

The Relationship Between Preclinical Grading and USMLE Scores in US Allopathic Medical Schools

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BACKGROUND AND OBJECTIVES: Pass/fail preclinical grading is associated with improved student well-being. Studies do not demonstrate differences in United States Medical Licensing Examination (USMLE) scores after adopting pass/fail grading, but were conducted at unrepresentative, highly selective institutions, and average scores increased overall during the study periods. We investigated the effect of preclinical grading on USMLE scores across 96 US medical schools.

METHODS: Preclinical grading systems were identified with the 2017 Association of American Medical Colleges Medical School Admissions Requirements. Median undergraduate grade point average (GPA) and Medical College Admission Test (MCAT) scores and average Step 1 and Step 2 clinical knowledge (CK) scores were available for 96 of 142 US medical schools on US News Grad Compass. Multiple linear regression was used to adjust for entering student characteristics, and one-tailed Student's *t* tests were used to test for noninferiority. Noninferiority margins were calculated using standard errors from the USMLE Score Interpretation Guidelines and average class size.

RESULTS: Fifty-six (58.3%) of 96 schools use pass/fail preclinical grading. After adjusting for MCAT, pass/fail grading was not associated with significant differences in average Step 1 ($P=0.98$) or Step 2 CK ($P=0.63$). The 90% confidence interval of the effect of pass/fail grading on Step 1 (-1.27, 1.24) did not cross the noninferiority margin of -1.33 ($P=0.043$). The 90% confidence interval for Step 2 CK (-1.46, 0.81) also did not cross the noninferiority margin of -1.5 ($P=0.044$).

CONCLUSIONS: Pass/fail preclinical grading is noninferior to tiered preclinical grading in terms of USMLE scores.