Bridging the Gap: The Role of Nurse Residency and Simulation in Preparing New Graduates for Practice

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As new nurses leave the academic setting and venture out into practice adorned with scrubs and stethoscopes, signing the letters "R.N." after their names, successfully leaving the NCLEX in their wake, many are abruptly met with feelings of inadequacy and gaps in their knowledge and skills. These emotions and this academic-practice gap are known byproducts of the transition-to-practice (TTP) period for new nurses (Hallmark et al., 2021). Additionally, the healthcare environment is rapidly changing, with more than a third (34%) of all registered nurse (RN) turnover occurring in the first year of practice (NSI Nursing Solutions, 2024). Focus on supporting TTP and educating nurses at a higher level is paramount for a hospital's human capital investment as well as job satisfaction, self-efficacy, and competency of new RNs (Alshammari & Alenezi, 2023; Harper et al., 2021). TTP or nurse residency programs (NRP) developed to meet the needs of new nurses, providing time and support for RNs to transition into a new role. Formal programs equipped with innovative teaching methods like simulation demonstrate improved outcomes, increased patient safety, and increased retention in this population. (Harper et al., 2021). This article will describe how an accredited TTP/NRP at Bayhealth health system successfully utilized simulation to support new nurses through the TTP period.

Benefits of Nurse Residency Programs

In the seminal National Council of State Boards of Nursing (NCSBN) Transition to Practice study, hospitals with formal TTP/NRPs had higher retention rates, improved patient and safety outcomes and practices, higher RN competency levels, and improved job satisfaction (Spector et al., 2015). The study recommended that formalized programs contain content in patient safety, clinical reasoning, communication, teamwork, and opportunities to practice, reflect, and obtain feedback (Spector, 2015). In 2014, the American Nurses Credentialing Center (ANCC) developed the Practice Transition Accreditation Program (PTAP) to recognize and accredit formal TTP/NRPs (White et al., 2021). In 2018, The Academy of Nursing recommended accreditation as a requirement of all TTP/NRPs to ensure standardization and achievement of quality outcomes (Goode et al., 2018).

In a study of 106 new nurses, Miller et al. (2023) concluded that the NRP led to increased job satisfaction, nurse retention, and preparation for practice compared to traditional orientation. When new nurses demonstrate high job satisfaction, competence, and confidence in their preparation they also tend to have higher retention rates (Mohamed & Al-Hmaimat, 2024). Importantly, ANCC PTAP accreditation includes several domains such as practice-based learning, quality outcomes, organizational enculturation, program leadership, and development and design that rely heavily on the development, satisfaction, confidence, and competence of the nurse resident.

Simulation in Nurse Residency Programs

Within an accredited or formalized TTP/NRP, simulation meets the recommendations to provide opportunities to practice in a clinical setting and to reflect and receive feedback in a psychologically safe setting. Just as TTP/NRPs have evolved over time to improve the experience for new nurses, simulation has also advanced with the development of theories, professional organizations, accreditations, certifications, and standards of best practice. Hallmarks of rigorous simulation include learning based on measurable objectives and outcomes, systematically designed scenarios, feedback and debriefing in a psychologically safe environment, and evaluation (Bienstock & Heuer, 2022; INACSL Standards Committee, 2021; Morse et al., 2019). Simulation can be conducted in numerous modalities, individually or as a team, in interprofessional situations, and to practice individual skills, low volume-high acuity scenarios, or for just-in-time training (training that takes place just prior to performing an intervention) (Hallmark et al., 2021). These components make simulation an excellent adjunct and tool for TTP/NRPs.

In 2021, Harper and colleagues conducted a review of the literature ($N = 9$) on the effectiveness of simulation in TTP/NRPs. They found that simulation improved self-perception of skills, competence, practice readiness, and confidence. It was also associated with reduced orientation and improved retention, a cost savings for hospital systems.

Simulation in a Delaware Nurse Residency Program

Simulation has been incorporated into the PTAP-accredited with distinction nurse residency program at Bayhealth Medical Center, a health system in central and southern Delaware. The NRP educators and simulation center staff collaborated to design meaningful experiences for nurse residents, particularly with deteriorating patients. A specific method of simulation and debriefing is

utilized to provide coaching and directive feedback alternated with deliberate practice in a safe simulated clinical setting, known as Rapid Cycle Deliberate Practice (RCDP).

Rapid Cycle Deliberate Practice

Rapid Cycle Deliberate Practice was designed to maximize the amount of time learners are deliberately practicing and developing 'muscle memory' in an emergent situation such as a code blue (Hunt et al., 2014). In a RCDP simulation, the scenario is conducted in a cycle, starting with deliberate practice in an emergent patient scenario, pausing to provide directive feedback to correct or highlight behaviors, then restarting the scenario and practice, while advancing the complexity of the simulation (Hunt et al., 2014; Ng et al., 2021). It has been used in pre-licensure and graduate nursing education, and in populations of practicing nurses and clinicians, demonstrating increased learner confidence and satisfaction, knowledge, and decreased time to task (Ng et al., 2021).

At Bayhealth, RCDP is used first in a scenario involving a deteriorating patient requiring a Rapid Response Team (RRT) code in the first month of the program, and then in a deteriorating patient scenario where the patient progresses into a code blue in the seventh month of the program. High-fidelity mannequin simulators are used that have changing vital signs, heart rhythms, lung, and heart sounds, and provide verbal responses. Simulation facilitators provide prebriefing where they discuss objectives, psychological safety measures, and describe the RCDP method and simulator to avoid any stress or surprises. As nurse residents work through the scenario, NRP educators and simulation staff assess their progress, intervening when they have difficulties or make mistakes. Residents receive directive feedback and are then asked to repeat the scenario. This process of immediate feedback and repetition helps clinical reasoning become more instinctive, allowing residents to handle advanced reasoning and complex skills, much like developing "muscle memory". At the end of each simulation session, the residents can reflect on the experience and verbalize areas for individual and systems improvement.

Conclusions

Simulation, particularly the RCDP method, meets the recommendations and requirements of a PTAP-accredited TTP/NRP through content in patient safety, clinical reasoning, communication and teamwork, and opportunities to practice, reflect, and obtain feedback. The innovative methods utilized by Bayhealth's NRP are an exemplar of how a NRP can successfully utilize simulation to support new nurses through the TTP period. ■

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