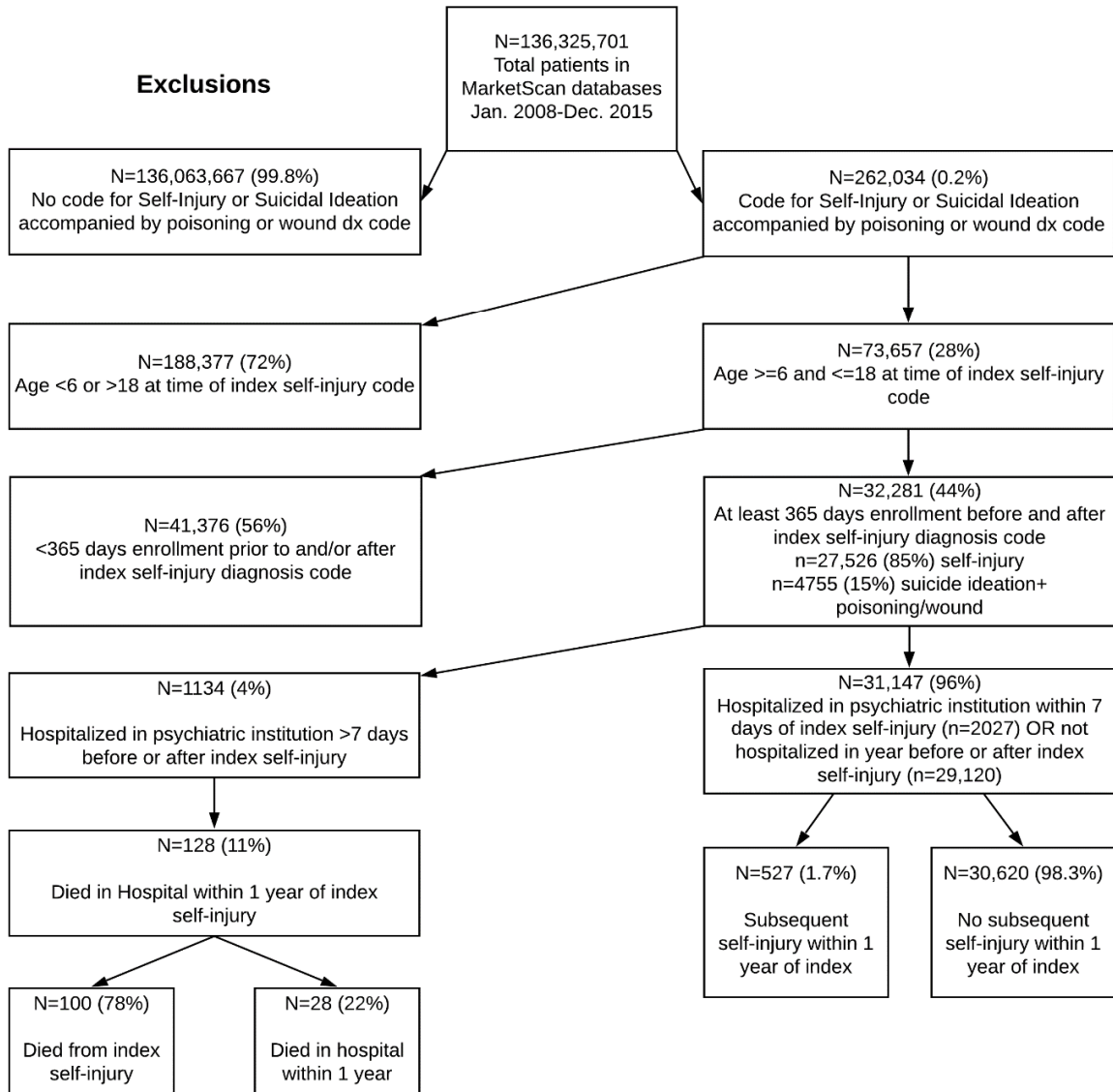


*Online Supplemental Table 1. ICD-9 Codes utilized to identify self-injury.*

ICD-9-CM Codes*	Description
870-879	Open wound of head, neck, and trunk
880-897	Open wound of limbs
960-979	Poisoning by drugs, medicinals, and biological substances
980-989	Toxic effects of substances chiefly nonmedicinal as to source
E950-E959	Suicide and self-inflicted injury
E980-E989	Injury undetermined whether accidentally or purposely inflicted
V6284	Suicidal ideation

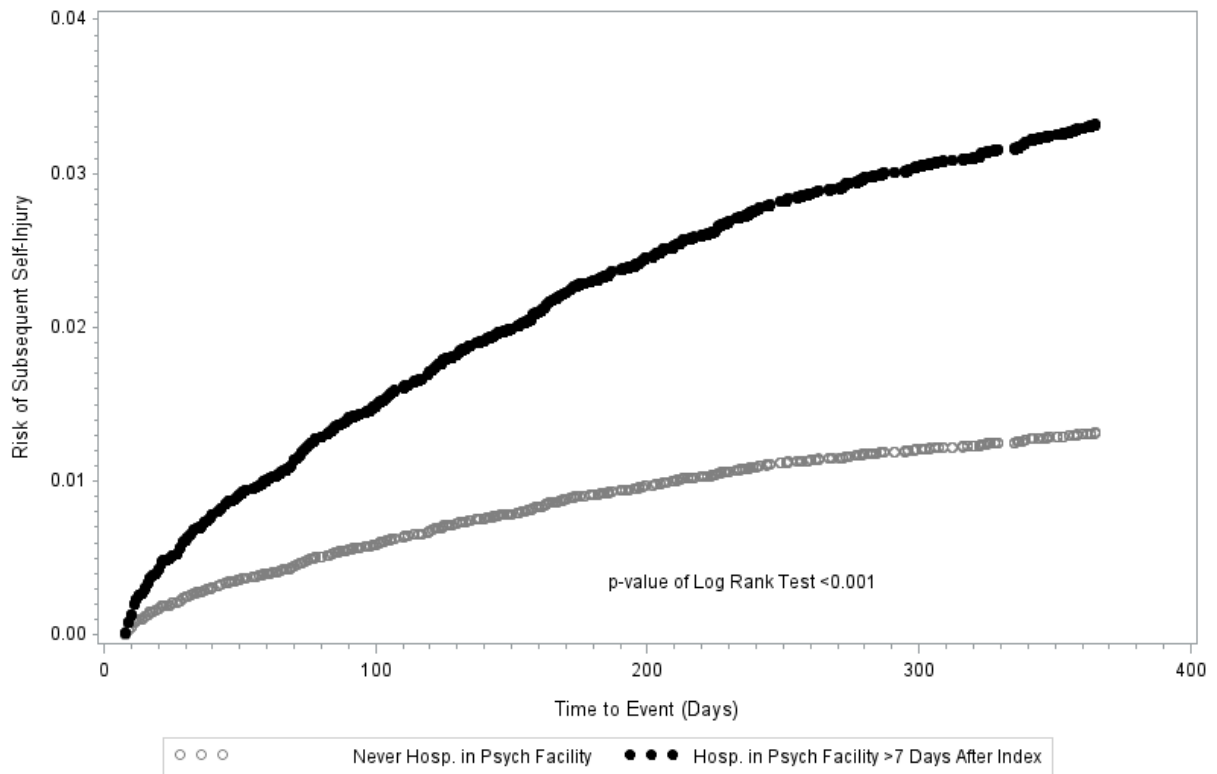
\*Note. The corresponding ICD10 codes were also used but are not listed due to their non-contiguous numbering.

