

**Supplemental Table 1 (with Ns and percentages): Characteristics of Medicaid beneficiaries with mental disorders in six states, by whether or not they had a co-occurring substance use disorder (SUD)**

	AR		CO		GA		IN		NJ		WA	
	No SUD N=12,079 N %	+ SUD N=2,329 N %	No SUD N=5,948 N %	+ SUD N=2,354 N %	No SUD N=26,680 N %	+ SUD N=9,526 N %	No SUD N=21,907 N %	+ SUD N=5,758 N %	No SUD N=19,902 N %	+ SUD N=11,746 N %	No SUD N=18,257 N %	+ SUD N=11,971 N %
<b>Age</b>												
22-44	7,995 66.2	1,649 70.8	3,873 65.1	1,594 67.7	17,444 65.4	6,548 68.7	15,780 72.0	4,293 74.6	12,551 63.1	9,158 78.0	11771 64.5	9154 76.5
45-64	4,084 33.8	680 <sup>c</sup> 29.2	2,075 34.9	760 <sup>a</sup> 32.3	9,236 34.6	2,978 <sup>c</sup> 31.3	6,127 28.0	1,465 <sup>c</sup> 25.4	7,351 36.9	2,588 <sup>c</sup> 22.0	6486 35.5	2817 <sup>c</sup> 23.5
<b>Gender</b>												
Male	2,967 24.6	1,002 43.0	1,478 24.9	1,078 45.8	5,690 21.3	3,474 36.5	4,741 21.6	2,308 40.1	5,467 27.5	3,747 31.9	5330 29.2	4469 37.3
Female	9,108 75.4	1,327 <sup>c</sup> 57.0	4,470 75.1	1,276 <sup>c</sup> 54.2	20,990 78.7	6,052 <sup>c</sup> 63.5	17,166 78.4	3,450 <sup>c</sup> 59.9	14,435 72.5	7,999 <sup>c</sup> 68.1	12923 70.8	7501 <sup>c</sup> 62.7
<b>Race</b>												
White	7,893 65.3	1,354 58.1	3,695 62.1	1,281 54.4	12,421 46.6	3,417 35.9	18,013 82.2	4,109 71.4	9,255 46.5	3,383 28.8	14245 78.0	8929 74.6
Hispanic	218 1.8	44 1.9	1,271 21.4	598 25.4	116 0.4	26 0.3	446 2.0	119 2.1	2,262 11.4	979 8.3	917 5.0	654 5.5
African American	3,523 29.2	855 36.7	296 5.0	180 7.7	11,497 43.1	5,454 57.3	3,288 15.0	1,494 26.0	5,304 26.7	6,463 55.0	1056 5.9	1176 9.8
Other race / missing	445 3.7	76 <sup>c</sup> 3.3	686 11.5	295 <sup>c</sup> 12.5	2,64 9.9	629 <sup>c</sup> 6.6	160 0.7	36 <sup>c</sup> 0.6	3,081 15.5	921 <sup>c</sup> 7.8	2039 11.1	1212 <sup>c</sup> 10.1
<b>Disabled</b>	8,819 73.0	1703 73.1	4,020 67.6	1,565 66.5	17,820 66.8	5,684 <sup>c</sup> 59.7	13,210 60.3	3,415 59.3	13,942 70.1	5,927 <sup>c</sup> 50.5	12870 70.5	5658 <sup>c</sup> 47.3
<b>Fee For Service</b>	10,807 89.5	2,028 <sup>c</sup> 87.1	44 0.7	23 1.0	2,632 9.9	918 9.6	11,625 53.1	3,062 53.2	13,087 65.8	5,514 <sup>c</sup> 46.9	12289 67.3	5488 <sup>c</sup> 45.8
<b>Continuity of coverage, months</b>												
< 6	1,271 10.5	301 12.9	823 13.8	617 26.2	3,296 12.4	1,506 15.8	2,571 11.7	1,005 17.5	1,790 9.0	1,629 13.9	2535 13.9	2391 20.0
7-11	1,639	361	1,032	526	4,020	1,862	4,615	1,555	2,497	2,172	3093	2989

