Mat-Su Regional Medical Center
Emergency Department Data Analysis

Prepared for:

Mat-Su Health Foundation

January 2018

McDowell
GROUP

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Introduction

In 2014, McDowell Group conducted an analysis of the Mat-Su Regional Medical Center's (MSRMC) Emergency Department (ED) utilization data. The 2014 analysis was conducted for the Mat-Su Health Foundation (MSHF) as part of a broader environmental scan of the Mat-Su behavioral health (BH) system that provides care for Mat-Su residents.

Report Purpose and Structure

The purpose of this report is to provide ED utilization data to inform community health planning.

Report structure and patient profiles were developed in consultation with MSHF. Generally, each section begins with an overview of patient demographics (such as age, gender, insurance type), primary diagnoses, high-utilizers (5+ annual visits), discharge disposition, estimated ED facility charges, and overall patient, visit, and facility charges trends from 2013-2016. Some sections include additional data analysis, including national comparisons, bounce backs, length of stay, and time of day of visit.

Results were categorized by different patient types, including all patients, primary BH diagnosed patients, all listed BH Diagnosed patients, high-utilizer patients, and senior (age 55+) patients. In additional, patient profiles were developed by various payor groups, including Medicaid, Medicare, self-pay, Tricare, and private insurance coverage.

Methodology

Data Set Description

McDowell Group and MSRMC signed a data-sharing agreement to provide McDowell Group with a limited data set from the ED medical record. This data did not include any patient names but did include unique identifier numbers to facilitate analysis of 2013-2016 ED usage at the individual patient level. Fields included:

- Date of visit
- Length of Stay
- Gender, race/ethnicity, and marital status
- Age at date of visit
- Community of residence
- Discharge status
- Primary payment source (Private insurance, Medicaid, Medicare, self-pay, etc.)
- Diagnosis codes (including behavioral health screenings, e.g. alcohol and tobacco)
- Charge data

Technical Notes

CHARGE DATA

While charges do not necessarily reflect actual costs of services or amounts paid, they are the facility charges the hospital levies on their bills. These charges are a useful proxy for facility costs associated with an ED visit. Physician charges are excluded.

DIAGNOSIS CLASSIFICATION

The Agency for Healthcare Research and Quality (AHRQ) Clinical Classification Software (CCS) was used to categorize the diagnosis codes into clinically meaningful categories. The data file included 3,851 different International Classification of Diseases (ICD)-9-Clinical Modification (CM) (2013-2015) or ICD-10-CM (2015-2016) diagnostic codes. ICD-9/10 diagnostic codes standardize a patient's diagnosis consistently for all care providers. Using national Clinical Classification Software guidelines, MSRMC ED patients with BH diagnoses recorded during an ED visit were categorized under one or more 14 Mental and Substance Abuse Disorders (See Table 1).

NATIONAL COMPARISONS

National comparisons were made by comparing MSRMC data with data from AHRQ. http://www.hcup-us.ahrq.gov/nedsoverview.jsp is a link to the National Emergency Department Sample (NEDS). AHRQ provides more background on the NEDS data elements.

DATA SUPPRESSION FOR PATIENT CONFIDENTIALITY

Data was suppressed where the counts were less than five. In a few instances, if the numbers needed to be suppressed, the values were combined with other categories to make the data reportable.

CHANGE OF PATIENT STATUS

In a few cases, patient's demographics (i.e., patient's age, gender, marital status, or insurance) may have changed throughout a year of services. These changes are reflected in the visit data and in the patient profiles.

ESTIMATED ED FACILITY CHARGES

ED and inpatient charges could not be disaggregated for patients that went to the ED and were also admitted for inpatient care at MSRMC. Therefore, facility charges are estimated based on an average charge per visit for all patients not admitted to the hospital, and then applied to all patients.

Definitions

Key terms used in this document are defined below.

BEHAVIORAL HEALTH

BH is defined by the ICD-9 (2013-2015) and ICD-10 (2015-2016) diagnostic codes in the medical record. Using AHRQ CCS definitions, a visit is considered related to BH if any of the associated diagnoses are within one of 14 CCS groups related to mental health or alcohol/substance abuse (see table below). Intake screening codes for

tobacco, mental health, and substance abuse were excluded in the data analysis. More detailed codes are provided in Appendix A.

- **Mental Health:** A subset of BH, Mental Health is defined as one of 12 CCS groups. These include all the BH diagnostic groups, except the alcohol and substance-related disorders.

- **Substance Abuse:** Two CCS diagnostic groups are specific to alcohol and substance abuse: Alcohol-related disorders and Substance-related disorders.

Table 1. Clinical Classification Software Groups for Behavioral Health

Code	Description
Mental Health CCS Groups	
650	Adjustment disorders
651	Anxiety disorders
652	Attention-deficit, conduct, and disruptive behavior disorders
653	Delirium, dementia, and amnestic and other cognitive disorders
654	Developmental disorders
655	Disorders usually diagnosed in infancy, childhood, or adolescence
656	Impulse control disorders, NEC
657	Mood disorders
658	Personality disorders
659	Schizophrenia and other psychotic disorders
662	Suicide and intentional self-inflicted injury
663	Screening and history of mental health and substance abuse codes
670	Miscellaneous disorders
Substance Abuse CCS Groups	
660	Alcohol-related disorders
661	Substance-related disorders

Source: AHRQ Clinical Classification Software

PRIMARY DIAGNOSIS

The primary diagnosis is designated by a clinician as the main reason for the ED visit.

ALL LISTED DIAGNOSIS

In addition to the Primary Diagnosis, a patient may be diagnosed with multiple other conditions. The MSRMC ED dataset included 13 diagnostic codes besides the Primary Diagnosis. These codes include concurrent diagnoses and screenings that also apply during the visit.

PATIENT

A patient is an individual who had one or more visits to the ED within each year of analysis (2013-2016).

BH PATIENT

A BH patient is an individual who had one or more visits within each year of analysis (2013-2016), associated with a BH diagnosis (either primary or secondary diagnoses).

HIGH-UTILIZER

A high-utilizer is defined as a patient with five or more ED visits within each year of analysis (2013-2016).

SUPER-UTILIZER

A super-utilizer is defined as a patient with 10 or more ED visits within each year of analysis (2013-2016).

ULTRA-UTILIZER

An ultra-utilizer is defined as a patient with 15 or more ED visits within each year of analysis (2013-2016).

VISIT

A visit is the encounter summarized in the MSRMC ED dataset. Every visit begins in the ED and ends when the patient is no longer at MSRMC (discharged or transferred) from the ED.

BH VISIT

A visit is considered a BH visit if it involves a BH diagnosis (primary or all listed diagnosis).

LENGTH OF STAY

Length of Stay (LOS) is the duration of time a patient spends in the ED. In most cases, LOS is reported only for patients discharged or transferred from the ED and not for patients admitted to the hospital for a longer stay.

PRIMARY INSURANCE TYPE

Primary insurance coverage is grouped into Commercial/Private insurance (such as Premera Blue Cross Blue Shield of Alaska), Medicare, Medicaid, Self-Pay, Tricare and Others (including Workers Compensation). The data set only contained data for one primary insurance during each visit.

ESTIMATED ED FACILITY CHARGES

ED facility charges are estimates based on modeling and do not include physician costs.

This chapter presents data for all patients combined using the MSRMC ED.

Demographic Summary

Table 2. Demographic Summary, Age, Gender, and Insurance Type, All ED Patients, Number and Percent Distribution, MSRMC ED, 2016

Category	Patients	% of Total	Mat-Su Population	% of Total
Total Patients	**19,983**	**100.0**	**102,598**	**100.0**
Age		**% of Total**		**% of Total**
Under 15	3,884	19.4	24,552	23.9
15-19	1,365	6.8	7,152	7.0
20-29	3,167	15.8	12,123	11.8
30-39	2,910	14.6	14,416	14.1
40-54	3,481	17.4	19,586	19.1
55-64	2,325	11.6	13,743	13.4
65-74	1,786	8.9	7,634	7.4
75-84	874	4.4	2,598	2.5
85 and older	423	2.1	801	0.8
Average age	37.5		35.1	
Gender		**% of Total**		**% of Total**
Female	10,301	51.5	49,691	48.4
Male	9,684	48.5	52,907	51.6
Insurance Type		**% of Total**		**% of Total**
Commercial/Private	6,485	31.2	-	-
Medicaid	6,844	32.9	-	-
Medicare	3,225	15.5	-	-
Self-Pay	1,133	5.5	-	-
Other/Unknown	3,085	14.9	-	-

Notes: Based on patient's primary insurance. Insurance type by population is unavailable. Due to rounding, some columns may not add to 100 percent. Additionally, not all categories add up to the same total due to some duplication of ages (for instance one patient may have moved to a different age range between visits to the ED) and other minor data inconsistencies or missing values.
Sources: MSRMC ED Dataset, 2016; ADOLWD

Table 3. Demographic Summary, Race and Marital Status, All ED Patients, Number and Percent Distribution, MSRMC ED, 2016

Category	Patients	% of Total	Mat-Su Population	% of Total
Total Patients	**19,983**	**100.0**	**102,598**	**100.0**
Race		**% of Total**		**% of Total**
White	17,158	85.9	85,531	83.4
American Indian/Alaska Native	1,882	9.4	6,789	6.6
Black/African American	388	1.9	1,262	1.2
Native Hawaiian/Pacific Islander	206	1.0	396	0.4
Other	205	1.0	8,620	8.4
Unknown	144	0.7	-	-
Marital Status		**% of Total**		**% of Total**
Single	10,965	54.9	21,716	11.7
Married	7,105	35.6	40,194	21.7
Divorced	872	4.4	9,401	5.1
Widow/widower	823	4.1	2,816	1.5
Life Partner	65	0.3	-	-
Separated	124	0.6	1,421	0.8
Unknown	29	0.1	9,401	5.1

Notes: Not all categories add up to the same total due to minor data inconsistencies or missing values.
Sources: MSRMC ED Dataset, 2016; ADOLWD, American Community Survey 2011-2015 5-Year data

Visit Time of Day and Day of Week
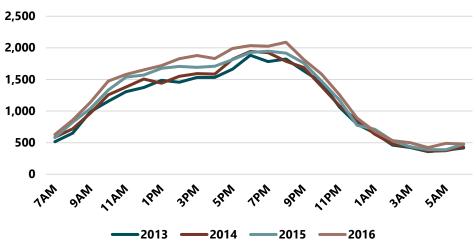
Figure 1. Time of Day for All Visits, Average, All Patients, MSRMC ED, 2013-2016

Source: MSRC ED Dataset, 2013-2016

Table 4. Day of the Week Visit, Average, All ED Patients, MSRMC ED, 2013-2016

Day	Average Number of Visits (2013)	Average Number of Visits (2014)	Average Number of Visits (2015)	Average Number of Visits (2016)
Weekday (Monday – Thursday)	71	73	78	83
Friday	73	74	78	87
Saturday	77	82	85	89
Sunday	81	84	88	91

Source: MSRMC ED Dataset, 2013-2016

High-Utilizers

Table 5. Patients and Visit Frequency, Number and Percent Distribution, All ED Patients, MSRMC ED, 2016

Number of Annual Visits	All Patients	% of Total	All Visits	% of Total
1 visit	14,226	71.2	14,226	45.3
2 visits	3,423	17.1	6,846	21.8
3-4 visits	1,649	8.3	5,471	17.4
5-6 visits	416	2.1	2,224	7.1
7-9 visits	174	0.9	1,326	4.2
10-14 visits	72	0.4	809	2.6
15+ visits	23	0.1	487	1.6
Total	**19,983**	**100.0**	**31,389**	**100.0**
High-Utilizers (5+ annual visits)	685	3.4%	4,846	15.4%
Super-Utilizers (10+ annual visits)	95	0.5%	1,296	4.1%
Ultra-Utilizers (15+ annual visits)	23	0.1%	487	1.6%

Note: Due to rounding, column may not add to 100 percent.
Source: MSRMC ED Dataset, 2016

2013-2016 Trends

Table 6. Patients and Visits, Number and Percent Distribution, All ED Patients
MSRMC ED, 2013-2016

Category	All Patients	% Annual Change
Patients		
2013	17,118	
2014	17,578	2.7
2015	18,607	5.9
2016	19,983	7.4
Visits		
2013	26,814	
2014	27,797	3.7
2015	29,404	5.8
2016	31,389	6.8
Average Number of Visits Per Patient		
2013	1.57	
2014	1.58	0.6
2015	1.58	0.0
2016	1.57	-0.6
Total Estimated ED Facility Charges		
2013	$84,895,269	
2014	$98,815,917	16.4
2015	$114,044,884	15.4
2016	$133,076,051	16.7
Average Charge Per Patient		
2013	$4,959	
2014	$5,622	13.4
2015	$6,126	9.0
2016	$6,659	8.7
Average Charge Per Visit		
2013	$3,166	
2014	$3,555	12.3
2015	$3,879	9.1
2016	$4,240	9.3

Notes: MSRMC ED facility charges are estimates based on all listed diagnoses visit and patient averages, and exclude physicians' costs.
Source: MSRMC ED Dataset, 2013-2016.

Primary BH Diagnosed Patients

This chapter presents data for patients based on their primary BH diagnosis during their visit to the MSRMC ED.