## Flow of Medically Treated Self-Injury Patients



### Cumulative Hazard Curve

Subsequent Self-Injury Stratified by Hospitalization in Psych Hospital >7 Days After Index



Cumulative Hazard Curve showing risk of subsequent self-injury in 365 days following index, stratified by whether the patient had at least 1 inpatient hospitalization in a psychiatric facility **at any time** during the year prior to and the year after the index event. Adjusted for patient age (continuous), sex, region of residence, health insurance plan type, calendar year of index, and psychiatric disorders summary score.

Characteristics of Patients Medically Treatment for Self-injuries from 2008-2015 and their hospitalization at any time status.

Characteristics	No hospitalization in psychiatric facility n= 29,120		Hospitalization in psychiatric facility at any time n = 3161		P value
	Mean	SD	Mean	SD	
Age (years)	14.1	± 3.1	15.4	± 1.7	<0.0001
Age (years)	N	Row %	N	Row %	
6-11	5768	99	43	1	
12-14	4293	92	375	8	<0.0001
15-18	19,059	87	2743	13	
Gender					
Male	13,386	93	948	7	
Female	15,734	88	2213	12	<0.0001
Type of health plan					
Comprehensive	217	94	14	6	
Exclusive/Preferred provider org.	19,309	91	1974	9	
Health maintenance organization	2681	88	352	12	<0.0001
Point of service	1616	89	192	11	
Consumer-directed/High-deductible	5079	90	577	10	
Missing	218		52		
Geographic region					
Northeast	4807	95	227	5	
North Central	7876	90	882	10	<0.0001
South	10,203	90	1107	10	
West	6084	87	943	13	
Missing	150		2		
Year of index self-injury					
2008	1297	94	90	6	
2009	2182	92	186	8	
2010	2688	94	173	6	<0.0001
2011	4234	94	264	6	
2012	3576	91	364	9	
2013	4210	88	584	12	
2014	4604	88	652	12	
2015	6329	88	848	12	
Mental health assessment performed during index self-injury	145	73%	54	27%	<0.0001

Diagnoses in the year prior to the index self-injury stratified by whether the patient was hospitalized at **any time** in a psychiatric facility.

Dxs in the year prior to index self-injury	No hospitalization in psychiatric facility n= 29,120		Hospitalization in psychiatric facility at any time n = 3161		P value
	N	Column %	N	Column %	
Disruptive Mood Dysregulation Dis.	144	0.5	66	2.1	<0.0001
Major Depressive Dis.	3866	13	1469	46	<0.0001
Persistent Depressive Dis. (Dysthymia)	1042	3.6	346	11	<0.0001
Pre-Menstrual Dysphoric Dis.	70	0.2	30	0.9	<0.0001
Depressive Dis. due to Med. Condition	134	0.5	52	1.6	<0.0001
Other Specified/Unspecified	4694	16	1543	49	<0.0001
<b>Any unipolar mood disorder</b>	<b>6541</b>	<b>22</b>	<b>2080</b>	<b>66</b>	<b>&lt;0.0001</b>
Bipolar I	490	1.7	231	7.3	<0.0001
Bipolar II	282	1	127	4	<0.0001
Cyclothymic Disorder	23	0.08	6	0.2	<0.0001
Bipolar due to Med. Condition	133	0.5	51	1.6	<0.0001
Other Specified/Unspecified	6	.02	1	0.03	0.37
<b>Any bipolar mood disorder</b>	<b>836</b>	<b>2.9</b>	<b>366</b>	<b>12</b>	<b>&lt;0.0001</b>
Delusional Dis.	17	0.06	9	0.3	<0.0001
Brief Psychotic Dis.	117	0.40	76	2.4	<0.0001
Schizophreniform Dis.	10	0.03	7	0.2	<0.0001
Schizophrenia	41	0.1	22	0.7	<0.0001
Schizoaffective Dis. (Bipolar & Depressive)	54	0.2	35	1.1	<0.0001
Psychotic Dis. due to Med. Condition	9	0.03	1	0.03	0.39
Other Specified/Unspecified	751	2.6	354	11	<0.0001
<b>Any psychotic disorder</b>	<b>806</b>	<b>2.8</b>	<b>385</b>	<b>12</b>	<b>&lt;0.0001</b>
Conduct Disorder	51	0.2	23	0.7	<0.0001
Disruptive Behavior Disorder	599	2.1	172	5.4	<0.0001
ODD	900	3.1	313	9.9	<0.0001
ADHD	3589	12	703	22	<0.0001
<b>Any behavior disorder</b>	<b>4335</b>	<b>15</b>	<b>955</b>	<b>30</b>	<b>&lt;0.0001</b>
Generalized Anxiety Disorder (GAD)	1543	5.3	536	17	<0.0001
Panic Disorders	413	1.4	162	5.1	<0.0001
Obsessive Compulsive Disorder (OCD)	325	1.1	110	3.5	<0.0001
Post-Traumatic Stress Disorder (PTSD)	569	2.0	256	8.1	<0.0001
Acute Stress Disorder	50	0.2	10	0.3	0.07
Phobias	306	1.1	111	3.5	<0.0001
Separation Anxiety	32	0.1	4	0.1	0.79
Adjustment Disorder	63	0.2	24	0.8	<0.0001
<b>Any anxiety disorder</b>	<b>2628</b>	<b>9.0</b>	<b>892</b>	<b>28</b>	<b>&lt;0.0001</b>

<b>Summary score of disorder diagnoses</b>					
<b>0</b>	<b>19,592</b>	<b>67</b>	<b>747</b>	<b>24</b>	
<b>1</b>	<b>5526</b>	<b>19</b>	<b>944</b>	<b>30</b>	
<b>2</b>	<b>2724</b>	<b>9.4</b>	<b>869</b>	<b>27</b>	<b>&lt;0.0001</b>
<b>3</b>	<b>979</b>	<b>3.4</b>	<b>438</b>	<b>14</b>	
<b>4</b>	<b>260</b>	<b>0.9</b>	<b>133</b>	<b>4.2</b>	
<b>5</b>	<b>39</b>	<b>0.1</b>	<b>30</b>	<b>1.0</b>	

Patient services utilization during the 12 months before and after index self-injury event. Stratified by hospitalization in psychiatric facility **at any time**.

