

# Pilot Program in Clinical Microbiology Laboratory Simulation for MLS Students

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## ABSTRACT

Medical laboratory science educational programs face the challenge of placing students for clinical practica/rotations. In a nonmedical university, this has been particularly true for clinical microbiology practica as local health care systems centralize microbiology, serology, and molecular testing services with smaller hospitals, which house "stat labs" only. Encouraged by the success of an immunohematology simulation practicum implemented over 15 years ago, in the summer 2018 faculty piloted a clinical microbiology simulation laboratory to satisfy entry-level practical competency requirements. The pilot program consisted of 3 weeks of on-campus laboratory simulation followed by a 2-week hospital clinical experience, as opposed to 5 weeks in the clinical setting in the traditional practicum. In the laboratory simulation, students completed clinical microbiology evaluations on all clinical specimen types. Identification techniques

included bench-top tests, automated identification, and antibiotic susceptibility testing. Students used rapid-kit tests and performed quality control. Upon completion of the students' practicum final examination and the microbiology section of the comprehensive program exit examination, faculty evaluated student learning using 2-sample t-tests to establish if statistically significant differences existed in the scores achieved by students enrolled in the pilot versus the traditional model. We hypothesized that no such differences would exist. There were no statistically significant differences among the postpracticum examination results achieved by both groups ( $P < 0.05$ ). We conclude that students had an equally valuable learning experience in both practicum models and plan to expand the on-campus simulation to alleviate clinical site shortage.

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