

Brainstorm: When to use RACplots

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Intro: tradeoffs of RACplots

AC plots are interesting, but there are certain tradeoffs involved in making one. In a simulated setting, creating an RAC plot is as simple as writing the code, since observations are expendable and the ground truth is knowable. In the applied setting, there are two main considerations:

1. When is it worthwhile to expend the observations to fit a prognostic score?
2. When might an AC plot actually be misleading?

The answer to 1. is discussed in part in Aikens, Greaves, and Baiocchi (2020). In general, it's probably not useful to expend observations for the sole purpose of making an AC plot unless observations are extremely plentiful (e.g. hundreds of thousands; so many that the cost is virtually zero), but if you have made the decision to fit a prognostic score for matching, stratification or some other purpose, the AC plot is a nice diagnostic "bonus." ***Perhaps if something has gone very wrong after an analysis, you could fit a prognostic score on the whole data set for a post-mortem breakdown.***

Citations

Aikens, Rachael C, Dylan Greaves, and Michael Baiocchi. 2020. "A Pilot Design for Observational Studies: Using Abundant Data Thoughtfully." *Statistics in Medicine*. Wiley Online Library.