WICHE Center
for Rural Mental Health Research

May 2007

Policy Brief

Preventing Hospitalizations in Depressed Rural Primary Care Patients

Authors:
Scott Adams
Stan Xu
Fran Dong
Kathryn Rost

Overview – Previous studies showed that depressed rural primary care patients were more likely than urban patients to be hospitalized for both mental and physical problems.[1-5] The studies also showed that the increased hospitalizations, while very expensive, did not produce increased clinical benefits.[6] This study builds on that research in several ways: it re-examines, on a larger geographic scale and over a period of two years (with measurements at six, 12, 18, and 24 months), whether depressed rural primary care patients are more likely than urban patients to be hospitalized; it investigates whether differences in hospitalization rates can be explained by differences in the utilization of specialty outpatient care; and it looks at whether rural patients face more "insurance barriers" to outpatient care. This study should be of interest to policy makers and administrators seeking to develop better delivery systems for rural mental health services. It should also be of interest to insurers, self-insured employers and other payers seeking the most effective use of health care expenditures.

About the Study – The study was conducted by carrying out secondary analysis on data from the Quality Improvement for Depression database. It included 1,455 depressed patients from rural and urban primary care practices in 11 states[i]. The study defines urban as being located within a Metropolitan Statistical Area (MSA), and rural as being outside of an MSA.

Annual hospitalization rates for depressed rural patients regarding either physical or mental health problems significantly exceeded those of all patients across the United States (23.8 at 12 months and 31.3 at 24 months vs. 11.8, respectively) in 2002 (the most recent year for which there is data).[7]

Key Findings

Length of stay for depressed rural patients (ranging from 6.3 to 8.4 over two years) also significantly exceeded the general hospitalized population where hospital stays averaged 4.9 days.[7] Policy analysts expect higher rates of hospitalization and/or longer lengths of stay given previous research showing higher health and mental health care utilization and costs for persons with depression.[8]

Within the study, however, depressed rural patients were hospitalized at a significantly higher rate than their urban counterparts at 6 months (of the 24-month study period). Length of stay for depressed rural patients was significantly higher at 12 months.

Rural and urban patients in the study had similar demographic, clinical, and medical utilization characteristics, with the following exceptions: urban patients had significantly higher levels of education, employment and income; and urban patients showed a significantly higher incidence of having, along with depression, one or more additional psychiatric disorders.

The differing rates of hospitalizations for rural and urban patients were not explained by differences in outpatient specialty care (i.e., one or more visits to a mental health professional) during the six months prior to the hospitalization. Over the first year, 40.9% of rural patients used any specialty care compared to 40.7% of urban patients. Over the second year, 33.6% of rural patients used any specialty care compared to 28.7% of urban patients. However,

[i] Colorado, Michigan, Minnesota, New Jersey, North Carolina, North Dakota, Oklahoma, Oregon, Texas, Virginia, and Wisconsin

Implications

it is possible that there are different outpatient specialty care practice patterns across states and/or different impacts of specialty care provided when patient is at high-risk of hospitalization. That is, receiving equal amounts of specialty care may not equate to equal quality of care.

Depressed rural patients reported fewer insurance barriers to outpatient specialty care than did urban patients. (Insurance barriers included requiring patients to get pre-approval before seeing a mental health professional, choose from a limited panel of providers, and/or pay more to see a mental health professional than their regular doctor.) The analysis examining rural-urban differences in insurance barriers was conducted on 102 insured patients (32% of all insured patients) who reported any specialty care use at 12 months. Rural patients reported 0.95 of 6 barriers on average, while urban patients reported 1.62 of 6 barriers.

Policy makers and administrators seeking to develop better delivery systems for rural mental health services should be interested in which types of treatments (i.e., inpatient or outpatient) yield the best and most cost-effective clinical results. The data from this research has the following implications:

- Insurers may be paying more money to hospitalize depressed rural patients for longer lengths of stay than they are for their urban counterparts early in the course of disorder, all else being equal.
- The study suggests that introducing more insurance barriers for rural patients may not be effective in reducing hospitalizations because there are too few providers in rural areas to implement managed care, and not enough outpatient specialty care. The typically limited availability of outpatient specialty care may also result in increased mental health crises that require hospitalization.
- While current outpatient specialty care services do not appear to reduce the odds of greater hospitalizations in rural populations, the study suggest that:

  - Excess hospitalizations of rural patients could be reduced by developing better coordination and communication between outpatient mental health professionals and primary care physicians making hospitalization decisions.

  - Insurance plans may be able to reduce excess hospitalizations by providing more coverage for intensive outpatient mental health services, including telemedicine, to rural patients, thereby reducing costs and improving outcomes. This potential benefit would be for rural patients, employers, Medicaid administrators at the State level, community leaders, and rural families.

1. Rost KM, Zhang M, Fortney J, Smith J, Smith GR, Jr. Rural-urban differences in depression treatment and suicidality. Med Care 1998; 36:1098-1107.
2. Rost K, Zhang M, Fortney J, Smith J, Smith GR, Jr. Expenditures for the treatment of major depression. Am J Psychiatry 1998; 155:883-888.
3. Rost KM, Zhang M, Fortney J, Smith J, Coyne J, Smith GR, Jr. Persistently poor outcomes of undetected major depression in primary care. Gen Hosp Psychiatry 1998; 20:12-20.
4. Fortney J, Rost K, Zhang M. A joint choice model of the decision to seek depression treatment and choice of provider sector. Med Care 1998; 36:307-320.
5. Zhang M, Rost KM, Fortney JC. Depression treatment and cost offset for rural community residents with depression. Journal of Social Service Research 1999; 25:99-110.
6. Rost K, Fortney J, Zhang M, Smith J, Smith GR. Treatment of depression in rural Arkansas: Policy implications for improving care. J Rural Health 1999; 15:308-315.
7. United States Department of Health & Human Services; Agency for Healthcare Research and Quality. The Healthcare Cost and Utilization Project (HCUP). Available at http://www.ahrq.gov/data/hcup/.
8. Simon GE, VonKorff M, & Barlow W (1995). Health care costs of primary care patients with recognized depression. Archives of General Psychiatry, 52: 850-856.

THE WICHE Center for Rural Mental Health Research is supported by the Federal Office of Rural health Policy, Health Resources and Services Administration (HRSA), Public Health Services, Grant Award, U1CRH03713-01-00

WICHE Center for Rural Mental Health Research
3035 Center Green Dr.
Boulder, CO 80301
303-541-0311
http://wiche.edu/mentalhealth/ResearchCenter/Pubs.asp