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The Illinois Institute for Rural Affairs (IIRA) works to improve the quality of life for rural residents by partnering with public and private agencies on local development and enhancement efforts.

Western Illinois University

Urban-Rural Differences in Mental Health Concerns: Findings from a Survey of the American General Population

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Adee Athiyaman[1]

Abstract

This research provides stylized facts about mental health in the metro and the nonmetro and thus opens pathways for further research on the topic; survey data from the National Alliance on Mental Illness were used to gain insights into residents' perceptions / knowledge about mental health. Results of data analysis suggest that "mental healthcare" is a worrisome topic for more of the metro residents than the nonmetro ones. Furthermore, increasing federal and state funding for mental health care is strongly supported by metro residents, but not so strongly by nonmetro residents.

Introduction

It is now well established that disparity in healthcare is more pronounced in the nonmetro[2]; rural residents are more likely to indicate or possess correlates of poor health such as poverty[3], tobacco and substance misuse[4], and physical inactivity[5]. Also, more nonmetro

[1] Professor, Illinois Institute for Rural Affairs, Western Illinois University.

[2] Athiyaman, A. (2023). Health policy for rural Illinois: Data for policy development. *Research Brief*, 5(4), February 25. Available: http://www.iira.org/wp-content/uploads/2023/03/RB5_4-Health-Policy-for-Rural-Illinois-Data-for-Policy-Development.pdf.

[3] Athiyaman, A. (2021). Explaining outmigration intentions of rural residents. *Research Brief*, 3(17), October 24. Available: http://www.iira.org/wp-content/uploads/2021/10/Explaining-Outmigration-Intentions.pdf.

[4] Athiyaman, A. (2021). Marijuana use: Differences between metro and nonmetro regions. *Research Brief*, 3(7), May 7. Available: http://www.iira.org/wp-content/uploads/2021/05/Market-Demand-for-Marijuana_May7.pdf. Athiyaman, A. (2022). Youth e-cigarette use in Illinois and the Midwest: Insights from a panel study. *Research Brief*, 4(18), September 16. Available: http://www.iira.org/wp-content/uploads/2022/09/Youth-E-Cigarette-Use-_-RB418.pdf.

[5] Athiyaman, A. (2023). Physical inactivity of Illinoisans in the metro and the nonmetro. *Research Brief*, 5(2), January 31. avaiable: http://www.iira.org/wp-content/uploads/2023/02/RB5_2-Physical-Activity-of-Illinoisans-in-the-Metro-and-the-Nonmetro.pdf.

residents experience cognitive difficulties; a meta-analysis conducted 13 years ago reported that rural residents had worse mental and physical health[6], which is true even today[7].

This study focuses on public perceptions about mental health, including knowledge about its prevalence, treatment, and policies. The research provides stylized facts about mental health in the metro and the nonmetro and thus opens pathways for further research on the topic.

Concepts, Research Questions, and Propositions

Psychologists are often guided by the assumption that individuals do not react to the world per se, but to the world as they see it[8]. For example, for one to judge the adequacy of mental health treatment in a geography, one needs information about the health of the population in the geography and healthcare facilities in the area. In cognitive terms, information about health and healthcare in the geography should be *available* and *accessible* in one's memory.

How accessible information is in one's memory depends on the *recency* of its use. For example, your discussions with colleagues at the workplace one morning about rising suicide rate in the community could be recalled later, that afternoon, when responding to a survey about the quality of healthcare in the community. As a result, you could probably arrive at a more negative judgment than if you had not thought of the "suicide discussions".

The argument above suggests research questions and propositions to explore with the survey data; for example, in the past year has the respondent felt concerned about his or her own mental wellbeing and/or a loved one's mental wellbeing? If the response is, "yes", then it is highly likely that the respondent believes that improvements to mental health education, access to mental healthcare, and emergency response to a mental health crisis are needed, see the 'recency effect' above; also, the respondent would recognize truthfulness of statements such as, "one in five adults in the US experiences a mental health condition". Table 1 lists the research questions and propositions that guided data analysis.

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[6] Peen, J., Schoevers, R. A., Beekman, A. T., & Dekker, J. (2010). The current status of urban-rural differences in psychiatric disorders. *Acta psychiatrica scandinavica*, *121*(2), 84-93.

[7] Athiyaman, A. (2023). Cost of dementia in Illinois: Metro versus nonmetro. *Research Brief*, 5(12), June 9. Available: http://www.iira.org/wp-content/uploads/2023/05/RB5_12-Cost-of-Dementia-in-Illinois-Metro-versus-Nonmetro.pdf.

