APPENDIX

Appendix Table 1

2013 per person spending

		Spending per Person								Total Spending	
		MHSUD Spending									
		Inpatient		Outpatient		Drug		Total			
Diagnoses	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Individuals with MHSUD diagnosis	292667	261	3082	631	3405	479	1454	1371	5586	13165	39071
Recognized	60396	1147	6517	1799	7036	1215	2517	4161	11384	18483	51946
Unrecognized	232271	31	816	327	1137	288	916	645	1752	11782	34822
Individuals without MHSUD diagnosis	1719413	0	60	3	126	35	348	38	375	3704	14365
All Individuals	2012080	38	1180	94	1323	100	660	232	2209	5080	20236

NOTES [Recognized and Unrecognized rows are mutually exclusive

Individuals without MHSUD diagnoses have mental health spending because treatments, particularly prescription drugs, are not limited to treating MHSUD]

Appendix Table 2

2013 Spending on unrecognized individuals

	N	% of Total N[b]	Plan spending per person										Total	
			MHSUD Spending											
			Inpatient		Outpatient		Drug		Total		% of spend[b]			
			Mean	SD	Mean	SD	Mean	SD	Mean	SD		Mean	SD
Unrecognized MHSUD Individuals[a]	**232271**		**31**	**3082**	**327**	**3405**	**288**	**1454**	**645**	**5586**		**11782**	**39071**
Adjustment disorders	30327	13.1%	23	587	780	1343	204	811	1006	1781	20.4%	10317	37414
Anxiety disorders	87316	37.6%	34	730	399	1121	298	916	731	1727	42.6%	11117	32431
Attention-deficit/conduct/disruptive behavior disorders	19364	8.3%	8	276	352	783	1078	1405	1437	1757	18.6%	6329	16405
Delirium/dementia/amnestic/other cognitive disorders	2493	1.1%	72	1157	762	2166	299	951	1133	2703	1.9%	44537	107336
Developmental disorders	707	0.3%	387	5550	593	1708	465	1939	1446	6337	0.7%	29470	85754
Disorders usually diagnosed in infancy/childhood/adolescence	307	0.1%	74	1289	534	1382	617	1949	1230	2852	0.3%	17957	78807
Impulse control disorders	427	0.2%	179	2044	834	1263	568	2150	1582	3252	0.5%	9085	18874
Mood disorders	59911	25.8%	48	990	374	1119	437	1137	859	2002	34.4%	13998	40464
Personality disorders	0	0.0%	0	0	0	0	0	0	0	0	0.0%	0	0
Schizophrenia and other psychotic disorders	12	0.0%	0	0	483	542	2242	3766	2724	3756	0.0%	22767	35315
Alcohol-related disorders	8084	3.5%	739	4060	1212	4012	183	832	2134	6186	11.5%	19275	50375
Substance-related disorders	3056	1.3%	319	3327	898	4452	313	1318	1531	5933	3.1%	17279	37638
Suicide and intentional self-inflicted injury	300	0.1%	1572	4183	1470	1864	296	920	3339	4798	0.7%	17301	46142
Screening and history of MHSUD codes	60017	25.8%	53	1235	133	1279	134	664	320	2027	12.8%	17514	41118
Miscellaneous mental disorders	18447	7.9%	33	770	301	982	229	913	564	1678	6.9%	12099	38990

[a] Numbers in each CCS rows for the individual count (N) and MHSUD spending are not additive as individuals can have diagnoses associated with more than one CCS

[b] Percent of total N and total MH spending will be over 100 percent as categories are not mutually exclusive

