

EDIE ANALYSIS

ANNUAL REPORT

Presented: June 15, 2018

For the Period: Q1 2017 - Q4 2017



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ABOUT THIS REPORT

This report is meant to provide interested parties with various insight into the utilization of emergency services in Oregon through the EDIE (Emergency Department Information Exchange) program. The data used for this analysis are provided by Collective Medical Technologies (EDIE) and Apprise Health Insights (INFOH).

EDIE collects real-time emergency department data from each ED in the state. These data are mainly used for ED staff to identify patients who overutilize emergency services, so that they can create a care plan for these patients. It is also possible for ED staff to notify a patient's primary care provider when they overutilize emergency services so that they can work with them in the creation of a care plan.

The data and analyses in this report focus on both visits and patients. A "visit" is defined by a patient checking in to an emergency department and then being discharged to home. A "patient" is defined by a collection of visits from a single person.

There are four main sections to this analysis: Overall Utilization, High Utilizers, Medium Utilizers, and Low Utilizers. Within the three utilization group sections, there is an overview page and a page focusing on the movement within that group. More information on the group and movement definitions can be found on page 5.

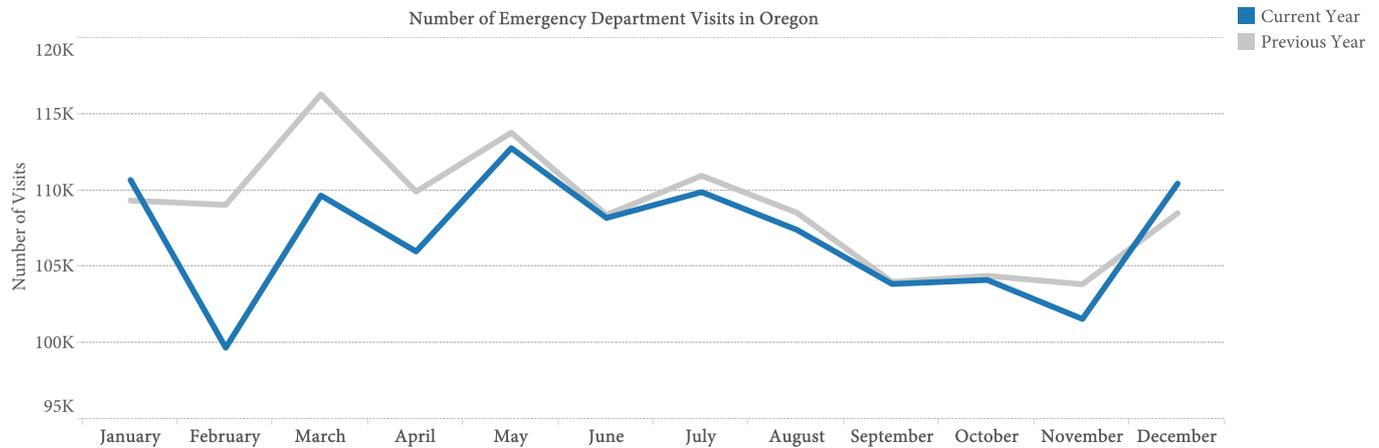
Note: The data have been filtered to only include records for patients who were discharged to home. This is to better align with the goal of the EDIE program.

Notes for 2017 Annual Report:

Little fluctuation has been seen in the gender and age group analyses, and consequently, they have been removed from this report.

All zip code analyses are now based on a visit / 1000 population metric. All population data comes from the Claritas 2017 Estimates.

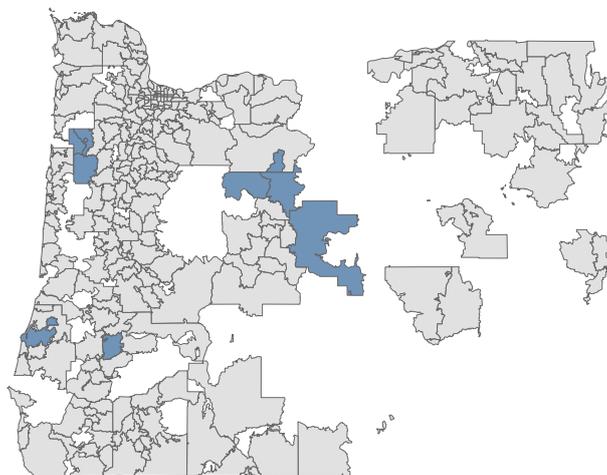
OVERALL UTILIZATION



ED visits across Oregon have **decreased by 2%** in the past year. There were **1,284,329 total visits** during the past four quarters from **792,161 patients** for an average of **1.6 visits per patient**.

The ten zip codes with the most ED visits per 1000 population are shown below¹.

