

Virginia Commonwealth University **VCU Scholars Compass**

Biology and Medicine Through Mathematics Conference

2024

May 17th, 11:00 AM - 11:30 AM

Benefit of Medication Reconciliation Practices on Patient Health Outcomes in a Healthcare Setting

Helen Harris harrisha2@vcu.edu

David Petrulis

Lauren Trepp

See next page for additional authors

Follow this and additional works at: https://scholarscompass.vcu.edu/bamm



Part of the Applied Mathematics Commons, and the Health and Medical Administration Commons

https://scholarscompass.vcu.edu/bamm/2024/fri/3

This Event is brought to you for free and open access by the Dept. of Mathematics and Applied Mathematics at VCU Scholars Compass. It has been accepted for inclusion in Biology and Medicine Through Mathematics Conference by an authorized administrator of VCU Scholars Compass. For more information, please contact libcompass@vcu.edu.

rocenter Information	
resenter Information	in Language Transport Character (1911) and Language Transport (1911) and Lan
eien Harris, David Petrui	is, Lauren Trepp, Bryan Chong, Jillian Haas, David Chan, and Laura Ellwein Fix

Presentation for BAMM! May 2024

Benefit of Medication Reconciliation Practices on Patient Health Outcomes in a Healthcare Setting

In the hospital setting, adverse drug events are often caused by medication errors such as omissions, duplications, dosing errors, or unintended drug interactions. Patients experiencing adverse drug events may require extended lengths of stay and additional care that is costly for both patients and providers. Medication reconciliation is the process of comparing a patient's medication orders to all of the medications that the patient has been taking. A Markov chain model was created to investigate the effect of compliance level of medication reconciliation on patient health outcomes in both intensive care units and emergency rooms. Additionally, we conduct a cost benefit analysis for various levels of compliance.