



THE WICHE CENTER FOR RURAL MENTAL  
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# **Assessment of the Mental Health Funding Marketplace in Urban vs. Rural Settings for Individuals with Serious Mental Illness**

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Findings Brief

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## **Executive Summary**

According to data from the National Comorbidity Survey Replication, lower quality of mental health care is provided to residents living in rural areas, defined as non-Metropolitan Statistical Areas, compared to urban areas.<sup>1</sup> This is partly due to inadequate supply of mental health specialists<sup>2,3</sup> and lower rates of insurance coverage.<sup>4</sup> To improve the delivery of care to this population, it is necessary to document how this care is financed in rural vs. urban areas to best target finance-based interventions and policies that would have the highest probability of improving the quality of mental health care in rural areas and reduce or eliminate urban-rural disparities in mental health care. Data from the 2004 Medical Expenditure Panel Survey are used to delineate sources of payment for mental health services across the urban-rural continuum. Rural residents are less likely to have mental health services funded through private insurance and more likely through public sources than urban residents. Individuals with serious mental illness (SMI) living in rural areas also are more likely to have their mental health services paid by public insurance but were also more likely to pay out-of-pocket than individuals with SMI living in urban areas. These findings suggest that targeting policies through public funding sources could be the most effective method to reduce urban-rural disparities in mental health care.

## FINDINGS BRIEF

**Introduction:** Data from the National Comorbidity Survey Replication show that rural individuals with mental health (MH) problems are significantly less likely to receive mental health services than individuals in urban and suburban areas.<sup>1</sup> It is generally believed that low rates of mental health service utilization in rural areas are due to an inadequate supply of mental health specialists.<sup>2,3</sup> Inadequate incentives to practice in rural areas may be one reason for observed shortages of MH specialists. Changes in reimbursement for MH services in rural areas could likely provide the incentives necessary to increase the supply of MH specialists. Interventions designed to improve rates of mental health treatment, such as collaborative care models, are usually based on private payers, such as managed care organizations which are less likely to operate in rural areas. If the payment system is to be reorganized to provide the necessary financial incentives for MH Specialists to practice in rural areas, it is first necessary to understand how these services are currently paid for in rural areas and how this differs from payment sources in urban areas.

The aims of this study were to:

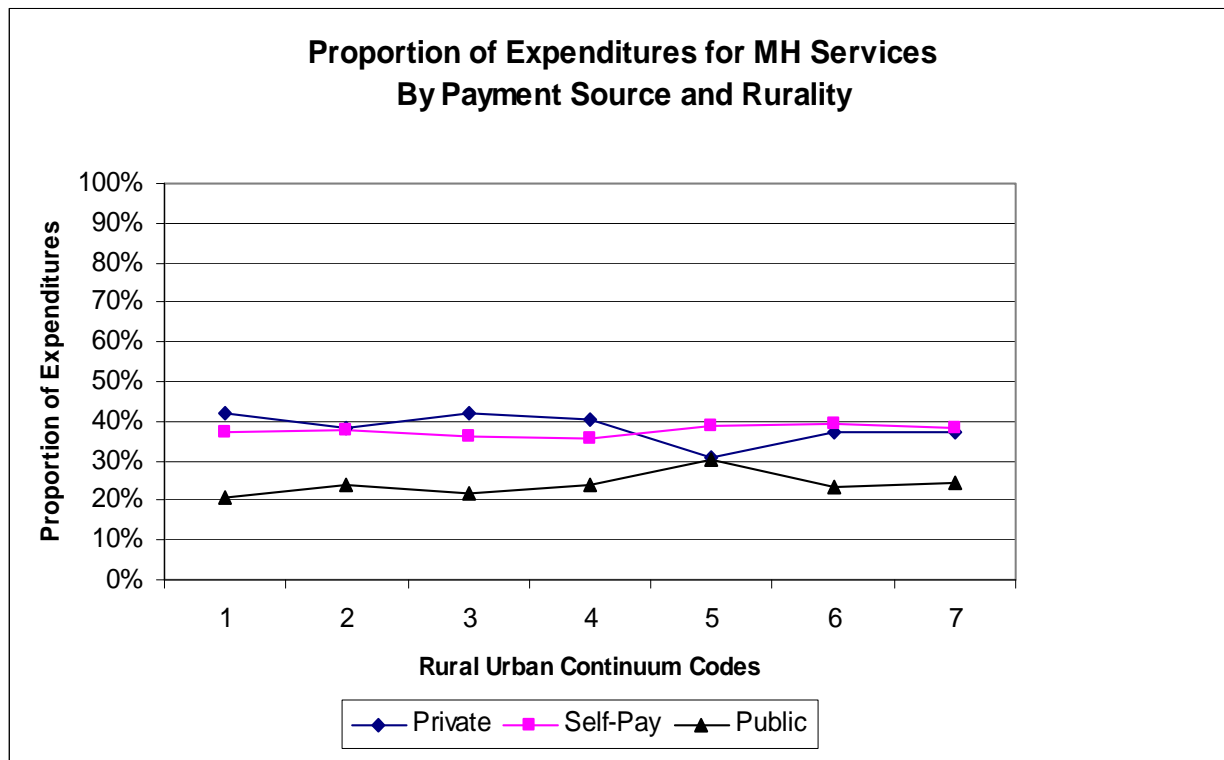
- Assess the impact of rurality on the source of payment for MH treatments
- Determine whether urban-rural differences in source of payment vary for the seriously mentally ill relative to all other mental health conditions.

