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5-2021

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Citation

Feldman, Robyn; Palma, Stephanie; Dittmar, Erika; and Clarke, Heidi, "Optimization of albumin 5% use in a community hospital" (2021). *All Publications*. 3989.

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Title: Optimization of albumin 5% use in a community hospital

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Background: The debate surrounding the use of crystalloids versus colloids remains a source of controversy due to limited and conflicting evidence. Emerging data favors the use of crystalloids over colloids in addition to cost benefits. Baptist Hospital of Miami (BHM) has evidence-based guidance for albumin 5%, but it is unclear the degree of appropriate usage. The purpose of this study is to assess the prescribing practices of albumin 5% at BHM and optimize appropriate use through pharmacy driven interventions.

Methodology: A single-center, IRB-reviewed, bi-phasic study was conducted within a community hospital. In phase I, a retrospective chart review of patients who received albumin 5% during 2019 was conducted to evaluate prescribing patterns. Phase II was performed after pharmacy driven education was completed to increase appropriate use. A pharmacist was on-call for the prospective chart review to assess appropriateness of albumin 5% orders in patients who met inclusion criteria. The primary outcome is the comparison of appropriate usage of albumin 5% before and after education. Secondary outcomes include pharmacist interventions and the financial impact.

Results: After implementation of the albumin 5% stewardship initiative, inappropriate use of albumin 5% was decreased significantly by 54%. Through the 30-day interventional phase, a total of 13 pharmacy interventions were performed with 100% acceptance rate including optimization of crystalloid resuscitation or discontinuation of fluids completely. These interventions along with provider education resulted in at least 72 albumin 5% doses avoided during the phase II study period, which amounts to an extrapolated annual cost savings of ~ \$32,400.

Conclusion: Introduction of evidence-based guidance in conjunction with prospective pharmacist review and intervention can facilitate the optimization of albumin 5% use. These results demonstrate shifting towards a more evidence-based practice, which ultimately will increase patient's safety and enhance quality of care.