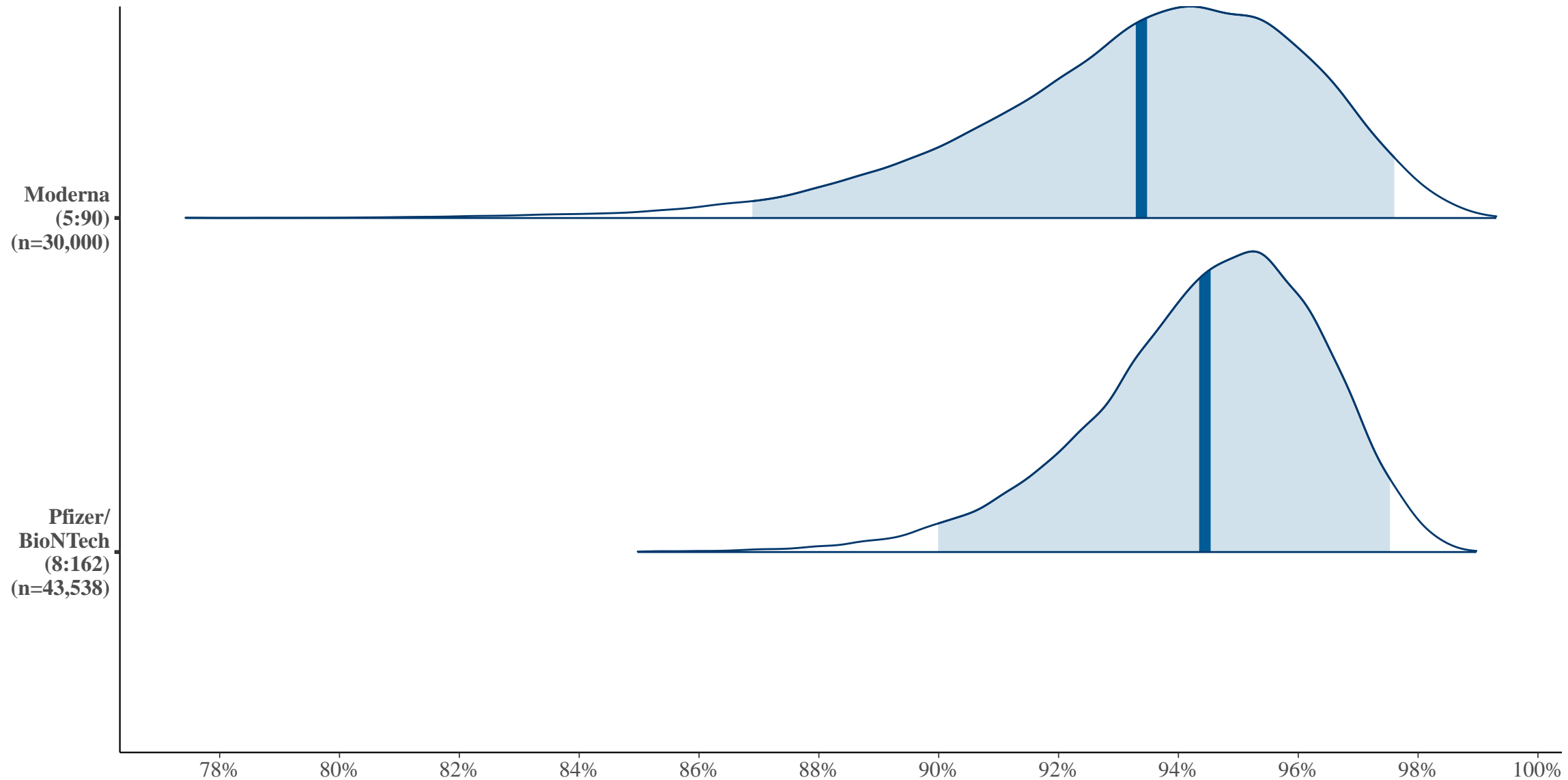# COVID−19 Vaccine Efficacy Rates Estimation for Moderna & Pfizer/BioNTech (Posterior Distributions)

Shaded regions show 95% credible intervals
Solid lines show mean values

Moderna
(5:90)
(n=30,000)

Pfizer/
BioNTech
(8:162)
(n=43,538)

78% 80% 82% 84% 86% 88% 90% 92% 94% 96% 98% 100%

Based on a Bayesian model using an uninformative uniform prior of rate & a binomial likelihood for the data.
Model fit with Stan using Hamiltonian MCMC.
Equal split of subject number (n) between vaccine & placebo groups assumed.
Data sources: https://bit.ly/3pFiAhV   https://bit.ly/2HdGXSD   https://bit.ly/3nAsyzs
Code: https://bit.ly/32WDn6N
Created by: Andrew Kostandy