**Data and Methods:** Data are from the 2004 Medical Expenditure Panel Survey (MEPS; [www.meps.ahrq.gov](http://www.meps.ahrq.gov)), a nationally representative survey sponsored by the Agency for Healthcare Research and Quality. MEPS contains detailed information on health care utilization and expenditures on individuals living in households in the United States. MEPS respondents are followed over a two-year period and interviewed every four months. The sample was limited to all individuals with a self-reported mental health condition, identified by ICD-9 codes of 290.xx-314.xx (N=5,174). Respondents were further categorized as seriously mentally ill (SMI) if identified as having schizophrenia, bipolar disorder, or major depression vs. non-SMI (all other mental health conditions). Total annual expenditures for mental health services were calculated by payment type and rurality. Payment type was defined as Private Insurance, Public Insurance (Medicaid/SCHIP, Medicare), or Self-Pay. Rurality was defined using Metropolitan Statistical Areas (MSA) and Rural-Urban Continuum Codes (RUCC) with 1 being the most urban and 9 being the most rural. Because of sample size issues, we combined categories 7, 8, and 9 into a single category representing the most rural group among the continuum. The difference in the proportion of expenditures for mental health services by payment type across RUCC categories were compared in bivariate and multivariate analyses. Differences in payment source across RUCC categories was also compared for individuals with SMI vs. non-SMI. All analyses were conducted using the survey procedures of Stata using the weights provided by AHRQ to allow results to be nationally-representative and to calculate standard errors that account for the complex sampling design of MEPS.

**Results:** As shown in Figure 1, 42% of expenditures for MH services were paid for by private insurance in the most urban areas (RUCC=1) compared to 37% in the most rural areas (RUCC=7,8, or 9). Twenty-one percent of expenditures were paid for by public sources in the most urban areas compared to 25% in the most rural areas (Figure 1). Thirty-seven percent of

