



## **Improving Depression Screening Using CDS and Patient Access to Information Using PHRs**

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**Problem:** Depression as a co-morbidity alongside another chronic disease often complicates the patient's ability to adhere to medical treatment. Patients with diabetes are twice as likely to have depression. Inconsistent screening for depression can lead to missed diagnoses and adversely impact the patient's treatment course. **Project Aim:** The aim of this project was to increase the diabetic population's rate of screening for depression using Clinical Decision Support (CDS) tools and alerts. These tools prompt the clinical care team to use a standardized Patient Health Questionnaire (PHQ)-2 depression screening tool and PHQ-9 for depression symptom level assessment. Further aims included improving the patient's awareness about depression and access to resources regarding diagnosis and treatment. **Methods:** The area of focus for this project includes NewYork-Presbyterian Hospital's Ambulatory Care Network (ACN,) which has adopted the National Committee for Quality Assurance's patient-centered medical home (PCMH) model. Diabetes and depression were identified as two of four conditions to be targeted during the first stage of implementing the PCMH model. A clinical workgroup comprised of primary care and mental health physicians at NewYork-Presbyterian hospital developed a clinical standard of care to identify the conditions, intervals, and frequency in which depression screening and assessment should occur. Structured PHQ-2 and PHQ-9 forms were embedded within appropriate flowsheets and documents in the Electronic Health Record (EHR). The standard of care was used as a roadmap for the technical development of a Medical Logic Module (MLM,) or programming code built within the EHR. The MLM triggered CDS alerts that were presented when depression screening process conditions were met. These conditions included: annual PHQ-2 screen; administration of a PHQ-9 with a positive PHQ-2 screen; provider notification for a PHQ-9 score > 20, or for any patient response other than "not at all" to question #9 ("thoughts that you would be better off dead, or of hurting yourself in some way"). NewYork-Presbyterian Hospital's Personal Health Record (PHR), myNYP.org, was updated to include printable PHQ forms. Resources for treatment and education regarding depression screening, diagnosis, and treatment were also incorporated into myNYP.org. **Results:** A data analytics tool was used to capture the diabetic PCMH population's depression screening rates six months pre-implementation (June 2012) then again six months post-implementation (June 2013.) Post-implementation, these data indicated an 8% increase in the number of patients screened for depression using the PHQ-2 (from 16 to 24%), and a 7% increase in the number of patients with a positive PHQ-2 who received a follow-up PHQ-9 assessment within 4 weeks (from 53 to 60%). **Conclusion:** CDS alerts have the potential to improve the rate of screening for depression. Offering the patient resources for depression in a PHR provides real-time tools that can be beneficial, outside of the hospital setting. There is potential to further automate PHQ data entered by the patient. Lessons learned in this project include challenges with consuming patient-entered data into the EHR. Other considerations include workflow issues and technical alerts for the care providers if patients enter PHQ data that should trigger an immediate response.