Demographic Summary

Table 7. Demographic Summary, Age, Gender, and Insurance Type, BH and Non-BH Patients, Primary BH and Non-BH Patients, Number and Percent Distribution, MSRMC ED, 2016

Category	Patients with Primary BH Diagnoses	% of Total	Patients with No Primary BH Diagnoses	% of Total	All Patients	% of Total
Total Patients	**1,196**	**100.0**	**18,787**	**100.0**	**19,983**	**100.0**
Age		**% of Total**		**% of Total**		**% of Total**
Under 15 years	81	6.6	3,803	20.0	3,884	19.2
15-19 years	142	11.6	1,223	6.4	1,365	6.8
20-29 years	300	24.5	2,867	15.1	3,167	15.7
30-39 years	262	21.4	2,648	13.9	2,910	14.4
40-54 years	246	20.1	3,235	17.0	3,481	17.2
55-64 years	124	10.1	2,201	11.6	2,325	11.5
65-74 years	35	2.9	1,751	9.2	1,786	8.8
75-84 years	22	1.8	852	4.5	874	4.3
85 years and older	11	0.9	412	2.2	423	2.1
Average age (years)	35.8		37.6		37.5	
Gender		**% of Total**		**% of Total**		**% of Total**
Female	599	50.1	9,702	51.6	10,301	51.5%
Male	597	49.9	9,087	48.4	9,684	48.5%
Insurance Type		**% of Total**		**% of Total**		**% of Total**
Commercial/Private	301	22.9	6,184	31.8	6,485	31.2
Medicaid	599	45.7	6,245	32.1	6,844	33.0
Medicare	155	11.8	3,070	15.8	3,225	15.5
Self-Pay	105	8.0	1,028	5.3	1,133	5.5
Other	152	11.6	2,930	15.1	3,082	14.8

Notes: A patient is defined as a BH patient if a BH diagnosis appears in the primary diagnostic fields during any visits during the year. Based on patient's primary insurance. Due to rounding, some columns may not add to 100 percent. Additionally, not all categories add up to the same total due to some duplication of ages (for instance one patient may have moved to a different age range between visits to the ED) and other minor data inconsistencies or missing values.
Source: MSRMC ED Dataset, 2016

Table 8. Demographic Summary, Race and Marital Status, BH and Non-BH Patients, Primary BH and Non-BH Patients, Number and Percent Distribution, MSRMC ED, 2016

Category	Patients with Primary BH Diagnoses	% of Total	Patients with No Primary BH Diagnoses	% of Total	All Patients	% of Total
Total Patients	**1,196**	**100.0**	**18,787**	**100.0**	**19,983**	**100.0**
Race		**% of Total**		**% of Total**		**% of Total**
White	923	77.2	16,235	86.4	17,158	85.9
American Indian/Alaska Native	239	20.0	1,643	8.7	1,882	9.4
Black/African American	19	1.6	369	2.0	388	1.9
Asian/ Native Hawaiian/Pacific Islander	8	0.7	402	2.1	410	2.1
Other/Unknown/Declined	7	0.6	138	0.7	145	0.7
Marital Status		**% of Total**		**% of Total**		**% of Total**
Single	785	65.7	10,180	54.3	10,965	55.0
Married/Life Partner	273	22.9	6,897	36.8	7,170	35.9
Divorced	74	6.2	798	4.3	872	4.4
Widow/widower	42	3.5	781	4.2	823	4.1
Separated/Unknown	20	1.7	104	0.6	124	0.6

Notes: A patient is defined as a BH patient if a BH diagnosis appears in the primary diagnostic fields during any visits during the year. Due to rounding, some columns may not add to 100 percent. Additionally, not all categories add up to the same total due to minor data inconsistencies. Unknown marital status was suppressed because of low counts (under five).
Source: MSRMC ED Dataset, 2016

Primary Diagnosis

Table 9. Patients and Visits, by Primary BH Diagnosis, MSRMC ED, 2016

Category	Patients	Visits
Total	**19,983**	**31,389**
Primary BH Diagnosis		
Alcohol-related disorders	318	438
Suicide and intentional self-inflicted injury	270	315
Substance-related disorders	201	218
Anxiety disorders	177	195
Mood disorders	160	172
Schizophrenia and other psychotic disorders	71	89
Delirium dementia and amnestic and other cognitive disorders	36	40
Attention-deficit conduct and disruptive behavior disorders	34	35
Adjustment disorders	34	34
Miscellaneous mental health disorders	16	16

Note: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Table 10. Top 10 BH Primary Diagnosis, All Visits, MSRMC ED, 2016

Rank	Primary BH Diagnosis	Number of Visits	% of Total All BH Visits
1	Alcohol-related disorders	438	28.0
2	Suicide and intentional self-inflicted injury	315	20.1
3	Substance-related disorders	218	13.9
4	Anxiety disorders	195	12.4
5	Mood disorders	172	11.0
6	Schizophrenia and other psychotic disorders	89	5.7
7	Delirium dementia and amnestic and other cognitive disorders	40	2.6
8	Attention-deficit conduct and disruptive behavior disorders	35	2.2
9	Adjustment disorders	34	2.2
10	Miscellaneous mental health disorders	16	1.0

Note: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Table 11. Top 10 Non-BH Primary Diagnosis, All Visits, MSRMC ED, 2016

Rank	Primary Non-BH Diagnosis	Number of Visits	% of Total All Non-BH Visits
1	Abdominal pain	1,419	4.7
2	Superficial injury; contusion	1,297	4.4
3	Sprains and strains	1,254	4.2
4	Nonspecific chest pain	1,120	3.8
5	Other upper respiratory infections	1,039	3.5
6	Open wounds of extremities	969	3.3
7	Skin and subcutaneous tissue infections	963	3.2
8	Spondylosis; intervertebral disc disorders; other back problems	899	3.0
9	Urinary tract infections	773	2.6
10	Nausea and vomiting	660	2.2

Note: A visit is defined as a non-BH visit if no BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Primary Diagnosis by Age

Table 12. Top Five Primary BH Diagnosis, by Age Cohort, MSRMC ED Visits, 2016

Rank	Under Age 18	18 to 64 Years	65+ Years
1	Suicidal ideation, suicide and self-inflicted injury	Alcohol-related disorders	Delirium, dementia, amnestic and cognitive disorders
2	Mood disorders	Suicidal ideation, suicide and self-inflicted injury	Anxiety disorders
3	Attention-deficit, conduct, & disruptive behavior disorders	Substance-related disorders	Alcohol-related disorders
4	Anxiety disorders	Anxiety disorders	Substance-related disorders
5	Substance-related disorders	Mood disorders	Mood disorders

Source: MSRMC ED Dataset, 2016

Co-Morbidities

Table 13. Top Five Co-Morbidities, Number of BH Patients with Co-Morbidity of Other BH Disorders, by Top Five Primary BH Diagnosis, MSRMC ED, 2016

Other BH Diagnosis	Primary BH Diagnosis				
	Mood disorders	Anxiety disorders	Alcohol-related disorders	Substance-related disorders	Suicide & intentional self-inflicted injury
Mood disorders		40	54	37	126
Anxiety disorders	33		46	35	70
Substance-related disorders	24	24	46		60
Alcohol-related disorders	18	13		16	32
Schizophrenia and other psychotic disorders	11	7	6	10	17
Suicidal ideation, suicide and self-inflicted injury	64	12	42	19	

Note: Includes patients who presented with either a primary or all listed diagnosis of both types of disorders.
Source: MSRMC ED Dataset, 2016

Hospital Admissions from ED

Table 14. Top 10 Primary Diagnosis Resulting in Hospital Admission, BH and non BH, MSRMC ED, 2016

Rank	Primary BH Diagnoses	% of Total	Primary Non-BH Diagnosis	% of Total
1	Alcohol-related disorders	39.5	Septicemia (except in labor)	9.2
2	Suicide and intentional self-inflicted injury	35.3	Pneumonia	5.3
3	Delirium, dementia, amnestic and cognitive disorders	10.1	Respiratory failure; insufficiency; arrest (adult)	4.0
4	Substance-related disorders	7.6	Skin and subcutaneous tissue infections	3.7
5	Mood disorders	2.5	Congestive heart failure; non-hypertensive	3.3
6	Miscellaneous disorders	1.7	Acute myocardial infarction	3.1
7	Schizophrenia and other psychotic disorders	1.7	Chronic obstructive pulmonary disease and bronchiectasis	3.0
8	Anxiety disorders	0.8	Acute cerebrovascular disease	2.8
9	Developmental disorders	0.8	Diabetes mellitus with complications	2.8
10	n/a	-	Urinary tract infections	2.8
	All other diagnoses	-		60.0

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit. A visit is defined as a non-BH visit if no BH diagnosis appears in the primary diagnostic field during the visit. Admission is defined as a visit that was not discharged from the ED and the patient was admitted for inpatient care.
Source: MSRMC ED Dataset, 2016

Bounce Backs

Table 15. Bounce Back, BH and Non-BH Patient, MSRMC ED, 2016

Category	Patients with Primary BH Diagnoses	% of BH Patients	Patients with No Primary BH Diagnoses	% of Non-BH Patients	All Patients	% of Total
Did not return to ED within 30 days	798	67	16,136	86	16,934	85
Returned to ED within 30 days	398	33	2,651	14	3,049	15
Returned to ED within 7 days	244	20	1,487	8	1,731	9
All Patients	1,196	100	18,787	100	19,983	100

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit. A visit is defined as a non-BH visit if no BH diagnosis appears in the primary diagnostic field during the visit. Data excludes visits related to normal after-care, the patient died, or the patient's residency was outside of Alaska.
Source: MSRMC ED Dataset, 2016

Table 16. BH Patient Cohort and ED Visits, MSRMC ED, 2016

Category	Visit with BH Diagnosis	Visit with No BH Diagnosis	All Visits
Number of MSRMC ED visits	1,016	1,660	2,676
Median number of days until next visit	40	30	33
Average number of days until next visit	111	84	94

Notes: Cohort includes MSRMC ED patients who had a BH primary diagnoses at some point in 2016 and also visited the ED more than once in 2016. A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit. A visit is defined as a non-BH visit if no BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Estimated ED Facility Charges

Table 17. Estimated ED Facility Charges per Patient and Total, Primary BH Diagnosis, MSRMC ED, 2016

Category	With Primary BH Diagnosis	With No Primary BH Diagnosis	Total
Visits	3,227	28,162	31,389
Patients	1,196	18,787	19,983
Visit/patient	2.70	1.50	1.57
Total estimated ED facility charges	$14,103,455	$118,963,920	$133,076,051
Estimated ED facility charge/visit	$4,370	$4,224	$4,240
Estimated ED facility charge/patient	$11,792	$6,332	$6,659

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

Table 18. Estimated ED Facility Charges and Percent Discharged Home, By Primary BH Diagnosis, MSRMC ED, 2016

Primary Diagnosis	% Discharged Home	Estimated Average ED Facility Charge
Alcohol-related disorders	82	$4,248
Suicide and intentional self-inflicted injury	96	$3,161
Anxiety disorders	51	$3,895
Substance-related disorders	19	$5,274
Mood disorders	92	$3,846
Schizophrenia and other psychotic disorders	33	$4,962

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

Table 19. Estimated Average ED Facility Charge Amount, by Discharge Disposition, Primary BH Diagnosis, MSRMC ED, 2016

Discharge Status	Estimated Average ED Facility Charges With Primary BH Diagnosis	Estimated Average ED Facility Charge with No Primary BH Diagnosis
Home/self-care	$4,105	$4,090
Another hospital	$8,334	$11,232
Law enforcement	$1,978	$3,849
Alaska Psychiatric Institute	$5,757	$5,291

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit. MSRMC ED facility charges are estimates and exclude physicians' costs. Only visits where the patient was discharged from the ED are included.
Source: MSRMC ED Dataset, 2016

2013-2016 Trends

**Table 20. Patients and Visits, Number and Percent Distribution,
Primary BH Diagnosed Patients, MSRMC ED, 2013-2016**

Category	Patients with Primary BH Diagnoses	% Annual Change	Patients with No Primary BH Diagnoses	% Annual Change	All Patients	% Annual Change
Patients						
2013	919		16,199		17,118	
2014	978	6.4	16,600	2.5	17,578	2.7
2015	984	0.6	17,623	6.2	18,607	5.9
2016	1196	21.5	18,787	6.6	19,983	7.4
Visits						
2013	2,594		24,220		26,814	
2014	2,738	5.6	25,059	3.5	27,797	3.7
2015	2,723	-0.5	26,681	6.5	29,404	5.8
2016	3,227	18.5	28,162	5.6	31,389	6.8
Average Number of Visits Per Patient						
2013	2.82		1.50		1.57	
2014	2.80	-0.8	1.51	1.0	1.58	0.6
2015	2.77	-1.2	1.51	0.3	1.58	0.0
2016	2.70	-2.5	1.50	-1.0	1.57	-0.6
Total Estimated ED Facility Charges*						
2013	$9,220,910		$75,664,225		$84,895,269	
2014	$10,205,621	10.7	$88,596,671	17.1	$98,815,917	16.4
2015	$10,922,849	7.0	$103,107,924	16.4	$114,004,884	15.4
2016	$14,103,455	29.1	$118,963,920	15.4	$133,076,051	16.7
Average Charge Per Patient						
2013	$10,034		$4,671		$4,959	
2014	$10,435	4.0	$5,337	14.3	$5,622	13.4
2015	$11,100	6.4	$5,851	9.6	$6,129	9.0
2016	$11,792	6.2	$6,332	8.2	$6,659	8.6
Average Charge Per Visit						
2013	$3,555		$3,124		$3,166	
2014	$3,727	4.8	$3,536	13.2	$3,555	12.3
2015	$4,011	7.6	$3,864	9.3	$3,879	9.1
2016	$4,370	9.0	$4,224	9.3	$4,240	9.3

Notes: *MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2013-2016.