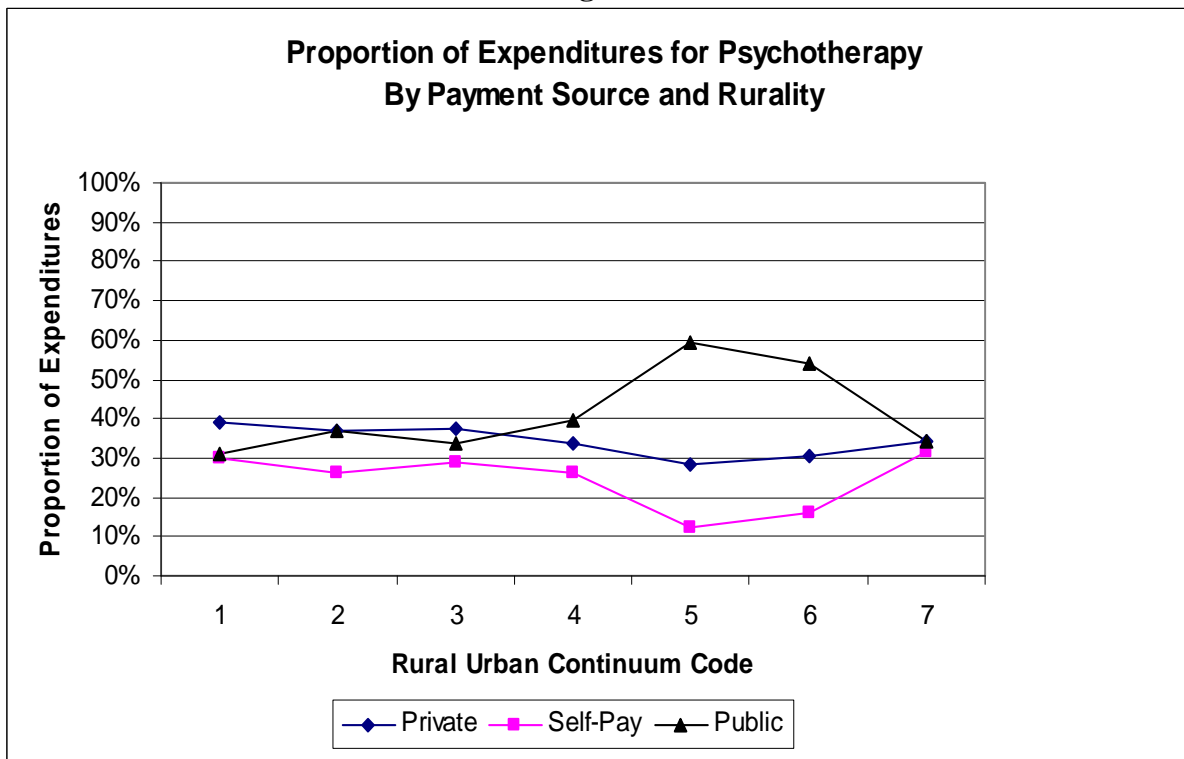
expenditures for MH services were paid for by self-pay in the most urban areas compared to 38% in the most rural areas (Figure 1). Statistically significant differences in the proportion of MH services paid for by private insurance ( $p=.032$ ) and by public insurance ( $p=.033$ ) by RUCC were found in the multivariate analyses (Table 1), with no significant difference in the proportion paid by self-pay ( $p=.682$ ). As rurality increases, the proportion of MH services paid for by public insurance sources increased. This relationship held when only examining funding for psychotherapy (Table 1 and Figure 2) and funding for medication (Table 1 and Figure 3). Among the SMI population (Figure 4), a larger proportion of expenditures were paid by self-pay in rural compared to urban areas (37% vs. 28%), while a smaller proportion was paid for by both private insurance (22% vs. 25%) and public insurance (41% vs. 47%). The impact of rurality on the funding marketplace for mental health services differed for individuals with SMI and individuals with other mental health conditions. Although individuals with SMI had a greater percentage of funding from public sources than non-SMI, rurality was associated with more reliance on out-of-pocket payments for funding and slightly smaller reliance on public and private insurance sources than individuals with non-SMI mental health conditions.

