

Supplementary Online Content

Cummings JR, Allen L, Clennon J, Ji X, Druss BG. Geographic access to specialty mental health care across high- and low-income US communities. *JAMA Psychiatry*. Published online April 5, 2017.
doi:10.1001/jamapsychiatry.2017.0303

eTable 1. Percentage of US Population Living in Zip Code Tabulation Area (ZCTA) With Community-Based Specialty Mental Health (MH) Treatment Resources

eTable 2. Generalized Ordered Logistic Regression Results Examining the Association Between Zip Code Tabulation Area (ZCTA) Characteristics and the Availability of MH Treatment Facilities Providing Outpatient Care or Community-Based Specialty Mental Health (MH) Treatment Resources

eTable 3. Generalized Ordered Logistic Regression Results Examining the Association Between Zip Code Tabulation Area (ZCTA) Characteristics and the Availability of Office-Based Practices of Mental Health (MH) Specialist Providers

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Percentage of US Population Living in Zip Code Tabulation Area (ZCTA) With Community-Based Specialty Mental Health (MH) Treatment Resources

	Any MH treatment facility providing outpatient care, %	Any office-based practice: MH specialist physician(s), %	Any office-based practice: MH professional–nonphysician(s), %	Any community-based MH treatment resource, %
% of population living in ZCTA with ≥ 1 MH treatment resource	36.9	40.1	55.2	70.3
% of population living in ZCTAs (classified by median household income) with ≥ 1 MH treatment resource in ZCTA				
First quartile (mean = \$30,534)	46.6	29.3	42.0	65.1
Second quartile (mean = \$42,999)	45.2	34.5	50.7	67.5
Third quartile (mean = \$53,542)	37.1	38.6	54.1	68.2
Fourth quartile (mean = \$81,207)	26.5	50.4	65.9	76.3
% of population living in ZCTAs (classified as urban/suburban or rural), with ≥ 1 MH treatment resource in ZCTA				
% of Residents living in Rural areas	32.9	6.9	15.5	40.1
% of Residents living in Urban/Suburban areas	37.1	41.7	57.1	71.7
% of Population living in ZCTA with ≥ 1 MH treatment resource or within 10 Miles of ZCTA with ≥ 1 MH treatment resource^a	91.6	84.6	90.3	95.0
% of population living in ZCTAs (classified by median household income) with ≥ 1 MH treatment resource in ZCTA or within 10 miles of a ZCTA with ≥ 1 MH treatment resource ^a				
First quartile (mean = \$30,534)	90.4	77.5	84.5	94.9
Second quartile (mean = \$42,999)	91.1	78.5	87.5	95.5
Third quartile (mean = \$53,542)	91.9	85.8	92.6	96.0
Fourth quartile (mean = \$81,207)	92.2	91.5	93.5	94.2
% of population living in ZCTAs (classified as urban/suburban or rural), with ≥ 1 MH treatment resource in ZCTA or within 10 miles of a ZCTA with ≥ 1 MH treatment resource ^a				
% of Residents living in Rural areas	73.5	28.3	49.2	82.7
% of Residents living in Urban/Suburban areas	92.4	87.3	92.2	95.6

Note: ^aTo calculate these percentages, we created a 10-mile buffer around each ZCTA's centroid to identify those who lived in a ZCTA with a MH treatment resource or close to another ZCTA with a MH treatment resource that intersected this 10-mile buffer.

eTable 2. Generalized Ordered Logistic Regression Results Examining the Association Between Zip Code Tabulation Area (ZCTA) Characteristics and the Availability of MH Treatment Facilities Providing Outpatient Care or Community-Based Specialty Mental Health (MH) Treatment Resources