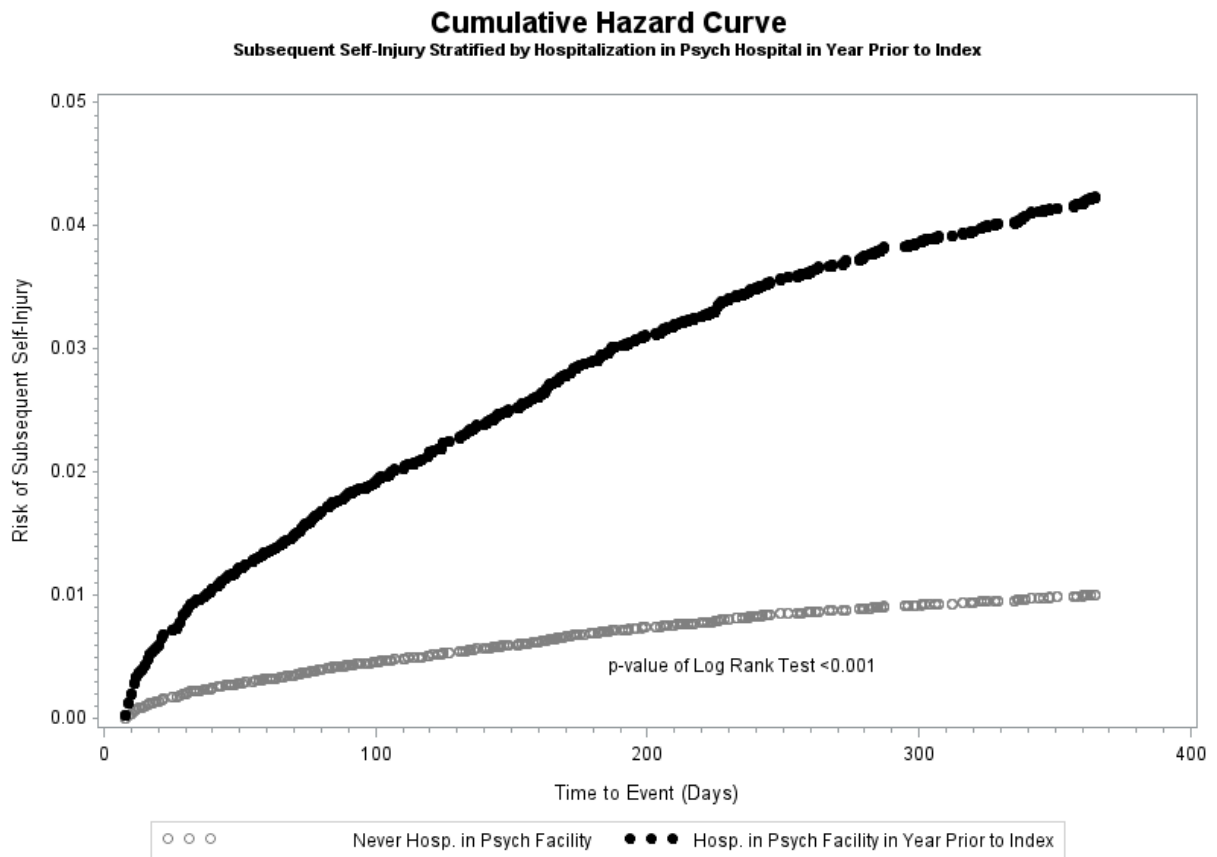
Characteristics	No hospitalization in psychiatric facility at any time N = 29,120	Hospitalization in psychiatric facility at any time N = 3161	P-value
<i>12 months PRIOR TO index self-injury healthcare utilization</i>			
<b>Inpatient claims</b>			
≥1 <b>Inpatient hospitalization</b> (any location) N (%)	<b>2820 (10)</b>	<b>1238 (39)</b>	<b>&lt;0.0001</b>
Among those with ≥1 # of <b>Inpatient hospitalizations</b> (unique admissions, any location) Mean (SD)	<b>1.6 (± 1.2)</b>	<b>1.8 (± 1.3)</b>	<b>&lt;0.0001</b>
<b>ER claims</b>			
≥1 ER visit N (%)	<b>9745 (33)</b>	<b>1621 (33)</b>	<b>&lt;0.0001</b>
Among those with ≥1, ER visits (unique days) Mean (SD)	<b>1.9 (± 1.8)</b>	<b>2.4 (± 2.6)</b>	<b>&lt;0.0001</b>
<b>Outpatient claims</b>			
≥1 outpatient visit ( <b>any psych facility location</b> ) N (%)	<b>549 (2)</b>	<b>506 (16)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of <b>outpatient visits</b> (unique dates of service, <b>any psych facility location</b> ) Mean (SD)	8.2 (± 10.7)	7.3 (± 10.1)	0.15
≥1 outpatient visit at <b>any type of facility</b> N (%)	<b>27246 (94)</b>	<b>3055 (97)</b>	<b>&lt;0.0001</b>
# of outpatient visits (unique dates of service) at <b>any type of facility</b> Mean (SD)	<b>10.5 (± 14.6)</b>	<b>19.4 (± 20.4)</b>	<b>&lt;0.0001</b>
≥1 <b>All-indication medication filled</b> N (%)	<b>18,160 (62)</b>	<b>2413 (76)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of all-indication medications filled Mean (SD)	<b>10.0 (± 12.3)</b>	<b>17.1 (± 17.8)</b>	<b>&lt;0.0001</b>
<i>12 months after index self-injury healthcare utilization</i>			
<b>Inpatient claims</b>			
≥1 <b>Inpatient hospitalization</b> (any location) N (%)	<b>3066 (11)</b>	<b>1377 (44)</b>	<b>&lt;0.0001</b>
Among those with ≥1 # of <b>Inpatient hospitalizations</b> (unique admissions, any location) Mean (SD)	<b>0.11 (± 0.31)</b>	<b>0.44 (± 0.50)</b>	<b>&lt;0.0001</b>
<b>ER claims</b>			
≥1 ER visit N (%)	<b>10,058 (35)</b>	<b>1861 (59)</b>	<b>&lt;0.0001</b>
Among those with ≥1, ER visits (unique days) Mean (SD)	<b>2.1 (± 2.5)</b>	<b>2.8 (± 2.9)</b>	<b>&lt;0.0001</b>
<b>Outpatient claims</b>			
≥1 outpatient visit ( <b>any psych facility location</b> ) N (%)	<b>960 (3)</b>	<b>844 (27)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of <b>outpatient visits</b> (unique dates of service, <b>any psych facility location</b> ) Mean (SD)	8.9 (± 12)	8.0 (± 11)	0.09
≥1 outpatient visit at <b>any type of facility</b> N (%)	<b>27,755 (95)</b>	<b>3104 (98)</b>	<b>&lt;0.0001</b>
# of outpatient visits (unique dates of service) at <b>any type of facility</b> Mean (SD)	<b>14.4 (± 18.5)</b>	<b>28.0 (± 24.3)</b>	<b>&lt;0.0001</b>
≥1 <b>All-indication medication filled</b> N (%)	<b>19,003 (65)</b>	<b>2625 (83)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of all-indication medications filled Mean (SD)	<b>13.1 (± 15)</b>	<b>25 (± 20)</b>	<b>&lt;0.0001</b>
<b>Subsequent self-injury (yes/no)</b> N (%)	<b>417 (1.4)</b>	<b>263 (8.3)</b>	<b>&lt;0.0001</b>

