

Standardization of Inpatient Hypertension Management

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Introduction: Hypertension is a frequent occurrence during hospitalization and physicians are routinely called to treat hypertensive events despite the asymptomatic nature of patients. Although guidelines about outpatient management of hypertension are available, management strategies for asymptomatic inpatient hypertension are lacking. Without a standardized approach, physicians treat asymptomatic hypertension utilizing inconsistent strategies including intravenous antihypertensives (IVAHs). The use of IVAHs has shown to have adverse effects that are associated with increased morbidity and mortality.

Aim: The aim of this project is to standardize the approach to inpatient asymptomatic hypertension and minimize use of IVAHs by 25% in 6 months.

Method: Using the IHI Model, a quality improvement project was initiated. Root cause analysis revealed a lack of standard approach to managing asymptomatic hypertension. For PDSA 1, a standardized approach algorithm was created, and residents were educated about criteria for assessing symptoms, any contributing factors/secondary hypertension and if they had a history of hypertension/home meds. For PDSA 2, we expanded education for the nursing staff and provided them with the treatment flowchart. We also included the pharmacy department in our initiative, to form a multidisciplinary approach. For PDSA 3, we included Nurse Practitioners in our education.

Results: Prior to PDSA 1, 24 charts were analysed and over 58% of patients (14/24) had received inappropriate IVAHs. Post-intervention, 31 charts were analysed and showed a 32.5 % reduction in IVAH use. Prior to PDSA 2, another 36 patient charts were analysed and 25% of patients had received inappropriate IVAHs. Post-intervention, 21 charts were analysed and showed an 11 % reduction in IVAH use. For PDSA 3, 53% of patients had received inappropriate IVAHs. Which reduced by 11% post intervention. Our post-intervention analysis is ongoing, and although data suggests a promising decrease in the use of inappropriate IVAHs, it has been inconsistent, and sustainability will become a challenge.

Conclusion/Next Steps: Our project led to the implementation of a standardized algorithm, thus decreasing inappropriate use of IVAHs and minimizing cost. Management of asymptomatic hypertension in the hospital begins with addressing contributing factors such as pain or anxiety, then reviewing held home medication. With the implementation of a standardized algorithm, we found some success in the reduction of use of IVAHs. Our next steps include implementing the algorithm in the EMR system to have an alert system to clarify when IVAHs are indicated and when other options should be reviewed. We plan to continue our multidisciplinary efforts with the pharmacy and EMR staff along with new admission PA/NP service. Re-education throughout the year will also be implemented to improve sustainability.