2017 Full Submission

Title: Strengthening Simulation Pedagogy through an Interprofessional Faculty Development Program.

Principal Investigator: Margory "Margie" Molloy

Email: margory.molloy@duke.edu

School/Department: Duke University School of Nursing

Other Collaborators:

- Remi Hueckel/ DUSON
- Alison Clay/SOM
- Marame Gattan/Emergency Medicine/Durham VA
- Mary Holtschneider/Durham VA

Focused Question: Can a simulation faculty development program improve knowledge acquisition and performance among a group of interprofessional faculty?

Background: Many educators lack formal training on using simulation as a teaching modality. The literature supports the use of simulation as a teaching strategy but it is only as effective as the faculty who are using it. For best outcomes, it is imperative to train educators to use simulation according to defined standards and recommendations. This proposal calls for the allocation of resources to develop a pool of educators who can ensure that high quality simulations are being used to educate Duke University healthcare students. The Standards of Best Practice: Simulation (International Nursing Association of Clinical Simulation and Learning [INACSL], 2013) provide an essential framework for a faculty development program and can be used to educate simulation facilitators in designing, implementing, and evaluating clinical simulations. INACSL standards provide consistency amongst faculty facilitators by providing common terminology and current evidence surrounding simulation pedagogy. In addition, involvement in this training program would encourage interprofessional collaborations amongst disciplines. This one-year program will enroll up to ten educators from four disciplines including nursing, medicine, PT, and PA. It will culminate with Certified Healthcare Simulation Educator (CHSE) certification. Three full day workshops will focus on constructing learning objectives, designing, writing and executing simulations, and conducting effective debriefs.

Development of facilitators will include the understanding of the need to develop a safe yet challenging context for learning. This will include emphasis on the importance of high quality debriefing. Workshop participants will be asked to reflect on their own assumptions and mental models which in turn will be used to help student learners do the same. Cheng and colleagues (2015) noted that there are many options available for debriefing training but little is known about how faculty development opportunities should be structured to maintain and enhance the quality of debriefing within simulation programs.

Simulation educators obtain and/or seek simulation facilitator training from a wide variety of sourced including workshops at conferences, simulation educator courses, or through formal fellowships to name a few. Although there are many options available for simulation training, little is known about how faculty development opportunities should be structured to maintain and enhance the quality of instruction in simulation programs. In the facilitator course proposed, the participants will explore ways to maximize their teaching strategies to meet the learning needs of the students.

The integration of simulation into medical education will continue to progress rap¬idly and will require well-trained faculty. Therefore, effective training and preparation of faculty is necessary, following the Standards of Best Practice: Simulation (International Nursing Association for Clinical Simulation and Learning, 2013; Sittner et al., 2015). By measuring and understanding faculty attitudes, knowledge, and adoption of simulation, continuing faculty development can progress and grow along with the field of simulation.

Specific Aims:

With implementation of an evidence-based training program, there is a shift from "training all faculty to do simulations" to an emphasis on training a "well prepared simulation team". In addition, involvement in this training program would encourage interprofessional collaborations amongst disciplines. The purpose of this grant proposal is to evaluate the effects of a simulation pedagogy IPE faculty development program on participants' learning and attitudes. The goal is to create a "train the trainer" model that can provide sustainability for a robust pipeline of simulation educators who share a passion for educating the next generation of healthcare professionals.

Methods:

Brief description of educational intervention or focus of study:

This proposal will emphasize hands-on activities and active participation to maximize the acquisition of simulation instruction skills. Additionally, this instructional three-full day program spread out over a one-year period will include methods such as interactive lectures, small group discussions, and one on one sessions on debriefing with expert simulation educators on campus. Course materials will be distributed to participants prior to the session dates and will contain related references for additional preparation. Topics that will be covered include the following:

Session 1: Patient Simulation: History and context, Simulation glossary, Educational theories, Developing learning objectives, Operating a simulation program, Creating a challenging and safe learning environment, Simulation pedagogy for critical thinking and skill development

Session 2: Teaching teamwork, developing debriefing skills, Preparing, building, conducting and debriefing realistic simulation scenarios, Simulation pitfalls, and Evaluation methods for simulation, Using a simulation template and creating a simulation in a small group from beginning to end

Session 3: Simulation research and curriculum integration, Test prep for CHSE exam, Discussing next step for brining simulation into your program and to IPE events.

Outcomes and measures: The participants' learning and attitudes resulting from the course will be evaluated. Participants' demographics (gender, age, simulation instructor experience, and self-assessment of simulation expertise) will also be surveyed. The principal investigator for this grant proposal is looking at using a new instrument developed by Min & O'Rourke (2017) called the Faculty Attitudes and Adoption of Simulation (FASS). This tool was designed to identify faculty attitudes toward and levels of perceived knowledge and adaptation of simulation. Pre and post surveys will be given each session to evaluate knowledge related to the session topic. Surveys will build on the prior one to identify retained learning. Participants will be observed by content experts (Certified Healthcare Simulation Educators) each session to evaluate their ability to demonstrate the key concepts learned. Participants will be interviewed at multiple data points (before first session, midway through the program and upon completion of the one-year program). Qualitative responses will be analyzed for content and thematic analysis. Descriptive statistics will be used to analyze numerical survey data.

Data management and analysis The project PI will house the survey material in a locked cabinet inside a private office. A statistician will be asked for assistance in analysis of the qualitative data collected over the three time periods. Respondents anonymity will be maintained throughout the data collection and analysis processes.

IRB status: Plan to submit.

Challenges: There are several challenges to running a successful faculty development program. Some are not unique to us as educators and I think that with creativity and commitment to the program that these challenges can be met. I foresee scheduling the three sessions on participants' calendars as a challenge. A way to mitigate this is to make the session dates available to potential program applicants at the time of application submission, those interested in taking part in the faculty training will be able to check for conflicts and add these days on their calendars. A potential challenge will be to gather interest from the various healthcare professions programs at Duke. Since the program will have a strong IPE initiative, it would be best to have those from varied disciplines participate.

Budget Template:

PI Effort	$0	

Consult costs:		
Equipment:	$450.00	Room charge for training sessions 150 x 3 sessions
Supplies:	$4540	Lunch for 10 participants, + 2 facilitators, x 3 sessions @ 15/pp. CHSE exam fee for 10 participants @ 350/pp exam review material for 10 participants @ 50/pp
Computer		
Travel:		
Total Requested:	4990.00	

Works Cited:

Eppich W, Cheng A. Promoting Excellence and Reflective Learning in Simulation (PEARLS): Development and Rationale for a Blended Approach to Health Care Simulation Debriefing. Simul Healthc 2015; 10(2): 106-115.

International Nursing Association for Clinical Simulation and Learning. (2013). Standards of best practice: Simulation. Clinical Simulation in Nursing, 9(6, Suppl.), S1-S2. doi:10.1016/j.ecns.2013.05.008

LeFlore JL, Anderson M. Alternative educational models for interdisciplinary student teams. Simul Healthc 2009; 4: 135-142.

Min H, O'Rourke J. Faculty attitudes and adoption of simulation: Pilot testing of a new instrument. J Nurs Educ. 2017;56(6):356-359.

Rudolph JW, Simon R, Raemer D, Eppich WJ. Debriefing as formative assessment: closing performance gaps in medical education. Acad Emerg Med 2008; 15: 1-7.

Sittner, BJ, Aebersold, ML, Paige, JB, Graham, LL, Schram, AP, Decker, SI., & Lioce, L (2015). INACSL standards of best practice for simulation: Past, present, and future. Nursing Education Perspectives, 36, 294-298.