

Geography Is Not Destiny: A Bayesian Reassurance for Future Rural Physicians

Carlos Acosta-Batista

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To the Editor:

I read the recently-published study by Larson et al¹ with the keen interest of an applicant preparing for family medicine residency training. For candidates dedicated to primary care, the choice between rural and urban programs often presents a dilemma: does choosing a setting committed to the underserved come at the cost of educational rigor? While the authors report no statistically significant difference in preceptor ratings ($P=.97$), the anxiety regarding potential disparities in training quality often persists among applicants.

To explore this from a decision-making perspective, I re-examined the family medicine data from the authors' Table 2 (rural, $n=1,206$; nonrural, $n=3,248$; both means= 5.69) using a Bayesian framework. Rather than seeking statistical significance, I sought to quantify the certainty of educational equivalence. By defining a Region of Practical Equivalence (ROPE) of ± 0.1 on the Likert scale to represent negligible differences, the analysis reveals that the entire 95% highest density interval of the difference falls within this equivalence range. This confirms with near 100% probability that rural and urban preceptors in this specialty are effectively equivalent.

For a future resident, this finding is profoundly reassuring. It suggests that the "educational alliance"—the mentorship bond between learner and preceptor—is geography-independent. This mathematical confirmation shifts the narrative for applicants: we need not fear a "training trade-off" when choosing rural tracks.

As I have recently discussed regarding the assessment of competencies in underserved populations,² true readiness for family medicine involves more than technical skills; it requires immersion in the community realities. This analysis empowers applicants to choose rural programs confidently, knowing that the quality of mentorship remains robust, allowing us to focus on what matters most: our social commitment to the patient.

Corresponding Author

Carlos Acosta-Batista

Primary Care - Research Initiative (PCRI), Miami Lakes, FL

carlos.acosta@pcri-research.org

Author Affiliations

Carlos Acosta-Batista - Primary Care - Research Initiative (PCRI), Miami Lakes, FL

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