Zip Code	Name	Number of ED Visits	Total Population ²	Visits / 1000 Pop.
97204	Portland	1,650	1,345	1,227
97761	Warm Springs	2,712	3,423	792
97741	Madras	7,770	12,491	622
97209	Portland	11,779	19,085	617
97344	Falls City	637	1,113	572
97396	Willamina	1,579	3,062	516
97754	Prineville	10,293	20,287	507
97420	Coos Bay	14,039	27,778	505
97470	Roseburg	9,761	19,903	490
97347	Grand Ronde	1,007	2,067	487



¹Only Oregon zip codes with at least 100 ED visits and 1,000 residents were considered valid

²Claritas 2017 Population Estimates

UTILIZATION GROUPS OVERVIEW



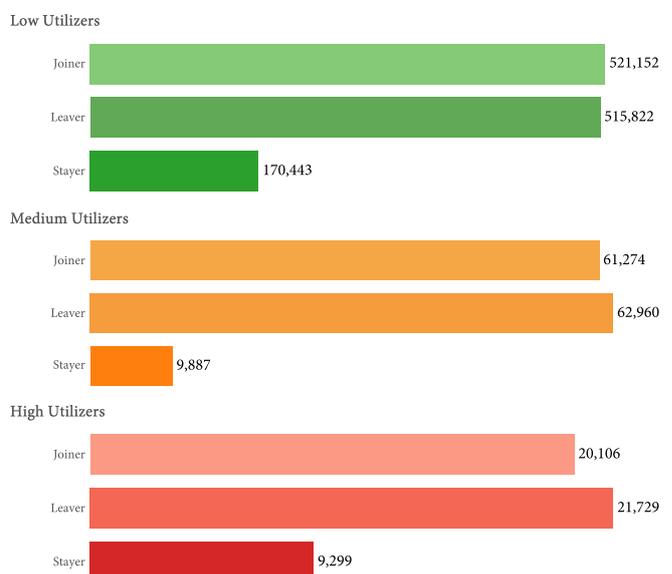
One goal of the EDIE project is to identify overutilizers of Emergency Department resources. Patients who visit an Emergency Department many times a year constitute a strain on the healthcare system. Because of this, patients in this report have been grouped into the categories below based on the number of times they have visited an ED in the past year.



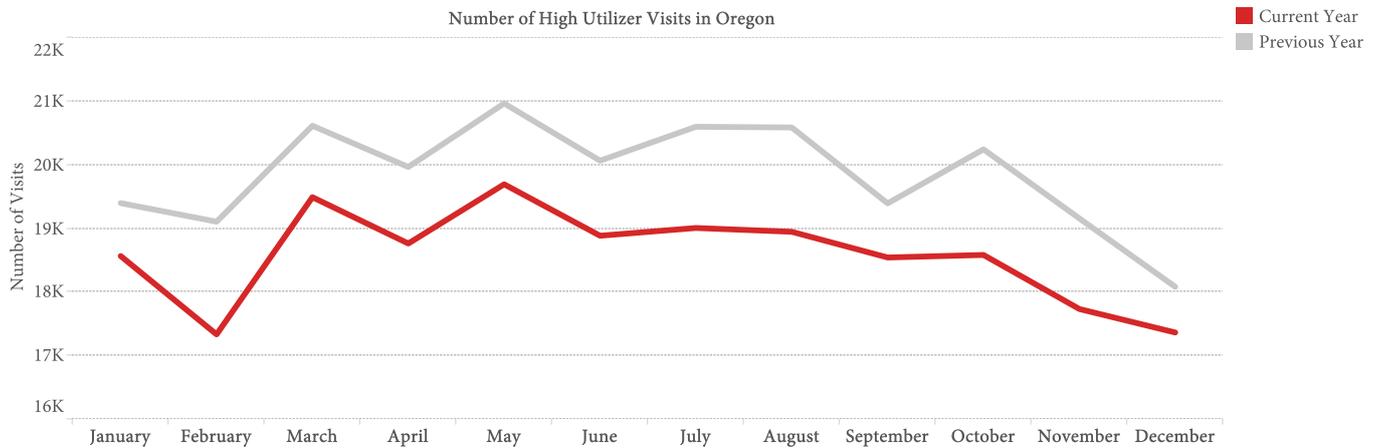
As important as knowing how many patients fall into each group, is knowing the movement between those groups. Within a utilization group (High, Medium, Low) further groupings have been created to show this movement. These movement groups are **Joiners**, **Leavers**, and **Stayers**.

A movement group is based on the patient's utilization group for the previous 12 month period. For example, a patient that was a Medium Utilizer from Q1 2016 - Q4 2016 and a High Utilizer from Q1 2017 - Q4 2017 would be considered a Joiner of the High Utilizer group and a Leaver of the Medium Utilizer group.