National Comparisons

Table 21. National Comparison of Proportion of MSRMC ED Visit where BH is a Primary Diagnoses, by BH Diagnosis Categories, 2014 (U.S. ED) and 2016 (MSRMC ED)

Category	MSRMC ED Visit (2016)	U.S. ED Visits (2014)
Percent of All ED visits with a Primary BH diagnosis	4.99	4.65
Percent of All ED visits with a Primary mental health diagnosis	2.90	3.08
Percent of All ED visits with a Primary substance abuse diagnosis	2.09	1.57

Source: MSRMC ED Dataset. 2016, AHRQ, HCUP 2014

Table 22. National Comparison of Proportion of MSRMC ED Visits, by Top 10 Primary BH Diagnosis (MSRMC ED), 2014 (U.S. ED) and 2016 (MSRMC ED)

Category	MSRMC Visit (2016)	U.S. Visits (2014)
Total ED Visits	31,389	137,677,522
Number of ED visits with a primary BH diagnosis	1,567	6,403,609
Primary BH Diagnosis	**% of Total BH Visits**	**% of Total BH Visits**
Alcohol-related disorders	28.0	22.8
Suicide and intentional self-inflected injury	20.1	3.5
Substance-related Disorder	13.9	11.0
Anxiety disorders	12.4	16.5
Mood disorders	11.0	22.6
Schizophrenia and other psychotic disorders	5.7	12.0
Delirium, dementia, amnestic and cognitive disorders	2.6	3.8
Attention-deficit, conduct, & disruptive behavior disorders	2.2	1.6
Adjustment disorders	2.2	2.1
Miscellaneous disorders	1.0	2.5

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit. Due to rounding, some column may not add to 100 percent.
Source: MSRMC ED Dataset; AHRQ HCUP, 2014

Alcohol-Related Disorders

Table 23. Alcohol-Related Disorders Primary Diagnosis, Demographic Comparisons, MSRMC ED Visits (2016) and U.S. ED Visits (2014)

Category	MSRMC ED Visits (2016)	National ED Visits (2014)
Total	**438**	**1,458,144**
Age	**% of Total**	**% of Total**
Under 18 years	1.1	2.1
18-44 years	53.9	44.4
45-64 years	41.6	47.9
65-84 years	3.4	5.4
85 years and older	0.0	0.2
Gender	**% of Total**	**% of Total**
Female	35.8	27.3
Male	64.2	72.7
Insurance Type	**% of Total**	**% of Total**
Commercial/Private Insurance	2.5	20.4
Medicaid	52.5	33.4
Medicare	8.4	13.2
Self-Pay	1.07	28.7
Other	10.5	4.2
Admission to the Same Hospital		
Count of admissions	47	290,459
Percent of ED visits	10.7	19.9

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Due to rounding, some columns may not add to 100 percent.
Source: MSRMC ED Dataset; AHRQ HCUP, 2014

Substance Abuse Disorders

Table 24. Substance Abuse Disorders Primary Diagnosis, Demographic Comparisons, MSRMC ED Visits (2016) and National ED Visits (2014)

Category	MSRMC ED Visits (2016)	National ED Visits (2014)
Total	**218**	**702,734**
Age	**% of Total**	**% of Total**
Under 18 years	4.6	4.2
18-44 years	69.7	67.9
45-64 years	21.6	23.4
65-84 years	4.1	4.06
85 years and older	0.0	0.5
Gender	**% of Total**	**% of Total**
Female	47.2	38.8
Male	52.8	61.2
Insurance Type	**% of Total**	**% of Total**
Commercial/Private Insurance	16.1	19.6
Medicaid	55.5	37.0
Medicare	12.4	14.6
Self-Pay	9.6	24.4
Other	6.4	4.4
Admission to the Same Hospital		
Count of admissions	9	138,389
Percent of ED visits	4.1	19.7

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Due to rounding, some columns may not add to 100 percent.
Source: MSRMC ED Dataset; AHRQ HCUP, 2014

Suicide and Intentional Self-Inflicted Injury

Table 25. Suicide and Intentional Self-Inflicted Injury, Primary Diagnosis, Demographic Comparisons, MSRMC ED Visits (2016) and National ED Visits (2014)

Category	MSRMC ED Visits (2016)	National ED Visits (2014)
Total	**315**	**225,551**
Age	**% of Total**	**% of Total**
Under 18 years	21.3	18.8
18-44 years	60.6	53.3
45-64 years	17.1	24.9
65-84 years	1.0	2.7
85 years and older	0.0	0.3
Gender	**% of Total**	**% of Total**
Female	57.8	45.8
Male	42.2	54.2
Insurance Type	**% of Total**	**% of Total**
Commercial/Private Insurance	21.7	23.9
Medicaid	54.3	36.2
Medicare	9.8	15.8
Self-Pay	5.7	19.8
Other	8.6	4.1
Admission to the Same Hospital		
Count of admissions	42	2,333
Percent of ED visits	13.3	1.0

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Due to rounding, some columns may not add to 100 percent.
Source: MSRMC ED Dataset; AHRQ HCUP, 2014

Anxiety Disorders

Table 26. Anxiety Disorders Primary Diagnosis, Demographic Comparisons, MSRMC ED Visits (2016) and National ED Visits (2014)

Category	MSRMC ED Visits (2016)	National ED Visits (2014)
Total	**195**	**1,055,444**
Age	% of Total	% of Total
Under 18 years	7.2	8.7
18-44 years	60.0	58.4
45-64 years	23.6	24.1
65-84 years	9.2	7.6
85 years and older	0.0	1.2
Gender	% of Total	% of Total
Female	59.5	60.6
Male	40.5	39.4
Insurance Type	% of Total	% of Total
Commercial/Private Insurance	28.2	28.7
Medicaid	47.2	32.5
Medicare	14.9	17.6
Self-Pay	1.5	17.4
Other	8.2	3.6
Admission to the Same Hospital		
Count of admissions	*	28,676
Percent of ED visits	*	0.7

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit. Due to rounding, some columns may not add to 100 percent. *Admission data was suppressed due to low counts (under five).
Source: MSRMC ED Dataset; AHRQ HCUP, 2014

Mood Disorders

Table 27. Mood Disorders Primary Diagnosis, Demographic Comparisons, MSRMC ED Visits (2016) and National ED Visits (2014)

Category	MSRMC ED Visits (2016)	National ED Visits (2014)
Total	**172**	**1,447,172**
Age	**% of Total**	**% of Total**
Under 18 years	15.1	15.8
18-44 years	56.4	51.3
45-64 years	25.0	27.3
65-84 years	2.3	5.0
85 years and older	1.2	0.5
Gender	**% of Total**	**% of Total**
Female	57.6	52.3
Male	42.4	47.7
Insurance Type	**% of Total**	**% of Total**
Commercial/Private Insurance	23.9	26.5
Medicaid	48.3	37.5
Medicare	9.3	18.7
Self-Pay	5.2	13.4
Other	13.4	3.7
Admission to the Same Hospital		
Count of admissions	*	531,650
Percent of ED visits	*	36.7

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit. Due to rounding, some columns may not add to 100 percent. *Admission data was suppressed due to low counts (under five).
Source: MSRMC ED Dataset; AHRQ HCUP, 2014

This chapter presents data for patients that received a BH diagnosis (either primary or secondary diagnoses – also termed "all listed") during their visit to the MSRMC ED.

Demographic Summary

Table 28. Demographic Summary, Age, Gender, and Insurance Type, BH and Non-BH Patients, All Listed BH Diagnosed Patients, Number and Percent Distribution, MSRMC ED, 2016

Category	Patients with BH Diagnoses	% of Total	Patients with No BH Diagnoses	% of Total	All Patients	% of Total
Total Patients	**3,443**	**100.0**	**16,540**	**100.0**	**19,983**	**100.0**
Age		**% of Total**		**% of Total**		**% of Total**
Under 15 years	173	4.9	3,711	22.2	3,884	19.2
15-19 years	251	7.1	1,114	6.7	1,365	6.8
20-29 years	613	17.4	2,554	15.3	3,167	15.
30-39 years	611	17.3	2,299	13.8	2,910	14.4%
40-54 years	743	21.1	2,738	16.4	3,481	17.2
55-64 years	460	13.1	1,865	11.2	2,325	11.5
65-74 years	332	9.4	1,454	8.7	1,786	8.
75-84 years	198	5.6	676	4.1	874	4.3%
85 years and older	143	4.1	280	1.7	423	2.1
Average age (years)	44.3		36.0		37.5	
Gender		**% of Total**		**% of Total**		**% of Total**
Female	1,845	53.6	8,456	51.1	10,301	51.5
Male	1,598	46.4	8,086	48.9	9,684	48.5
Insurance Type		**% of Total**		**% of Total**		**% of Total**
Commercial/Private	341	9.8	2,417	16.5	2,758	15.2
Medicaid	1,379	39.6	5,465	37.2	6,844	37.7
Medicare	881	25.3	2,344	16.0	3,225	17.7
Self-Pay	237	6.8	896	6.1	1,133	6.2
Other	409	11.7	2,673	18.2	3,082	17.0
Unknown	237	6.8	896	6.1	1,133	6.2

Notes: A patient is defined as a BH patient if a BH diagnosis appears in either the primary or secondary diagnostic fields during any visits during the year. Based on patient's primary insurance. Due to rounding, some columns may not add to 100 percent. Additionally, not all categories add up to the same total due to some duplication of ages (for instance one patient may have moved to a different age range between visits to the ED) and other minor data inconsistencies or missing values.
Source: MSRMC ED Dataset, 2016

Table 29. Demographic Summary, Race and Marital Status, BH and Non-BH Patients, All Listed BH Diagnosed Patients, Number and Percent Distribution, MSRMC ED, 2016

Category	Patients with BH Diagnoses	% of Total	Patients with No BH Diagnoses	% of Total	All Patients	% of Total
Total Patients	**3,443**	**100.0**	**16,540**	**100.0**	**19,983**	**10.0**
Race		% of Total		% of Total		% of Total
American Indian/Alaska Native	455	13.2	1,427	8.6	1,882	9.4
Asian	19	0.6	185	1.1	204	1.0
Black/African American	55	1.6	333	2.0	388	1.9
Native Hawaiian/Pacific Islander	16	0.5	190	1.1	206	1.0
White	2,873	83.4	14,285	86.4	17,158	85.9
Unknown/declined/other	25	0.7	120	0.7	145	0.7
Marital Status		% of Total		% of Total		% of Total
Married	1,064	30.9	6,041	36.5	7,105	35.6
Single	1,804	52.4	9,161	55.4	10,965	54.9
Life Partner	14	0.4	51	0.3	65	0.3
Separated	36	1.0	88	0.5	124	0.6
Divorced	246	7.1	626	3.8	872	4.4
Widow/widower	272	7.9	551	3.3	823	4.1
Unknown	7	0.2	22	0.1	29	0.1

Notes: A patient is defined as a BH patient if a BH diagnosis appears in either the primary or secondary diagnostic fields during any visits during the year. Due to rounding, some columns may not add to 100 percent. Additionally, not all categories add up to the same total due to minor data inconsistencies or missing values.
Source: MSRMC ED Dataset, 2016

Visit Length of Stay

Table 30. Length of Stay, BH and Non-BH Visits, Number and Percent Distribution, All Listed BH Diagnosis, MSRMC ED, 2016

	Visits with BH Diagnoses	% of Total	Visits with No BH Diagnoses	% of Total	All Visits	% of Total
Total Visits	**5,036**	**100.0**	**26,353**	**100.0**	**31,389**	**100.0**
Visits by Length of Stay*		% of Total		% of Total		% of Total
<1 hour	355	7.0	3,211	12.2	3,566	11.4
1 - 2:59	1,248	24.8	12,710	48.2	13,958	44.5
3 - 5:59	914	18.1	7,493	28.4	8,407	26.8
6 – 23.59	836	16.6	1,322	5.0	2,158	6.9
24 hours or more	1,680	33.4	1,604	6.1	3,284	10.5
Length of Stay (h:mm)**						
Average length of stay	8:49		3:08		3:51	
Median length of stay	3:06		2:26		2:29	
75th percentile	5:55		3:35		3:42	
90th percentile	21:03		5:03		5:28	

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary or secondary diagnostic field during the visit. Due to rounding, some rows and columns may not add to 100 percent.
* Based on all ED visits
**Based on all ED visits by patients not admitted to MSRMC.
Source: MSRMC ED Dataset, 2016

Discharge Disposition

Table 31. Discharge Disposition, BH and Non-BH Visits, All Listed BH Diagnosis, MSRMC ED, 2016

Category	Visits with Primary BH Diagnoses	Visits with No Primary BH Diagnoses	All Visits
Total Visits	**5,036**	**26,353**	**31,389**
ED discharge disposition			
Admitted to MSRMC	1,534	1,639	3,173
Percent admitted	30%	6%	10%
Visits Discharged Home	2,955	23,620	26,575
Percent discharged home	59%	90%	85%
Transferred Elsewhere	538	1,057	1,595
Percent transferred	11%	4%	5%
# Transferred to law enforcement	66	58	124
# Transferred to API	311	35	346
# Transferred to other hospital medical facility or non-medical facility	130	510	640
# Left against advice	31	454	485

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary or secondary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Estimated ED Facility Charges

Table 32. Estimated ED Facility Charges per Patient and Total, All Listed BH Diagnosis, MSRMC ED, 2016

Category	With BH Diagnosis	With No BH Diagnosis	Total
Visits	8,400	22,989	31,389
Patients	3,443	16,540	19,983
Visit/patient	2.44	1.39	1.57
Total estimated ED facility charges	$43,811,947	$90,480,865	$133,076,051
Estimated ED facility charge/visit	$5,216	$3,936	$4,240
Estimated ED facility charge/patient	$12,725	$5,470	$6,659

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary or secondary diagnostic field during the visit. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

Table 33. Estimated Average ED Facility Charge Amount, by Discharge Disposition, All Listed Diagnosis, MSRMC ED, 2016

Discharge Status	Estimated Average ED Facility Charges with BH Diagnosis	Estimated Average ED Facility Charges with No BH Diagnosis
Home/self-care	$5,055	$3,813
Another hospital	$11,012	$10,336
Law enforcement	$2,580	$4,577
Alaska Psychiatric Institute	$5,780	$4,762

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary or secondary diagnostic field during the visit. Only visits where the patient was discharged from the ED are included. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

2013-2016 Trends

**Table 34. Patients and Visits, Number and Percent Distribution,
All Listed BH Diagnosed Patients, MSRMC ED, 2013-2016**

Category	Patients with BH Diagnoses	% Annual Change	Patients with No BH Diagnoses	% Annual Change	All Patients	% Annual Change
Patients						
2013	2,814		14,304		17,118	
2014	2,873	2.1	14,705	2.8	17,578	2.7
2015	3,484	21.3	15,123	2.8	18,607	5.9
2016	3,443	-1.2	16,540	9.4	19,983	7.4
Visits						
2013	6,946		29,868		26,814	
2014	7,260	4.5	20,537	-31.2	27,797	3.7
2015	8,370	15.3	21,034	2.4	29,404	5.8
2016	8,400	0.4	22,989	9.3	31,389	6.8
Average Number of Visits Per Patient						
2013	2.47		2.09		1.57	
2014	2.53	2.4	1.40	-33.1	1.58	1.0
2015	2.40	-4.9	1.39	-0.4	1.58	-0.1
2016	2.44	1.6	1.39	-0.1	1.57	-0.6
Total Estimated ED Facility Charges*						
2013	$29,644,799		$56,384,152		$84,895,406	
2014	$32,482,939	9.6	$67,247,154	19.3	$98,818,917	16.4
2015	$40,317,118	-35.5	$74,755,320	11.2	$114,044,884	15.4
2016	$43,811,947	8.7	$90,480,865	21.0	$133,076,051	16.7
Average Charge Per Patient						
2013	$10,535		$3,942		$4,959	
2014	$11,306	7.3	$4,573	16.0	$5,622	13.4
2015	$11,572	2.4	$4,943	8.1	$6,129	9.0
2016	$12,725	10.0	$5,470	10.7	$6,659	8.6
Average Charge Per Visit						
2013	$4,268		$2,838		$3,166	
2014	$4,474	4.8	$3,274	15.4	$3,555	12.3
2015	$4,817	7.7	$3,554	8.6	$3,879	9.1
2016	$5,216	8.3	$3,936	10.7	$4,240	9.3

Notes: MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2013-2016.