	MH treatment facility providing outpatient care in ZCTA [†]				Community-based MH Treatment Resource [‡]			
	1 or more (versus 0)		2 or more (versus <2)		1 or more (versus 0)		2 or more (versus <2)	
	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]
Median household income								
First quartile	Ref		Ref		Ref		Ref	
Second quartile	0.91	[0.81, 1.02]	0.80	[0.67, 0.95]	0.95	[0.84, 1.06]	0.93	[0.82, 1.07]
Third quartile	0.63	[0.55, 0.72]	0.54	[0.44, 0.67]	0.97	[0.85, 1.10]	1.04	[0.90, 1.21]
Fourth quartile	0.43	[0.37, 0.51]	0.35	[0.27, 0.45]	1.73	[1.49, 2.01]	2.38	[2.00, 2.83]
Rural/urban area								
Rural	Ref		Ref		Ref		Ref	
Urban/suburban	0.38	[0.33, 0.43]	0.66	[0.51, 0.86]	0.54	[0.48, 0.61]	0.72	[0.61, 0.86]
% of residents that are black								
Less than 1	Ref		Ref		Ref		Ref	
1–9	0.99	[0.88, 1.11]	1.30	[1.06, 1.60]	1.13	[1.03, 1.24]	1.09	[0.97, 1.22]
10–24	0.86	[0.71, 1.04]	1.07	[0.80, 1.44]	0.91	[0.76, 1.08]	0.74	[0.61, 0.90]
25–49	0.64	[0.50, 0.83]	0.89	[0.62, 1.28]	0.53	[0.41, 0.68]	0.46	[0.35, 0.61]
50 or more	0.34	[0.25, 0.47]	0.25	[0.15, 0.41]	0.25	[0.18, 0.34]	0.11	[0.08, 0.16]
% of residents that are Hispanic								
Less than 1	Ref		Ref		Ref		Ref	
1–9	1.22	[1.06, 1.41]	1.35	[1.02, 1.79]	1.32	[1.17, 1.48]	1.61	[1.35, 1.92]
10–24	1.23	[1.00, 1.51]	1.52	[1.07, 2.17]	0.94	[0.78, 1.14]	1.20	[0.95, 1.52]
25–49	1.22	[0.93, 1.60]	1.31	[0.86, 2.00]	0.78	[0.60, 1.01]	1.13	[0.84, 1.52]
50 or more	0.62	[0.42, 0.90]	0.71	[0.38, 1.31]	0.50	[0.36, 0.71]	0.66	[0.44, 0.98]
% of residents under	0.88	[0.81,	0.68	[0.59,	0.64	[0.59,	0.54	[0.49,

age 20 ^a		0.96]		0.78]		0.70]		0.59]
% of residents over age 64 ^a	1.53	[1.39, 1.68]	1.50	[1.28, 1.77]	1.40	[1.29, 1.52]	1.48	[1.34, 1.64]
% of residents who are female ^a	1.02	[0.94, 1.10]	1.15	[0.99, 1.34]	1.31	[1.23, 1.41]	1.48	[1.35, 1.63]
% of residents who are married ^a	0.51	[0.47, 0.55]	0.44	[0.38, 0.50]	0.52	[0.48, 0.56]	0.43	[0.39, 0.47]
Total population (logged)	4.30	[4.08, 4.54]	5.23	[4.75, 5.75]	5.47	[5.22, 5.74]	6.86	[6.46, 7.28]
Land area ^a	1.30	[1.24, 1.35]	1.22	[1.13, 1.33]	1.16	[1.11, 1.21]	1.03	[0.97, 1.10]

Notes: N=31,836 ZCTAs; Results come from generalized ordered logistic regression models that included all measures in the table as well as state indicators. [†]The percentage of ZCTAs with 1 MH treatment facility is 10.0%, and the percentage with 2+ MH treatment facilities is 4.9%. [‡]The percentage of ZCTAs with 1 community-based MH treatment resources is 10.7%, and the percentage with 2+ community-based MH treatment resources is 18.6%. ^aContinuous measure was standardized.

eTable 3. Generalized Ordered Logistic Regression Results Examining the Association Between Zip Code Tabulation Area (ZCTA) Characteristics and the Availability of Office-Based Practices of Mental Health (MH) Specialist Providers

