METHODS

This basic design can be repeated over at least two curricular blocks and potentially with an additional cohort to gather the necessary data.

- A cohort of first year medical students will be invited to voluntarily participate in the study.
- They will be given information about the Exam Wrapper and study procedure and asked to complete the Modified Motivated Strategies for Learning Questionnaire (MMSLQ).
- Participating students will be asked to fill out a paper Exam Wrapper form during the review period for each formative quiz during a block of coursework.
- The form will be turned in to the proctor at the conclusion of the review for content analysis and to maintain security. A copy will be made available to students for personal study purposes anonymously.
- Participants will be asked to complete the MMSLQ again at the conclusion of the block to measure changes in metacognitive behavior.
- Participants will also be asked to provide feedback on the Exam Wrapper form and given an opportunity to suggest changes that would be beneficial.

EVALUATION PLAN

- The MMSLQ will be the primary means of evaluating the primary outcome of this project.
  - This is a 34-item 7-point Likert style questionnaire that has been designed to evaluate medical students' reflection on their learning.
  - The primary outcome measure will be changes to metacognitive behaviors in the participants based on differences in the pre-test and post-test scores using this instrument.
  - The Exam Wrapper forms will be evaluated for content to attempt to recognize trends of academic strengths and weaknesses across the participant cohort.
  - The participants will be asked to provide anonymous feedback about the forms and their administration which will only be used to improve the form and method of delivery.

NEED/RATIONALE

- During the preclinical years of medical school, one of the drivers of learning behaviors is assessment practices.
  - Formative assessments provide a way for students to test their knowledge in a lower-stakes environment.
  - The link between formative assessment performance and summative assessment performance is indirect and not fully understood.
  - Metacognitive behaviors like self-monitoring and self-assessment are regarded as important skills for physicians.
  - These skills when studied have been shown to be poorly developed or inaccurate in physicians.
  - Designing a tool that allows students to systematically practice metacognition through as a part of their regular assessment schedule may address both considerations.

IDEA

- The goal of this study will be to implement a post quiz/exam self-assessment tool for preclinical medical students by answering the following questions.
  - Do preclinical medical students engage in metacognitive analysis of their performance on formative quizzes?
  - Does the Exam Wrapper help students systematically engage in these behaviors?

POTENTIAL IMPACT

- The current method of self-reflection on quizzes and exams that is available to students at the Brody School of Medicine is the Learning Improvement Plan Pre-Meeting Reflection (LIPPMR) form.
  - The LIPPMR form is only used for students who have not met required academic benchmarks.
  - The form consists of free response questions and does not ask about specific questions or content areas.
  - While the Exam Wrapper cannot replace the LIPPMR form due to its different focus, it could supplement it with feedback about specific quiz and exam questions.

REFERENCES