This chapter presents data for patients that visited the MSRMC ED five or more times annually.

Demographic Summary

Table 35. Demographics Summary, BH and Non-BH High-Utilizers (5+ ED Visits Annually) Patients, Number and Percent Distribution, MSRMC ED, 2016

Category	High-Utilizer Patients with BH Diagnoses	% of Total	High-Utilizer Patients with No BH Diagnoses	% of Total	All High-Utilizer Patients	% of Total
Total Patients	**423**	**100.0**	**262**	**100.0**	**685**	**100.0**
Age		% of Total		% of Total		% of Total
0 to 19 years	18	4.0	47	17.0	65	8.9
20 to 29 years	91	20.1	50	18.1	141	19.3
30 to 39 years	82	18.1	54	19.6	136	18.7
40 to 54 years	105	23.2	48	17.4	153	21.0
55 to 64 years	78	17.2	27	9.8	105	14.4
65 to 74 years	37	8.2	22	8.0	59	8.1
75 to 84 years	27	6.0	19	6.9	46	6.3
85 years and older	15	3.3	9	3.3	24	3.3
Average age (years)	46.7		40.1		44.2	
Gender		% of Total		% of Total		% of Total
Female	269	63.6	158	60.3	427	62.3
Male	154	36.4	104	39.7	258	37.7
Insurance Type		% of Total		% of Total		% of Total
Commercial/Private	22	4.8	101	27.3	123	14.9
Medicaid	216	47.6	142	38.4	358	43.4
Medicare	134	29.5	69	18.6	203	24.6
Self-Pay	24	5.3	20	5.4	44	5.3
Other	58	12.8	38	10.3	96	11.7
Total estimated ED facility charges	$16,105,168		$6,654,656		$22,657,817	
Total visits	3,203		1,643		4,846	
Average # of visits/High-Utilizer patient	7.57		6.27		7.07	

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. Based on patient's primary insurance. Due to rounding, some columns may not add to 100 percent. Additionally, not all categories add up to the same total due to some duplication of ages (for instance one patient may have moved to a different age range between visits to the ED) and other minor data inconsistencies or missing values. MSRMC ED facility charges are estimates based on all listed diagnoses visit and patient averages, and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016.

Primary Diagnosis

Table 36. Top 10 BH Primary Diagnosis, High-Utilizer (5+ ED Visits Annually) Patients, MSRMC ED, 2016

Rank	Primary BH Diagnosis	Number of Visits	% of Total High-Utilizer BH Visits
1	Alcohol-related disorders	141	36.0
2	Suicide and intentional self-inflicted injury	84	21.4
3	Anxiety disorders	50	12.8
4	Substance-related disorders	42	10.7
5	Mood disorders	33	8.4
6	Schizophrenia and other psychotic disorders	20	5.1
7	Delirium dementia and amnestic and other cognitive disorders	10	2.6
8	Adjustment disorders	6	1.5
9	Impulse control disorders NEC	2	0.5
10	Miscellaneous mental health disorders	2	0.5

Note: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Table 37. Top 10 Non-BH Primary Diagnosis, High-Utilizer (5+ ED Visits Annually) Patients, MSRMC ED, 2016

Rank	Primary Non-BH Diagnosis	Number of Visits	% of Total High-Utilizer Non-BH Visits
1	Abdominal pain	341	7.7
2	Skin and subcutaneous tissue infections	191	4.3
3	Spondylosis; intervertebral disc disorders; other back problems	169	3.8
4	Urinary tract infections	167	3.7
5	Superficial injury; contusion	156	3.5
6	Nonspecific chest pain	152	3.4
7	Nausea and vomiting	143	3.2
8	Sprains and strains	135	3.0
9	Headache; including migraine	124	2.8
10	Other nervous system disorders	123	2.8

Note: A visit is defined as a non-BH visit if no BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Discharge Disposition

Table 38. BH and Non-BH Discharge Disposition, High-Utilizers (5+ Annual Visits), Number and Percent Distribution, MSRMC ED, 2016

Category	High-Utilizers Patients with BH Diagnoses	High-Utilizers with No BH Diagnoses	All High Utilizers Patients
Total visits/discharged	**1,353**	**3,493**	**4,846**
Discharged Home	760	3,105	3,865
Percent discharged home	56%	89%	80%
Admitted to MSRMC	453	216	669
Percent admitted	33%	6%	14%
Transferred Elsewhere	138	168	306
Percent transferred	10%	5%	6%
# Transferred to law enforcement	*	*	17
# Transferred to API	89	6	95
# Transferred to other hospital or medical facility	24	70	94

Note: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. * Suppressed due to low values (less than five).
Source: MSRMC ED Dataset, 2016.

Estimated ED Facility Charges

Table 39. High-Utilizers, Visits, Patients, and Estimated Average ED Facility Charge Amounts, MSRMC ED, 2016

Utilizer Group	Number of Patients	Number of Visits	Average Visits/Patient	Estimated ED Facility Charges/Visit	Estimated ED Facility Charges/Patient	Total Estimated ED Facility Charges
High-Utilizers (5+ visits)	590	3,550	6.02	$4,656	$28,016	$16,529,435
Super-Utilizers (10+)	72	809	11.24	$4,770	$53,591	$3,858,575
Ultra-Utilizers (15+)	23	487	21.17	$4,659	$98,656	$2,269,094
Total	**685**	**4,846**	**7.07**	**$4,676**	**$33,077**	**$22,657,817**

Notes: MSRMC ED facility charges are estimates based on all listed diagnoses visit and patient averages, and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

Table 40. Patients, Visits and ED Facility Charges, High-Utilizers (5+ ED Visits Annually) Patients, MSRMC ED, 2016

Category	High-Utilizer Patients with BH Diagnosis	High-Utilizer Patients with No BH Diagnosis	All High-Utilizer Patients with BH Diagnosis
Total patients	423	262	685
Total visits	3,203	1,643	4,846
Total estimated ED facility charges*	$16,105,168	$6,654,656	$22,657,817
Visits/patient	7.57	6.27	7.07
Estimated ED facility charge/visit	$5,028	$4,050	$4,676
Estimated ED facility charge/patient	$38,074	$25,399	$33,077

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or all listed BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or all listed BH diagnoses.
MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

Table 41. High-Utilizers, Visits, Patients, and Estimated Average ED Facility Charge Amounts, MSRMC ED, 2016

Type of Utilizer	Estimated Average ED Facility Charges of Patients with BH Diagnosis	Estimated Average ED Facility Charges of Patients with No BH Diagnosis
Typical Utilizer Less than 5 visits	$5,340	$3,927
High Utilizer Categories		
High-Utilizers (5+ visits)	$5,081	$4,080
Super-Utilizers (10+)	$5,140	$3,904
Ultra-Utilizers (15+)	$4,695	$3,542
All High-Utilizer categories visits average	$5,028	$4,050

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
A visit is defined as a non- H visit if no BH diagnosis appears in the primary diagnostic field during the visit. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

2013-2016 Trends

Table 42. BH and Non-BH High-Utilizer Patients and Visits, Number and Percent Distribution, MSRMC ED, 2013-2016

Category	High-Utilizer Patients with BH Diagnoses	% Annual Change	High-Utilizer Patients with No BH Diagnoses	% Annual Change	All High-Utilizer Patients	% Annual Change
Patients						
2013	342		251		593	
2014	325	-5.0	270	7.6	595	0.3
2015	377	16.0	279	3.3	656	10.3
2016	423	12.2	262	-6.1	685	4.4
Visits						
2013	2,727		3,168		4,397	
2014	2,913	6.8	1,806	-43.0	4,719	7.3
2015	3,199	9.8	1,853	2.6	5,052	7.1
2016	3,203	0.1	1,643	-11.3	4,846	-4.1
Average Number of Visits Per Patient						
2013	8.02		6.68		7.45	
2014	8.96	11.7	6.69	0.1	7.93	6.4
2015	8.53	-4.8	6.64	-0.7	7.72	-2.6
2016	7.57	-11.3	6.27	-5.6	7.07	-8.4
Total Estimated ED Facility Charges*						
2013	$11,374,922		$4,424,508		$15,639,500	
2014	$12,414,851	9.1	$6,079,536	37.4	$18,401,108	17.7
2015	$15,058,630	21.3	$6,283,536	3.4	$21,210,554	15.3
2016	$16,105,158	6.9	$6,654,656	5.9	$22,657,817	6.8
Average Charge Per Patient						
2013	$33,456		$17,698		$26,508	
2014	$38,200	14.2	$22,517	27.2	$30,926	16.7
2015	$40,156	5.1	$22,522	0.0	$32,432	4.9
2016	$38,074	-5.2	$25,399	12.8	$33,077	2.0
Average Charge Per Visit						
2013	$4,171		$2,649		$3,557	
2014	$4,262	2.2	$3,366	27.1	$3,899	9.6
2015	$4,707	10.4	$3,391	0.7	$4,198	7.7
2016	$5,028	6.8	$4,050	19.4	$4,676	11.4

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2013-2016.

This chapter presents data for patients that visited the MSRMC ED who are age 55 or older.

Demographic Summary

Table 43. Demographic Summary, BH and Non-BH Seniors (Age 55+) Patients, Number and Percent Distribution, MSRMC ED, 2016

Category	Senior Patients with BH Diagnoses	% of Total BH Senior Patients	Senior Patients with No BH Diagnoses	% of Total Non-BH Senior Patients	All Senior Patients	% of All Senior Patients
Total Patients	**1,117**	**100.0**	**4,243**	**100.0**	**5,360**	**100.0**
Age		**% of Total**		**% of Total**		**% of Total**
55 to 64 years	460	41.2	1,865	44.0	2,325	43.4
65 to 74 years	332	29.7	1,454	34.3	1,786	33.3
75 to 84 years	198	17.7	676	15.9	874	16.3
85 years and older	143	12.8	280	6.6	423	7.9
Average age 55+ (years)	69.3		67.6		68.0	
Gender		**% of Total**		**% of Total**		**% of Total**
Female	619	55.4	2,107	49.7	2,726	50.9
Male	498	44.6	2,136	50.3	2,634	49.1
Total estimated ED facility charges*	$20,071,281		$36,208,098		$55,669,439	
Total visits	2,807		5,989		8,796	
Average # of Visits/Senior patient	2.51		1.41		1.64	

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs. Not all categories add up to the same total due to some duplication of ages (for instance one patient may have moved to a different age range between visits to the ED) and other minor data inconsistencies or missing values.
Source: MSRMC ED Dataset, 2016.

Primary Diagnosis

Table 44. Top 10 BH Primary Diagnosis, Senior (Age 55+) Patients, MSRMC ED, 2016

Rank	Primary BH Diagnosis	Number of Visits	% of Total Senior BH Visits
1	Alcohol-related disorders	92	35.9
2	Anxiety disorders	40	15.6
3	Delirium dementia and amnestic and other cognitive disorders	29	11.3
4	Substance-related disorders	29	11.3
5	Mood disorders	25	9.8
6	Suicide and intentional self-inflicted injury	23	9.0
7	Schizophrenia and other psychotic disorders	10	3.9
8	Adjustment disorders	4	1.6
9	Miscellaneous mental health disorders	2	0.8
10	Attention-deficit conduct and disruptive behavior disorders	1	0.4

Note: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Table 45. Top 10 Non-BH Primary Diagnosis, Senior (Age 55+) Patients, MSRMC ED, 2016

Rank	Primary Non-BH Diagnosis	Number of Visits	% of Total Senior Non-BH Visits
1	Nonspecific chest pain	459	5.4
2	Urinary tract infections	315	3.7
3	Chronic obstructive pulmonary disease and bronchiectasis	296	3.5
4	Cardiac dysrhythmias	287	3.4
5	Superficial injury; contusion	253	3.0
6	Spondylosis; intervertebral disc disorders; other back problems	242	2.8
7	Skin and subcutaneous tissue infections	227	2.7
8	Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	226	2.6
9	Sprains and strains	225	2.6
10	Abdominal pain	220	2.6

Note: A visit is defined as a non-BH visit if no BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

High-Utilizers

Table 46. High-Utilizers, Number of Visits, by Type of High-Utilizer, Senior (Age 55+) Patients, MSRMC ED, 2016

Utilizer Group	# of BH High-Utilizers	% of BH High-Utilizers	# of Non-BH High-Utilizers	% of Non-BH High-Utilizers	# of High-Utilizers	% of All High-Utilizers
High-Utilizers (5+ visits)	129	84.3	68	90.7	197	86.4
Super-Utilizers (10+) and Ultra-Utilizers (15+)	24	15.7	7	9.3	31	13.6
Total	**153**	**100.0**	**75**	**100.0**	**228**	**100.0**

Source: MSRMC ED Dataset, 2016

Discharge Disposition

Table 47. Discharges, Admissions, and Transfers, BH and Non-BH Seniors (Age 55+) Patients, MSRMC ED, 2016

