Screening for Depression in Emergency Department Patients and Relationship to Health Care Utilization

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Depression is associated with increased healthcare utilization, and worse health outcomes. As a locus for the care of complex, medically underserved patients, the emergency department (ED) presents a unique opportunity for public health depression screening. To date, few studies have examined depression rates in the ED. However, a recent study found a rise in ED use among newly insured Medicaid enrollees, inciting concerns that the Medicaid expansion could lead to greater ED use. As Medicaid coverage continues to expand, and greater numbers of individuals seek care in the ED, the ability to identify depression in the ED setting and connect individuals to mental health services may lead to improved depression outcomes and decreased unnecessary ED use, especially for vulnerable patient populations. Classic methods for screening for depression, e.g., short-form questionnaires lack accuracy for identifying patients with depression and suicide risk in the ED. Further, current tools lack the precision necessary to make cost-effective and clinically-appropriate treatment decisions in the ED. The aim of our study was to describe the incidence and severity of major depressive disorder (MDD) in the ED and its relationship to health care utilization using a novel computer adaptive depression screening and diagnostic tool.[1]

To assess presence and severity of depression, we administered both the Computerized Adaptive Diagnostic-Major Depressive Disorder (CAD-MDD) and the Computerized Adaptive Testing-Depression Inventory (CAT-DI) to 958 patients who visited the ED of an urban, academic tertiary medical center between January 1, 2015-September 4, 2015 for a non-psychiatric indication. Patients screened either positive or negative for major depression disorder using the CAD-MDD and received a provisional diagnosis of: 1) normal, or 2) mild, 3) moderately severe, or 4) severe major depression via the CAT-DI. For analysis, CAT-DI results were dichotomized as normal/mild or moderately severe/severe major depression. We used generalized linear models to evaluate associations between depression diagnosis/severity and number of ED visits and admissions, adjusting for sociodemographic and healthcare-related characteristics.

Of 958 respondents, 252 (26.5%) screened positive for MDD and 66 (6.9%) were categorized as moderately severe/severe major depression. In adjusted analyses, patients who screened positive for depression had an incidence of ED utilization that was 1.45 (95% CI: 1.05-1.99; $p = 0.02$) times and a hospital admissions incidence that was 2.20 (95% CI: 1.34-3.62; $p = 0.001$) times that of those who screened negative for depression. Patients who had a provisional diagnosis of moderately severe/severe major depression had an incidence of ED utilization that was 2.55 (95% CI: 1.49-4.37; $p = 0.0006$) times

and an admissions incidence that was 4.09 (95% CI: 1.84-9.06; p = 0.0005) times those with normal/mild depression.

[1]Gibbons, Robert D., et al. "Development of a computerized adaptive test for depression." *Archives of general psychiatry* 69.11 (2012): 1104-1112.