**Figure 1**



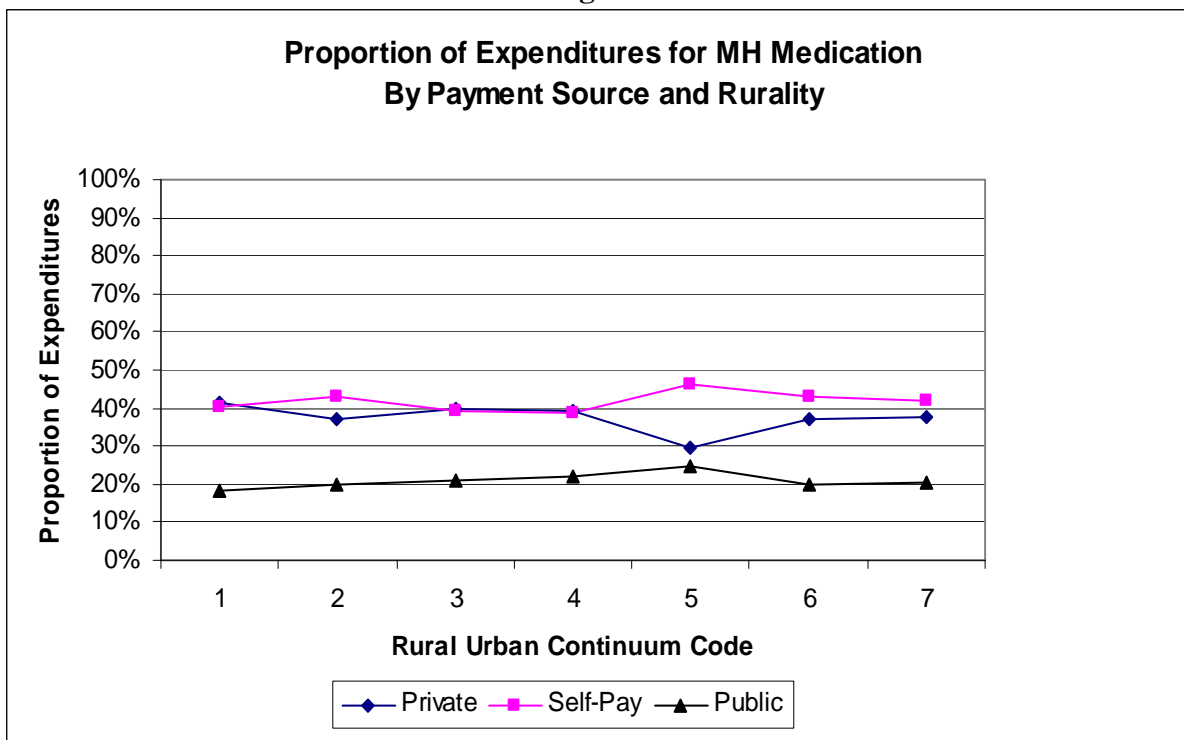
\* RUCC category 7 in the figure includes RUCC codes 7, 8, and 9.

Figure 2



\* RUCC category 7 in the figure includes RUCC codes 7, 8, and 9.

Figure 3



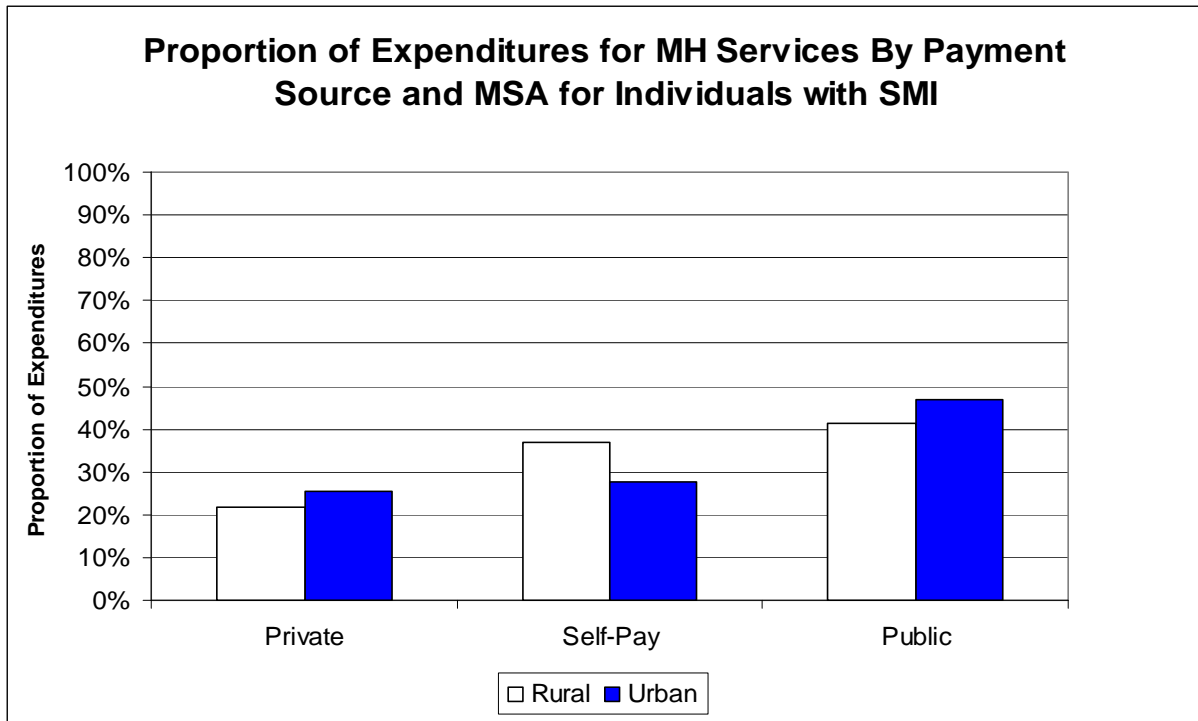
\* RUCC category 7 in the figure includes RUCC codes 7, 8, and 9.