12	13.6 9,169 75.9	15.5 1,667 <sup>b</sup> 71.6	17.4 4,093 68.8	22.3 1,211 <sup>c</sup> 51.4	15.0 19,364 72.6	19.6 6,158 <sup>c</sup> 64.6	21.1 14,721 67.2	27.0 3,198 <sup>c</sup> 55.5	12.5 15,615 78.5	18.5 7,945 <sup>c</sup> 67.6	16.9 12,629 69.2	25.0 6,591 <sup>c</sup> 55.0
<b>Physical Comorbidities</b>	6,919 57.3	1,298 <sup>c</sup> 55.7	3,069 51.6	1,216 51.7	15,702 58.9	5,747 <sup>b</sup> 60.3	12,920 59.0	3,293 <sup>b</sup> 57.2	10,896 54.8	5,958 <sup>c</sup> 50.7	9,123 50.0	5,094 <sup>c</sup> 42.6
<b>Severe MI</b>	8,028 66.5	1,161 <sup>c</sup> 49.9	4,097 68.9	722 30.7	18,361 <sup>c</sup> 68.8	2,857 <sup>c</sup> 30.0	15,100 68.9	2,529 <sup>c</sup> 43.9	13,545 68.1	3,985 <sup>c</sup> 33.9	12,282 67.3	2,724 <sup>c</sup> 22.8
<b>Other MI</b>	4,051 33.5	326 <sup>c</sup> 14.0	1,851 31.1	229 9.7	8,319 <sup>c</sup> 31.2	839 <sup>c</sup> 8.8	6,807 31.1	631 <sup>c</sup> 11.0	6,357 31.9	1,020 <sup>c</sup> 8.7	5,975 32.7	929 <sup>c</sup> 7.8
<b>SUD only</b>	-	842 36.1	-	1,403 59.6	-	5,830 61.2	-	2,598 45.1	-	6,741 57.4	-	8,318 69.5
<b>CDPS score Mean (std)</b>	1.07 (0.64)	1.40 <sup>c</sup> (0.76)	1.00 (0.64)	1.15 <sup>c</sup> (0.73)	1.15 (0.67)	1.36 <sup>c</sup> (0.80)	1.14 (0.67)	1.42 <sup>c</sup> (0.78)	1.14 (0.67)	1.34 <sup>c</sup> (0.77)	0.96 (0.59)	0.99 (0.67)

<sup>a</sup> = p < 0.05; <sup>b</sup> = p < 0.01; <sup>c</sup> = p < 0.001 comparing individuals with and without SUD (one statistic was calculated for equality among more than two groups).

MI = mental illness; SUD= Substance Use Disorder

**CDPS scores for two diagnostic subgroups of Medicaid beneficiaries in six states, by whether or not they had a co-occurring substance use disorder (SUD)**

**SEVERE MENTAL ILLNESS**

	AR		CO		GA		IN		NJ		WA	
	No SUD	+ SUD	No SUD	+ SUD	No SUD	+ SUD	No SUD	+ SUD	No SUD	+ SUD	No SUD	+ SUD
<b>CDPS score</b>	1.17	1.66 <sup>c</sup>	1.08	1.40 <sup>c</sup>	1.26	1.71 <sup>c</sup>	1.22	1.62 <sup>c</sup>	1.26	1.69 <sup>c</sup>	1.04	1.32 <sup>c</sup>
<b>Mean (std)</b>	(0.61)	(0.71)	(0.65)	(0.71)	(0.65)	(0.83)	(0.67)	(0.75)	(0.67)	(0.75)	(0.60)	(0.72)

**OTHER MENTAL ILLNESS**

<b>CDPS score</b>	0.86	1.27 <sup>c</sup>	0.82	1.12 <sup>c</sup>	0.89	1.27 <sup>c</sup>	0.95	1.32 <sup>c</sup>	0.88	1.28 <sup>c</sup>	0.79	1.03 <sup>c</sup>
<b>Mean (std)</b>	(0.64)	(0.80)	(0.58)	(0.76)	(0.63)	(0.75)	(0.64)	(0.76)	(0.62)	(0.79)	(0.53)	(0.67)

**Supplemental Table 3 (with Ns and percentages): Use of psychiatric and general medical inpatient care by Medicaid beneficiaries with mental disorders in six states, by whether or not they had a co-occurring substance use disorder (SUD)**

	Arkansas		Colorado		Georgia		Indiana		New Jersey		Washington													
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes												
<b>Co-occurring substance use disorders</b>																								
<b>Severe MI</b>	N=8,028		N=1,161		N=4,097		N=722		N=18,361		N=2,857		N=15,100		N=2,529		N=13,545		3,985		12,282		2,274	
<b>Beh Dx</b>	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
<b>Medical Dx</b>	770	10	494	43	73	2	203	28	1296	7	1101	38	1144	8	1016	40	1635	12	2118	53	552	5	676	25
	1333	17	276	24	820	20	247	34	2933	16	836	29	2929	19	805	32	2260	17	1072	27	1587	13	756	28
<b>Other MI</b>	N=4,051		N=326		N=1,851		N=229		N=8,319		N=839		N=6,807		N=631		N=6,357		N=1,020		N=5,975		N=929	
<b>Beh Dx</b>	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
<b>Medical Dx</b>	40	1	45	14	8	0	37	16	42	1	78	9	54	1	99	16	99	2	202	20	49	1	78	8
	731	18	94	29	336	18	86	38	1556	19	317	38	1339	20	234	37	1131	18	297	29	739	12	239	26
<b>Substance use disorders only</b>	N=842		N=1,403		N=5,830		N=2,598		N=6,741		N=8,318													
<b>Beh Dx</b>	n	%	n	%	n	%	n	%	n	%	n	%												
<b>Medical Dx</b>	63	7	68	5	191	3	139	5	802	12	186	2												
	382	45	668	48	2403	41	1203	46	2075	31	1715	21												