[8] Fiske, S. T., & Taylor, S. E. (1991). *Social cognition*. Mcgraw-Hill Book Company.

Table 1: Questions and Propositions

1. What issue does the respondent worry about; for example, healthcare, climate change, etc.?
2. How has the respondent's mental health changed in the last month / year?
3. To what extent does the respondent believe that improvement is needed in mental health services in the nation such as access to mental health care, mental health education for young people, etc.
4. Does the respondent have knowledge about the following propositions?
    (i) Most Americans who have a mental health condition receive treatment
    (ii) One in five adults in the US experiences a mental health condition
    (iii) Suicide is no longer one of the top three leading causes of death for youth and young adults ages 15-24
    (iv) Seven in ten youth in the juvenile justice system have a diagnosable mental illness
    (v) The majority of counties in the nation do not have a single practicing psychiatrist
    (vi) Half of all lifetime mental illness begins by age 14
5. Is the respondent aware of the 988-emergency number?
6. What mental health policies is the respondent willing to support?

Note: A proposition is a true or false statement.

Methodology

The National Alliance on Mental Illness (NAMI) polled 3,071 adults on issues related to mental health[9]; the web-based survey that was fielded during September 22-26, 2022, had responses weighted to be representative of the US population (Table 2).

[9] https://www.ipsos.com/en-us/news-polls/majority-want-elected-officials-to-do-more-to-improve-mental-health-care.

Table 2: Survey Respondents' Attributes (N = 3,000)

Attribute	Modal Value
Metro location	83%
Female	52%
Bachelor degree or higher	35%
Ethnicity = White	63%
Income ≥ $150,000	23%
Working full-time	45%

Microdata from the survey were sourced from the Roper Center, Cornell University[10]. Data were analyzed using EDA procedures; in addition, crosstabulations and Chi-square tests were performed to explore significant associations among nominal and ordinal measures. Finally, a logistic model was used to identify variables that are effective in predicting the likelihood of seeking medical treatment for mental health issues.

Findings

Mental Healthcare Worries

The topic, "mental healthcare", is a worrisome one for more of the metro residents than the nonmetro ones (Table 3); this is in spite of the nonmetro registering a higher proportion of mental health cases than the metro[11]. In general, metro residents are more concerned about healthcare than their nonmetro counterparts; majority of nonmetro residents are concerned about inflation or rising prices (Table 3).

[10] https://ropercenter.cornell.edu/ipoll/.

[11] For example, the prevalence rate of ADRD is 7% for the nonmetro compared to 5% for the metro; see the reference given in footnote 6.

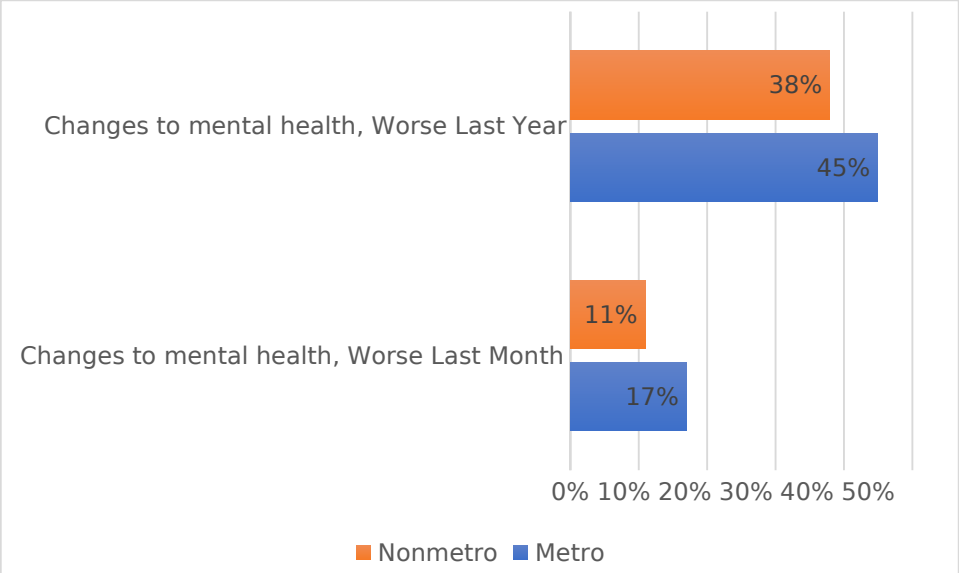
Table 3: Most Worrying Issues, Metro versus Nonmetro

