

## **INTRODUCTION:**

The management of acutely agitated patients on inpatient psychiatric units is a skill psychiatry residents must acquire early in training, as residents are called to independently manage behavioral emergencies on call.<sup>1</sup> Effective agitation management is a critical skill because agitation is a psychiatric emergency preceding violence and aggression. A recent survey of psychiatry residents in 13 US programs reported most residents have been threatened, physically intimidated, or have received unwanted advances during training, and one in four have been physically assaulted.<sup>2</sup> Yet, only 36% of respondents stated their program provided adequate training for agitation and aggression<sup>2</sup>, suggesting a need for alternative methods of teaching effective management highly agitated patients. Additionally, though residents are aware of the need for developing this proficiency, they often feel underprepared and anxious to manage agitation independently while on-call. This leads to unnecessary further stress on-call, which adversely impacts physician wellbeing.<sup>3</sup>

At present, didactical training is the predominant method for teaching management of agitation in psychiatry residency programs. However, simulation training is used in other medical specialties to teach trainees to manage high-risk medical situations, such as managing acute coronary syndromes through rigorous, standardized simulation training. However, until recently, there has been minimal use and formal study of simulation training in psychiatry. Furthermore, studies of simulation in psychiatry have been mostly limited to physicians<sup>4,5</sup>. However, when patients become acutely agitated, physicians and nurses work together as a team, yet this is often not reflected in training purposes. Thus, interdisciplinary cases to manage agitation would have great utility. Studies on simulation in psychiatry suggest that such training may be an effective method to teach residents to manage acutely agitated patients<sup>4-6</sup>. However, individual studies have been limited by lack of outcome assessments or interdisciplinary elements.

To our knowledge, no studies have explored whether interdisciplinary simulation cases are an efficacious method of teaching management of acute agitation on inpatient psychiatric units. The objective of this proposal is to develop interdisciplinary simulation cases as a novel teaching methodology for psychiatry residents learning to manage behavioral agitation. The study will determine whether this simulation training to manage acute agitation improves resident physician objective competence and subjective confidence in the management of acute agitation, anxiety while on-call, and perceived interdisciplinary communication, as compared to lecture-based teaching.

## **HYPOTHESES:**

**Hypothesis 1:** Interdisciplinary simulation training to manage acute agitation improves resident physician objective competence in managing highly agitated patients.

**Hypothesis 2:** Interdisciplinary simulation training to manage acute agitation improves resident physician subjective confidence in managing highly agitated patients.

**Hypothesis 3:** Interdisciplinary simulation training to manage acute agitation improves resident physician anxiety while on call.

**Hypothesis 4:** Interdisciplinary simulation training to manage acute agitation improves perception of resident-nurse communication.

## **METHODS:**

**Design:** This study is designed to assess interdisciplinary simulation cases as an effective method to teach management of behavioral agitation. We will enroll Stanford Psychiatry residents actively taking call on the inpatient wards (PGY1-2) on a voluntary basis. Stanford inpatient psychiatry nurses will also be enrolled on a voluntary basis.

**Approach:** Interdisciplinary simulation cases of agitated patients will be constructed based on prior cases in the literature <sup>4-6</sup>. Cases will be formulated from input from faculty members, resident physicians, nurses, and other staff members. We intend to have an one-hour session with 10-15 minute cases, allowing predetermined debriefing time. Residents and nurses will work in teams of 2-3. Video sessions will be recorded for immediate use during debriefing and at later dates. Cases will be designed such that they can be reproducible in a simulation center or hospital-based setting. Outcome measures will be survey based. Before and after the intervention (implementation of the simulation cases), we will assess psychiatry residents' objective competence of managing agitation through clinical case vignettes <sup>7,8</sup>, subjective confidence of managing agitation through self-report questionnaires <sup>7</sup>, symptoms of anxiety and stress on call <sup>9</sup>, and perception of interdisciplinary communication measured by the Collaboration and Satisfaction About Care Decisions (CSACD) questionnaires <sup>10</sup>. Nurses will also complete the Collaboration and Satisfaction About Care Decisions (CSACD) questionnaire before and after the intervention's implementation <sup>10</sup>.