Median time to subsequent self-injury Mean (SD [range])	117 ( $\pm$ 101 (8-365))	110 ( $\pm$ 97 (8-361))	0.76
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Hazard ratios and 95% confidence intervals of risk of subsequent self-injury in 365 days following index self-injury.

Variable	Hazard Ratio	95% CI	p-value
<b>Hospitalization in psychiatric hospital at any time</b>	3.28	2.76, 3.88	<0.0001
<b>Age</b>	1.05	1.02, 1.09	0.004
<b>Male</b>	0.66	0.56, 0.78	<0.0001
<b>Health Insurance Type</b>			
Consumer Directed/High Deductible	Referent		
Comprehensive Insurance	0.53	0.17, 1.68	0.28
Exclusive/Preferred Provider Org.	0.90	0.74, 1.09	0.29
Health Maintenance Org.	1.01	0.76, 1.35	0.95
Point of Service	0.85	0.58, 1.24	0.39
<b>Region</b>			
West	Referent		
Northeast	1.06	0.82, 1.36	0.65
North Central	1.14	0.93, 1.39	0.22
South	0.84	0.68, 1.04	0.11
<b>Year of Index Self-injury</b>			
2008	Referent		
2009	1.85	0.95, 3.61	0.07
2010	2.22	1.16, 4.26	0.02
2011	1.97	1.04, 3.72	0.04
2012	2.55	1.36, 4.77	0.003
2013	2.45	1.32, 4.55	0.005
2014	2.54	1.37, 4.69	0.003
2015	1.97	1.07, 3.65	0.03
<b>Number of Unique Categories of Mood Disorder Diagnoses in Year Prior to Index</b>			
0	Referent		
1	2.47	2.00, 3.05	<0.0001
2	3.44	2.76, 4.30	<0.0001
3	4.72	3.65, 6.11	<0.0001
4	4.12	2.71, 6.25	<0.0001
5	3.14	1.16, 8.51	0.02





Cumulative Hazard Curve showing risk of subsequent self-injury in 365 days following index self-injury, stratified by whether the patient had at least 1 inpatient hospitalization in a psychiatric facility **in the year prior to the index event**. Adjusted for patient age (continuous), sex, region of residence, health insurance plan type, calendar year of index self-injury, and psychiatric disorders summary score.

Characteristics of Patients Medically Treatment for Self-injuries from 2008-2015 and their hospitalization status **in the year prior the index self-injury event.**

Characteristics	No hospitalization in psychiatric facility n= 29,120		Hospitalization in psychiatric facility in the year prior to index self-injury event n = 941		P value
	Mean	SD	Mean	SD	
Age (years)	<b>14.1</b>	<b>± 3.1</b>	<b>15.5</b>	<b>± 1.7</b>	<b>&lt;0.0001</b>
Age (years)	N	Row %	N	Row %	
6-11	<b>5768</b>	<b>99</b>	<b>10</b>	<b>0.2</b>	
12-14	<b>4293</b>	<b>98</b>	<b>4293</b>	<b>2</b>	<b>&lt;0.0001</b>
15-18	<b>19,059</b>	<b>96</b>	<b>19,059</b>	<b>4</b>	
Gender					
Male	<b>13,386</b>	<b>98</b>	<b>327</b>	<b>2</b>	
Female	<b>15,734</b>	<b>96</b>	<b>614</b>	<b>4</b>	<b>&lt;0.0001</b>
Type of health plan					
Comprehensive	<b>217</b>	<b>97</b>	<b>6</b>	<b>3</b>	
Exclusive/Preferred provider org.	<b>19,309</b>	<b>97</b>	<b>583</b>	<b>4</b>	
Health maintenance organization	<b>2681</b>	<b>96</b>	<b>112</b>	<b>4</b>	<b>0.004</b>
Point of service	<b>1616</b>	<b>96</b>	<b>59</b>	<b>3</b>	
Consumer-directed/High-deductible	<b>5079</b>	<b>97</b>	<b>167</b>	<b>6</b>	
Missing	<b>218</b>		<b>14</b>		
Geographic region					
Northeast	<b>4807</b>	<b>95</b>	<b>73</b>	<b>2</b>	
North Central	<b>7876</b>	<b>90</b>	<b>285</b>	<b>3</b>	
South	<b>10,203</b>	<b>90</b>	<b>319</b>	<b>3</b>	<b>&lt;0.0001</b>
West	<b>6084</b>	<b>87</b>	<b>264</b>	<b>4</b>	
Missing	<b>150</b>		<b>0</b>		
Year of index self-injury					
2008	<b>1297</b>	<b>98</b>	<b>28</b>	<b>2</b>	
2009	<b>2182</b>	<b>97</b>	<b>58</b>	<b>3</b>	
2010	<b>2688</b>	<b>98</b>	<b>66</b>	<b>2</b>	
2011	<b>4234</b>	<b>98</b>	<b>80</b>	<b>2</b>	
2012	<b>3576</b>	<b>96</b>	<b>81</b>	<b>2</b>	<b>&lt;0.0001</b>
2013	<b>4210</b>	<b>96</b>	<b>170</b>	<b>4</b>	
2014	<b>4604</b>	<b>96</b>	<b>199</b>	<b>4</b>	
2015	<b>6329</b>	<b>96</b>	<b>259</b>	<b>4</b>	
Mental health assessment performed during index self-injury	<b>145</b>	<b>92</b>	<b>12</b>	<b>8</b>	<b>0.001</b>