Topic / Issue	Metro	Nonmetro	χ^2	*p*
Inflation	46%	54%	16.44	<0.01
Crime or gun violence	23%	34%	27.59	<0.01
Climate change	27%	20%	14.15	<0.01
Healthcare	**17%**	**15%**	5.29	<0.1
Mental health care	**13%**	**11%**	6.30	<0.05

Note: N = 2,984

When queried about changes to their mental health status in the last month, 17% of the metro residents reported that their mental health has changed either a little or a lot worse; the same number for the nonmetro was 11%. The response pattern for the regions did not change when the timeframe for the question was increased from one month to one year (Figure 1).

Figure 1: Metro-Nonmetro Responses to Changes in Mental Health, Last Month and Year



Knowledge about Mental Health

Table 4 shows differences in knowledge among three categories of respondents to the question, “how has your mental health changed in the last month …”: worse, no difference, and improved. The hypothesis, that the proportion of correct responses or knowledge about mental health issues would be higher for someone experiencing worse mental health, gained partial support in statistical testing; item 5 in Table 4 was significant at the conventional $\alpha < .05$ level ($\chi^2 = 8.26$).

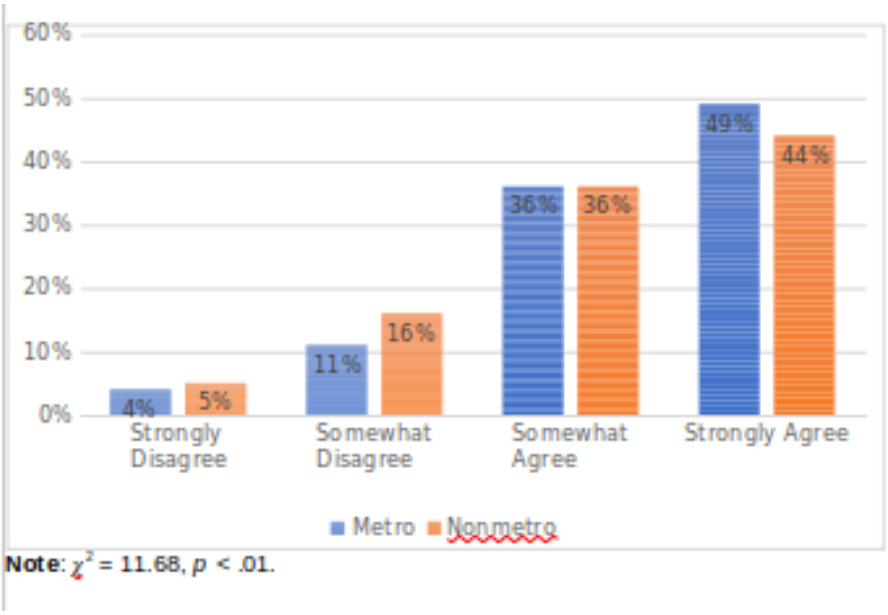
Table 4: Knowledge about Mental Health in the Nation

Item		Respondents' Perceptions about Changes to their Mental Health		
		Worse	**No Change**	**Improved**
1.	One in five adults in the nation experiences a mental health condition	93%	94%	94%
2.	Most Americans who have a mental health condition receive treatment	92%	93%	92%
3.	The majority of counties in the US do not have a single practicing psychiatrist	71%	67%	73%
4.	Half of all lifetime mental illness begins by age 14	81%	78%	79%
5.	Seven in ten youth in the juvenile justice system have a diagnosable mental illness	93%	87%	89%
6.	Suicide is no longer one of the top three leading causes of death for youth and young adults	87%	91%	90%

Beliefs about Mental Health and Awareness about the 988 Telephone Number

Respondents believe that improvements are needed at the national level for mental health services, for example, emergency response to a suicide crisis. However, belief-strength differs between the regions; for example, more of the nonmetro respondents believe that there is little or no need to improve mental health education for the young people, 13% for the nonmetro compared to 10% for the metro (Table 5). Similarly, more in the nonmetro failed to endorse the statement that, "when someone is in a mental health or suicide crisis, they should receive a mental health response, not a police response" (Figure 2).

Figure 2: Response to the Statement that Suicide Crisis Should Receive a Mental Health Response, Not a Police Response: Metro versus Nonmetro



Note: $\chi^2 = 11.68$, $p < .01$.