<sup>1</sup> All differences between individuals with and without substance use disorders are significant, p<0.001

Beh Dx= inpatient utilization with a primary behavioral health diagnosis; Medical Dx = inpatient utilization with a primary medical care diagnosis; MI = mental illness

**Supplemental Table 4: Multiple regression analyses (log-linear models) omitting CDPS scores)**

	Arkansas N=14,408		Colorado N=8,302		Georgia N=36,206		Indiana N=27,665		New Jersey N=31,648		Washington N=30,228	
	Estimate	Std error	Estimate	Std error	Estimate	Std error	Estimate	Std error	Estimate	Std error	Estimate	Std error
<b>Behavioral health expenditures</b>												
Intercept	4.13	.09 <sup>c</sup>	4.12	.11 <sup>c</sup>	4.00	.05 <sup>c</sup>	3.81	.06 <sup>c</sup>	4.35	.06 <sup>c</sup>	4.12	.05 <sup>c</sup>
Substance use	.45	.04 <sup>c</sup>	.57	.05 <sup>c</sup>	.69	.02 <sup>c</sup>	.67	.02 <sup>c</sup>	1.09	.02 <sup>c</sup>	.86	.02 <sup>c</sup>
Age	.00	.00	.00	.00	.00	.00 <sup>b</sup>	.00	.00 <sup>c</sup>	-.01	.00 <sup>c</sup>	-.01	.00 <sup>c</sup>
Severe MI	1.53	.03 <sup>c</sup>	.88	.04 <sup>c</sup>	1.27	.02 <sup>c</sup>	1.18	.02 <sup>c</sup>	1.34	.02 <sup>c</sup>	1.04	.02 <sup>c</sup>
Female	-.26	.03 <sup>c</sup>	-.08	.04	.00	.02	-.16	.02 <sup>c</sup>	-.17	.02 <sup>c</sup>	.01	.02
Non-minority	-.06	.03	.40	.04 <sup>c</sup>	.17	.02 <sup>c</sup>	.22	.02 <sup>c</sup>	.11	.02 <sup>c</sup>	.24	.02 <sup>c</sup>
Disabled	.85	.04 <sup>c</sup>	.83	.05 <sup>c</sup>	.70	.02 <sup>c</sup>	1.15	.02 <sup>c</sup>	.65	.03 <sup>c</sup>	.91	.02 <sup>c</sup>
<b>Medical expenditures</b>												
Intercept	3.80	.08 <sup>c</sup>	6.21	.08 <sup>c</sup>	4.76	.05 <sup>c</sup>	4.66	.05 <sup>c</sup>	5.25	.05 <sup>c</sup>	5.11	.05 <sup>c</sup>
Substance use	.28	.04 <sup>c</sup>	.26	.03 <sup>c</sup>	.51	.02 <sup>c</sup>	.44	.02 <sup>c</sup>	.34	.02 <sup>c</sup>	.45	.02 <sup>c</sup>
Age	.02	.00 <sup>c</sup>	.00	.00	.03	.00 <sup>c</sup>	.02	.00 <sup>c</sup>	.02	.00 <sup>c</sup>	.02	.00 <sup>c</sup>
Severe MI	-.43	.03 <sup>c</sup>	-.24	.03 <sup>c</sup>	-.21	.02 <sup>c</sup>	-.21	.02 <sup>c</sup>	-.25	.02 <sup>c</sup>	-.09	.02 <sup>c</sup>
Female	.37	.03 <sup>c</sup>	.06	.03	.40	.02 <sup>c</sup>	.25	.02 <sup>c</sup>	.25	.02 <sup>c</sup>	.52	.02 <sup>c</sup>
Non-minority	.35	.03 <sup>c</sup>	.10	.03 <sup>c</sup>	.34	.02 <sup>c</sup>	.22	.02 <sup>c</sup>	-.11	.02 <sup>c</sup>	.00	.02
Disabled	.08	.04	1.02	.04 <sup>c</sup>	.22	.02 <sup>c</sup>	.13	.02 <sup>c</sup>	-.09	.02 <sup>c</sup>	.00	.02

<sup>a</sup> = p < 0.05; <sup>b</sup> = p < 0.01; <sup>c</sup> = p < 0.001

MI = Mental Illness; Disabled = qualified for Medicaid due to a disabling condition