	Office-based practice of MH specialist physician(s) in ZCTA [†]				Office-based practice of MH professional–nonphysician(s) in ZCTA [‡]			
	1 or more (versus 0)		2 or more (versus <2)		1 or more (versus 0)		2 or more (versus <2)	
	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]
Median household income								
First quartile	Ref		Ref		Ref		Ref	
Second quartile	1.10	[0.96, 1.28]	1.12	[0.92, 1.37]	1.03	[0.91, 1.17]	0.84	[0.72, 0.99]
Third quartile	1.36	[1.16, 1.59]	1.53	[1.23, 1.89]	1.30	[1.13, 1.50]	1.34	[1.13, 1.60]
Fourth quartile	3.02	[2.52, 3.63]	4.65	[3.65, 5.94]	2.75	[2.34, 3.24]	3.28	[2.69, 4.01]
Rural/urban area								
Rural	Ref		Ref		Ref		Ref	
Urban/suburban	1.05	[0.84, 1.31]	1.88	[1.04, 3.41]	1.01	[0.86, 1.18]	1.24	[0.93, 1.64]
% of residents that are black								
Less than 1	Ref		Ref		Ref		Ref	
1–9	1.14	[1.01, 1.30]	1.10	[0.92, 1.31]	1.13	[1.02, 1.26]	1.12	[0.97, 1.29]
10–24	0.82	[0.66, 1.01]	0.77	[0.58, 1.01]	0.83	[0.68, 1.00]	0.71	[0.57, 0.90]
25–49	0.44	[0.33, 0.59]	0.36	[0.24, 0.53]	0.45	[0.35, 0.59]	0.35	[0.25, 0.48]
50 or more	0.17	[0.11, 0.25]	0.04	[0.02, 0.09]	0.14	[0.10, 0.20]	0.09	[0.05, 0.14]
% of residents that are Hispanic								
Less than 1	Ref		Ref		Ref		Ref	
1–9	1.57	[1.29, 1.90]	2.86	[1.80, 4.55]	1.53	[1.32, 1.77]	2.07	[1.58, 2.72]
10–24	1.06	[0.82, 1.37]	2.18	[1.31, 3.60]	0.93	[0.75, 1.15]	1.27	[0.92, 1.75]
25–49	0.92	[0.67, 1.26]	1.72	[0.98, 3.01]	0.67	[0.51, 0.88]	0.83	[0.56, 1.21]
50 or more	0.67	[0.44, 1.02]	1.50	[0.79, 2.86]	0.66	[0.46, 0.95]	0.77	[0.48, 1.23]
% of residents under age 20 ^a	0.57	[0.51, 0.63]	0.51	[0.45, 0.59]	0.58	[0.53, 0.63]	0.52	[0.46, 0.58]

% of residents over age 64 ^a	1.37	[1.24, 1.51]	1.38	[1.21, 1.57]	1.22	[1.11, 1.34]	1.29	[1.15, 1.44]
% of residents who are female ^a	1.45	[1.31, 1.60]	1.67	[1.43, 1.95]	1.41	[1.30, 1.53]	1.56	[1.37, 1.76]
% of residents who are married ^a	0.54	[0.49, 0.60]	0.42	[0.37, 0.48]	0.55	[0.51, 0.60]	0.45	[0.41, 0.50]
Total population (logged)	4.38	[4.13, 4.64]	4.97	[4.56, 5.42]	4.58	[4.35, 4.81]	5.72	[5.34, 6.13]
Land area ^a	0.70	[0.62, 0.79]	0.58	[0.47, 0.71]	0.97	[0.91, 1.03]	0.86	[0.78, 0.94]

Notes: N=31,836 ZCTAs; Results come from generalized ordered logistic regression models that included all measures in the table as well as state indicators. [†]The percentage of ZCTAs with 1 office-based practice of MH specialist physician(s) is 7.2%, and the percentage with 2+ office-based practices of MH specialist physician(s) is 6.7%. [‡]The percentage of ZCTAs with 1 office-based practice of nonphysician MH professional(s) is 9.1%, and the percentage with 2+ office-based nonphysician MH professional(s) is 11.8%. ^aContinuous measure was standardized.