Students deserve UNLIMITED practice because nurses should NEVER feel unprepared when they administer medication.

GRANT TEMPLATE

Grant Proposal Template
Sim2Grow: Enhancing Safe Medication Administration in Nursing Programs

Objective:
The objective of this grant proposal is to secure funding for the purchase of Sim2Grow simulated medication administration equipment. This equipment will be used in nursing practice and simulation labs to educate student nurses on best practices for safe medication administration.

Background/Need:
Safe medication administration is a critical skill for student nurses prior to graduation. However, several factors impact their confidence and competence levels in both practice labs and clinical placements. Existing nursing program lab and simulation equipment for medication administration often lacks fidelity and has limited availability for repeated use. Many facilities still use outdated medication carts with paper records, which do not reflect current practices such as automated medication dispensing, barcode scanning, and electronic medication administration records (eMAR).

Even nursing programs with automated medication dispensing units designed for hospitals face obstacles in meeting all the learning objectives. These systems lack eMAR integration, require significant maintenance time, and are cost-prohibitive, limiting the number of units that can be purchased. Consequently, students have minimal practice before administering medications to hospitalized patients.

In the hospital setting, clinical instructors are limited in their ability to provide extensive medication pass experiences to students due to factors such as clinical group size, hospital restrictions, and competing clinical experience priorities.

Sim2Grow offers a comprehensive system designed by nursing faculty to meet critical elements and learning objectives of safe medication administration. It addresses the barriers to repeated practice, thereby increasing confidence and independence. Students who have practiced independently in the lab become familiar with the process, reducing cognitive load and enhancing their ability to receive and implement feedback during clinical medication administration.

Professional Societies and Boards:
Institute of Medicine:
The 1999 Institute of Medicine's (IOM) report*, To Err is Human*, includes the frightening statistic that 98,000 Americans die each year due to medical errors. The 2006 IOM report, *Preventing Medication Errors*, reveals an average of one medication administration error per patient per day and 1.5 million preventable injuries due to medication happen each year with almost 1/3 occurring in the hospital.

The use of simulation experiences in nursing education can effectively address these concerns and increase exposure to proper medication administration processes. An initial step in decreasing medication errors in hospitals is to increase exposure to the proper medication

administration process while student nurses are still in formation. This can safely be accomplished in the nursing practice lab and in simulation scenarios with medication administration equipment that includes functional barcode scanning, medication dispensing, and an integrated eMAR.

National Council of State Boards of Nursing:
The NCSBN conducted a longitudinal study in 2015, which indicated “high-quality simulation experiences could substitute for up to 50% of traditional clinical hours in undergraduate nursing curriculum.” Nursing programs seeking high-quality simulation experiences while balancing fiscal responsibility can meet educational milestones with Sim2Grow.

Barcode Medication Administration:
Barcode Medication Administration (BCMA) has been adopted by the majority of hospitals to improve medication safety. However, nursing programs face challenges in keeping up with this change in practice due to incomplete and cost-prohibitive solutions. Sim2Grow provides a unique and fully functional BCMA system specifically designed for nursing programs, integrating barcode scanning, medication dispensing, and an eMAR.

Sim2Grow's Comprehensive Medication Administration System:
Sim2Grow offers a unique solution that addresses the frustrations experienced by nursing faculty in finding a suitable product for teaching medication administration. It seamlessly integrates both sides of the BCMA system, avoiding duplication of efforts and saving time during the setup process.

The system allows independent practice by students in the lab, offering immediate feedback in case of errors without jeopardizing patient safety. It includes proprietary software with intuitive patient and medication order entry, printable barcode patient identification bands, and documentation of clinically relevant data. The system also provides 195 simulated medication tags/vials, set-up directions, iPads in protective cases, a handheld barcode scanner, a mobile medication dispensing cart, and licensing that covers customer support, ongoing training, software enhancements, and replacement iPads every 3 years.

Benefits for Efficient Education:
Simulation lab managers will experience significant time savings, as the system allows one-time set up of custom patients within minutes. Course directors will have the flexibility to develop custom patients for each course, supporting unfolding cases and facilitating documentation for remedial assignments, feedback, and debriefing. Student nurses will benefit from

extensive practice opportunities, improving their medication administration skills and reducing cognitive load in clinical settings.

Curriculum Mapping:
The Clinical Judgement Measures Model (CJMM) developed by the NCSBN and the upcoming Next Generation NCLEX (NGN) emphasize the importance of developing clinical judgement skills in nursing students. Sim2Grow's system aligns with the CJMM cognitive skills and allows for easy

mapping of learning objectives and critical elements in medication administration curriculum. This alignment streamlines the accreditation process.

Expected Outcomes:
Enter your School of Nursing here has XX students in the program. The Sim2Grow system will be used to introduce fundamental-level student nurses to medication administration best practices. BCMA utilization will continue throughout the program during high-quality simulation scenarios. To accommodate the total number of students in the program and allocated space, we plan to purchase XX Sim2Grow systems. These systems will allow XX students per unit in the skills lab and during open lab practice, with an additional unit dedicated to classroom and high-quality simulation lab experiences.

Sustainment beyond Grant:
One key advantage of integrating Sim2Grow's product into our nursing program is its sustainability. The initial investment covers the comprehensive system, preventing the need to combine incompatible systems and confusing students. The ongoing licensing includes annual faculty training to address staff turnover issues, system enhancements, and ensures continued usage for years to come. Licensing uniquely offers additional protection by replacing iPads every three years and providing new tags for formulary updates. The reusable medication tags eliminate the need for purchasing replacement consumables each semester.

Budget:
Please refer to the attached budget document for detailed cost breakdown.

References:
1. Alexander, M., Durham, CF, et al. (2015). NCSBN Simulation Guidelines for Prelicensure Nursing Programs. Journal of Nursing Regulation, 6(3), 39-42.
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3. Institute of Medicine. (2000). To Err Is Human: Building a Safer Health System.
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