

Designing, Developing, and Implementing an Electronic Nurse-Driven Model to Optimize Congestive Heart Failure Diuresis

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Abstract

Background: For patients with congestive heart failure (CHF), diuresis is a common course of treatment during their hospitalization. Inadequate diuresis is ineffective and often leads to prolonged hospitalization. Yet, current diuretic strategies within our academic health system often does not result in the rapid improvement and excellent outcomes we desire.

Purpose/Aim: Nurses play an important role in the optimization of the diuresis of CHF patients, and this presentation will describe the process of designing, developing, and implementing an innovative, electronic, provider-ordered, nurse-driven congestive heart failure diuresis model that is now used system-wide within a large academic health system.

Methods: Nurses were active participants on the multidisciplinary team and key in developing a process that improves their ability to administer diuretics to these patients in a timely manner, escalates the diuretics, and evaluates effectiveness with twice daily weights. The diuresis model is a component of a new standardized CHF PowerPlan that was developed to streamline CHF care within the organization. An inpatient protocol/PowerPlan, as well as an emergency department protocol/PowerPlan, were developed, and their content and functionality will be explained. Technology was leveraged to bring this entire process to life. Information will be shared describing the team members (cardiologists, physicians, nurses, nursing informaticists, nursing administrators, pharmacists, and eRecord experts), their responsibilities, and the reiterative process that occurred in developing this effective electronic CHF diuretic model. Examples of the educational and communication plans describing the workflow changes that needed to occur for this protocol implementation to be successful will be included. These educational examples include required on-line education modules, training videos, and accessibility of materials on the health system's Infonet.

Results/Conclusions: The initiative had a positive impact on the role of the nurses as well as the providers in supporting adequate diuresis of the CHF patient. In an initial analysis of 360 patients who were on the diuretic model, no evidence of harm was revealed and there were early positive signs towards benefit. A multivariate analysis, conducted in February 2023, of 1,000 patients on the CHF diuretic model will be described in the presentation. Efficacy and impact of the model will be the focus with emphasis on length of stay, readmissions (7 & 30-day), mortality, and acute kidney injury. Additionally, qualitative data from end-users' responses on the effectiveness of the diuresis model and its impact on their workflow will be shared.