

## Policy Brief

# Community-Level Risk Factors for Depression Hospitalizations

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**Overview** – Among adults 18-64, depression and bipolar disorders account for almost as many inpatient hospital admissions as heart attacks. They also rank among the top 10 percent in terms of inpatient treatment costs. While previous studies have identified individual risk factors for developing depression, this study is the first to identify community-level risk factors for depression hospitalizations in urban and rural counties. It also identifies rural and urban areas with elevated hospitalization rates, which should be of interest to government officials, health plans and self-insured employers/payers seeking to control costs by preventing unnecessary hospitalizations.

**About the Study** – The study used data from the year 2000 in 14 states: Arizona, Colorado, Florida, Iowa, Kentucky, Maine, New Jersey, New York, North Carolina, Oregon, South Carolina, Washington, West Virginia, and Wisconsin. Analysis was carried out at the county level. Sources for the data were the Statewide Inpatient Database, Census Bureau, Department of Agriculture, and Health Resources and Services Administration.

### Key Findings

- The overall (or standardized) rate of depression hospitalizations in the study was 8.5 hospitalizations per 1,000 adults, similar to national estimates. These hospitalizations include patients admitted with depression as either a primary or a secondary diagnosis.
- Of the 811 counties in the study, 8.8 percent had hospitalization rates at least a third higher than the overall rate.

- Significant risk factors for depression hospitalization included unemployment, poverty, physician supply and hospital bed supply:

» Counties with higher rates of poverty and (especially) unemployment had significantly higher hospitalization rates. A 10 percent increase in poverty and unemployment increased hospitalization rates by 3 percent and 10 percent respectively.

» Counties with a higher number of hospital beds and non-psychiatrist physicians per population had higher depression hospitalization rates. This correlation has been interpreted as supplier induced demand. It could also be that greater availability of non-psychiatrist physicians and hospital beds increases the likelihood that individuals in need of hospitalization are being detected.

» The study found no significant relationship between hospitalizations and the supply of psychiatrists, psychologists and social workers. This probably reflects the fact that most depression is treated by primary care providers and that most hospitalizations involved a secondary diagnosis of depression.

» Because many depression hospitalizations may be preventable with appropriate treatment, poor access to high quality outpatient services may be a risk factor for hospitalization rates

- Significant protective factors for depression hospitalizations included rurality, economic dependence and housing stress:

- » Overall, non-metropolitan counties had lower hospitalization rates than the most urban counties (population greater than 1 million). The individual counties with the highest hospitalization rates were mostly located in upstate New York, and in the Appalachian mountains of Kentucky and West Virginia. Rural counties are not over represented in the group of counties with the highest hospitalization rates.

- » Counties whose economies were dependent on farming, federal government or services<sup>1</sup> had moderately lower hospitalization rates than non-economically dependent counties. Meanwhile, counties dependent on mining or manufacturing<sup>2</sup> had slightly increased hospitalization rates.

- » Counties classified as “housing stressed<sup>3</sup>” had significantly lower hospitalization rates, but the study’s authors cautioned that it is difficult to interpret this finding because housing stress encompasses many different problems.

## Implications

In summarizing the strengths and limitations of the study, the authors conclude that correlations in the data should be thought of as associations rather than as causal mechanisms.

Still, the results highlight a large number of depression hospitalizations, many of which may have been preventable.

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<sup>1</sup> Farming-dependent is defined as either 15 percent or more of average annual labor and proprietors’ earnings derived from farming during 1998-2000 or 15 percent or more of employed residents worked in farm occupations in 2000. Federal/State government-dependent is defined as 15 percent or more of average annual labor and proprietors’ earnings derived from Federal and State government during 1998-2000. Services-dependent is defined as 45 percent or more of average annual labor and proprietors’ earnings derived from services (SIC categories of retail trade; finance, insurance, and real estate; and services) during 1998-2000.

<sup>2</sup> Mining-dependent is defined 15 percent or more of average annual labor and proprietors’ earnings derived from mining during 1998-2000. Manufacturing-dependent is defined as 25 percent or more of average annual labor and proprietors’ earnings derived from manufacturing during 1998-2000.

<sup>3</sup>A county is classified as housing stressed if 30 percent or more of households: lacked complete plumbing, lacked a complete kitchen, had more than one person per room, or paid 30 percent or more of income for owner costs or rent.

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