Diagnoses in the year prior to the index self-injury stratified by whether the patient was hospitalized in a psychiatric facility **in the year prior to index self-injury event.**

Dxs in the year prior to index self-injury	No hospitalization in psychiatric facility n= 29,120		Hospitalization in psychiatric facility in year prior to index n = 941		P value
	N	Column %	N	Column %	
Disruptive Mood Dysregulation Dis.	144	0.5	42	4	<0.0001
Major Depressive Dis.	3866	13	757	80	<0.0001
Persistent Depressive Dis. (Dysthymia)	1042	3.6	156	17	<0.0001
Pre-Menstrual Dysphoric Dis.	70	0.2	11	1	<0.0001
Depressive Dis. due to Med. Condition	134	0.5	31	3	<0.0001
Other Specified/Unspecified	4694	16	682	72	<0.0001
<b>Any unipolar mood disorder</b>	<b>6541</b>	<b>22</b>	<b>869</b>	<b>92</b>	<b>&lt;0.0001</b>
Bipolar I	490	1.7	158	17	<0.0001
Bipolar II	282	1	78	8	<0.0001
Cyclothymic Disorder	23	0.08	2	0.2	0.18
Bipolar due to Med. Condition	133	0.5	31	3	<0.0001
Other Specified/Unspecified	6	.02	1	0.1	0.09
<b>Any bipolar mood disorder</b>	<b>836</b>	<b>2.9</b>	<b>231</b>	<b>25</b>	<b>&lt;0.0001</b>
Delusional Dis.	17	0.06	6	0.6	<0.0001
Brief Psychotic Dis.	117	0.40	58	6	<0.0001
Schizophreniform Dis.	10	0.03	4	0.4	<0.0001
Schizophrenia	41	0.1	11	1	<0.0001
Schizoaffective Dis. (Bipolar & Depressive)	54	0.2	23	2	<0.0001
Psychotic Dis. due to Med. Condition	9	0.03	1	0.1	0.27
Other Specified/Unspecified	751	2.6	242	26	<0.0001
<b>Any psychotic disorder</b>	<b>806</b>	<b>2.8</b>	<b>256</b>	<b>27</b>	<b>&lt;0.0001</b>
Conduct Disorder	51	0.2	14	1	<0.0001
Disruptive Behavior Disorder	599	2.1	98	10	<0.0001
ODD	900	3.1	179	19	<0.0001
ADHD	3589	12	302	32	<0.0001
<b>Any behavior disorder</b>	<b>4335</b>	<b>15</b>	<b>432</b>	<b>46</b>	<b>&lt;0.0001</b>
Generalized Anxiety Disorder (GAD)	1543	5.3	276	29	<0.0001
Panic Disorders	413	1.4	87	9	<0.0001
Obsessive Compulsive Disorder (OCD)	325	1.1	59	6	<0.0001
Post-Traumatic Stress Disorder (PTSD)	569	2.0	153	16	<0.0001
Acute Stress Disorder	50	0.2	4	0.4	0.09
Phobias	306	1.1	59	6	<0.0001
Separation Anxiety	32	0.1	0	0	0.63
Adjustment Disorder	63	0.2	8	0.9	<0.0001
<b>Any anxiety disorder</b>	<b>2628</b>	<b>9.0</b>	<b>446</b>	<b>47</b>	<b>&lt;0.0001</b>

<b>Summary score of disorder diagnoses</b>					
<b>0</b>	<b>19,592</b>	<b>67</b>	<b>11</b>	<b>1</b>	
<b>1</b>	<b>5526</b>	<b>19</b>	<b>178</b>	<b>19</b>	
<b>2</b>	<b>2724</b>	<b>9.4</b>	<b>355</b>	<b>38</b>	
<b>3</b>	<b>979</b>	<b>3.4</b>	<b>270</b>	<b>29</b>	<b>&lt;0.0001</b>
<b>4</b>	<b>260</b>	<b>0.9</b>	<b>99</b>	<b>11</b>	
<b>5</b>	<b>39</b>	<b>0.1</b>	<b>28</b>	<b>3</b>	

Patient services utilization during the 12 months before and after index self-injury event. Stratified by **hospitalization in psychiatric hospital in year prior to index self-injury.**

Characteristics	No hospitalization in psychiatric facility N = 29,120	Hospitalization in psychiatric facility in year prior to index N = 941	P-value
<i>12 months PRIOR TO index self-injury healthcare utilization</i>			
<b>Inpatient claims</b>			
≥1 <b>Inpatient hospitalization</b> (any location) N (%)	<b>2820 (10)</b>	<b>941</b>	<b>&lt;0.0001</b>
Among those with ≥1 # of <b>Inpatient hospitalizations</b> (unique admissions, any location) Mean (SD)	<b>1.6 (± 1.2)</b>	<b>1.9 (±1.3)</b>	<b>&lt;0.0001</b>
<b>ER claims</b>			
≥1 ER visit N (%)	<b>9745 (33)</b>	<b>728 (77)</b>	<b>&lt;0.0001</b>
Among those with ≥1, ER visits (unique days) Mean (SD)	<b>1.9 (± 1.8)</b>	<b>2.7 (± 2.4)</b>	<b>&lt;0.0001</b>
<b>Outpatient claims</b>			
≥1 outpatient visit ( <b>any psych facility location</b> ) N (%)	<b>549 (2)</b>	<b>370 (39)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of <b>outpatient visits</b> (unique dates of service, <b>any psych facility location</b> ) Mean (SD)	8.2 (± 10.7)	7.6 (± 11.0)	0.39
≥1 outpatient visit at <b>any type of facility</b> N (%)	<b>27,246 (94)</b>	<b>938 (100)</b>	<b>&lt;0.0001</b>
# of outpatient visits (unique dates of service) at <b>any type of facility</b> Mean (SD)	<b>10.5 (± 14.6)</b>	<b>29.7 (± 24.5)</b>	<b>&lt;0.0001</b>
≥1 <b>All-indication medication filled</b> N (%)	<b>18,160 (62)</b>	<b>817 (87)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of all-indication medications filled Mean (SD)	<b>10.0 (± 12.3)</b>	<b>22.3 (±19.7)</b>	<b>&lt;0.0001</b>
<i>12 months after index self-injury healthcare utilization</i>			
<b>Inpatient claims</b>			
≥1 <b>Inpatient hospitalization</b> (any location) N (%)	<b>3066 (11)</b>	<b>425 (45)</b>	<b>&lt;0.0001</b>
Among those with ≥1 # of <b>Inpatient hospitalizations</b> (unique admissions, any location) Mean (SD)	<b>1.7 (±1.4)</b>	<b>2.2 (± 2.3)</b>	<b>&lt;0.0001</b>
<b>ER claims</b>			
≥1 ER visit N (%)	<b>10,058 (35)</b>	<b>592 (63)</b>	<b>&lt;0.0001</b>
Among those with ≥1, ER visits (unique days) Mean (SD)	<b>2.1 (± 2.5)</b>	<b>3.0 (±3.6)</b>	<b>&lt;0.0001</b>
<b>Outpatient claims</b>			
≥1 outpatient visit ( <b>any psych facility location</b> ) N (%)	<b>960 (3)</b>	<b>264 (28)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of <b>outpatient visits</b> (unique dates of service, <b>any psych facility location</b> ) Mean (SD)	8.9 (± 12)	10.1 (±13.0)	0.17
≥1 outpatient visit at <b>any type of facility</b> N (%)	<b>27,755 (95)</b>	<b>929 (99)</b>	<b>&lt;0.0001</b>
# of outpatient visits (unique dates of service) at <b>any type of facility</b> Mean (SD)	<b>14.4 (± 18.5)</b>	<b>31.7 (± 29.9)</b>	<b>&lt;0.0001</b>
≥1 <b>All-indication medication filled</b> N (%)	<b>19,003 (65)</b>	<b>821 (87)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of all-indication medications filled Mean (SD)	<b>13.1 (± 15)</b>	<b>28.4 (± 21.1)</b>	<b>&lt;0.0001</b>
<b>Subsequent self-injury (yes/no)</b> N (%)	<b>417 (1.4)</b>	<b>68 (7.2)</b>	<b>&lt;0.0001</b>
Median time to subsequent self-injury (SD [range])	117 (± 101 (8-365))	117 (± 104 (8-361))	0.40

