



Progress Testing of Knowledge and Skills for Medical School Grading and Promotion

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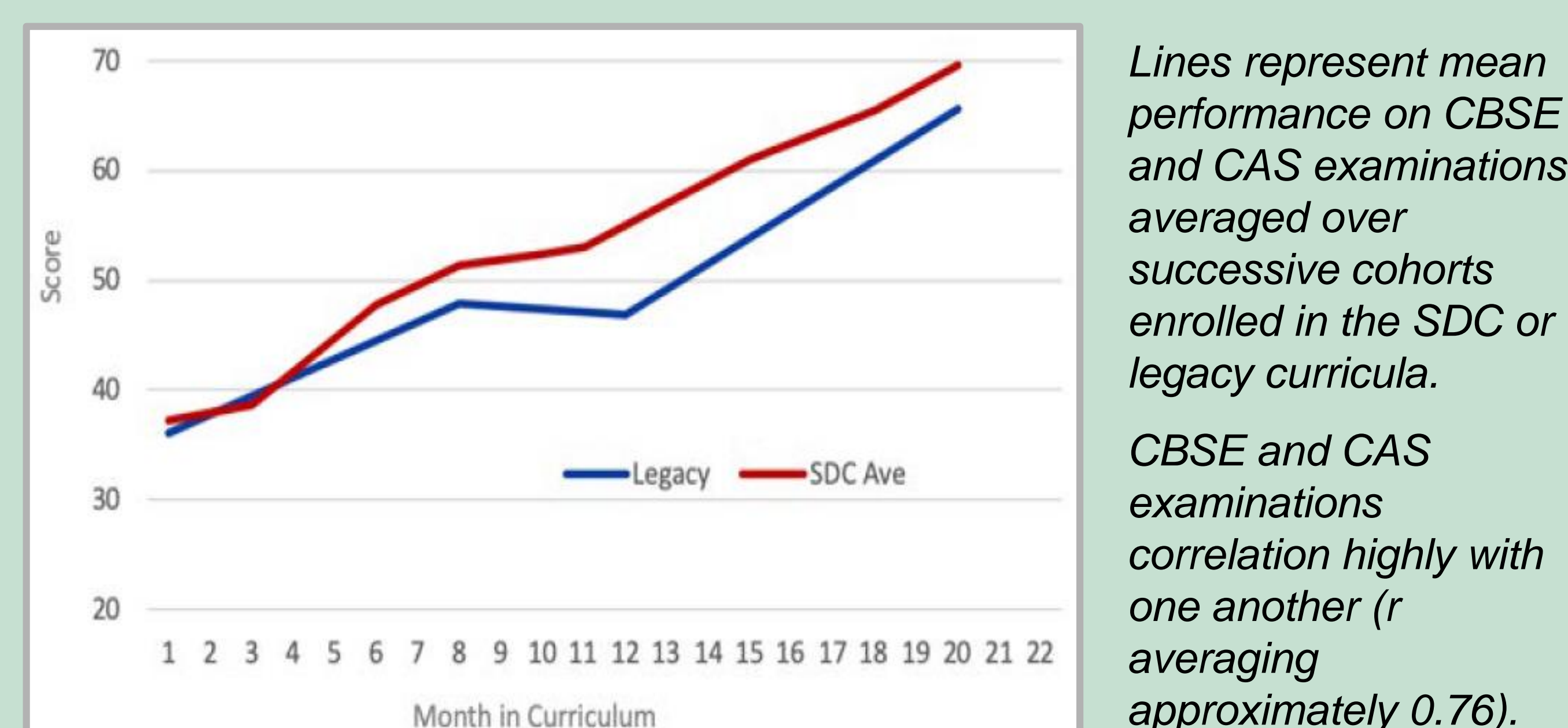
INTRODUCTION

- Progress testing is a summative assessment approach where learners complete comprehensive tests of end-competency at regular intervals to monitor their progress over time.
- In 2016, Michigan State University College of Human Medicine adopted a competency-based integrated curriculum and a system of progress testing as the primary summative assessment of learner skills and knowledge outside of clerkships.
- In the first two years, aside from portfolios, there are no course-based summative assessments.
- We describe the implementation of progress testing and preliminary findings related to the growth of medical student skills and knowledge in the pre-clerkship curriculum and as preparation for USMLE Step 1.

METHODS

- Students take progress tests twice each semester to assesses knowledge, clinicals kills and professional behaviors.
 - Over five pre-clerkship semesters in the first two years, each student completes 10 progress suites.
- **Comprehensive Necessary Science Examination (CNSE)**
 - Multiple versions of the NBME Comprehensive Basic Science Exam (M1-M2), Comprehensive Clinical Science Exam (M3), and customized assessments (M1, M2, M4).
 - Provide data to benchmark students' mastery of content.
- **Progress Clinical Skills Examination (PCSE)**
 - 8-station OSCE with 15-minute standardized patient (SP) encounters and 10-minute post encounter tasks.
 - SP checklists assess interactional skills, history taking, physical examination, patient counseling and safety science.
 - Post-encounter task that requires application of knowledge or completion of a clinically relevant task.
- **Semester Portfolio**
 - Includes individual learning plans, multisource feedback, workplace based assessments, and artifacts to demonstrate competence.

