Defining rural: The Predictive Value of Medical School Applicants' Rural Characteristics on Intent to Practice in a Rural Community

RIME Research Papers
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Purpose: There is a shortage of rural physicians. Although medical students from rural backgrounds are more likely to practice rurally, it is unclear how best to define 'rural background' from an admissions perspective. Study purpose was to understand the predictive value of medical student application characteristics on rural practice intent.

Approach/Methods: Authors constructed a linked database of 2012-2017 medical school matriculants from AMCAS applications, AAMC Matriculating Student (MSQ, 2012-2017), and Graduation Questionnaires (GQ, 2016-2018). Using logistic regression, they compared application variables [birth, high school, childhood county; and self-declared geographical origin] to students' MSQ and GQ intent to practice rurally. Rural practice intent from matriculation to graduation was compared using McNemar test for paired nominal data.

Results/Outcomes: 115,027 students met inclusion criteria. More students self-declared rural origin (18,662; 16.4%) than were identified using geographically-coded variables (6,097-8,784; 6.1%-8.1%). Geographically-coded rural variables were all strongly and similarly associated with rural practice intent, with rural high school being the most predictive on both MSQ (OR 6.51, CI 6.1-7.0) and GQ (OR 5.4, CI 4.9-6.0). Self-declared geographical origin was associated with a similar rural practice intent on both MSQ (OR 6.93, CI 6.5-7.3) and GQ (OR 5.69, CI 5.2-6.2). Rural practice intent declined for all groups from matriculation to graduation.

Conclusions: Considering students who self-declare as rural identifies a larger group of rural medical school applicants than more “objective” geographic variables, without negatively impacting students’ predicted interest in eventual rural practice. Further research should track actual practice location and explore strategies to mitigate declining rural career interest.
Can Non-Clinician Raters Be Trained to Assess Clinical Reasoning in Post-Encounter Patient Notes?

RIME Research Paper
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Purpose: Clinical reasoning is often assessed through patient notes (PN) following standardized patient (SP) encounters. While non-clinicians can score PNs using analytic tools such as checklists, these do not sufficiently encompass the holistic judgments of clinician faculty. To better model faculty judgments, the authors developed checklists with faculty-specified scoring formulas embedded in a spreadsheet, and studied the resulting inter-rater reliability (IRR) of non-clinician raters (SPs and medics) and student pass/fail status.

Methods: In Study-1 (pilot phase), non-clinician and faculty raters rescored PNs of 55 third-year medical students across 5 cases of the 2017 Graduation Competency Examination (GCE) to determine IRR. In Study-2 non-clinician raters scored all notes of the 5-case 2018 GCE (178 students). Faculty rescored all notes of failing students, and could modify formula-derived scores if they felt appropriate. Faculty also rescored and corrected scores of additional notes, for a total of 90 notes (3 cases, including failing notes).

Results/Outcomes: Mean overall percent exact agreement between non-clinician and faculty ratings was 87% (weighted kappa .86) and 83% (weighted kappa .88) for Study-1 and Study-2, respectively. SP and medic IRRs did not differ significantly. Four students failed the note section in 2018; three passed after faculty corrections. Few corrections were made to non-failing students’ notes.

Conclusion: Non-clinician PN raters using checklists and scoring rules may provide a feasible alternative to faculty raters for low-stakes assessments and for the bulk of well-performing students. Faculty effort can be targeted strategically at rescoring the notes of low-performing students and providing more detailed feedback.