## **Timeline:**

October – November 2017: Interdisciplinary Brainstorming Meetings with Psychiatry Faculty, Resident Physicians, Nurses, and other Health Care Providers regarding Content and Development of Simulation Cases, Meeting with Simulation Center Personnel. December 2017 to January 2018: IRB Submission and Creation of Qualtrics Online Databases. February – April 2018: Creation of Simulation Cases Manual. April 2018: Collection of Pre-Intervention Data. May – June 2018: Implementation of Intervention (Simulation Cases) to PGY1-2 Psychiatry Residents. July 2018: Post-intervention Surveys, Data Analysis, Preparation for Presentation and Publication

## **SIGNIFICANCE:**

This study will assess whether implementation of interdisciplinary simulation cases are an efficacious method of teaching psychiatry residents how to manage acute agitation on inpatient psychiatric units. Efficacy measures include psychiatry resident physician objective competence and subjective confidence in managing agitation, psychiatry resident anxiety while on call, and both resident and nurse perceptions of interdisciplinary communication. At the end of the grant period, we will have created a robust manual of simulation cases that will be utilized in future years during resident orientation weeks. The manual will be written such that chief residents and faculty may use the manual to train psychiatry residents in future years. Additionally, the intervention could also be used to train emergency medicine and internal medicine resident physicians as well as medical students. We will present our data at conferences and write our results up in publication form.

**BUDGET:**

	Item	Justification	Amount
<b>Non-compensation</b>			
	Designing Simulation Program with the Simulation Center	Rigorous formal instruction and advisement to create manual of simulation cases	\$4000
	Stanford Simulation Center Training Course	Training to develop simulation cases	\$1450
	50 gift cards x \$10 each	Incentive for 25 residents and 25 nurses to participate and complete surveys	\$500
	2 meals for 10+ individuals at \$150 each	Incentive for brainstorming faculty, resident, and nurse meetings	\$300
	1 Stipend x \$1200	Stipend for student assistant for implementation of cases and surveys	\$1200
<b>TOTAL</b>			<b>\$7450</b>

**REFERENCES**

1. Mason, J. *et al.* Psychiatry at night: experience of the senior house officer. *The Psychiatrist* **30**, 329–333 (2006).
2. Dvir, Y., Moniwa, E., Crisp-Han, H., Levy, D. & Coverdale, J. H. Survey of threats and assaults by patients on psychiatry residents. *Acad Psychiatry* **36**, 39–42 (2012).
3. Heponiemi, T., Puttonen, S. & Elovainio, M. On-call work and physicians' well-being: testing the potential mediators. *Occupational Medicine* **64**, 352–357 (2014).
4. Vestal, H. S. *et al.* Simulation-Based Training for Residents in the Management of Acute Agitation: A Cluster Randomized Controlled Trial. *Acad Psychiatry* 1–6 (2017). doi:10.1007/s40596-016-0559-2
5. Zigman, D., Young, M. & Chalk, C. Using simulation to train junior psychiatry residents to work with agitated patients: a pilot study. *Acad Psychiatry* **37**, 38–41 (2013).
6. Thomson, A. B., Cross, S., Key, S., Jaye, P. & Iversen, A. C. How we developed an emergency psychiatry training course for new residents using principles of high-fidelity simulation. *Medical Teacher* **35**, 797–800 (2013).
7. Sowden, G. L. *et al.* Clinical Case Vignettes: A Promising Tool to Assess Competence in the Management of Agitation. 1–5 (2017). doi:10.1007/s40596-016-0604-1
8. Peabody, J. W., Luck, J., Glassman, P., Dresselhaus, T. R. & Lee, M. Comparison of Vignettes, Standardized Patients, and Chart Abstraction: A Prospective Validation Study of 3 Methods for Measuring Quality. *JAMA* **283**, 1715–1722 (2000).
9. Lindfors, P. M. *et al.* On-call stress among Finnish anaesthetists. *Anaesthesia* **61**, 856–866 (2006).
10. Maxson, P. M. *et al.* Enhancing Nurse and Physician Collaboration in Clinical Decision Making Through High-fidelity Interdisciplinary Simulation Training. *Mayo Clinic Proceedings* **86**, 31–36 (2011).