

Quality Improvement: Improving the Screening of Fatty Liver Disease in Patients with Type 2 Diabetes

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Background: Metabolic dysfunction-associated fatty liver disease (MAFLD) is the most common type of chronic liver disease in the world and is projected to become the leading indication for liver transplantation. Studies have shown that in patients with type 2 diabetes mellitus (T2DM), liver steatosis, advanced fibrosis, and cirrhosis were present in 73.8% 15.4%, and 7.7% of patients, respectively. The American Association For The Study Of Liver Disease recently published new guidelines that recommend that all patients with T2DM be screened for MAFLD. The Fibrosis-4 (FIB-4) is a validated non-invasive screening tool that can be used as an initial screen for MAFLD. We identified that T2DM patients were not being screened appropriately in our outpatient internal medicine clinic. The goal of this quality improvement project was to increase the screening of T2DM for NAFLD by creating a smart phrase and providing education to providers.

Methods: We reviewed the medical charts for 514 patients with T2DM seen in our Academic Internal Medicine (AIM) Clinic between 2020 and 2022 to assess baseline screening rates. A smartphrase was created through EPIC and included all relevant information to help providers assess for complications of T2DM including MAFLD. For cycle 1, starting in 12/2022, the smart phrase was piloted with 5 residents, and their usage was recorded. For cycle 2, starting 04/2023, the smartphrase was shared with all residents, and multiple educational sessions were held. Usage of the smartphrase, recording a FIB-4 score or collecting labs to do so were monitored.

Results: Results of a baseline assessment of 514 patients with T2DM showed that 0 % of patients were screened with a FIB 4 score. During cycle 1, the smart phrase was used in 41% of patient visits when T2DM was addressed. A FIB-4 score was recorded or labs were ordered to do so in 20.9 % of patients. During cycle 2, the smart phrase was used in 10% of patient visits and FIB-4 score was recorded or labs were ordered 10.6% of the time. However, when the smartphrase was used, a FIB-4 score was recorded in 85.7% of the time.

Conclusions: It is important to identify individuals with NAFLD while it is in the early stages to prevent progression to cirrhosis and hepatocellular carcinoma. Implementing a smart phrase was shown to improve the screening rates for NAFLD. Further improvement can be made by automatically calculating a FIB-4 score and alerting providers if a FIB-4 score has not been documented in the past 2 years.