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## ADVANCES IN PHARMACY PRACTICE

## Pharmacist-led depression screening and intervention in an underserved, rural, and multiethnic diabetic population

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## ABSTRACT

**Objectives:** To test the feasibility of implementation and integration of community pharmacist-led depression screening for patients with diabetes in an underserved rural area and to assess the response rate of prescribers to pharmacist-led depression screening and treatment recommendation.

**Setting:** Independent community pharmacy-run diabetes education center.

**Practice description:** Clinical community pharmacy site on Maryland's Eastern Shore.

**Practice innovation:** All patients with uncontrolled diabetes (A1C >7%) 18 years of age and older attending one or both diabetes self-management classes and diabetic counseling completed the Patient Health Questionnaire 9 (PHQ-9). Those with moderate to severe cognitive impairment or preexisting mental illness except for anxiety or untreated/undertreated depression were excluded from the results. A copy of the screening was faxed to the referring provider with an accompanying letter. Positive screening reports included a suggestion for further evaluation and possible pharmacologic treatment.

**Evaluation:** Data collected (PHQ-9 scores, provider response rate, and A1C) were analyzed with the use of appropriate evaluation tools.

**Results:** Of the 57 patients who took the screening, 11 (19.3%) were positive and 46 (80.7%) negative for possible depression. Responses were received from providers on 3 of the 11 patients who screened positive, and no providers initiated depression treatment. The site plans to continue data collection following this residency's completion to assess clinical impact.

**Conclusion:** This model may be replicated at many community pharmacies to integrate a depression screening. Based on prescribers' response rate, faxing alone is not recommended as the primary communication with the provider, and an alternate method should be assessed to effectively recommend pharmacologic therapy for patients with positive depression screenings.

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Approximately 8% of adults over the age of 18 years are depressed, but upwards of one-third of those with diabetes show signs of depression—many of whom are undiagnosed or not sufficiently treated.<sup>1</sup> These statistics and many studies led the United States Preventative Task Force to issue a grade B recommendation for depression screening in the general adult population.<sup>2–4</sup> In like manner, the American Diabetes Association stated in its Standards of Diabetes Care 2016 that

providers should consider all adults 65 years of age or older to be a high priority for depression screening.<sup>5</sup> The impact of depression on diabetes outcomes ranges from discontinuation of therapies to poor glycemic control, which naturally increases health care costs. Patients with diabetes and depression have a 49% increased chance of noncompletion of a structured exercise program compared with those with diabetes alone. Even mild depressive symptoms have been seen in studies to be a significant barrier to completing a structured exercise regimen.<sup>6</sup> In the Veteran Affairs system, comorbid depression with diabetes led to higher costs in the inpatient, outpatient, and pharmacy settings of 16%, 45%, and 44%, respectively.<sup>7</sup> Other studies have found that Medicare costs are 65% higher for those with comorbid depression and diabetes compared with diabetes alone. These results have been confirmed even when adjusting for costs related to mental health services.<sup>7</sup> In addition, depression significantly increases

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**Key Points****Background:**

- Upwards of one-third of patients with diabetes show signs of depression, many of whom are undiagnosed or not sufficiently treated.
- Research shows that comorbid depression with diabetes increases health care costs and causes non-adherence to insulin therapy and termination of exercise regimens.
- Determining the potential impact of a community pharmacy-based intervention could increase the rate of identification and treatment of depression in patients with diabetes.

**Findings:**

- The implementation of depression screening in a community pharmacy setting is feasible and can be replicated.
- The personnel and training required to conduct this intervention were minimal.
- Providers did not respond well to a fax-only intervention.

the odds of a patient with type 2 diabetes mellitus self-discontinuing basal insulin within 90 days of initiation.<sup>8</sup> Intervention with psychotherapy or pharmacologic therapy has the potential to increase adherence, reduce costs, and improve glycemic control.<sup>9</sup> Williams et al. demonstrated that identifying and treating depression in patients with diabetes increased the number of exercise days per week.<sup>10</sup> The IMPACT (Improving Mood—Promoting Access to Collaborative Treatment) study suggested in subgroup analysis that collaboratively treating depression in patients with diabetes reduced overall health care costs.<sup>11</sup> These facts urge the health care community to identify and treat depression in patients with diabetes. As one of the most accessible members of the health care team, pharmacists are in position to identify depression and recommend treatment to prescribers. The present researchers wanted to test the feasibility of implementation and integration of community pharmacist-led depression screening for patients with diabetes in an underserved rural area and to assess the response rate of prescribers to treatment recommendations.

**Objectives**

The primary objective of this study was to test the feasibility of implementation and integration of community pharmacist-led depression screening for patients with diabetes in an underserved rural area and to assess the response rate of prescribers to treatment recommendations.

**Practice description**

On Maryland's Eastern Shore, diabetes has made a significant impact on the health of the population, with an incidence

twice the national average.<sup>12</sup> In the tricity area that includes Wicomico (population 102,370), Worcester (population 51,540), and Somerset (population 25,768) counties, there is a shortage of both primary and specialty care physicians.<sup>13</sup> As of April 2016 there were only 3 endocrinologists serving the entire tricity area, forcing many individuals to travel 120 to 150 miles to receive specialty care. In addition to being underserved, the area has a high minority population: 20%, 35%, and 49% in Worcester, Wicomico, and Somerset counties, respectively.<sup>14</sup>

Core Clinical Care is the clinical division of the Apple Discount Drugs Community Pharmacy. Core Clinical Care has 2 full-time pharmacist certified diabetes educators (CDE) and 1 community pharmacy practice resident administering diabetes education. In addition to billing Medicare for diabetes self-management education (DSME), Core Clinical Care has established a unique partnership between its pharmacists and a large commercial third-party insurance payer who has agreed to recognize its CDEs as preferred providers, allowing the pharmacy to bill for a larger range of clinical services in this patient population. Owing to the innovative nature of this independently owned and operated pharmacy practice site, and an average referral of approximately 200 patients with diabetes a year, this practice provides a large patient population for pilot studies.

**Practice innovation**

Patients who attended one or both American Association of Diabetes Education accredited diabetes classes and individual diabetic counseling at Core Clinical Care within the time frame of January 2014 to April 2016 were included if they had uncontrolled diabetes (A1C >7%) and were 18 years of age or older. Patients were excluded if the referring provider notes indicated that the patient had moderate to severe cognitive impairment or preexisting mental illness other than anxiety or untreated/undertreated depression. Undertreated depression is defined as treated depression that still results in a positive screening score. This study was determined to be exempt from Institutional Review Board review by the University of Maryland Eastern Shore.

Patients included in the prospective cohort completed the Patient Health Questionnaire 9 (PHQ-9) in 1 of 3 ways: 1) during the DSME class series, specifically along with the "Coping with Diabetes" presentation and discussion; 2) during a follow-up call to patients who had received DSME services from Core Clinical Care within the time span of January 1, 2014, to September 15, 2016; or 3) during individual DSME sessions. In cases 1 and 3, the patients completed the PHQ-9 by reading it themselves and providing a written answer. If the patient was unable to read, a pharmacist administered it verbally. Owing to the nature of case 2, the PHQ-9 was administered orally by a pharmacist or by an Advanced Pharmacy Practice Experience-level student pharmacist who recorded the responses along with patients' progress on their self-assigned goals. The results, including the original PHQ-9 results, were faxed to the referring provider with an accompanying letter (Figures 1 and 2).

For continuity of care, prescribers were notified of both positive and negative patient screenings. Reports of negative screenings were merely informative, whereas reports of

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