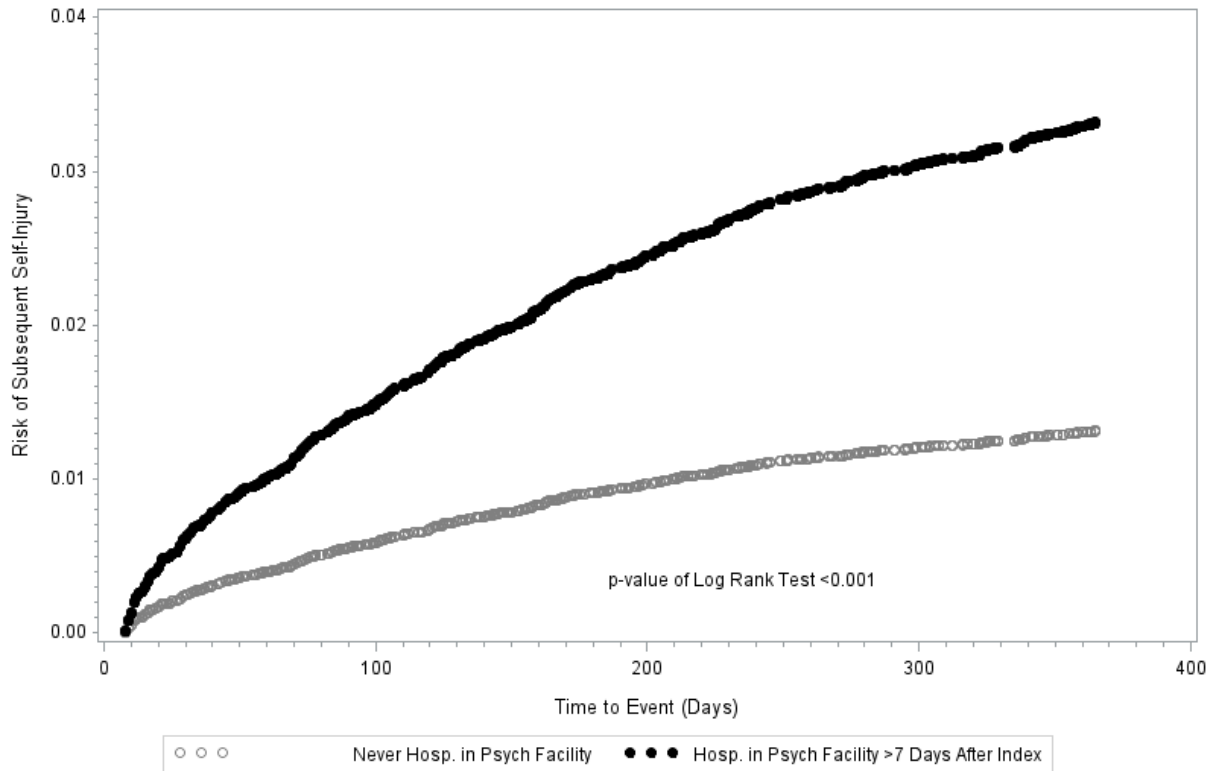


Hazard ratios and 95% confidence intervals of risk of subsequent self-injury in 365 days following index self-injury.

Variable	Hazard Ratio	95% CI	p-value
<b>Hospitalization in psychiatric hospital in year prior to index</b>	1.78	1.34, 2.35	<0.0001
<b>Age</b>	1.04	1.00, 1.08	0.03
<b>Male</b>	0.66	0.54, 0.80	<0.0001
<b>Health Insurance Type</b>			
Consumer Directed/High Deductible	Referent		
Comprehensive Insurance	0.63	0.20, 1.98	0.42
Exclusive/Preferred Provider Org.	0.86	0.68, 1.09	0.22
Health Maintenance Org.	1.11	0.79, 1.54	0.56
Point of Service	0.81	0.52, 1.28	0.37
<b>Region</b>			
West	Referent		
Northeast	1.12	0.84, 1.48	0.45
North Central	1.14	0.89, 1.46	0.30
South	0.82	0.63, 1.07	0.15
<b>Year of Index Self-injury</b>			
2008	Referent		
2009	1.76	0.87, 3.57	0.12
2010	2.09	1.05, 4.16	0.04
2011	1.57	0.80, 3.10	0.19
2012	2.23	1.14, 4.34	0.02
2013	2.18	1.13, 4.21	0.02
2014	2.02	1.05, 3.89	0.04
2015	1.62	0.84, 3.12	0.15
<b>Number of Unique Categories of Mood Disorder Diagnoses in Year Prior to Index</b>			
0	Referent		
1	3.10	2.41, 4.00	<0.0001
2	4.98	3.82, 6.48	<0.0001
3	7.87	5.84, 10.62	<0.0001
4	7.82	4.98, 12.28	<0.0001
5	6.11	2.22, 16.81	0.0005

### Cumulative Hazard Curve

Subsequent Self-Injury Stratified by Hospitalization in Psych Hospital >7 Days After Index



Cumulative Hazard Curve showing risk of subsequent self-injury in 365 days following index, stratified by whether the patient had at least 1 inpatient hospitalization in a psychiatric facility **in year after index event**. Adjusted for patient age (continuous), sex, region of residence, health insurance plan type, calendar year of index self-injury, and psychiatric disorders summary score.