A patient who did not have a record in the previous 12 months is automatically assigned to a Joiner group. A patient who had a record in the previous 12 months, but not in the current 12 months is assigned to a Leaver group.



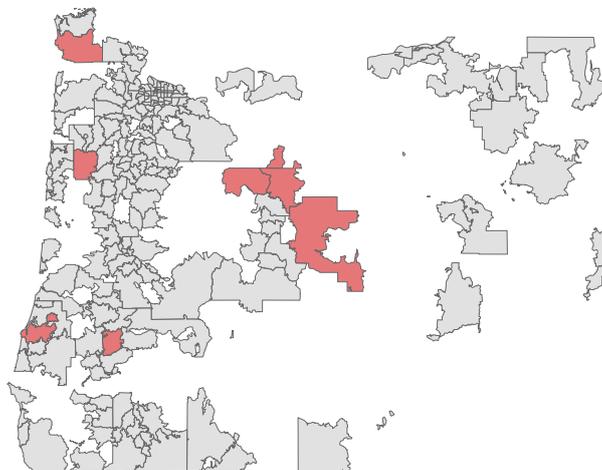
HIGH UTILIZER OVERVIEW



High utilizer visits have **decreased by 6%** in the past year. Cumutatively, there were **222,934 visits** from **29,405 high utilizers** during this time period, averaging out to about **7.6 visits per patient**.

The ten zip codes with the most high utilizer visits per 1000 population are shown below¹.

Zip Code	Name	Number of HU Visits	Total Population ²	HU Visits / 1000 Pop.
97204	Portland	990	1,345	736
97209	Portland	6,449	19,085	338
97761	Warm Springs	727	3,423	212
97741	Madras	1,986	12,491	159
97470	Roseburg	2,509	19,903	126
97344	Falls City	138	1,113	124
97754	Prineville	2,499	20,287	123
97138	Seaside	1,356	11,126	122
97420	Coos Bay	3,362	27,778	121
97205	Portland	901	8,534	106

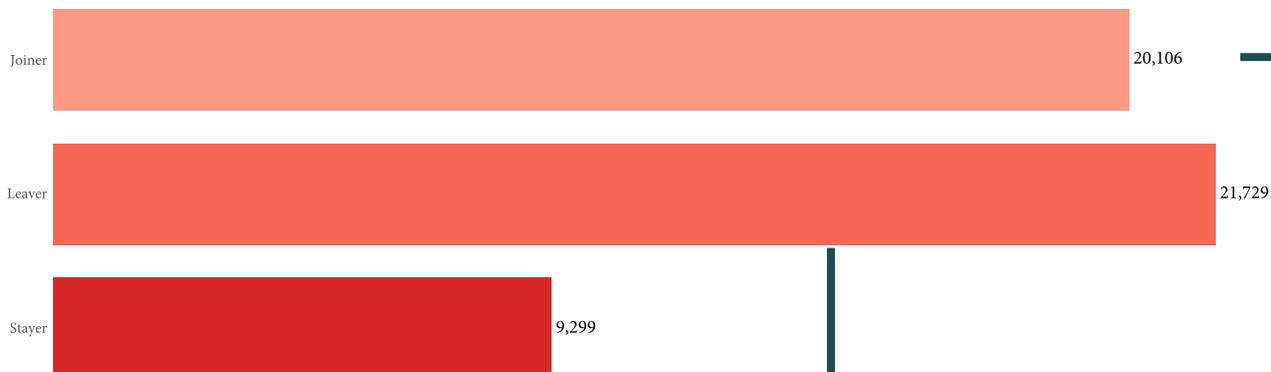


¹Only Oregon zip codes with at least 100 HU visits and 1,000 residents were considered valid

²Claritas 2017 Population Estimates

HIGH UTILIZER MOVEMENT

High Utilizers



STAYERS:

- 32% of all high utilizers last year remained high utilizers this year
- Most visits / 1000 Pop: 97204 (Portland), 97209 (Portland), 97761 (Warm Springs)
- 1,030 care guidelines created (11% of patients)