Comprehensive Necessary Science Examination scores for Shared Discovery versus Legacy Curricula Cohorts



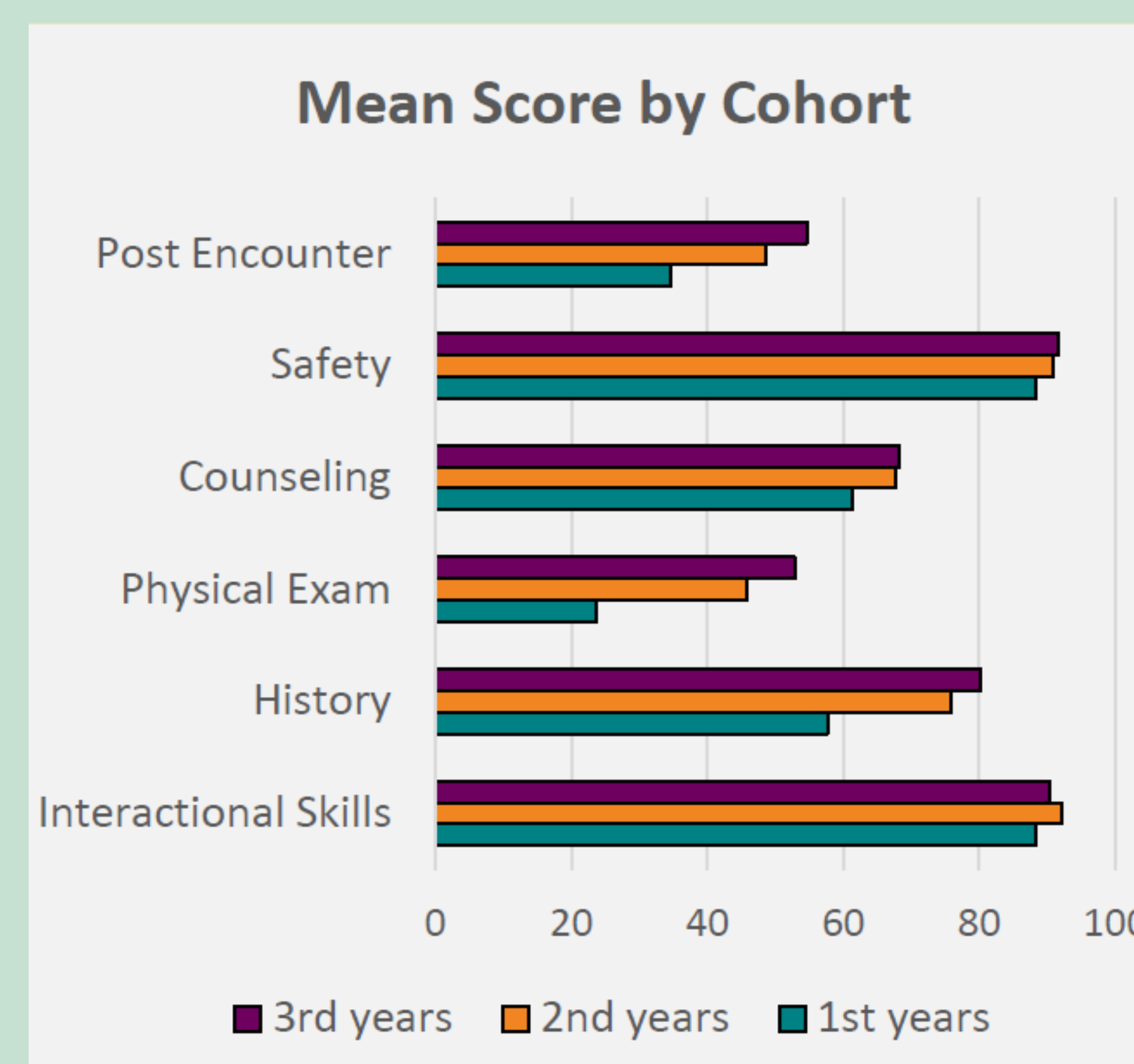
Progress Clinical Skills Examination scores by Shared Discovery Curriculum Cohort

Scores are compensatory across cases.

Cases are anchored to graduation expectations and based on the hundreds of curricular capstone cases.

Checklists sample skills,; greatest variation by case is seen in history taking and physical examination.

Ceiling effects are observed for interactional skills, which remain quite high across all 4 years.



RESULTS

- 4 matriculating classes have participated in 17 iterations of progress testing, representing over 3800 assessments.
- Data from knowledge assessments are starting to provide developmental milestones for content mastery for student and program feedback.
- As expected, there is a clear and consistent pattern of increasing knowledge scores for each student cohort over time. Based on this progression, achievement expectations have been developed for each semester.

DISCUSSION

- While the overall number and intensity of the testing scheme is reduced by progress testing, students do not always adjust their expectations of “crushing” each test.
- The performance standard for the first mid-semester progress test approximates chance and is initially frustrating for many students.
- The use of question banks developed and maintained by the NBME assured that students would get adequate practice with “board-type questions.”
- Similarly, the use of clinical skills progress testing has facilitated the identification of developmental milestones, and the frequent contact with decontextualized SP encounters helps build confidence in their interactional and data gathering skills.
- Multisource feedback has enabled a fuller picture of student behaviors.
- Students create individualized learning plans to address weaknesses identified by their progress examinations, beginning what is hoped to be a lifelong learning habit..

SIGNIFICANCE

- Progress testing avoids focused and promotes habits for successful life-long learning and acquisition of relevant knowledge, skills and attitudes.
- Students incorporate content review in daily studying.
- This approach reduces students' exam-related stress and aids in the early identification of struggling students.
- The PCSE demonstrates one of the first, if not the first, implementation of a longitudinal assessment of clinical skills development.

- The strategy is both feasible and consistent with current initiatives to enhance workplace-based assessment.

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