Characteristics of Patients Medically Treatment for Self-injuries from 2008-2015 and their hospitalization status **in year after index self- injury event.**

Characteristics	No hospitalization in psychiatric facility n= 29,120		Hospitalization in psychiatric facility in in year after index self-injury event n = 1196		P value
	Mean	SD	Mean	SD	
Age (years)	<b>14.1</b>	<b>± 3.1</b>	<b>15.2</b>	<b>±1.8</b>	<b>&lt;0.0001</b>
Age (years)	N	Row %	N	Row %	
6-11	<b>5768</b>	<b>99</b>	<b>19</b>	<b>0.3</b>	
12-14	<b>4293</b>	<b>96</b>	<b>188</b>	<b>4</b>	<b>&lt;0.0001</b>
15-18	<b>19,059</b>	<b>95</b>	<b>989</b>	<b>5</b>	
Gender					
Male	<b>13,386</b>	<b>97</b>	<b>383</b>	<b>3</b>	
Female	<b>15,734</b>	<b>95</b>	<b>813</b>	<b>5</b>	<b>&lt;0.0001</b>
Type of health plan					
Comprehensive	217	98	4	2	
Exclusive/Preferred provider org.	19,309	96	757	4	
Health maintenance organization	2681	96	123	4	
Point of service	1616	96	67	4	0.0006
Consumer-directed/High-deductible	5079	96	224	4	
Missing	218		21		
Geographic region					
Northeast	<b>4807</b>	<b>98</b>	<b>87</b>	<b>2</b>	
North Central	<b>7876</b>	<b>96</b>	<b>331</b>	<b>4</b>	
South	<b>10,203</b>	<b>96</b>	<b>419</b>	<b>4</b>	<b>&lt;0.0001</b>
West	<b>6084</b>	<b>94</b>	<b>358</b>	<b>6</b>	
Missing	<b>150</b>		<b>1</b>		
Year of index self-injury					
2008	<b>1297</b>	<b>97</b>	<b>37</b>	<b>3</b>	
2009	<b>2182</b>	<b>97</b>	<b>66</b>	<b>3</b>	
2010	<b>2688</b>	<b>98</b>	<b>65</b>	<b>2</b>	
2011	<b>4234</b>	<b>98</b>	<b>108</b>	<b>2</b>	
2012	<b>3576</b>	<b>96</b>	<b>151</b>	<b>4</b>	<b>&lt;0.0001</b>
2013	<b>4210</b>	<b>95</b>	<b>223</b>	<b>5</b>	
2014	<b>4604</b>	<b>95</b>	<b>245</b>	<b>5</b>	
2015	<b>6329</b>	<b>95</b>	<b>301</b>	<b>5</b>	
Mental health assessment performed during index self-injury	<b>145</b>	<b>87</b>	<b>21</b>	<b>13</b>	<b>&lt;0.0001</b>

Diagnoses in the year prior to the index self-injury stratified by whether the patient was hospitalized in a psychiatric facility **in year after index self-injury event**.

Dxs in the year prior to index self-injury	No hospitalization in psychiatric facility n= 29,120		Hospitalization in psychiatric facility in year after index self-injury event n = 1196		P value
	N	Column %	N	Column %	
Disruptive Mood Dysregulation Dis.	144	0.5	22	2	<0.0001
Major Depressive Dis.	3866	13	557	47	<0.0001
Persistent Depressive Dis. (Dysthymia)	1042	3.6	140	12	<0.0001
Pre-Menstrual Dysphoric Dis.	70	0.2	14	1	<0.0001
Depressive Dis. due to Med. Condition	134	0.5	16	1	<0.0001
Other Specified/Unspecified	4694	16	593	50	<0.0001
<b>Any unipolar mood disorder</b>	<b>6541</b>	<b>22</b>	<b>790</b>	<b>66</b>	<b>&lt;0.0001</b>
Bipolar I	490	1.7	90	8	<0.0001
Bipolar II	282	1	49	4	<0.0001
Cyclothymic Disorder	23	0.08	5	0.4	0.004
Bipolar due to Med. Condition	133	0.5	15	1	0.0001
Other Specified/Unspecified	6	0.02	1	0.08	0.25
<b>Any bipolar mood disorder</b>	<b>836</b>	<b>2.9</b>	<b>136</b>	<b>11</b>	<b>&lt;0.0001</b>
Delusional Dis.	17	0.06	6	0.5	<0.0001
Brief Psychotic Dis.	117	0.40	32	3	<0.0001
Schizophreniform Dis.	10	0.03	3	0.3	0.01
Schizophrenia	41	0.1	7	0.6	0.0002
Schizoaffective Dis. (Bipolar & Depressive)	54	0.2	16	1	<0.0001
Psychotic Dis. due to Med. Condition	9	0.03	0	0	--
Other Specified/Unspecified	751	2.6	139	12	<0.0001
<b>Any psychotic disorder</b>	<b>806</b>	<b>2.8</b>	<b>152</b>	<b>13</b>	<b>&lt;0.0001</b>
Conduct Disorder	51	0.2	8	0.7	0.0001
Disruptive Behavior Disorder	599	2.1	70	6	<0.0001
ODD	900	3.1	127	11	<0.0001
ADHD	3589	12	287	24	<0.0001
<b>Any behavior disorder</b>	<b>4335</b>	<b>15</b>	<b>388</b>	<b>32</b>	<b>&lt;0.0001</b>
Generalized Anxiety Disorder (GAD)	1543	5.3	214	18	<0.0001
Panic Disorders	413	1.4	52	4	<0.0001
Obsessive Compulsive Disorder (OCD)	325	1.1	46	4	<0.0001
Post-Traumatic Stress Disorder (PTSD)	569	2.0	101	8	<0.0001
Acute Stress Disorder	50	0.2	5	0.4	0.07
Phobias	306	1.1	43	4	<0.0001
Separation Anxiety	32	0.1	3	0.3	0.16
Adjustment Disorder	63	0.2	7	0.6	0.009

<b>Any anxiety disorder</b>	<b>2628</b>	<b>9.0</b>	<b>342</b>	<b>29</b>	<b>&lt;0.0001</b>
<b>Summary score of disorder diagnoses</b>					
<b>0</b>	<b>19,592</b>	<b>67</b>	<b>266</b>	<b>22</b>	
<b>1</b>	<b>5526</b>	<b>19</b>	<b>363</b>	<b>30</b>	
<b>2</b>	<b>2724</b>	<b>9.4</b>	<b>331</b>	<b>28</b>	
<b>3</b>	<b>979</b>	<b>3.4</b>	<b>173</b>	<b>14</b>	<b>&lt;0.0001</b>
<b>4</b>	<b>260</b>	<b>0.9</b>	<b>51</b>	<b>4</b>	
<b>5</b>	<b>39</b>	<b>0.1</b>	<b>12</b>	<b>1</b>	

Patient services utilization during the 12 months before and after index self-injury event. Stratified by hospitalization in psychiatric facility **in year after the index event**.