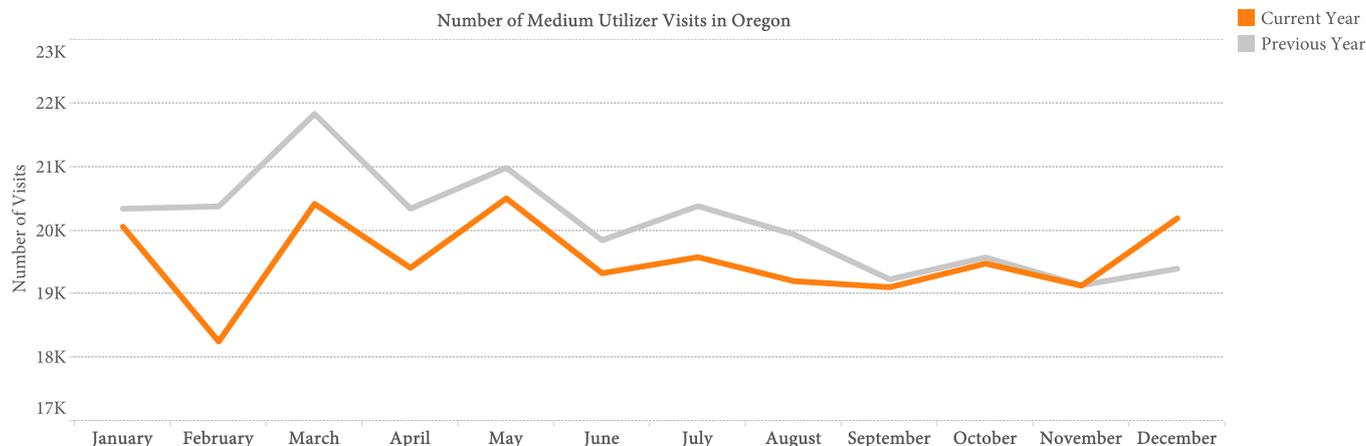
LEAVERS:

- 28% became medium utilizers
- 42% became low utilizers
- 30% did not have a record in the current year
- Most visits / 1000 Pop: 97761 (Warm Springs), 97741 (Madras), 97209 (Portland)
- 421 care guidelines created (2% of patients)

JOINERS:

- 28% were previously medium utilizers
- 42% were previously low utilizers
- 30% did not have a record in the previous year
- Most visits / 1000 Pop: 97204 (Portland), 97209 (Portland), 97761 (Warm Springs)
- 2,093 care guidelines created (10% of patients)

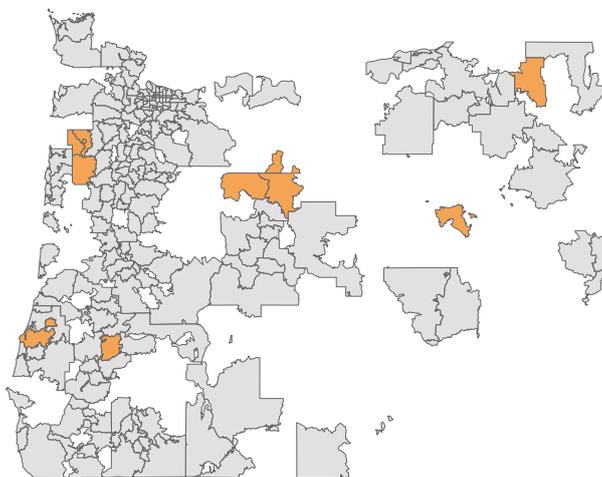
MEDIUM UTILIZER OVERVIEW



Medium utilizer visits have **decreased by 3%** in the past year. Cumutatively, there were **234,676 visits** from **71,161 medium utilizers** during this time period, averaging out to about **3.3 visits per patient**.

The ten zip codes with the most medium utilizer visits per 1000 population are shown below¹.

Zip Code	Name	Number of MU Visits	Total Population ²	MU Visits / 1000 Pop.
97761	Warm Springs	686	3,423	200
97204	Portland	248	1,345	184
97741	Madras	1,886	12,491	151
97344	Falls City	142	1,113	128
97845	John Day	379	3,122	121
97396	Willamina	369	3,062	121
97347	Grand Ronde	246	2,067	119
97420	Coos Bay	3,289	27,778	118
97470	Roseburg	2,314	19,903	116
97827	Elgin	316	2,747	115



¹Only Oregon zip codes with at least 100 MU visits and 1,000 residents were considered valid

²Claritas 2017 Population Estimates

MEDIUM UTILIZER MOVEMENT

Medium Utilizers



STAYERS:

- 14% of medium utilizers last year remained medium utilizers this year
- Most visits / 1000 Pop: 97761 (Warm Springs), 97741 (Madras), 97209 (Portland)
- 409 care guidelines created (4% of patients)