**Table 1**  
**Multivariate Association of Rural Urban Continuum Codes with Proportion of Expenditures Paid by Funding Source**

	<b>Private Insurance</b>	<b>Public Insurance</b>	<b>Self-Pay</b>
	<b>Odds Ratio</b>	<b>Odds Ratio</b>	<b>Odds Ratio</b>
<b>All MH Services and Medications</b>			
RUCC	0.956**	1.052**	1.008
<b>Medications</b>			
RUCC	0.956*	1.048*	1.003
<b>Psychotherapy</b>			
RUCC	0.983	1.123**	0.913

\* p<.10, \*\* p<.05; Multivariate analyses control for race, ethnicity, age, gender, marital status, education level, income, perceived health status, perceived mental health status, and physical and mental components of SF-12.


**Figure 4**



**Conclusions:** Individuals living in rural areas are more likely to have their mental health services paid for by public insurance and less likely by private insurance than individuals living in more urban areas. Individuals with SMI living in rural areas also are more likely to have their mental health services paid by public insurance but were also more likely to pay out-of-pocket than individuals with SMI living in urban areas. Approaches to providing financial incentives and insurance-based programs to improve access to mental health care need to be tailored specifically for rural vs. urban settings.

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The WICHE Center for Rural Mental Health Research was established in 2004 to develop and disseminate scientific knowledge that can be readily applied to improve the use, quality, and outcomes of mental health care provided to rural populations. As a General Rural Health Research Center in the Office of Rural Health Policy, the WICHE center is supported by the Federal Office of Rural Health Policy, Health Resources and Services Administration (HRSA), Public Health Services, grant number U1CRH03713.

The WICHE Center selected mental health as its area of concentration because: (1) although the prevalence and entry into care for mental health problems is generally comparable in rural and urban populations, the care that rural patients receive for mental health problems may be of poorer quality, particularly for residents in outlying rural areas and (2) efforts to ensure that rural patients receive similar quality care to their urban counterparts generally requires restructuring treatment delivery models to address the unique problems rural delivery settings face. Within mental health, the Center proposes to conduct the research development/dissemination efforts needed to ensure rural populations receive high quality depression care.

Within mental health, the Center will concentrate on depression because: (1) depression is one of the most prevalent and impairing mental health conditions in both rural and urban populations, (2) most depressed patients fail to receive high quality care when they enter rural or urban treatment delivery systems, (3) outlying rural patients are more likely to receive poorer quality care than their urban counterparts, (4) urban team settings are adopting new evidence-based care models to assure that depressed patients receive high quality care for the condition that will increase the rural-urban quality chasm even further, and (5) urban care models can and need to be refined for delivery to rural populations.

The WICHE Center is based at the Western Interstate Commission for Higher Education. For more information about the Center and its publications, please contact:

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