



Rural Children Experience Different Rates of Mental Health Diagnosis and Treatment

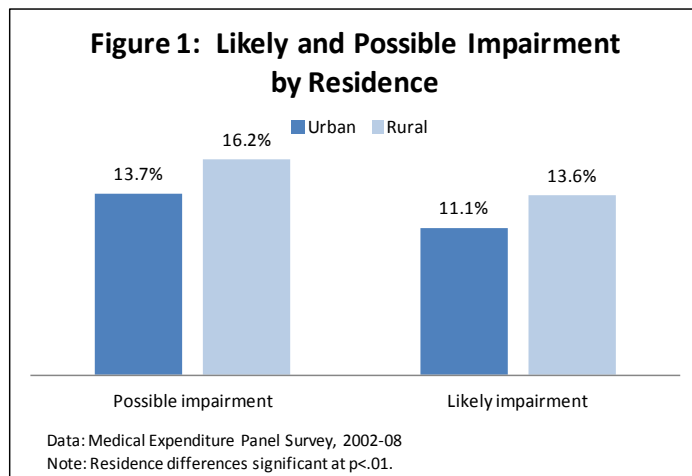
Nathaniel J. Anderson, MPH • Samantha J. Neuwirth, MD • Jennifer D. Lenardson, MHS • David Hartley, PhD

Overview

Research indicates that privately insured, rural adults have lower use of office-based mental health services, but higher use of prescription medicines than their urban counterparts. Patterns for rural children may be different from urban children because of their higher enrollment in Medicaid and the State Children's Health Insurance Program, which tend to have more generous behavioral health benefits than private coverage and may equalize rural-urban treatment patterns. On the other hand, the more limited supply of specialty mental health providers in rural areas, particularly for children, could lead to lack of access and lower utilization of some types of mental health services in rural areas versus urban. Using data on children ages 5-17 from the 2002-2008 Medical Expenditure Panel Survey (MEPS), this study examines two research questions: 1) do patterns of children's mental health diagnosis and service use (e.g., office visits and psychotropic medications) differ by rural-urban residence? and 2) what is the effect of income and insurance type on use of mental health services? Rural and urban areas are identified based on the Office Management and Budget metropolitan and nonmetropolitan county designations.

Findings

As measured by the Columbia Impairment Scale (CIS), a global impairment scale addressing four domains of functioning for children and adolescents, rural children are more likely to have either a "likely" or "possible" impairment (Figure 1). For our purposes, CIS responses within MEPS are useful in identifying all children with functional mental health impairment, rather than only those children who received treatment. Rural children with the highest levels of mental health need ("likely impairment") are no more or less likely to be diagnosed or treated for mental health conditions.



Key Findings

Among those with the highest levels of mental health need, rural children are more often identified with an ADHD diagnosis than urban children (24.7% vs. 19.8%; $p < .05$).

The higher prevalence of ADHD diagnosis and stimulant prescribing in rural areas likely results from a greater need for such treatment, based on scores from the Columbia Impairment Scale.

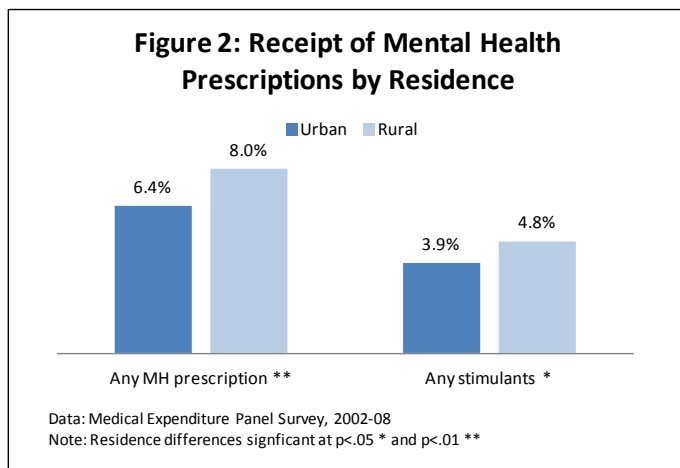
Among those with a possible mental health impairment, rural children are less likely to be diagnosed with a psychiatric illness other than ADHD and are less likely to receive counseling.