Characteristics	No hospitalization in psychiatric facility N = 29,120	Hospitalization in psychiatric facility in year after index self-injury event n = 1196	P-value
<i>12 months PRIOR TO index self-injury healthcare utilization</i>			
<b>Inpatient claims</b>			
≥1 <b>Inpatient hospitalization</b> (any location) N (%)	<b>2820 (10)</b>	<b>471 (39)</b>	<b>&lt;0.0001</b>
Among those with ≥1 # of <b>Inpatient hospitalizations</b> (unique admissions, any location) Mean (SD)	<b>1.6 (± 1.2)</b>	<b>1.9 (± 1.5)</b>	<b>&lt;0.0001</b>
<b>ER claims</b>			
≥1 ER visit N (%)	<b>9745 (33)</b>	<b>641 (54)</b>	<b>&lt;0.0001</b>
Among those with ≥1, ER visits (unique days) Mean (SD)	<b>1.9 (± 1.8)</b>	<b>2.5 (± 3.1)</b>	<b>&lt;0.0001</b>
<b>Outpatient claims</b>			
≥1 outpatient visit ( <b>any psych facility location</b> ) N (%)	<b>549 (2)</b>	<b>202 (17)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of <b>outpatient visits</b> (unique dates of service, <b>any psych facility location</b> ) Mean (SD)	8.2 (± 10.7)	7.3 (± 9.3)	0.26
≥1 outpatient visit at <b>any type of facility</b> N (%)	<b>27,246 (94)</b>	<b>1164 (97)</b>	<b>&lt;0.0001</b>
# of outpatient visits (unique dates of service) at <b>any type of facility</b> Mean (SD)	<b>10.5 (± 14.6)</b>	<b>21.1 (± 22.4)</b>	<b>&lt;0.0001</b>
≥1 <b>All-indication medication filled</b> N (%)	<b>18,160 (62)</b>	<b>929 (78)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of all-indication medications filled Mean (SD)	<b>10.0 (± 12.3)</b>	<b>18.3 (± 20.2)</b>	<b>&lt;0.0001</b>
<i>12 months after index self-injury healthcare utilization</i>			
<b>Inpatient claims</b>			
≥1 <b>Inpatient hospitalization</b> (any location) N (%)	<b>3066 (11)</b>	<b>1084 (91)</b>	<b>&lt;0.0001</b>
Among those with ≥1 # of <b>Inpatient hospitalizations</b> (unique admissions, any location) Mean (SD)	<b>1.7 (±1.4)</b>	<b>2.1 (± 1.9)</b>	<b>&lt;0.0001</b>
<b>ER claims</b>			
≥1 ER visit N (%)	<b>10,058 (35)</b>	<b>1021 (85)</b>	<b>&lt;0.0001</b>
Among those with ≥1, ER visits (unique days) Mean (SD)	<b>2.1 (± 2.5)</b>	<b>3.2 (±2.9)</b>	<b>&lt;0.0001</b>
<b>Outpatient claims</b>			
≥1 outpatient visit ( <b>any psych facility location</b> ) N (%)	<b>960 (3)</b>	<b>507 (42)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of <b>outpatient visits</b> (unique dates of service, <b>any psych facility location</b> ) Mean (SD)	8.9 (± 12)	8.3 (± 11.7)	0.33
≥1 outpatient visit at <b>any type of facility</b> N (%)	<b>27,755 (95)</b>	<b>1176 (98)</b>	<b>&lt;0.0001</b>
# of outpatient visits (unique dates of service) at <b>any type of facility</b> Mean (SD)	<b>14.4 (± 18.5)</b>	<b>34.1 (± 27.6)</b>	<b>&lt;0.0001</b>
≥1 <b>All-indication medication filled</b> N (%)	<b>19,003 (65)</b>	<b>1021 (85)</b>	<b>&lt;0.0001</b>
Among those with ≥1, # of all-indication medications filled Mean (SD)	<b>13.1 (± 15)</b>	<b>30.4 (± 21.7)</b>	<b>&lt;0.0001</b>
<b>Subsequent self-injury (yes/no)</b> N (%)	<b>417 (1.4)</b>	<b>202 (17)</b>	<b>&lt;0.0001</b>
Median time to subsequent self-injury (SD [range])	117 (± 101 (8-365))	110 (±95 (9-355))	0.54

Hazard ratios and 95% confidence intervals of risk of subsequent self-injury in 365 days following index self-injury.

Variable	Hazard Ratio	95% CI	p-value
<b>Hospitalization in psychiatric hospital in year after index</b>	6.86	5.71, 8.23	<0.0001
<b>Age</b>	1.07	1.03, 1.11	0.0002
<b>Male</b>	0.66	0.55, 0.78	<0.0001
<b>Health Insurance Type</b>			
Consumer Directed/High Deductible	Referent		
Comprehensive Insurance	0.60	0.19, 1.90	0.39
Exclusive/Preferred Provider Org.	0.91	0.74, 1.11	0.35
Health Maintenance Org.	1.11	0.82, 1.50	0.49
Point of Service	0.88	0.59, 1.31	0.52
<b>Region</b>			
West	Referent		
Northeast	1.08	0.83, 1.40	0.58
North Central	1.18	0.96, 1.47	0.12
South	0.82	0.66, 1.03	0.09
<b>Year of Index Self-injury</b>			
2008	Referent		
2009	1.88	0.96, 3.67	0.06
2010	2.05	1.06, 3.96	0.03
2011	1.76	0.93, 3.35	0.08
2012	2.30	1.22, 4.32	0.01
2013	2.31	1.24, 4.31	0.01
2014	2.36	1.27, 4.38	0.01
2015	1.92	1.03, 3.56	0.04
<b>Number of Unique Categories of Mood Disorder Diagnoses in Year Prior to Index</b>			
0	Referent		
1	2.48	1.99, 3.09	<0.0001
2	3.53	2.80, 4.46	<0.0001
3	4.86	3.71, 6.37	<0.0001
4	4.29	2.76, 6.66	<0.0001
5	3.39	1.25, 9.23	0.02