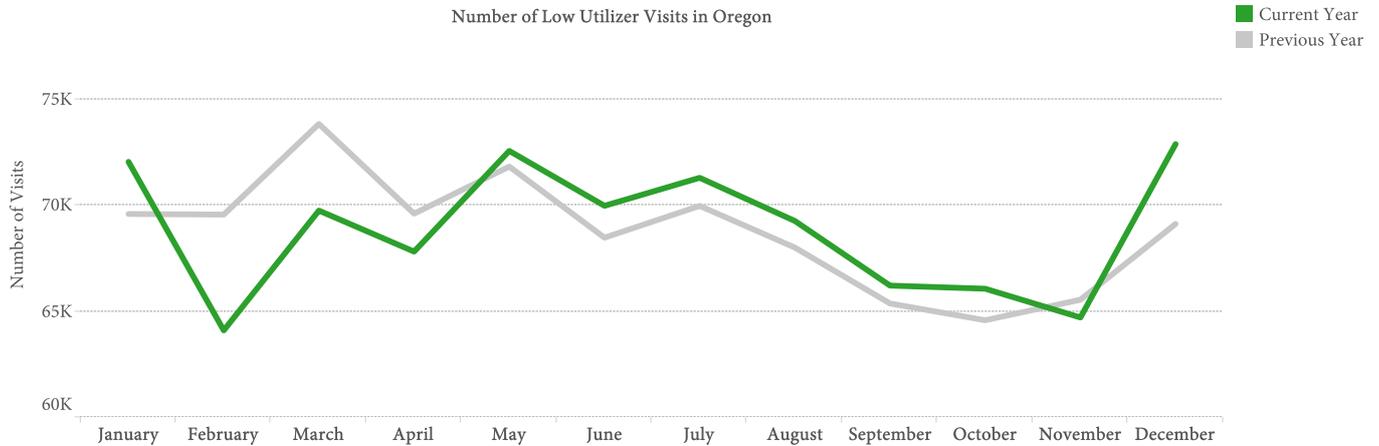
LEAVERS:

- 9% became high utilizers
- 45% became low utilizers
- 46% did not have a record in the current year
- Most visits / 1000 Pop: 97204 (Portland), 97761 (Warm Springs), 97209 (Portland)
- 895 care guidelines created (1% of patients)

JOINERS:

- 10% were previously high utilizers
- 43% were previously low utilizers
- 47% did not have a record in the previous year
- Most visits / 1000 Pop: 97761 (Warm Springs), 97204 (Portland), 97741 (Madras)
- 1,431 care guidelines created (2% of patients)

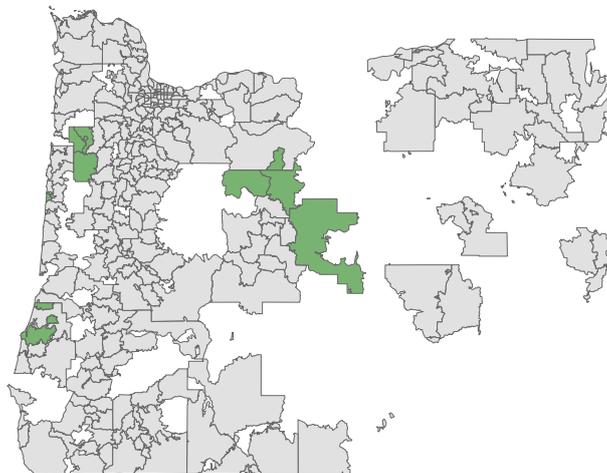
LOW UTILIZER OVERVIEW



Low utilizer visits have **increased by 0.1%** in the past year. Cumutatively, there were **826,719 visits** from **691,595 low utilizers** during this time period, averaging out to about **1.2 visits per patient**.

The ten zip codes with the most low utilizer visits per 1000 population are shown below¹.

Zip Code	Name	Number of LU Visits	Total Population ²	LU Visits / 1000 Pop.
97761	Warm Springs	1,299	3,423	379
97344	Falls City	357	1,113	321
97741	Madras	3,898	12,491	312
97204	Portland	412	1,345	306
97396	Willamina	895	3,062	292
97347	Grand Ronde	591	2,067	286
97449	Lakeside	542	1,957	277
97366	South Beach	395	1,444	274
97754	Prineville	5,470	20,287	270
97420	Coos Bay	7,388	27,778	266



¹Only Oregon zip codes with at least 100 LU visits and 1,000 residents were considered valid

²Claritas 2017 Population Estimates

LOW UTILIZER MOVEMENT

Low Utilizers



STAYERS:

- 25% of low utilizers last year remained low utilizers this year
- Most visits / 1000 Pop: 97761 (Warm Springs), 97344 (Falls City), 97741 (Madras)
- 510 care guidelines created (0.3% of patients)

LEAVERS:

- 2% became high utilizers
- 5% became medium utilizers
- 93% did not have a record in the current year
- Most visits / 1000 Pop: 97204 (Portland), 97761 (Warm Springs), 97741 (Madras)
- 1,602 care guidelines created (0.3% of patients)

