Effectiveness of EHR-Integrated Depression Screening Among Adult Diabetics in an Urban Primary Care Clinic

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Purpose

The purpose of this quality improvement study is to compare the rate of depression screening, treatment, and referral to behavioral health in adult patients with DM2 pre- and post- integration of depression screening tools into the electronic health record (EHR).

Specific Aims

- Determine whether depression screening in the EHR has increased depression screening, treatment, and/or referral to behavior team by at least 60% in 6 months after integration.
- Compare the data before integration and after integration using descriptive statistics.
- Develop an efficient way to improve consistent depression screening.

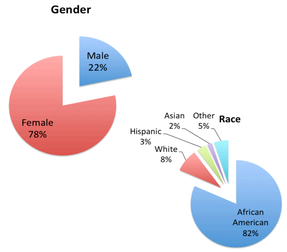
Background

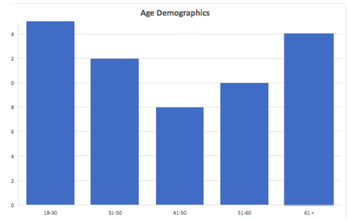
- Diabetes mellitus and depression are important comorbid conditions that can lead to more serious health outcomes (Otienoet et al., 2017).
- The American Diabetes Association (ADA) supports routine screening for depression as part of standard diabetes management (ADA, 2017). Early detection and treatment of depression leads to better health care outcomes, e.g., medication and dietary compliance, less comorbidities, and decrease in health care costs.
- The PHQ-2 screen found comparable performance with other instruments and also a good diagnostic performance in screening for major depressive disorder (Tsoiet et al., 2017). In a systematic review and meta-analysis study, de Joodeet et al. (2019) evaluated the diagnostic accuracy of depression questionnaires in adults with type 1 or type 2 diabetes and found that PHQ-9 had the highest specificity.
- A study by Joseph et al. (2018) confirmed that routine screening for depression in patients with diabetes hospitalized with a medical illness is easy and feasible.
- Despite evidence-based recommendations, routine depression screening and management are not always included in the management of patients with diabetes (Joseph et al., 2018), thus highlighting the importance and necessity of this study.

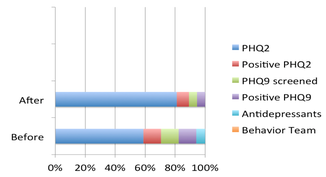
Methods

- **Study Design**
  Retrospective Chart Review
- **Setting**
  University of Tennessee Family Medicine Primary Care Clinic
- **Study Duration**
  Period of enrollment or chart review covers those from the year 2017 or prior for before integration data and 2020 to present for after integration.
- **Study Population**
  Inclusion criteria: Adult patients with diabetes (18 years of age and above) with no initial diagnosis of depression or other mental illnesses.
  Exclusion criteria: Younger than the study population (<18 years of age) with previous diagnosis of depression or mental illness prior to diabetes diagnosis and taking any antidepressants or antipsychotic agents.
  Comparison group: Study population of the same characteristics from the same clinic before integration.
- **Endpoints**
  Screened with PHQ2; if positive, screened with PHQ9, started on antidepressants, and/or referral to behavior team.

Results







- All subjects (100%) were screened using PHQ-2 before integration and after integration. Twenty percent of patients screened had a positive PHQ2 among subjects before integration, while 10% had a positive PHQ2 after integration. Twenty percent of patients were screened with a PHQ9 pre-integration that accounted for 100% of those subjects with a positive PHQ2.
- There were no referrals made to the behavior team in both groups.
- However, of the 10% of patients with a positive PHQ2 post-integration, only 6.7% of subjects were screened, which means not all patients with a positive PHQ2 were adequately screened post-integration. Interestingly, 10% of patients were treated with antidepressants before integration, while none were treated with medications in the post-integration group.

Implications for Practice

- This quality improvement study shows that there is no difference in the rate of depression screening, treatment, and referral to behavioral health in adult patients with DM2 pre- and post-integration of depression screening tools into the EHR.
- This suggests providers are good in screening DM2 patients for depression whether the screening tools were incorporated in the EHR or not.
- For consistent depression screening and reliability of documentation, future studies with regard to provider-support staff and patient convenience relating to accessibility and availability of the tool should be conducted.
- Ease of charting, hours of work to scan documents into the EHR, risk of patient information getting lost, and the use of paper that requires shredding to comply with privacy should also be taken into account.

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