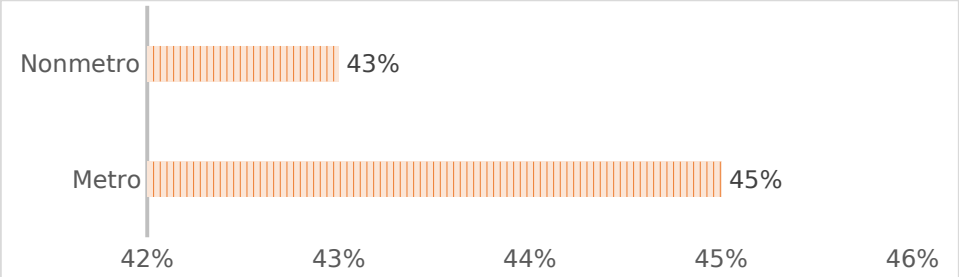
Table 5: Beliefs about Mental Health: Metro versus Nonmetro

Belief, Significant Improvement is Needed in …	Metro	Nonmetro	χ^2	*p*
Emergency response to a suicide crisis	66%	63%	7.96	< .05
Emergency response to a drug or alcohol crisis	57%	57%	0.60	.89
Access to mental health care	70%	69%	5.23	.16
Mental health education for young people	69%	61%	11.76	< .05

988-Emergency

Less than 50% of the respondents were aware about the 988 number; responses did not differ between the metro and the nonmetro (Figure 3).

Figure 3: Awareness about 988 Emergency Number



Support for Mental Health Policies

Increasing federal and state funding for mental health care is strongly supported by the metro, but opposed by the nonmetro (Table 6). However, respondents strongly support creating 24/7 mental health, alcohol/drug, and suicide crisis centers that can respond to callers and follow-up later, if needed.

One in two metro residents strongly support investment in a diverse and robust mental-health workforce; in contrast, only two out of five nonmetro residents support the diverse workforce initiative (Table 6).

Table 6: Support for Mental Health Policies: Metro / Nonmetro Preferences

Policy	Strong Support			
	Metro	Nonmetro	χ^2	P
Create 24/7 call centers that can respond and follow-up on mental health, alcohol/drug, and suicide crisis	62%	54%	13.08	<.01
Provide more federal funding for mental healthcare	55%	45%	19.15	<.01
Provide more state funding for mental healthcare	56%	46%	20.87	<.01
Require all health insurers to cover mental healthcare	69%	59%	22.87	<.01
Invest in a diverse and robust mental healthcare workforce	50%	42%	10.72	<.01

Correlates of Mental Health Treatment

In response to a question about the use of mental health treatment in the past, 32% of the respondents from the nonmetro and 40% from the metro indicated that they have received mental health treatment (Figure 4). The correlates of mental health treatment were explored using a logistic model; the probability of "null or non-utilization of mental health treatment" was modelled. Four nominal variables and three interval measures were the predictors (Table 7).

Figure 4: Mental Health Treatment

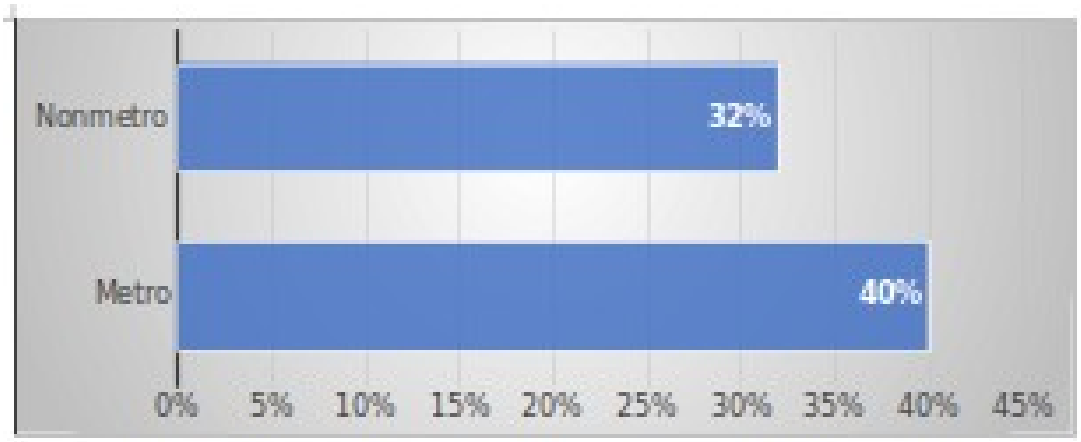


Table 7: Predictor Variables and their Values

Interval Measures

1. How has your mental health changed in the last month, if at all?

Stems: Improved a lot / little, value = +1; No difference, value = 0; Gotten a little / lot worse, value = -1

2. In the past year, how often, if at all, have you felt concerned about your mental well-being?

Stems: Sometimes / often, value = -1; Rarely, value = 0; Never, value = 1.

