

Using Information Technology to Provide Measurement Based Care for Chronic Illness

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Summary: Depression is the most common mental health cause for disability, and treatment should consider the chronic nature of the disorder. Current routine practice in psychiatric settings does not depend on a systematic measurement-based approach to treatment planning but on clinical judgment. Despite the development of effective treatments over the last 30 years, evidence from practice settings continues to show inadequate antidepressant medication treatment in dosage and duration. This project applied expertise in algorithm and guideline implementation to the development of a clinical decision support system (CDSS) integrated with an electronic health record (EHR) to disseminate the principles of evidence-based treatment for depression in large systems of care.

The project focused on the use of measurement-based care (MBC) to improve the quality of care for patients with major depressive disorder (MDD). The EHR-CDSS program facilitated MBC to improve medication management for patients with MDD by using information technology (IT) to ensure that clinicians monitored three critical response domains (symptom severity, side-effect burden, and treatment adherence) using standardized measures. The IT system also provided decision support during each medication treatment phase and helped prevent medication errors.

This project was a collaboration between the University of Texas Southwestern Medical Center and the Centerstone Community Mental Health Center, Inc. (Centerstone), which provides behavioral health services throughout Tennessee. The first phase of the project was primarily devoted to customizing the CDSS to accommodate Centerstone's specific needs and integrating CDSS into Centerstone's EHR, CenterNet. The objective of the second phase was to test the effectiveness of the EHR-CDSS to increase clinicians' use of MBC principles in medication management for patients with MDD.

This project involved two research studies to evaluate effectiveness of the EHR-CDSS. The first study was a comprehensive, system-wide evaluation that included clinicians using the EHR-CDSS and their MDD patients who required a treatment change, either in medication or in dosage. The second study was an in-depth evaluation of the impact of the EHR-CDSS on a limited sample of physicians and their patients, directly assessing the use of MBC using a pre-post test design.

Specific Aims:

- Integrate a CDSS that facilitates MBC with physician needs and the EHR at Centerstone. **(Achieved)**
- Evaluate EHR-CDSS's successful promotion of MBC in improving medication

management. **(Achieved)**

2011 Activities: The 6-month no-cost extension period ended February 2011. All project activities were completed.

Impact and Findings: A needs assessment was conducted with representative Centerstone clinical staff members to determine how best to integrate the CDSS and EHR. Their primary concern was the increased time burden, in both the length and number of treatment visits. Based on prior reports, the research team expected that providing MBC would initially require more time, but once the system was established, the increased visit time would primarily involve the time the patient needed to complete the self-report assessments. Data showed that while patients in the algorithm arm of the trial initially were seen at a higher frequency, the total number of visits over a year were similar in both arms of the trial.

The first study was designed to provide a systematic evaluation of changes in treatment patterns in the Centerstone system before and after implementation of EHR-CDSS. There was a significant difference in both the total number of visits and the patterns of treatment visits. Additional analyses that explore differences based on decision support usages, length of time between visits, and the utilization of MBC assessments during treatment visits are ongoing.

Target Population: Adults, Chronic Care*, Mental Health/Depression

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve the quality and safety of medication management via the integration and utilization of medication management systems and technologies.

Business Goal: Implementation and Use

** This target population is one of AHRQ's priority populations.*