Appendix Table 3
Predictive ratios for MHSUD individuals by CCS

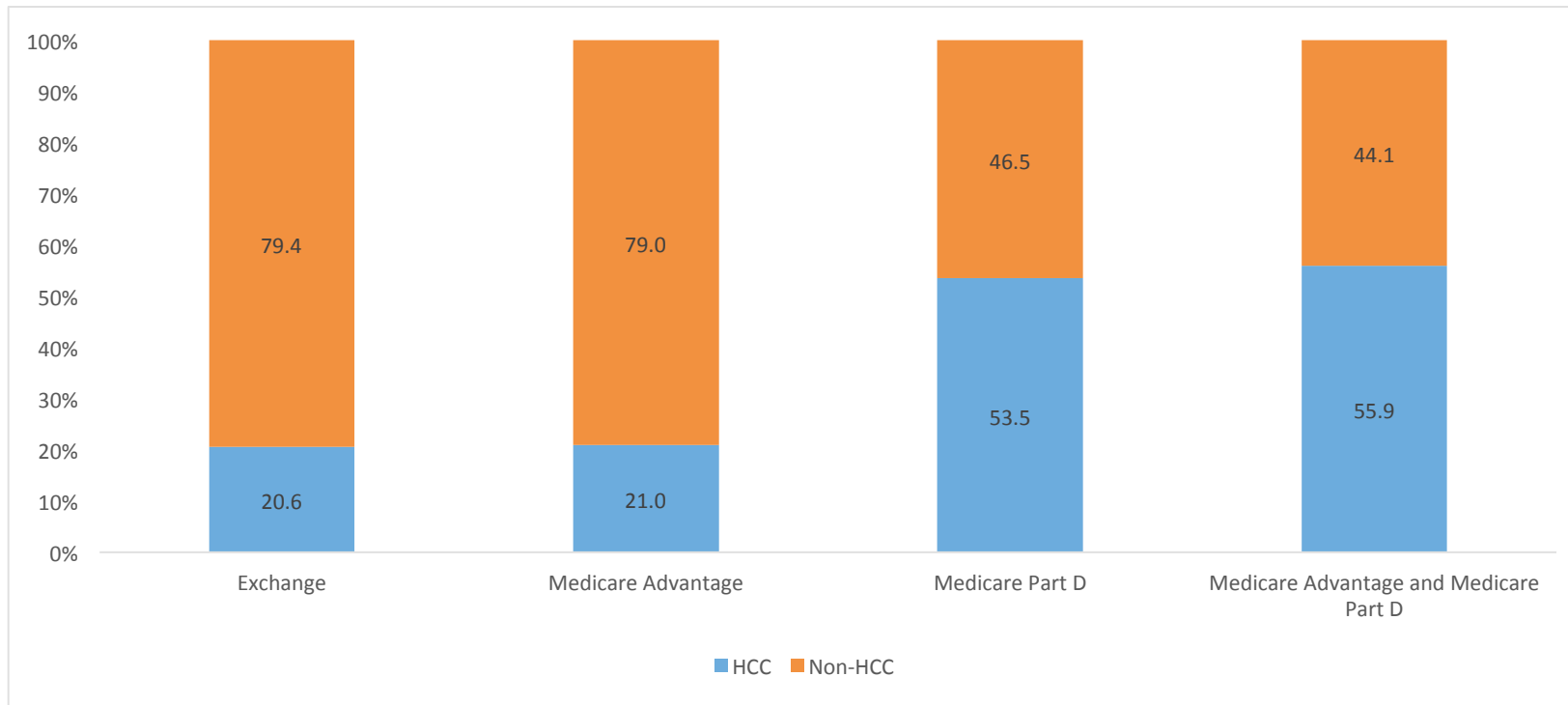| CCS Category	Predictive Ratios		
	Unrecognized	Recognized	All MHSUD Individuals[a]
All MHSUD individuals	**0.79**	**0.97**	**0.84**
Adjustment disorders	0.69	0.84	0.73
Anxiety disorders	0.76	0.88	0.8
Attention-deficit/conduct/disruptive behavior disorders	0.6	0.85	0.69
Delirium/dementia/amnestic/other cognitive disorders	0.87	0.8	0.84
Developmental disorders	0.99	0.83	0.91
Disorders usually diagnosed in infancy/childhood/adolescence	0.52	0.94	0.79
Impulse control disorders	0.68	0.72	0.71
Mood disorders	0.78	0.97	0.88
Personality disorders	--	0.71	0.71
Schizophrenia and other psychotic disorders	1.43	0.9	0.9
Alcohol-related disorders	0.87	0.78	0.83
Substance-related disorders	0.78	0.87	0.87
Suicide and intentional self-inflicted injury	0.8	0.69	0.7
Screening and history of MHSUD codes	0.83	0.82	0.83
Miscellaneous mental disorders	0.71	0.81	0.74

Sources/notes: SOURCE: [Authors' analysis of sample.] NOTES [Recognized and unrecognized categories are mutually exclusive. Predictive ratios measure how well the risk adjustment system compensates plans for a subgroup by taking the ratio of average plan liabilities (total costs minus (compensated) predicted costs based on the HHS-HCC model) to average actual total costs for each subgroup of individuals.]

Appendix Table 4
Comparison of MHSUD-HCC identification in the Exchange, Medicare Advantage, and Medicare Part D risk adjustment

Individuals with MHSUD	HHS-HCC		CMS-HCC		CMS-RxHCC		CMS-HCC and -RxHCC	
	N	%	N	%	N	%	N	%
HCC	60396	20.6	61496	21.0	156688	53.5	163728	55.9
Non-HCC	232271	79.4	231171	79.0	135979	46.5	128939	44.1

Appendix Exhibit 5. Comparison of MHSUD Recognition in the Exchange, Medicare Advantage, and Medicare Part D Risk Adjustment Systems