3. Taking into account everything you know about mental health, would you support policies that require all health insurers to cover mental health care?

Stems: Strongly support, value = 2; Somewhat support, value = 1; Somewhat oppose, value = -1; Strongly oppose, value = -2.

Nominal Variables	Levels	Value	Design Variables		
Region	Nonmetro	0	1		
	Metro	1	-1		
Gender	Male	0	1		
	Female	1	-1		
Education	Bachelor degree or higher	0	1	0	0
	Some College	1	0	1	0
	High school	2	0	0	1
	LT High school	3	-1	-1	-1
Work status	Working FT	0	1	0	
	Not working	1	0	1	
	Working PT	2	-1	-1	

Parameter estimates are shown in Table 8. Region, metro and nonmetro, has little or no effect on the criterion, seeking mental healthcare. All other predictors are statistically significant.

The odds ratio for the variables are shown in Table 9; for categorical variables, the values represent the odds ratio between the corresponding level and the reference level. For example, the estimated odds ratio is 1.406 for males compared to females; females tend to consult mental healthcare professionals. Similarly, people with at least a bachelor's degree are faring better mentally than people with less than high school education.

Table 8: Parameters, Maximum Likelihood Estimates

Parameter		DF	Estimate	Std. Error	Wald χ^2	Pr>χ^2
Intercept		1	1.2087	0.1095	121.8941	<.0001
Region	0	1	0.0879	0.0578	2.3157	0.1281
Gender	0	1	0.1704	0.0428	15.8113	<.0001
Education Cat, 0	0	1	-0.1623	0.0734	4.8932	0.027
Education Cat, 1	1	1	-0.2161	0.078	7.677	0.0056
Education Cat, 2	2	1	0.3536	0.0821	18.5308	<.0001
Work status Cat, 0	0	1	0.00835	0.0612	0.0186	0.8914
Work status Cat, 1	1	1	0.1494	0.0625	5.7123	0.0168
Support for policy*		1	-0.3496	0.0534	42.897	<.0001
Mental health, last month		1	0.1504	0.0774	3.7721	0.0521
Mental health, past year		1	0.893	0.0551	262.4655	<.0001

Note: *Support for policy that requires health insurance companies to cover mental healthcare.

Table 9: Odds Ratio Estimates

Effect	Point Estimate	95% Wald CI	
Metro versus Nonmetro	1.192	0.951	1.495
Males versus females	1.406	1.189	1.663
Bachelor versus < HS	0.829	0.573	1.2
Some college versus < HS	0.786	0.54	1.144
High Scholl versus < HS	1.389	0.95	2.032
Working FT versus PT	1.181	0.92	1.516
Not working versus PT	1.36	1.055	1.752
HC policy, insurance for mental health	0.705	0.635	0.783
Changes in mental health, last month	1.162	0.999	1.353
Changes in mental health, past year	2.443	2.192	2.721

Summary and Conclusion

In the last six months I have published 14 *Research Briefs* on healthcare; these publications document differences in health and healthcare between metro and nonmetro geographies, mostly for Illinois. This research continues this "exploration" by assessing differences in mental health care perceptions, knowledge, and behavior between the nation's metro and nonmetro population. Data were from a survey conducted by the National Alliance on Mental Illness (NAMI) during September 2022.

Results of data analysis indicate:

1. Metro residents are more concerned about healthcare, including mental healthcare, than their nonmetro counterparts; nonmetro residents are more focused on economic matters such as inflation.

2. Respondents believe that improvements are needed at the national level for mental health services, for example, emergency response to a suicide crisis. However, belief-strength differs between the regions; for example, more nonmetro respondents believe that there is *little or no need to improve mental health education* for the young people.

3. One in two metro residents strongly support investment in a diverse and robust mental-health workforce; in contrast, only two out of five nonmetro residents support the diverse workforce initiative.

In conclusion, nonmetro lags behind metro in terms of awareness about mental healthcare. This lack of awareness leads to poor knowledge about mental health issues and minimal support for policies about mental health care.