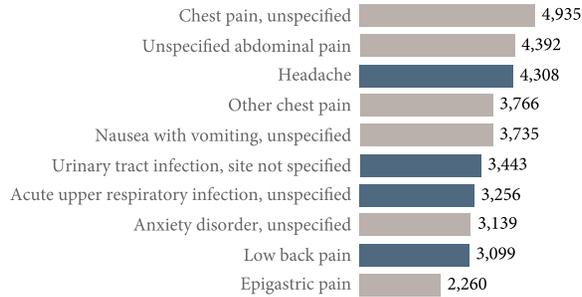
JOINERS:

- 2% were previously high utilizers
- 5% were previously medium utilizers
- 93% did not have a record in the previous year
- Most visits / 1000 Pop: 97761 (Warm Springs), 97204 (Portland), 97344 (Falls City)
- 634 care guidelines created (0.1% of patients)

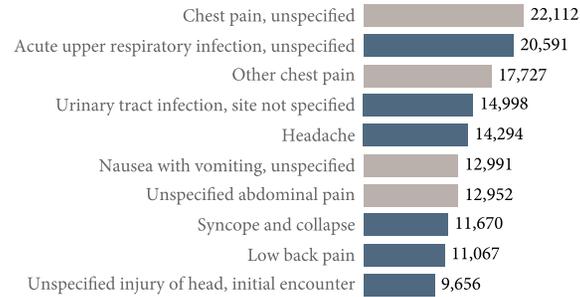
Q1 2017 - Q4 2017 EDIE DASHBOARD

HIGH UTILIZER DIAGNOSES

Top Diagnoses (High Utilizer Visits)

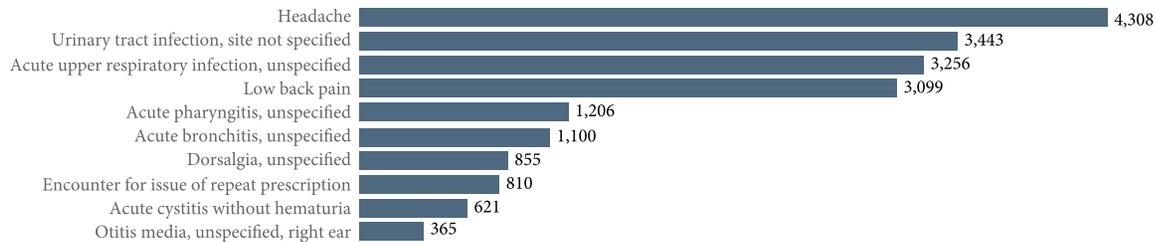


Top Diagnoses (Non-High Utilizer Visits)

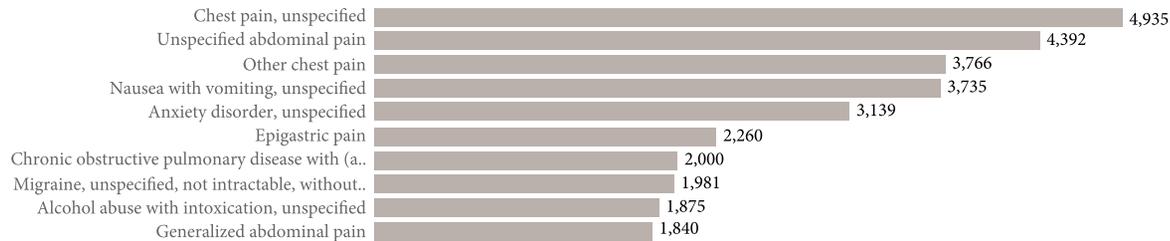


Blue bars represent Potentially Avoidable diagnoses

Potentially Avoidable Top Diagnoses (High Utilizer Visits)



Not Potentially Avoidable Top Diagnoses (High Utilizer Visits)



Insights:

High Utilizer vs Non-High Utilizer Diagnoses:

- High Utilizers came in much less frequently for respiratory infections
- The second-most common diagnosis for High Utilizers was abdominal pain, which is only seventh on the list for Non-High Utilizers

High Utilizer Potentially Avoidable Diagnoses:

- High Utilizers most common potentially avoidable diagnoses were headaches, urinary tract infections, acute respiratory infections, and lower back pain

High Utilizer Movement Group Diagnoses:

- Stayers did not have respiratory infections as one of their top diagnoses
- Stayers had nausea listed, unlike the other movement groups

Top Diagnoses by Movement Group (High Utilizer Visits)

