## **Abstract**

**Background and Purpose:** There is a definite correlation between depression and substance abuse disorder (SUD). Treating depression and SUD independently and not recognizing the interconnection can increase the risk of relapse and worsening depression. This quality improvement project aimed to improve questionnaire depression scores in co-occurring depression and substance abuse patients by implementing a dual-diagnosis treatment algorithm.

**Methods:** The 6-week project was implemented at an addiction recovery center. The project utilized a pre/post-test design comparing pre/post-intervention questionnaire responses from one group of 24 adult (≥18 years of age) patients with SUD and depression. The project intervention is a dual-diagnosis treatment algorithm providing medically assisted treatment, counseling, and behavioral therapy. A pre/post-questionnaire was implemented to identify a change in the patient's depression scores.

**Measurement:** The Patient Health Questionnaire (PHQ-9) is a ten-item validated tool designed to diagnose depression and severity over the past two weeks. Questions are scored between 0 (not at all) to 3 (nearly every day). The sum of the score is used to evaluate depression severity. Possible scores of severity range from 1-4 minimal, 5-9 mild, 10-14 moderate, 15-19 moderately severe, and 20-27 severe. Participants included office staff, nursing, aides, mental health providers, and nurse practitioners.

**Results:** 68 patients were enrolled in the project, and 24 completed the pre/post- PHQ-9. The results show that the patients PHQ-9 scores improved, and patients benefited from a treatment plan that included structured therapy algorithms, treatment processes, and outcome monitoring.

**Conclusions:** Findings suggest that substance abuse recovery centers can help improve depression in patients with depression and substance abuse by implementing a dual-diagnosis treatment algorithm.

**Implications:** The project findings highlighted how implementing a dual diagnosis treatment algorithm would benefit future policy and procedures in treating patients with depression and substance abuse.

Keywords: Substance abuse, depression, dual-diagnosis, treatment algorithm, screening