

How well-calibrated should Bayes procedures be?

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In his Fisher Lecture in 2018 Stephen Senn professed himself to be no fan of Bayesian approaches in which p-values are modified to behave like Bayesian tests. He allowed that my view that Bayesian approaches which are modified just to make them behave like p-values is equally bad. If we are to accept that position where does that leave us as far as the frequentist operating characteristics of Bayesian approaches goes. In my view there is a place to understand the operating characteristics of a Bayesian approach. But that does not mean we have to hold ourselves to a rigid, artificial, standard which I call “perfect calibration”. In this presentation I argue that a Bayesian should aim to be “well-calibrated” adhering to a philosophy espoused in the FDA CDRJ Guidance on Bayesian Methods “it may be appropriate to control the type I error at a less stringent level than when no prior information is used”.