Category	Seniors Patients with BH Diagnoses	% of BH Seniors Visits Admitted	Seniors Patients with No BH Diagnoses	% of Non-BH Seniors Visits Admitted	All Seniors Patients	% of All Seniors Visits Admitted
Visits discharged home	677	39.8	5,674	80.0	6,351	72.2
Visit admitted to MSRMC	934	54.9	1,024	14.4	1,959	22.3
Visit transferred/left against advice/deceased	86	4.9	388	5.5	474	5.4
Total Visits	**1,702**	**100%**	**7,094**	**100%**	**8,796**	**100%**

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or secondary BH diagnoses.
Due to rounding, some columns may not add to 100 percent.
Source: MSRMC ED Dataset, 2016

Estimated ED Facility Charges

Table 48. Patients, Visits and ED Facility Charges, Senior (Age 55+) Patients, MSRMC ED, 2016

Category	Senior Patients with BH Diagnosis	Senior Patients with No BH Diagnosis	All Senior Patients
Total patients	1,117	4,243	5,360
Total visits	2,807	5,989	8,796
Total estimated ED facility charges*	$20,071,281	$36,208,098	$55,669,439
Visits/patient	2.51	1.41	1.64
Estimated ED facility charge/visit	$7,150	$6,046	$6,329
Estimated ED facility charge/patient	$17,969	$8,534	$10,386

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or all listed BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

2013-2016 Trends

Table 49. BH and Non-BH Senior (Age 55+) Patients and Visits, Number and Percent Distribution, MSRMC ED, 2013-2016

Category	Senior Patients with BH Diagnoses	% Annual Change	Senior Patients with No BH Diagnoses	% Annual Change	All Senior Patients	% Annual Change
Patients						
2013	939		3,162		4,101	
2014	939	0.0	3,448	9.0	4,387	7.0
2015	1,161	23.6	3,682	6.8	4,843	10.4
2016	1,117	-3.8	4,243	15.2	5,360	10.7
Visits						
2013	2,329		4,281		6,610	
2014	2,344	0.6	4,753	11.0	7,097	7.4
2015	2,721	16.1	5,099	7.3	7,820	10.2
2016	2,807	3.2	5,989	17.5	8,796	12.5
Average Number of Visits Per Patient						
2013	2.48		1.35		1.61	
2014	2.50	0.8	1.38	2.2	1.62	0.6
2015	2.34	-6.4	1.38	0.0	1.61	-0.6
2016	2.51	7.3	1.41	2.2	1.64	1.9
Total Estimated ED Facility Charges*						
2013	$14,079,617		$19,998,179		$33,484,387	
2014	$14,614,353	3.8	$24,819,850	24.1	$39,003,589	16.5
2015	$18,136,066	24.1	$27,071,769	9.1	$44,564,923	14.3
2016	$20,071,281	10.7	$32,208,098	19.0	$55,669,439	24.9
Average Charge Per Patient						
2013	$14,994		$6,325		$8,165	
2014	$15,564	3.8	$7,198	13.8	$8,891	8.9
2015	$15,621	0.4	$7,352	2.1	$9,202	3.5
2016	$17,969	15.0	$8,534	16.1	$10,386	12.9
Average Charge Per Visit						
2013	$6,045		$4,671		$5,066	
2014	$6,235	3.1	$5,222	11.8	$5,496	8.5
2015	$6,665	6.9	$5,309	1.7	$5,699	3.7
2016	$7,150	7.3	$6,046	13.9	$6,329	11.1

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2013-2016.

This chapter presents data for Medicaid patients that visited the MSRMC ED.

Demographic Summary

Table 50. Demographic Summary, BH and Non-BH Medicaid Patients, Number and Percent Distribution, MSRMC ED, 2016

Category	Medicaid Patients with BH Diagnoses	% of BH Medicaid Patients	Medicaid Patients with No BH Diagnoses	% of Non-BH Medicaid Patients	All Medicaid Patients	% of All Medicaid Patients
Total Patients	1,379	100.0	5,465	100.0	6,844	100.0
Age		**% of Total**		**% of Total**		**% of Total**
Under 15 years	94	7.0	1,959	35.4	2,053	29.6
15 to 19 years	121	8.6	462	8.4	583	8.4
20 to 29 years	348	24.6	1,060	19.2	1,408	20.3
30 to 39 years	342	24.2	886	16.0	1,228	17.7
40 to 54 years	351	24.8	777	14.1	1,128	16.2
55 to 64 years	150	10.6	361	6.5	511	7.4
65 and older	7	0.5	25	0.5	32	0.5
Average age (years)	34.9		24.4		26.5	
Gender		**% of Total**		**% of Total**		**% of Total**
Female	719	52.1	2,913	53.3	3,632	53.1
Male	660	47.9	2,553	46.7	3,213	46.9
Total estimated ED facility charges*	$16,724,171		$24,576,642		$40,826,110	
Total visits	3,520		8,050		11,570	
Average # of visits/ Medicaid patient	2.55		1.47		1.69	

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. Based on patient's primary insurance. Additionally, not all categories add up to the same total due to some duplication of ages (for instance one patient may have moved to a different age range between visits to the ED) and other minor data inconsistencies or missing values. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016.

Primary Diagnosis

Table 51. Top 10 Primary BH Diagnosis, Medicaid Visits, MSRMC ED, 2016

Rank	Primary BH Diagnosis	Number of Visits	% of Total Medicaid BH Visits
1	Alcohol-related disorders	230	29.0
2	Suicide and intentional self-inflicted injury	171	21.6
3	Substance-related disorders	121	15.3
4	Anxiety disorders	92	11.6
5	Mood disorders	83	10.5
6	Schizophrenia and other psychotic disorders	47	5.9
7	Attention-deficit conduct and disruptive behavior disorders	22	2.8
8	Adjustment disorders	13	1.6
9	Disorders usually diagnosed in infancy childhood or adolescence	4	0.5
10	Delirium dementia and amnestic and other cognitive disorders	3	0.4

Note: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Table 52. Top 10 Non-BH Primary Diagnosis, Medicaid Visits, MSRMC ED, 2016

Rank	Primary Non-BH Diagnosis	Number of Visits	% of Total Medicaid Non-BH Visits
1	Abdominal pain	603	5.6
2	Other upper respiratory infections	493	4.6
3	Superficial injury; contusion	469	4.4
4	Skin and subcutaneous tissue infections	436	4.0
5	Sprains and strains	419	3.9
6	Spondylosis; intervertebral disc disorders; other back problems	338	3.1
7	Open wounds of extremities	291	2.7
8	Nonspecific chest pain	276	2.6
9	Nausea and vomiting	272	2.5
10	Urinary tract infections	271	2.5

Note: A visit is defined as a non-BH visit if no BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Under Age 19

Table 53. Top Five Primary Diagnoses, By Gender, Medicaid Patients Under Age 19, MSRMC ED, 2016

Rank	Female Patients	#of Visits	% of Visits	Male Patients	# of Visits	% of Visits
1	Other upper respiratory infections	156	9.1	Other upper respiratory infections	160	8.8
2	Superficial injury; contusion	88	5.1	Superficial injury; contusion	113	6.2
3	Abdominal pain	74	4.3	Open wounds of head; neck; and trunk	98	5.4
4	Fever of unknown origin	68	4.0	Otitis media and related conditions	80	4.4
5	Sprains and strains	64	3.7	Fever of unknown origin	76	4.2
Total Visits		1,709			1,828	

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

High-Utilizers

Table 54. High-Utilizers, Number of Visits, by Type of High-Utilizer, Medicaid Patients, MSRMC ED, 2016

Utilizer Group	# of BH High-Utilizers	% of BH High-Utilizers	# of Non-BH High-Utilizers	% of Non-BH High-Utilizers	# of High-Utilizers	% of All High-Utilizers
High-Utilizers (5+ visits)	171	79.2	128	90.1	299	83.5
Super-Utilizers (10+) and Ultra-Utilizers (15+)	45	20.8	14	9.9	59	16.5
Total	**216**	**100.0**	**142**	**100.0**	**358**	**100.0**

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or all listed BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or all listed BH diagnoses.
Source: MSRMC ED Dataset, 2016

Discharge Disposition

Table 55. Discharges, Admissions, and Transfers, Medicaid BH and Non-BH Patients, MSRMC ED, 2016

Category	Medicaid Patients with BH Diagnoses	% of BH Medicaid Visits Admitted	Medicaid Patients with No BH Diagnoses	% of Non-BH Medicaid Visits Admitted	All Medicaid Patients	% of All Medicaid Visits Admitted
Visits discharged home	1,308	64.5	8,833	92.6	10,141	87.6
Visits admitted to MSRMC	454	22.4	344	3.6	798	6.9
Visits transferred/left against advice/deceased	266	13.1	364	3.8	630	3.2
Total Visits	**2,028**	**100.0**	**9,542**	**100.0**	**11,570**	**100.0**

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or secondary BH diagnoses.
Due to rounding, some columns may not add to 100 percent.
Source: MSRMC ED Dataset, 2016

Estimated ED Facility Charges

Table 56. Patients, Visits and Estimated ED Facility Charges, Medicaid Patients, MSRMC ED, 2016

Category	Medicaid Patients with BH Diagnosis	Medicaid Patients with No BH Diagnosis	All Medicaid Patients
Total patients	1,379	5,465	6,844
Total visits	3,520	8,050	11,570
Total estimated ED facility charges*	$16,724,171	$24,576,642	$40,826,110
Visits/patient	2.55	1.47	1.69
Estimated ED facility charge/visit	$4,751	$3,053	$3,529
Estimated ED facility charge/patient	$12,128	$4,497	$5,965

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or all listed BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

2013-2016 Trends

Table 57. BH and Non-BH Medicaid Patients and Visits, Number and Percent Distribution, MSRMC ED, 2013-2016

Category	Medicaid Patients with BH Diagnoses	% Annual Change	Medicaid Patients with No BH Diagnoses	% Annual Change	All Medicaid Patients	% Annual Change
Patients						
2013	630		3,591		4,221	
2014	598	-5.1	3,640	1.4	4,238	0.4
2015	926	54.8	3,913	7.5	4,839	14.2
2016	1,379	48.9	5,465	39.7	6,844	41.4
Visits						
2013	1,760		5,398		7,158	
2014	1,627	-7.6	5,533	2.5	7,160	0.0
2015	2,175	33.7	5,832	5.4	8,007	11.8
2016	3,520	61.8	8,050	38.0	11,570	44.5
Average Number of Visits Per Patient						
2013	2.79		1.5		1.7	
2014	2.72	-2.5	1.52	1.3	1.69	-0.6
2015	2.35	-13.6	1.49	-2.0	1.65	-2.4
2016	2.55	8.5	1.47	-1.3	1.69	2.4
Total Estimated ED Facility Charges						
2013	$6,019,716		$11,142,050		$17,003,793	
2014	$6,054,293	0.6	$13,095,316	17.5	$18,997,564	11.7
2015	$9,114,733	50.5	$15,480,000	18.2	$24,337,621	28.1
2016	$16,724,171	83.5	$24,576,642	58.8	$40,826,110	67.7
Average Charge Per Patient						
2013	$9,555		$3,103		$4,028	
2014	$10,124	6.0	$3,598	15.9	$4,483	11.3
2015	$9,843	-2.8	$3,956	10.0	$5,029	12.2
2016	$12,128	23.2	$4,497	13.7	$5,965	18.6
Average Charge Per Visit						
2013	$3,420		$2,064		$2,375	
2014	$3,721	8.8	$2,367	14.7	$2,653	11.7
2015	$4,191	12.6	$2,654	12.1	$3,040	14.6
2016	$4,751	13.4	$3,053	15.0	$3,529	16.1

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2013-2016.

This chapter presents data for Medicare patients that visited the MSRMC ED.

Demographic Summary

**Table 58. Demographic Summary, BH and Non-BH Medicare Patients,
Number and Percent Distribution, MSRMC ED, 2016**

Category	Medicare Patients with BH Diagnoses	% of BH Medicare Patients	Medicare Patients with No BH Diagnoses	% of Non-BH Medicare Patients	All Medicare Patients	% of All Medicare Patients
Total Patients	**881**	**100.0**	**2,344**	**100.0**	**3,225**	**100.0**
Age		**% of Total**		**% of Total**		**% of Total**
Under 15 years	0	0.0	0	0.0	0	0.0
15 to 19 years	0	0.0	0	0.0	0	0.0
20 to 29 years	21	2.3	29	1.2	50	1.5
30 to 39 years	48	5.3	58	2.4	106	3.2
40 to 54 years	105	11.6	149	6.3	254	7.8
55 to 64 years	147	16.2	228	9.6	375	11.5
65 to 74 years	271	29.9	1,095	46.2	1,366	41.7
75 to 84 years	182	20.1	573	24.2	755	23.1
85 years and older	131	14.5	236	10.0	367	11.2
Average age (Years)	67.4		69.9		69.3	
Gender		**% of Total**		**% of Total**		**% of Total**
Female	504	57.2	1,261	54	1,765	54.7
Male	377	42.8	1,083	46	1,460	45.3
Total estimated ED facility charges*	$15,490,487		$21,133,109		$36,404,986	
Total visits	2,355		3,555		5,910	
Average # of visits/Medicare patient	2.67		1.52		1.83	

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. Based on patient's primary insurance. Additionally, not all categories add up to the same total due to some duplication of ages (for instance one patient may have moved to a different age range between visits to the ED) and other minor data inconsistencies or missing values. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016.
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Primary Diagnosis

Table 59. Top 10 BH Primary Diagnosis, Medicare Patients, MSRMC ED, 2016

Rank	Primary BH Diagnosis	Number of Visits	% of Total Medicare BH Visits
1	Alcohol-related disorders	37	17.5
2	Suicide and intentional self-inflicted injury	31	14.7
3	Anxiety disorders	29	13.7
4	Delirium dementia and amnestic and other cognitive disorders	28	13.3
5	Substance-related disorders	27	12.8
6	Schizophrenia and other psychotic disorders	26	12.3
7	Mood disorders	16	7.6
8	Miscellaneous mental health disorders	6	2.8
9	Adjustment disorders	5	2.4
10	Attention-deficit conduct and disruptive behavior disorders	*	*
10	Impulse control disorders NEC	*	*