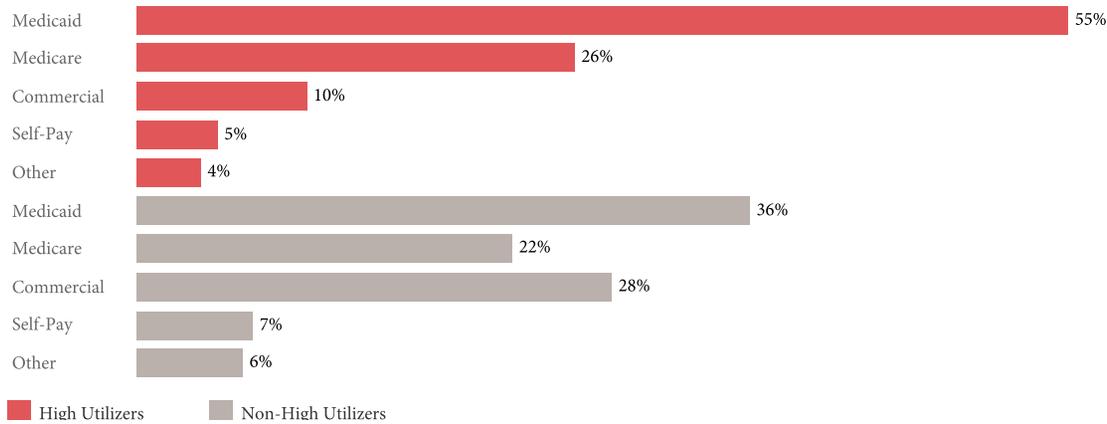
Movement Group	Diagnosis	Count
Joiner	Chest pain, unspecified	2,587
	Headache	2,234
	Unspecified abdominal pain	2,203
	Urinary tract infection, site not specified	2,191
	Acute upper respiratory infection, unspecified	2,183
Leaver	Chest pain, unspecified	722
	Acute upper respiratory infection, unspecified	639
	Unspecified abdominal pain	615
	Headache	592
	Urinary tract infection, site not specified	586
Stayer	Chest pain, unspecified	2,348
	Unspecified abdominal pain	2,189
	Headache	2,074
	Other chest pain	1,739
	Nausea with vomiting, unspecified	1,593

Q1 2017 - Q4 2017 EDIE DASHBOARD

HIGH UTILIZER PAYORS

Payor Percent

(High Utilizer vs Non-High Utilizer Visits)



Insights:

High Utilizer Visits Were:

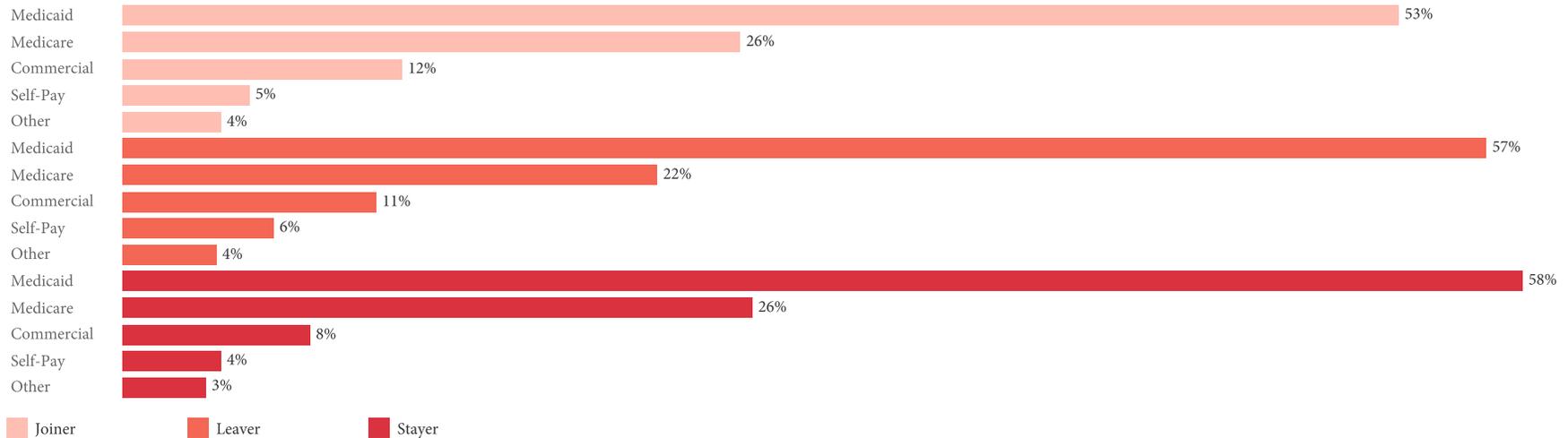
- More likely to be paid by Medicaid than Non-High Utilizers
- Less likely to be paid by a Commercial payor than Non-High Utilizers

Visits by High Utilizer Stayers Were:

- More likely to be paid by Medicaid than Joiners or Leavers
- Less likely to be paid by a Commercial payor than Joiners or Leavers

Payor Percent

(High Utilizer Visit Movement Groups)