Higher rates of poverty, public coverage, and mental health impairment among rural children explain their greater likelihood of a mental health prescription and stimulant use.

For more information about this study, contact Jennifer Lenardson at jlenderson@usm.maine.edu

However, among those with “possible impairment,” rural children are less likely to be diagnosed with a psychiatric illness other than ADHD and are also less likely to receive mental health counseling. Rural children may not have their mental health impairments identified until their symptoms intensify.

Regardless of residence, children are more likely to receive a mental health prescription (6.6%) than they are to receive counseling (4.1%). Rural children are more likely to receive any type of mental health prescription and to receive stimulants specifically compared to urban children. For example, 8% of rural children receive a mental health prescription compared to 6.4% of urban children (Figure 2).



In a partially adjusted multivariate model (controlling for sex, age, household income, number of children living in the household, mother-only household, the mother’s education level, insurance status, and census region), likelihood of receiving an ADHD diagnosis, mental health prescription, and stimulant prescription does not differ between rural and urban children, suggesting that observed rural-urban differences result from underlying demographic characteristics and risk factors, such as higher rates of poverty, public coverage, and mental health impairment among rural children. In a fully adjusted model (adding race/ethnicity to the control variables), we find that rural children are less likely to have a non-ADHD diagnosis (OR: 0.78) and less likely to receive mental health counseling (OR: 0.78) than urban children. The decreased likelihood of diagnosis and treatment when controlling for Hispanic ethnicity is likely explained by the significant urban-rural difference in the size of the Hispanic population as a proportion of the total population. Since Hispanics are less likely to need care, and less likely to seek and receive care,^{1,2} the fact that they represent a larger portion of the urban population depresses the rate of diagnosis and treatment

in urban areas. When a control is added for Hispanic ethnicity, those rates increase, relative to rural areas, where there are fewer Hispanics.

Focusing on two sub-populations of children, those with “likely” impairment, and those with “possible” impairment, rural children with the highest levels of mental health need (likely impairment) are no more or less likely to be diagnosed and/or treated for mental health conditions. However, among the “possible impairment” group, rural children are less likely to be diagnosed with a psychiatric illness other than ADHD (fully adjusted OR: 0.52) and are less likely to receive mental health counseling (fully adjusted OR: 0.50) than their urban counterparts.

Discussion and Policy Implications

Rural children are significantly less likely to be diagnosed and treated for non-ADHD mental health problems than urban children and less likely to receive mental health counseling. The rural-urban difference is greatest when we direct our attention to “sub-acute” mental health issues, those children scoring in the “possible impairment” range on the Columbia Impairment Scale. Since scores in this range are ambiguous, and may or may not indicate a need for counseling or medication, it is not certain that this disparity needs to be addressed. However, the lack of mental health specialty providers in rural areas means there is, in many cases, no provider available to determine whether treatment is indicated. A realistic approach to this problem may be the development of assessment protocols for use by non-specialists such as school counselors and primary care practitioners to help determine those with the greatest need and guide referrals. Parent support and training has been shown to be helpful in treating children with ADHD and other behavioral issues^{3,4} and may have utility for rural children by providing indirect access to mental health professionals.

Endnotes

- Agency for Healthcare Research and Quality. *2007 National Healthcare Disparities Report*. (AHRQ Publication No. 08-0041). Rockville, MD: U.S. Department of Health and Human Services, AHRQ; March 2008.
- Vega WA, Aguilar-Gaxiola S, Andrade L, et al. Prevalence and Age of Onset for Drug Use in Seven International Sites: Results From the International Consortium of Psychiatric Epidemiology. *Drug Alcohol Depend.* 2002; 68(3):285-97.
- Agency for Healthcare Research and Quality. *2010 National Healthcare Disparities Report*. (AHRQ Publication No. 11-0005). Rockville, MD: U.S. Department of Health and Human Services, AHRQ; March 2011.
- Koppelman J. *The Provider System for Children’s Mental Health: Workforce Capacity and Effective Treatment*. NHPF Issue Brief. 2004;(801):1-18.