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
* indicates suppression of data due to confidentiality.
Source: MSRMC ED Dataset, 2016

Table 60. Top 10 Non-BH Primary Diagnosis, Medicare Patients, MSRMC ED, 2016

Rank	Primary Non-BH Diagnosis	Number of Visits	% of Total Medicare Non-BH Visits
1	Nonspecific chest pain	288	5.1
2	Urinary tract infections	232	4.1
3	Chronic obstructive pulmonary disease and bronchiectasis	207	3.6
4	Abdominal pain	170	3.0
5	Cardiac dysrhythmias	165	2.9
6	Superficial injury; contusion	164	2.9
7	Spondylosis; intervertebral disc disorders; other back problems	163	2.9
8	Skin and subcutaneous tissue infections	161	2.8
9	Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	155	2.7
10	Septicemia (except in labor)	134	2.4

Note: A visit is defined as a non-BH visit if no BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

High-Utilizers

Table 61. High-Utilizers, Number of Visits, by Type of High-Utilizer, Medicare Patients, MSRMC ED, 2016

Utilizer Group	# of BH High-Utilizers	% of All BH Medicare High-Utilizers	# of Non-BH High-Utilizers	% of All Non-BH Medicare High-Utilizers	# of High-Utilizers	% of All Medicare High-Utilizers
High-Utilizers (5+ visits)	36	76.6	143	91.7	179	88.2
Super-Utilizers (10+) and Ultra-Utilizers (15+)	11	23.4	13	8.3	24	11.8
Total	**47**	**100.0**	**156**	**100.0**	**203**	**100.0**

Source: MSRMC ED Dataset, 2016

Discharge Disposition

Table 62. Discharges, Admissions, and Transfers, Medicare BH and Non-BH Patients, MSRMC ED, 2016

Category	Medicare Patients with BH Diagnoses	% of BH Medicare Visits Admitted	Medicare Patients with No BH Diagnoses	% of Non-BH Medicare Visits Admitted	All Medicare Patients	% of All Medicare Visits Admitted
Visits discharged home	553	39.5	3,607	80.0	4,160	70.4
Visits admitted to MSRMC	745	53.3	686	15.2	1,431	24.2
Visits transferred/left against advice/deceased	99	7.1	213	4.7	312	5.3
Total Visits	**1,399**	**100.0**	**4,511**	**100.0**	**5,910**	**100.0**

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or secondary BH diagnoses.
Due to rounding, some columns may not add to 100 percent.
Source: MSRMC ED Dataset, 2016

Estimated ED Facility Charges

Table 63. Patients, Visits and Estimated ED Facility Charges, Medicare Patients, MSRMC ED, 2016

Category	Medicare Patients with BH Diagnosis	Medicare Patients with No BH Diagnosis	All Medicare Patients
Total patients	881	2,344	3,225
Total visits	2,355	3,555	5,910
Total estimated ED facility charges*	$15,490,487	$21,133,109	$36,404,986
Visits/patient	2.67	1.52	1.83
Estimated ED facility charge/visit	$6,578	$5,945	$6,160
Estimated ED facility charge/patient	$17,583	$9,016	$11,288

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or all listed BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or all listed BH diagnoses.
MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

2013-2016 Trends

Table 64. BH and Non-BH Medicare Patients and Visits, Number and Percent Distribution, MSRMC ED, 2013-2016

Category	Medicare Patients with BH Diagnoses	% Annual Change	Medicare Patients with No BH Diagnoses	% Annual Change	All Medicare Patients	% Annual Change
Patients						
2013	729		1,896		2,625	
2014	760	4.3	1,975	4.2	2,735	4.2
2015	903	18.8	2,065	4.6	2,968	8.5
2016	881	-2.4	2,344	13.5	3,225	8.7
Visits						
2013	1,976		2,789		4,765	
2014	2,220	12.3	2,933	5.2	5,153	8.1
2015	2,505	12.8	3,111	6.1	5,616	9.0
2016	2,355	-6.0	3,555	14.3	5,910	5.2
Average Number of Visits Per Patient						
2013	2.71		1.47		1.82	
2014	2.92	7.7	1.49	1.4	1.88	3.3
2015	2.77	-5.1	1.51	1.3	1.89	0.5
2016	2.67	-3.6	1.52	0.7	1.83	-3.2
Total Estimated ED Facility Charges						
2013	$11,242,004		$12,739,359		$23,660,032	
2014	$12,443,875	10.7	$15,214,007	19.4	$27,560,631	16.5
2015	$14,819,407	19.1	$16,278,959	7.0	$30,933,701	12.2
2016	$15,490,487	4.5	$21,133,109	29.8	$36,404,986	17.7
Average Charge Per Patient						
2013	$15,421		$6,719		$9,013	
2014	$16,374	6.2	$7,703	14.6	$10,077	11.8
2015	$16,411	0.2	$7,883	2.3	$10,422	3.4
2016	$17,583	7.1	$9,016	14.4	$11,288	8.3
Average Charge Per Visit						
2013	$5,689		$4,568		$4,965	
2014	$5,605	-1.5	$5,187	13.6	$5,348	7.7
2015	$5,916	5.5	$5,233	0.9	$5,508	3.0
2016	$6,578	11.2	$5,945	13.6	$6,160	11.8

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2013-2016.

This chapter presents data for self-paid insured patients that visited the MSRMC ED.

Demographic Summary

Table 65. Demographic Summary, BH and Non-BH Self-Pay Patients,
Number and Percent Distribution, MSRMC ED, 2016

Category	Self-Pay Patients with BH Diagnoses	% of Total	Self-Pay Patients with No BH Diagnoses	% of Total	All Self-Pay Patients	% of Total
Total Patients	**237**	**100.0**	**896**	**100.0**	**1,133**	**100.0**
Age		**% of Total**		**% of Total**		**% of Total**
0 to 19 years	12	5.0	165	18.4	177	15.6
20 to 29 years	69	28.9	259	28.9	328	28.9
30 to 39 years	67	28.0	196	21.9	263	23.2
40 to 54 years	72	30.1	187	20.8	259	22.8
55 years and older	19	7.9	90	10.0	109	9.6
Average age (years)	36.7		32.3		33.2	
Gender		**% of Total**		**% of Total**		**% of Total**
Female	101	42.6	408	45.5	509	44.9
Male	136	57.4	488	54.5	624	55.1
Total estimated ED facility charges*	$426,317		$4,268,033		$4,693,559	
Total visits	341		1,047		1,388	
Average # of visits/Self-Pay patient	1.44		1.17		1.23	

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. Based on patient's primary insurance. Due to rounding, some columns may not add to 100 percent. Additionally, not all categories add up to the same total due to some duplication of ages (for instance one patient may have moved to a different age range between visits to the ED) and other minor data inconsistencies or missing values. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016.

Primary Diagnosis

Table 66. Top 10 BH Primary Diagnosis, Self-Pay Patients, MSRMC ED, 2016

Rank	Primary BH Diagnosis	Number of Visits	% of Total Self-Pay BH Visits
1	Alcohol-related disorders	47	45.6
2	Substance-related disorders	21	20.4
3	Suicide and intentional self-inflicted injury	18	17.5
4	Mood disorders	9	8.7
5	Anxiety disorders	3	2.9
6	Schizophrenia and other psychotic disorders	2	1.9
7	Adjustment disorders	1	1.0
8	Delirium dementia and amnestic and other cognitive disorders	1	1.0
9	Miscellaneous mental health disorders	1	1.0
10	Alcohol-related disorders	47	45.6

Note: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Table 67. Top 10 Non-BH Primary Diagnosis, Self-Pay Patients, MSRMC ED, 2016

Rank	Primary Non-BH Diagnosis	Number of Visits	% of Total Self-Pay Non-BH Visits
1	Administrative/social admission	99	7.7
2	Skin and subcutaneous tissue infections	75	5.8
3	Open wounds of extremities	60	4.7
4	Superficial injury; contusion	57	4.4
5	Sprains and strains	55	4.3
6	Abdominal pain	52	4.0
7	Disorders of teeth and jaw	49	3.8
8	Nausea and vomiting	39	3.0
9	Open wounds of head; neck; and trunk	39	3.0
10	Other upper respiratory infections	39	3.0
10	Administrative/social admission	99	7.7

Note: A visit is defined as a non-BH visit if no BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Under Age 19

Table 68. Top Five Primary Diagnoses, By Gender, Self-Pay Patients Under Age 19, MSRMC ED, 2016

Rank	Female Patients	#of Visits	% of Visits	Male Patients	# of Visits	% of Visits
1	Administrative/social admission	8	9.4	Other upper respiratory infections	9	10.6
2	Nausea and vomiting	6	7.1	Superficial injury; contusion	9	10.6
3	Open wounds of head; neck; and trunk	6	7.1	Open wounds of head; neck; and trunk	7	8.2
4	Other upper respiratory infections	6	7.1	Administrative/social admission	5	5.9
5	Superficial injury; contusion	6	7.1	Residual codes; unclassified	4	4.7
5	Urinary tract infections	6	7.1			
Total Visits		85			85	

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic fields during the visit.
Source: MSRMC ED Dataset, 2016

High-Utilizers

Table 69. High-Utilizers, Number of Visits, by Type of High-Utilizer, Self-Pay Patients, MSRMC ED, 2016

Utilizer Group	# of BH High-Utilizers	% of All Self-Pay BH High-Utilizers	# of Non-BH High-Utilizers	% of All Self-Pay Non-BH High-Utilizers	# of All High-Utilizers	% of All Self-Pay High-Utilizers
High-Utilizers (5+ visits), Super-Utilizers (10+), and Ultra-Utilizers (15+)	24	54.5	20	45.5	44	100.0
Total	**24**	**100.0**	**20**	**100.0**	**44**	**100.0**

Source: MSRMC ED Dataset, 2016

Discharge Disposition

Table 70. Discharges, Admissions, and Transfers, Self-Pay BH and Non-BH Patients, MSRMC ED, 2016

Category	Self-Pay Patients with BH Diagnoses	% of Self-Pay BH Visits Admitted	Self-Pay Patients with No BH Diagnoses	% of Self-Pay Non-BH Visits Admitted	All Self-Pay Patients	% of All Self-Pay Visits Admitted
Visits discharged home	168	70.6	1,013	88.1	1,181	85.1
Visits admitted to MSRMC	37	15.5	42	3.7	79	5.7
Visits transferred/left against advice/deceased	33	13.9	94	8.2	127	9.2
Total Visits	**238**	**100.0**	**1,150**	**100.0**	**1,388**	**100.0**

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or secondary BH diagnoses.
Source: MSRMC ED Dataset, 2016

Estimated ED Facility Charges

Table 71. Patients, Visits and ED Facility Charges, Self-Pay BH Patients, MSRMC ED, 2016

Category	Self-Pay Patients with BH Diagnosis	Self-Pay Patients with No BH Diagnosis	All Self-Pay Patients
Total patients	237	896	1,133
Total visits	341	1,047	1,388
Total estimated ED facility charges*	$426,317	$4,268,033	$4,693,559
Visits/patient	1.44	1.17	1.23
Estimated ED facility charge/visit	$3,135	$3,639	$3,586
Estimated ED facility charge/patient	$1,799	$4,763	$4,143

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or all listed BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

2013-2016 Trends

Table 72. BH and Non-BH Self-Pay Patients and Visits, Number and Percent Distribution, MSRMC ED, 2013-2016

Category	Self-Pay Patients with BH Diagnoses	% Annual Change	Self-Pay Patients with No BH Diagnoses	% Annual Change	All Self-Pay Patients	% Annual Change
Patients						
2013	589		2,014		2,603	
2014	585	-0.7	1,913	-5.0	2,498	-4.0
2015	567	-3.1	1,707	-10.8	2,274	-9.0
2016	237	-58.2	896	-47.5	1,133	-50.2
Visits						
2013	1,279		2,773		4,052	
2014	1,289	0.8	2,680	-3.4	3,969	-2.0
2015	1,093	-15.2	2,284	-14.8	3,377	-14.9
2016	341	-68.8	1,047	-54.2	1,388	-58.9
Average Number of Visits Per Patient						
2013	2.17		1.38		1.56	
2014	2.2	1.4	1.40	1.4	1.59	1.9
2015	1.93	-12.3	1.34	-4.3	1.49	-6.3
2016	1.44	-25.4	1.17	-12.7	1.23	-17.4
Total Estimated ED Facility Charges						
2013	$1,889,084		$9,786,815		$11,677,699	
2014	$1,883,793	-0.3	$10,002,542	2.2	$11,888,598	1.8
2015	$1,628,869	-13.5	$9,391,031	-6.1	$11,020,208	-7.3
2016	$426,317	-73.8	$4,268,033	-54.6	$4,693,559	-57.4
Average Charge Per Patient						
2013	$3,207		$4,859		$4,486	
2014	$3,220	0.4	$5,229	7.6	$4,759	6.1
2015	$2,873	-10.8	$5,501	5.2	$4,846	1.8
2016	$1,799	-37.4	$4,763	-13.4	$4,143	-14.5
Average Charge Per Visit						
2013	$3,840		$3,009		$3,119	
2014	$3,554	-7.4	$3,196	6.2	$3,248	4.1
2015	$3,533	-0.6	$3,468	8.5	$3,478	7.1
2016	$3,135	-11.3	$3,639	4.9	$3,586	3.1

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2013-2016.

This chapter presents data for Tricare insured patients that visited the MSRMC ED.

