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The Impact of Web Based Education on Attitudes and Outcomes in Patients Taking Warfarin

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Introduction

Patients taking warfarin are at risk for thromboembolic events when not in a therapeutic international normalized ratio (INR) range. Patient’s lack of understanding regarding their medication and illness often leads to non-adherence to medication, which can lead to adverse events. In a retrospective cohort study, the Lehigh Valley Physicians Group (LVPG) Anticoagulation Clinic will be able to analyze the impact of implementing a web-based educational application that can be accessed from the patient’s home. The objective is to educate warfarin-naïve patients on their treatment in order to keep patients in a therapeutic INR range and reduce the risk of adverse events.

Methodology

In a retrospective cohort study, Lehigh Valley Physicians Group (LVPG) Anticoagulation Clinic will provide access to web-based education to patients requiring first-time treatment with the oral anticoagulant, warfarin. These patients will be followed for one year to capture % time in therapeutic range and the frequency of adverse events such as stroke, gastrointestinal bleed, deep vein thrombosis (DVT), pulmonary embolus (PE), myocardial infarction (MI), hospital re-admissions, and hospitalizations. Patient outcomes in the study group will be compared to outcomes in warfarin naïve patients who do not take part in the web-based education.

Secondary outcomes will include patients’ perception on their quality of life, severity of anxiety and depression, their knowledge regarding understanding of their illness and medication prior to and after education. Surveys will be captured at baseline and six months. Surveys include the Palliative Outcome Scale (POS), to measure quality of life, Patient Health Questionnaire (PHQ-9) to assess their depression score, Generalized Anxiety Disorder 7 Item Scale (GAD-7) to assess their anxiety score, and Patient Activation Measure® (PAM®) which will measure the patient’s knowledge and perception of both their medication and illness.

A community care team (CCT) will be joining LVPG Cardiology to assist with the management of patients with Congestive Heart Failure (CHF). Team members will be consulted when patients are identified in the study as having anxiety, depression, poor coping skills, a poor understanding of their warfarin medication, financial issues, or lack of social support at home. These patient outcomes will be analyzed separately to determine effectiveness of the CCT on this patient population.

Objectives

To determine the impact of a web-based educational application on patients who are warfarin naïve compared to warfarin naïve patients who do not take part in the web based education.

Outcomes captured and measured will include:

- Percent time patients remain in a therapeutic International Normalized Ratio (INR) range
- Adverse events including: Emergency Department illness effects on Quality of Life (QoL) including the physical, psychological, emotional, and spiritual impact
- Anxiety and Depression scores
- Patient’s knowledge and understanding of warfarin
- Patients Knowledge and understanding of their illness

The CHF cohort will be measured separately to determine the impact of the community care team on patient outcomes.

Conclusion

Both the web-based education and the CCT installment in the LVPG Anticoagulation Clinic aim to decrease overall hospital admissions and readmissions thereby cutting costs and satisfying the requirements for the Hospital Readmission Reduction Program under the Affordable Care Act. With the objective of decreasing adverse events, keeping patients in a therapeutic INR range, and encouraging patients to be proactive and knowledgeable in regards to their treatment, both the web-based education and CCT have the intention of achieving the three goals specified by the Triple Aim: better cost, better health, and better care.

References