White Paper

2023 Demonstrating Efficacy in Clinical Judgment Skills Using the Digital Clinical Experiences™

2023 DEMONSTRATING EFFICACY IN CLINICAL JUDGMENT SKILLS USING THE DIGITAL CLINICAL EXPERIENCES™

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INTRODUCTION

New nursing graduates are faced with transitioning into high-demand clinical roles where they are responsible for making decisions about patient care without the safety net of their clinical faculty and preceptors. In fact, recently surveyed new graduate nurses rated managing stress, time management, and making decisions about patient care (clinical judgment) as their top three difficulties in their first year of their nursing career (Wong, Valimaki, Zimmerman, Bennett, & Calero, 2021). This transition from educational training to practicing nurse can be challenging, especially with making decisions about patient care. Over the past decade, there has been a widening of preparation to practice reported in serial studies from Kavanaugh (2017); Kavanaugh 2021, which reported only 23% of new graduates were rated as acceptable to practice independently in their 2017 report and then declined to only 8% as of their 2021 publication. Clinical judgment and decision making are critical skills for new graduate nurses in order to demonstrate they are ready to care for these increasingly complex patients (Mirza, Manankil-Rankin, Prentice, Hagerman, & Draenos, 2019). In response to this need for increasing skills in clinical judgment, the National Council of State Boards of Nursing (NCSBN) developed and is launching an updated Next Generation National Council Licensing Examination (NCLEX®) in April 2023, which includes novel items aligned with the NCSBN Clinical Judgment Measurement Model.

Educators have been spending the past couple of years updating curriculum and courses to better prepare their learners for this updated NCSBN examination and the inclusion of new clinical judgment question types, along with activities aimed at improving clinical judgment skill development. Integration of learning activities to practice and develop clinical judgment is key, along with evaluation of these clinical judgment skills. Learners need supportive learning environments in order to develop clinical judgment skills within the context of a variety of patient cases. Educational experiences should focus on application of skills with feedback and evaluation of clinical judgment development. Activities which incorporate all the layers of the NCSBN Clinical Judgment Measurement Model (Dickison, Haerling, & Lasater, 2019), allow for development of clinical judgment skills. Using this framework, specific learner behaviors can be identified and assessed to determine if they are developing the decision-making skills necessary to support clinical judgment, however, there are few commercial items that support improvement of clinical judgment skills.

THE RESEARCH AIMS

Learners have the opportunity to interact with standardized virtual patients using Shadow Health® Digital Clinical Experiences™ (DCEs) where they complete patient care activities, including collection of history and physical examination data, therapeutic communication skills, and creation of care plans. This white paper will explore how achievement of specific items within a DCE assignment, representing expected behaviors and actions aligned with the NCSBN Clinical Judgment Measurement Model demonstrate changes over time for clinical judgment skills.

THE RESEARCH PROCESS

The research team at Elsevier used a sample of first semester, prelicensure nursing students from a public university located in the Southwestern United States that integrated the simulation pre/post-test for the *Chest Pain: Focused Exam* assignment from the Shadow Health Assessment DCE in the spring 2021 semester. Learners completed the exact same patient assignment with one attempt each time, no assistance from the interview guide, no limit on time to complete, and no review of their results until after the course was completed. Sample inclusion criteria included completing both the pre- and post-test assignments, spending a minimum of ten (10) minutes, but no more than four (4) hours, assessing the virtual patient in each interaction, and obtaining an overall raw score greater than zero in each assignment. The final sample used for this study consisted of 2,246 learners.

Scored items from the *Chest Pain: Focused Exam* assignment were mapped to layer 3 of the National Council of State Boards of Nursing Clinical Judgment Measurement Model (NCSBN-CJMM) (Betts, et al., 2019) to demonstrate the behaviors and findings necessary to uncover in the context of the *Chest Pain: Focused Exam*. Items scored as correct within the DCE were developed by a panel of nursing education experts during the patient case development.

RESULTS

Analysis of the 2,246 submissions matched pre- and post-test attempts to compare how learners scored in each area. Overall, clinical judgment improved in all areas from the pre-test, beginning of the semester, to the post-test at the end of the semester. Pre-test findings showed an average of 57% of clinical judgment items uncovered, while the average clinical judgment items uncovered in the post-test were 74%. Items from the subjective data collection, education and empathy, and objective data collection within the DCE were tagged to align with specific areas of *Recognize Cues* and *Analyze Cues.* Items from the care planning activity were tagged to align with *Prioritize Hypotheses, Generate Solutions, Take Actions,* and *Evaluate Outcomes* from the NCSBN-CJMM.

Learner results were broken down into three subsets which identified 74% of learners with an increase in their overall score from pre-test to post-test, 6% of learners who remained stagnant in their scores from pre-test to post-test, and 20% of learners who had a decrease in their scores from pre-test to post-test. As learners are able to uncover more findings within the *Recognize Cues* section, they score higher within the *Prioritize Hypotheses* section of the activity. Learners who stayed stagnant in the *Recognize Cues* section, showed no change in the collection of items from pre- to post-test and did not have as dramatic of a rate of growth in the *Prioritize Hypotheses* section because they did not uncover additional data.

Learners in the subset that increased their findings and clinical judgment, achieved collection of 46% **more** items in the post-test and spent 9% **less** time in the interaction. At the same time, learners in the stagnant subset had a 0% change in achievement of items in the post-test and spent 24% less time in the interaction. Finally, learners in the subset with a decrease in findings from pre- to post-test uncovered 24% fewer items in the post-test and spent 30% less time in the interaction. This final group represents learners who did not take the assignment seriously, which was apparent in the items uncovered. A correlation can be seen between the patient interaction time and scores, with learners who spend time achieving higher scores overall. However, learners in the subsets of increased overall score or stagnant overall scores spent as much time on the post-test as the pre-test, while learners in the decreased overall score spent 30% less time on the post-test. For the subset of learners who increased their findings, they spent an average of 61 minutes in the interaction compared to the learners who had a decrease in the findings, with an average of 50 minutes in the interaction.

This analysis looked at measuring progress for identification of signs and symptoms of chest pain, development of a hypothesis about the chest pain, determination of a plan, nursing interventions, and evaluation of patient outcomes within the screen-based simulation. Shadow Health is an effective tool to **teach** clinical judgment as we are comparing impacts on clinical judgment from learners engaging with DCEs in mastery mode.

IMPLICATIONS FOR PRACTICE

Nursing practice requires the collection of pertinent data to demonstrate decision-making and clinical judgments about how to improve patient outcomes. In order to demonstrate clinical judgment, learners need a solid foundation in recognizing cues. This study demonstrated that as learners are able to uncover more findings within the *Recognize Cues* area of the CJMM, they score higher within the *Prioritize Hypotheses* or ability to determine the problem. Therefore, learners who do not uncover enough pertinent information are making errors in judgment. Elsevier's Shadow Health Digital Clinical Experiences provide a complete patient interaction and are effective in developing clinical judgment skills.

Elsevier's Shadow Health Digital Clinical Experiences provide realistic interactions with virtual patients using a patented conversation engine. Clinical judgment behaviors such as *Recognize Cues, Analyze Cues, Prioritize Hypothesis, Generate Solutions, Take Actions,* and *Evaluate Outcomes* are integrated within each of the DCE patient interactions, giving learners the opportunity to practice and develop these critical skills in a standardized environment. This helps learners build confidence in their clinical judgment skills and become more effective at delivering high-quality care to a diverse population of patients.

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Eager to learn how Shadow Health can transform your students' clinical judgment skills? Click here to request a demo.