Demographic Summary

**Table 73. Demographic Summary, BH and Non-BH Tricare Patients,
Number and Percent Distribution, MSRMC ED, 2016**

Category	Tricare Patients with BH Diagnoses	% of Total	Tricare Patients with No BH Diagnoses	% of Total	All Tricare Patients	% of Total
Total Patients	**111**	**100.0**	**1,077**	**100.0**	**1,188**	**100.0**
Age		**% of Total**		**% of Total**		**% of Total**
Under 15 years	18	15.8	405	37.4	423	35.3
15 to 19 years	19	16.7	104	9.6	123	10.3
20 to 29 years	25	21.9	165	15.2	190	15.9
30 to 39 years	17	14.9	171	15.8	188	15.7
40 to 54 years	24	21.1	193	17.8	217	18.1
55 years and older	11	9.6	46	4.2	57	4.8
Average age (years)	30.6		24.1		24.7	
Gender		**% of Total**		**% of Total**		**% of Total**
Female	58	52.3	559	51.9	617	51.9
Male	53	47.7	518	48.1	571	48.1
Total estimated ED facility charges	$1,059,193		$4,458,807		$5,484,497	
Total visits	217		1,452		1,669	
Average # of visits/Tricare patient	1.95		1.35		1.40	

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. Based on patient's primary insurance. Due to rounding, some columns may not add to 100 percent. Additionally, not all categories add up to the same total due to some duplication of ages (for instance one patient may have moved to a different age range between visits to the ED) and other minor data inconsistencies or missing values. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016.

Primary Diagnosis

Table 74. Top 3 BH Primary Diagnosis, Tricare Patients, MSRMC ED, 2016

Rank	Primary BH Diagnosis	Number of Visits	% of Total Tricare BH Visits
1	Alcohol-related disorders	11	26.8
2	Suicide and intentional self-inflicted injury	9	22.0
3	Mood disorders	8	19.5

Note: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Table 75. Top 10 Non-BH Primary Diagnosis, Tricare Patients, MSRMC ED, 2016

Rank	Primary Non-BH Diagnosis	Number of Visits	% of Total Tricare Non-BH Visits
1	Other upper respiratory infections	121	7.4
2	Superficial injury; contusion	85	5.2
3	Sprains and strains	81	5.0
4	Open wounds of extremities	78	4.8
5	Abdominal pain	77	4.7
6	Open wounds of head; neck; and trunk	58	3.6
7	Nausea and vomiting	54	3.3
8	Nonspecific chest pain	51	3.1
9	Headache; including migraine	50	3.1
10	Spondylosis; intervertebral disc disorders; other back problems	45	2.8

Note: A visit is defined as a non-BH visit if no BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Under Age 19

Table 76. Top Five Primary Diagnoses, By Gender, Tricare Patients Under Age 19, MSRMC ED, 2016

Rank	Female Patients	#of Visits	% of Visits	Male Patients	# of Visits	% of Visits
1	Sprains and strains	26	7.9	Other upper respiratory infections	42	11.8
2	Other upper respiratory infections	25	7.6	Superficial injury; contusion	32	9.0
3	Superficial injury; contusion	24	7.3	Open wounds of head; neck; and trunk	22	6.2
4	Fever of unknown origin	20	6.1	Open wounds of extremities	20	5.6
5	Open wounds of head; neck; and trunk	19	5.8	Otitis media and related conditions	20	5.6
Total Visits		328			357	

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

High-Utilizers

Table 77. High-Utilizers, Number of Visits, by Type of High-Utilizer, Tricare Patients, MSRMC ED, 2016

Utilizer Group	# of BH High-Utilizers	% of All High-Utilizers	# of Non-BH High-Utilizers	% of All High-Utilizers	# of High-Utilizers	% of All High-Utilizers
High-Utilizers (5+ visits)/ Super-Utilizers (10+)/ Ultra-Utilizers (15+)	11	45.8	13	54.2	24	100.0
Total	**11**	**45.8**	**13**	**54.2**	**24**	**100.0**

Source: MSRMC ED Dataset, 2016

Discharge Disposition

Table 78. Discharges, Admissions, and Transfers, Tricare BH and Non-BH Patients, MSRMC ED, 2016

Category	Tricare Patients with BH Diagnoses	% of Total	Tricare Patients with No BH Diagnoses	% of Total	All Tricare Patients	% of Total
Visits discharged home	91	68.9	1,471	95.7	1,562	93.6
Visits admitted to MSRMC	22	16.7	36	2.3	31	1.9
Visits transferred/left against advice/deceased	18	13.6	29	1.9	47	2.8
Total Visits	**132**	**100.0**	**1,537**	**100.0**	**1,669**	**100.0**

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or secondary BH diagnoses.
Due to rounding, some columns may not add to 100 percent.
Source: MSRMC ED Dataset, 2016

Estimated ED Facility Charges

Table 79. Patients, Visits and ED Facility Charges, Tricare Patients, MSRMC ED, 2016

Category	Tricare Patients with BH Diagnosis	Tricare Patients with No BH Diagnosis	All Tricare Patients
Total patients	111	1,077	1,188
Total visits	217	1,452	1,669
Total estimated ED facility charges	$1,059,193	$4,458,807	$5,484,497
Visits/patient	1.95	1.35	1.40
Estimated ED facility charge/visit	$4,881	$3,071	$3,286
Estimated ED facility charge/patient	$9,542	$4,140	$4,617

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or all listed BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

2013-2016 Trends

Table 80. BH and Non-BH Tricare Patients and Visits, Number and Percent Distribution, MSRMC ED, 2013-2016

Category	Tricare Patients with BH Diagnoses	% Annual Change	Tricare Patients with No BH Diagnoses	% Annual Change	All Tricare Patients	% Annual Change
Patients						
2013	80		1,012		1,092	
2014	116	45.0	1,076	6.3	1,192	9.2
2015	131	12.9	947	-12.0	1,078	-9.6
2016	111	-15.3	1,077	13.7	1,188	10.2
Visits						
2013	164		1423		1587	
2014	203	23.8	1453	2.1	1656	4.3
2015	228	12.3	1232	-15.2	1460	-11.8
2016	217	-4.8	1452	17.9	1669	14.3
Average Number of Visits Per Patient						
2013	2.05		1.41		1.45	
2014	1.75	-14.6	1.35	-4.3	1.39	-4.1
2015	1.74	-0.6	1.3	-3.7	1.35	-2.9
2016	1.95	12.1	1.35	3.8	1.4	3.7
Total Estimated ED Facility Charges						
2013	$524,983		$3,013,962		$3,530,441	
2014	$749,629	42.8	$3,395,641	12.7	$4,117,770	16.6
2015	$925,371	23.4	$3,134,763	-7.7	$4,052,843	-1.6
2016	$1,059,193	14.5	$4,458,807	42.2	$5,484,497	35.3
Average Charge Per Patient						
2013	$6,562		$2,978		$3,233	
2014	$6,462	-1.5	$3,156	6.0	$3,455	6.9
2015	$7,064	9.3	$3,310	4.9	$3,760	8.8
2016	$9,542	35.1	$4,140	25.1	$4,617	22.8
Average Charge Per Visit						
2013	$3,201		$2,118		$2,225	
2014	$3,693	15.4	$2,337	10.3	$2,487	11.8
2015	$4,059	9.9	$2,544	8.9	$2,776	11.6
2016	$4,881	20.3	$3,071	20.7	$3,286	18.4

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2013-2016.
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This chapter presents data for private insured patients that visited the MSRMC ED.

Demographic Summary

Table 81. Demographic Summary, BH and Non-BH Private Insurance Patients, Number and Percent Distribution, MSRMC ED, 2016

Category	Private Insurance Patients with BH Diagnoses	% of Private Insurance BH Patients	Private Insurance Patients with No BH Diagnoses	% of Private Insurance Non-BH Patients	All Private Insurance Patients	% of All Private Insurance Patients
Total Patients	**811**	**100.0**	**5,674**	**100.0**	**6,485**	**100.0**
Age		**% of Total**		**% of Total**		**% of Total**
Under 15 years	56	6.9	1,194	21.0	1,250	19.2
15 to 19 years	104	12.7	441	7.8	545	8.4
20 to 29 years	170	20.8	877	15.4	1,047	16.1
30 to 39 years	130	15.9	792	13.9	922	14.2
40 to 54 years	188	23.0	1,201	21.1	1,389	21.3
55 to 64 years	135	16.5	970	17.1	1,105	17.0
65 to 74 years	26	3.2	175	3.1	201	3.1
75 years and older	8	1.0	39	0.7	47	0.6
Average age (years)	37.0		34.1		34.4	
Gender		**% of Total**		**% of Total**		**% of Total**
Female	481	59.3	3,004	52.9	3,485	53.7
Male	330	40.7	2,671	47.1	3,001	46.3
Total estimated ED facility charges	$7,369,035		$28,975,923		$36,225,365	
Total visits	1,466		6,958		8,424	
Average # of visits/Private Insurance patient	1.81		1.23		1.30	

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. Based on patient's primary insurance. Not all categories add up to the same total due to some duplication of ages (for instance one patient may have moved to a different age range between visits to the ED) and other minor data inconsistencies or missing values. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016.

Primary Diagnosis

Table 82. Top 10 BH Primary Diagnosis, Private Insurance Visits, MSRMC ED, 2016

Rank	Primary BH Diagnosis	Number of Visits	% of Total Private Insurance BH Visits
1	Alcohol-related disorders	78	24.8
2	Suicide and intentional self-inflicted injury	68	21.7
3	Anxiety disorders	55	17.5
4	Mood disorders	41	13.1
5	Substance-related disorders	35	11.1
6	Adjustment disorders	11	3.5
7	Schizophrenia and other psychotic disorders	9	2.9
8	Attention-deficit conduct and disruptive behavior disorders	7	2.2
9	Miscellaneous mental health disorders	*	*
10	Delirium dementia and amnestic and other cognitive disorders	*	*

Note: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
* indicates data has been suppressed due to confidentiality.
Source: MSRMC ED Dataset, 2016

Table 83. Top 10 Non-BH Primary Diagnosis, Private Insurance Visits, MSRMC ED, 2016

Rank	Primary Non-BH Diagnosis	Number of Visits	% of Total Private Insurance Non-BH Visits
1	Abdominal pain	475	5.9
2	Nonspecific chest pain	392	4.8
3	Open wounds of extremities	336	4.1
4	Superficial injury; contusion	324	4.0
5	Sprains and strains	303	3.7
6	Other upper respiratory infections	298	3.7
7	Spondylosis; intervertebral disc disorders; other back problems	228	2.8
8	Skin and subcutaneous tissue infections	206	2.5
9	Open wounds of head; neck; and trunk	199	2.5
10	Headache; including migraine	192	2.4

Note: A visit is defined as a non-BH visit if no BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

Under Age 19

Table 84. Top Primary Diagnoses, By Gender, Private Insurance Patients Under Age 19, MSRMC ED, 2016

Rank	Female Patients	#of Visits	% of Visits	Male Patients	# of Visits	% of Visits
1	Other upper respiratory infections	54	5.9	Superficial injury; contusion	88	8.0
2	Abdominal pain	53	5.7	Open wounds of head; neck; and trunk	82	7.5
3	Sprains and strains	48	5.2	Other upper respiratory infections	77	7.0
4	Open wounds of head; neck; and trunk	43	4.7	Open wounds of extremities	65	5.9
5	Superficial injury; contusion	43	4.7	Fracture of upper limb	61	5.6
Total Visits		923			1,099	

Notes: A visit is defined as a BH visit if a BH diagnosis appears in the primary diagnostic field during the visit.
Source: MSRMC ED Dataset, 2016

High Utilizers

Table 85. High-Utilizers, Number of Visits, by Type of High-Utilizer, Private Insurance Patients, MSRMC ED, 2016

Utilizer Group	# of BH High-Utilizers	% of BH High-Utilizers	# of Non-BH High-Utilizers	% of Non-BH High-Utilizers	# of High-Utilizers	% of All High-Utilizers
High-Utilizers (5+ visits), Super-Utilizers (10+), and Ultra-Utilizers (15+)	76	100.0	47	100.0	123	100.0
Total	**76**	**100.0**	**47**	**100.0**	**123**	**100.0**

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or all listed BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or all listed BH diagnoses.
Source: MSRMC ED Dataset, 2016

Discharge Disposition

Table 86. Discharges, Admissions, and Transfers, Private Insurance BH and Non-BH Patients, MSRMC ED, 2016

Category	Private Insurance Patients with BH Diagnoses	% of Private Insurance BH Visits Admitted	Private Insurance Patients with No BH Diagnoses	% of Private Insurance Non-BH Visits Admitted	All Private Insurance Patients	% of All Private Insurance Visits Admitted
Visits discharged home	637	68.9	6,832	91.1	7,469	88.7
Visits admitted to MSRMC	215	23.2	447	6.0	662	7.9
Visits transferred/left against advice/deceased	73	7.9	219	2.9	292	3.4
Total Visits	**925**	**100.0**	**7,499**	**100.0**	**8,424**	**100.0**

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or secondary BH diagnoses.
Source: MSRMC ED Dataset, 2016

Estimated ED Facility Charge

Table 87. Patients, Visits and Estimated ED Facility Charges, Private Insurance BH Patients, MSRMC ED, 2016

Category	Private Insurance Patients with BH Diagnosis	Private Insurance Patients with No BH Diagnosis	All Private Insurance Patients
Total patients	811	5674	6485
Total visits	1466	6958	8424
Total estimated ED facility charges*	$7,369,035	$28,975,923	$36,225,365
Visits/patient	1.81	1.23	1.30
Estimated ED facility charge/visit	$5,027	$4,164	$4,300
Estimated ED facility charge/patient	$9,086	$5,107	$5,586

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. A non-BH patient is an individual who had no visits in 2016 associated with either a primary or all listed BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2016

2013-2016 Trends

Table 88. BH and Non-BH Private Insurance Patients and Visits, Number and Percent Distribution, MSRMC ED, 2013-2016

Category	Private Insurance Patients with BH Diagnoses	% Annual Change	Private Insurance Patients with No BH Diagnoses	% Annual Change	All Private Insurance Patients	% Annual Change
Patients						
2013	783		4,945		5,729	
2014	719	-8.2	5,025	1.6	5,744	0.3
2015	923	28.4	5,442	8.3	6,365	10.8
2016	811	-12.1	5,674	4.3	6,485	1.9
Visits						
2013	1,372		6,010		7,382	
2014	1,351	-1.5	6,119	1.8	7,470	1.2
2015	1,688	24.9	6,619	8.2	8,307	11.2
2016	1,466	-13.2	6,958	5.1	8,424	1.4
Average Number of Visits Per Patient						
2013	1.75		1.22		1.29	
2014	1.88	7.4	1.22	0.0	1.30	0.8
2015	1.83	-2.7	1.22	0.0	1.31	0.8
2016	1.81	-1.1	1.23	0.8	1.3	-0.8
Total Estimated ED Facility Charges						
2013	$5,890,509		$17,782,893		$23,491,384	
2014	$6,060,189	2.9	$21,283,149	19.7	$27,197,403	15.8
2015	$7,833,237	29.3	$25,058,806	17.7	$32,754,086	20.4
2016	$7,369,035	-5.9	$28,975,923	15.6	$36,225,365	10.6
Average Charge Per Patient						
2013	$7,523		$3,596		$4,100	
2014	$8,429	12.0	$4,235	17.8	$4,735	15.5
2015	$8,487	0.7	$4,605	8.7	$5,146	8.7
2016	$9,086	7.1	$5,107	10.9	$5,586	8.6
Average Charge Per Visit						
2013	$4,293		$2,959		$3,182	
2014	$4,486	4.5	$3,478	17.5	$3,641	14.4
2015	$4,641	3.5	$3,786	8.9	$3,943	8.3
2016	$5,027	8.3	$4,164	10.0	$4,300	9.1

Notes: A BH patient is an individual who had at least one visit during 2016 associated with either a primary or secondary BH diagnoses. MSRMC ED facility charges are estimates and exclude physicians' costs.
Source: MSRMC ED Dataset, 2013-2016.