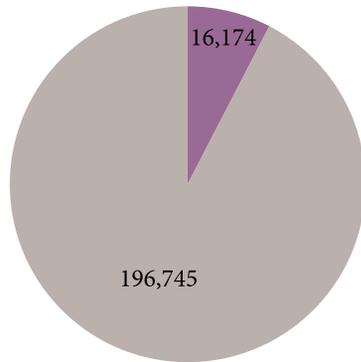


Q1 2017 - Q4 2017 EDIE DASHBOARD

SUPER UTILIZER ANALYSIS

Super Utilizers vs High Utilizers

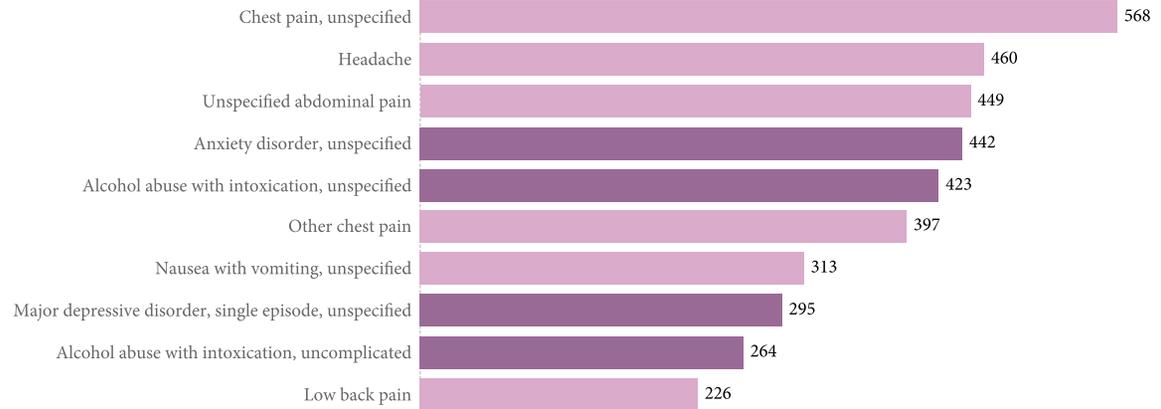
(Count)



■ Super Utilizers ■ Other High Utilizers

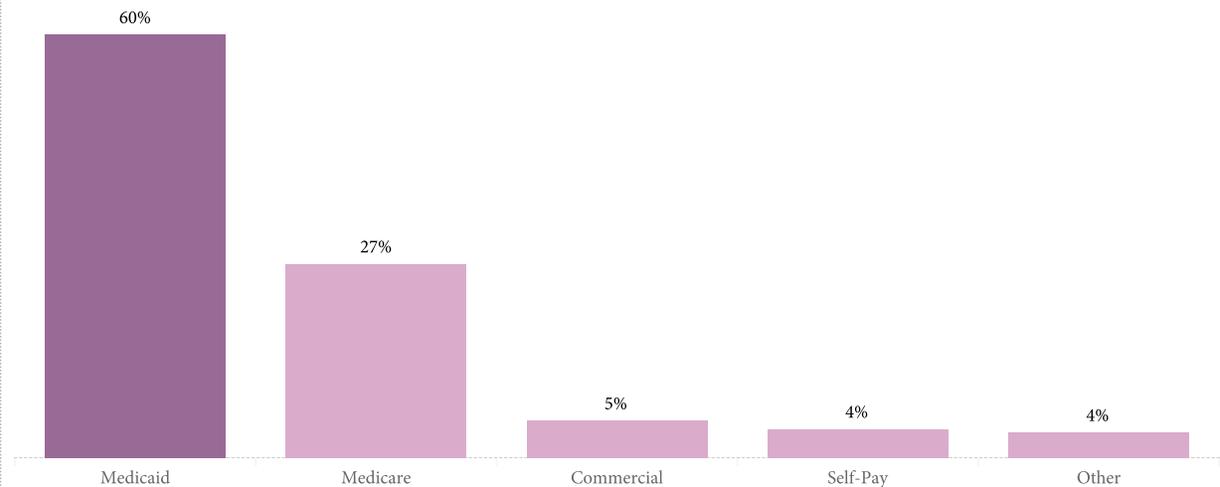
Super Utilizer Diagnoses

(Top 10 by Count)



Super Utilizer Payors

(Percent of Total)



Insights:

Super Utilizers Basic Info:

- Super Utilizers are patients that have visited an ED 25 or more times during the past four quarters
- 7.6% of High Utilizers are Super Utilizers

Super Utilizer Diagnoses:

- There is a much higher rate of anxiety disorder, alcohol abuse, depressive disorder, and stimulant abuse than other High Utilizers

Super Utilizer Payors:

- 60% of Super Utilizer visits had a primary payor of Medicaid, compared to 55% for all High Utilizers and 36% for Non-High Utilizers