Appendix A: AHRQ Clinical Classification Software Codes of BH Diagnoses

Table 89. Clinical Classification Software (CCS) Grouping of ICD 9 and ICD 10 Codes for Behavioral Health

Code	Description	ICD9 Codes	ICD-10 Codes
Mental Health CCS Groups			
0650	Adjustment disorders	3090, 3091, 30922, 30923, 30924, 30928, 30929, 3093, 3094, 30982, 30983, 30989, 3099	F4320, F4321, F4322, F4323, F4324, F4325, F4329, F438, F439
0651	Anxiety disorders	29384, 30000, 30001, 30002, 30009, 30010, 30020, 30021, 30022, 30023, 30029, 3003, 3005, 30089, 3009, 3080, 3081, 3082, 3083, 3084, 3089, 30981, 3130, 3131, 31321, 31322, 3133, 31382, 31383	F064, F4000, F4001, F4002, F4010, F4011, F40210, F40218, F40220, F40228, F40230, F40231, F40232, F40233, F40240, F40241, F40242, F40243, F40248, F40290, F40291, F40298, F408, F409, F410, F411, F413 F418, F419, F42, F422, F423, F424, F428, F429, F430, F4310, F4311, F4312, F488, F489, R452, R453, R454, R455, R456, R457, R4581, R4582, R4583, R4584
0652	Attention-deficit, conduct, and disruptive behavior disorders	31200, 31201, 31202, 31203, 31210, 31211, 31212, 31213, 31220, 31221, 31222, 31223, 3124, 3128, 31281, 31282, 31289, 3129, 31381, 31400, 31401, 3141, 3142, 3148, 3149	F900, F901, F902, F908, F909, F910, F911, F912, F913, F918, F919, R460, R461, R462, R463, R464, R465, R466, R467, R4681, R4689
0653	Delirium, dementia, and amnestic and other cognitive disorders	2900, 29010, 29011, 29012, 29013, 29020, 29021, 2903, 29040, 29041, 29042, 29043, 2908, 2909, 2930, 2931, 2940, 2941, 29410, 29411, 29420, 29421, 2948, 2949, 3100, 3102, 3108, 31081, 31089, 3109, 3310, 3311, 33111, 33119, 3312, 33182, 797	F0150, F0151, F0280, F0281, F0390, F0391, F04, F05, F070, F0781, F0789, F079, F09, F482, G300, G301, G308, G309, G3101, G3109, G311, G3183, R4181, R54
0654	Developmental disorders	3070, 3079, 31500, 31501, 31502, 31509, 3151, 3152, 31531, 31532, 31534, 31535, 31539, 3154, 3155, 3158, 3159, 317, 3180, 3181, 3182, 319, V400, V401	F70, F71, F72, F73, F78, F79, F800, F801, F802, F804, F8081, F8082, F8089, F809, F810, F812, F8181, F8189, F819, F82, F88, F89, F985, R4183, R480
0655	Disorders usually diagnosed in infancy, childhood, or adolescence	29900, 29901, 29910, 29911, 29980, 29981, 29990, 29991, 30720, 30721, 30722, 30723, 3073, 3076, 3077, 30921, 31323, 31389, 3139	F642, F840, F842, F843, F845, F848, F849, F930, F938, F939, F940, F941, F942, F948, F949, F950, F951, F952, F958, F959, F980, F981, F9821, F9829, F983, F984, F988, F989
0656	Impulse control disorders, NEC	31230, 31231, 31232, 31233, 31234, 31235, 31239	F630, F631, F632, F633, F6381, F6389, F639, R45850

Code	Description	ICD9 Codes	ICD-10 Codes
Mental Health CCS Groups (cont'd)			
0657	Mood disorders	29383, 29600, 29601, 29602, 29603, 29604, 29605, 29606, 29610, 29611, 29612, 29613, 29614, 29615, 29616, 29620, 29621, 29622, 29623, 29624, 29625, 29626, 29630, 29631, 29632, 29633, 29634, 29635, 29636, 29640, 29641, 29642, 29643, 29644, 29645, 29646, 29650, 29651, 29652, 29653, 29654, 29655, 29656, 29660, 29661, 29662, 29663, 29664, 29665, 29666, 2967, 29680, 29681, 29682, 29689, 29690, 29699, 3004, 311	F0630, F0631, F0632, F0633, F0634, F3010, F3011, F3012, F3013, F302, F303, F304, F308, F309, F310, F3110, F3111, F3112, F3113, F312, F3130, F3131, F3132, F314, F315, F3160, F3161, F3162, F3163, F3164, F3170, F3171, F3172, F3173, F3174, F3175, F3176, F3177, F3178, F3181, F3189, F319, F320, F321, F322, F323, F324, F325, F328, F3281, F3289, F329, F330, F331, F332, F333, F3340, F3341, F3342, F338, F339, F340, F341, F348, F3481, F3489, F349, F39, R4586
0658	Personality disorders	3010, 30110, 30111, 30112, 30113, 30120, 30121, 30122, 3013, 3014, 30150, 30151, 30159, 3016, 3017, 30181, 30182, 30183, 30184, 30189, 3019	F600, F601, F602, F603, F604, F605, F606, F607, F6081, F6089, F609, F69
0659	Schizophrenia and other psychotic disorders	29381, 29382, 29500, 29501, 29502, 29503, 29504, 29505, 29510, 29511, 29512, 29513, 29514, 29515, 29520, 29521, 29522, 29523, 29524, 29525, 29530, 29531, 29532, 29533, 29534, 29535, 29540, 29541, 29542, 29543, 29544, 29545, 29550, 29551, 29552, 29553, 29554, 29555, 29560, 29561, 29562, 29563, 29564, 29565, 29570, 29571, 29572, 29573, 29574, 29575, 29580, 29581, 29582, 29583, 29584, 29585, 29590, 29591, 29592, 29593, 29594, 29595, 2970, 2971, 2972, 2973, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2988, 2989	F060, F062, F200, F201, F202, F203, F205, F2081, F2089, F209, F21, F22, F23, F24, F250, F251, F258, F259, F28, F29
0662	Suicide and intentional self-inflicted injury	E9500, E9501, E9502, E9503, E9504, E9505, E9506, E9507, E9508, E9509, E9510, E9511, E9518, E9520, E9521, E9528, E9529, E9530, E9531, E9538, E9539, E954, E9550, E9551, E9552, E9553, E9554, E9555, E9556, E9557, E9559, E956, E9570, E9571, E9572, E9579, E9580, E9581, E9582, E9583, E9584, E9585, E9586, E9587, E9588, E9589, E959, V6284	R45851, T1491, T360X2A, T360X2D, T360X2S, 361X2A, T361X2D, T361X2S, T362X2A, T362X2D, T362X2S, T363X2A, T363X2D, T363X2S, T364X2A, T364X2D, T364X2S, T365X2A, T365X2D, T365X2S, T366X2A, T366X2D, T366X2S, T367X2A, T367X2D, T367X2S, T368X2A, T368X2D, T368X2S, T3692XA, T3692XD, T3692XS, T370X2A, T370X2D, T370X2S, T371X2A, T371X2D, T371X2S, T372X2A, T372X2D, T372X2S, T373X2A, T373X2D, T373X2S, T374X2A, T374X2D, T374X2S, T375X2A, T375X2D, T375X2S, T378X2A, T378X2D, T378X2S, T3792XA, T3792XD, T3792XS, T380X2A, T380X2D, T380X2S, T381X2A, T381X2D, T381X2S, T382X2A, T382X2D, T382X2S, T383X2A, T383X2D, T383X2S, T384X2A, T384X2D, T384X2S,

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T38802D, T38802S, T38812A, T38812D, T38812S,
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T39012D, T39012S, T39092A, T39092D, T39092S,
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T401X2D, T401X2S, T402X2A, T402X2D, T402X2S,
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T43622D, T43622S, T43632A, T43632D, T43632S,
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0670	Miscellaneous disorders	29389, 2939, 30011, 30012, 30013, 30014, 30015, 30016, 30019, 3006, 3007, 30081, 30082, 3021, 3022, 3023, 3024, 30250, 30251, 30252, 30253, 3026, 30270, 30271, 30272, 30273, 30274, 30275, 30276, 30279, 30281, 30282, 30283, 30284, 30285, 30289, 3029, 3060, 3061, 3062, 3063, 3064, 30650, 30651, 30652, 30653, 30659, 3066, 3067, 3068, 3069, 3071, 30740, 30741, 30742, 30743, 30744, 30745, 30746, 30747, 30748, 30749, 30750, 30751, 30752, 30753, 30754, 30759, 30780, 30781, 30789, 3101, 316, 64840, 64841, 64842, 64843, 64844, V402, V403, V4031 V4039 V409 V673	F061, F068, F440, F441, F442, F444, F445, F446, F447, F4481, F4489, F449, F450, F451, F4520, F4521, F4522, F4529, F4541, F4542, F458, F459, F481, F5000, F5001, F5002, F502, F508, F5081, F5089, F509, F5101, F5102, F5103, F5104, F5105, F5109, F5111, F5112, F5113, F5119, F513, F514, F515, F518, F519, F520, F521, F5221, F5222, F5231, F5232, F524, F525, F526, F528, F529, F53, F54, F59, F640, F641, F648, F649, F650, F651, F652, F653, F654, F6550, F6551, F6552, F6581, F6589, F659, F66, F6810, F6811, F6812, F6813, F688, F99, O906, R37, R4589, Z87890, Z9183
Substance Abuse CCS Groups			
0660	Alcohol-related disorders	2910, 2911, 2912, 2913, 2914, 2915, 2918, 29181, 29182, 29189, 2919, 30300, 30301, 30302, 30303, 30390, 30391, 30392, 30393, 30500, 30501, 30502, 30503, 3575, 4255, 5353, 53530, 53531, 5710, 5711, 5712, 5713, 76071, 9800	F1010, F10120, F10121, F10129, F1014, F10150, F10151, F10159, F10180, F10181, F10182, F10188, F1019, F1020, F1021, F10220, F10221, F10229, F10230, F10231, F10232, F10239, F1024, F10250, F10251, F10259, F1026, F1027, F10280, F10281, F10282, F10288, F1029, F10920, F10921, F10929, F1094, F10950, F10951, F10959, F1096, F1097, F10980, F10981, F10982, F10988, F1099, G621, I426, K2920, K2921, K700, K7010, K7011, K702, K7030, K7031, K7040, K709, O99310, O99311, O99312, O99313, O99314, O99315, P043, Q860
0661	Substance-related disorders	2920, 29211, 29212, 2922, 29281, 29282, 29283, 29284, 29285, 29289, 2929, 30400, 30401, 30402, 30403, 30410, 30411, 30412, 30413, 30420, 30421, 30422, 30423, 30430, 30431, 30432, 30433, 30440, 30441, 30442, 30443, 30450, 30451, 30452, 30453, 30460, 30461, 30462, 30463, 30470, 30471, 30472, 30473, 30480, 30481, 30482, 30483, 30490, 30491, 30492, 30493, 30520, 30521, 30522, 30523, 30530, 30531, 30532, 30533, 30540, 30541, 30542, 30543, 30550, 30551, 30552, 30553, 30560, 30561, 30562,	F1110, F11120, F11121, F11122, F11129, F1114, F11150, F11151, F11159, F11181, F11182, F11188, F1119, F1120, F1121, F11220, F11221, F11222, F11229, F1123, F1124, F11250, F11251, F11259, F11281, F11282, F11288, F1129, F1190, F11920, F11921, F11922, F11929, F1193, F1194, F11950, F11951, F11959, F11981, F11982, F11988, F1199, F1210, F12120, F12121, F12122, F12129, F12150, F12151, F12159, F12180, F12188, F1219, F1220, F1221, F12220, F12221, F12222, F12229, F12250, F12251, F12259, F12280, F12288, F1229, F1290, F12920, F12921, F12922, F12929, F12950, F12951, F12959, F12980,

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663	Screening and history of mental health and substance abuse codes	3051, 30510, 30511, 30512, 30513, 33392, 7903, V110, V111, V112, V113, V114, V118, V119, V154, V1541, V1542, V1549, V1582, V6285, V663, V701, V702, V7101, V7102, V7109, V790, V791, V792, V793, V798, V799	R780, R781, R782, R783, R784, R785, R786, Z046, Z134, Z72810, Z72811, Z8651, Z8659, Z87891, Z91410, Z91411, Z91412, Z91419, Z9149

Notes: Highlighted codes were not included in this analysis and modifications to the CCS tool.
Source: Centers for Medicare and Medicaid Services, AHRQ, Clinical Classification Software (CCS) AHRQ, 2013