

# EDIE ANALYSIS

## ANNUAL REPORT

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Presented: June 28, 2019

For the Period: Q1 2018 - Q4 2018



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# ABOUT THIS REPORT

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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 6.

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 2018 Annual Report:

A regional analysis has been added to this year's report, and can be found on page 13.

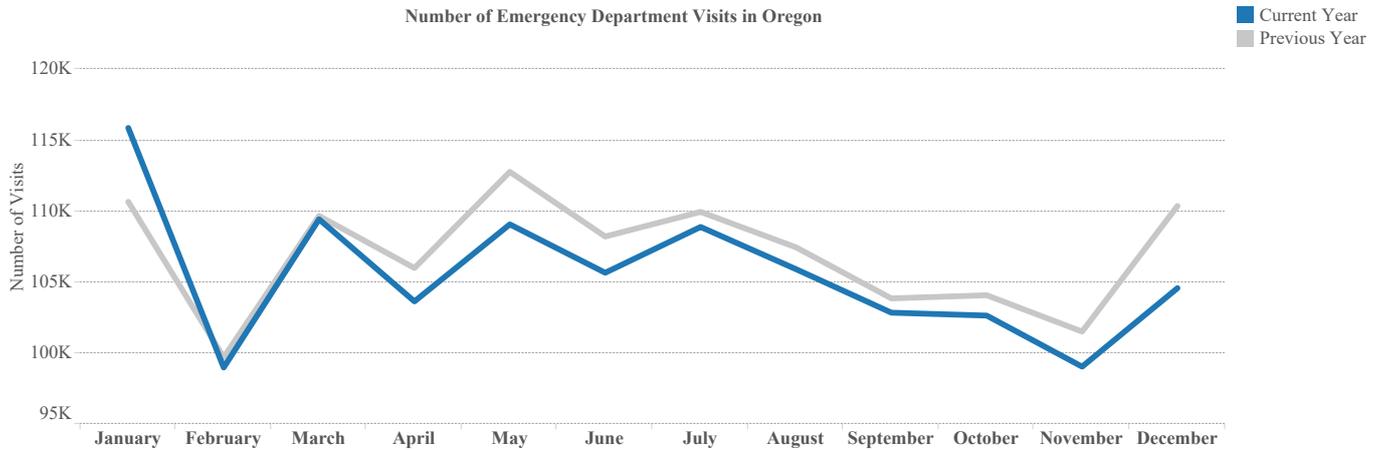
All zip code analyses are now based on a visit / 1000 population metric. All population data comes from the Claritas 2018 Estimates.

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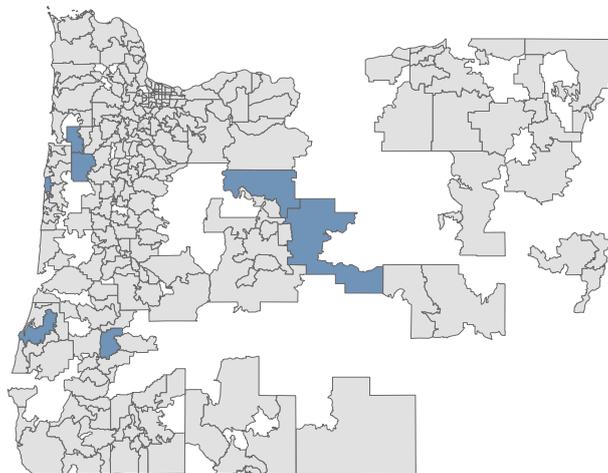
# OVERALL UTILIZATION



ED visits across Oregon have **decreased by 1.4%** in the past year. There were **1,266,686 total visits** during the past four quarters from **789,668 patients** for an average of **1.6 visits per patient**.

The ten zip codes with the most ED visits per 1000 population are shown below<sup>1</sup>.

Zip Code	Name	Number of ED Visits	Total Population <sup>2</sup>	Visits / 1000 Pop.
97204	Portland	1,869	1,372	1,362
97761	Warm Springs	2,426	3,320	731
97209	Portland	11,158	19,853	562
97741	Madras	7,315	13,033	561
97420	Coos Bay	14,263	27,825	513
97470	Roseburg	9,256	20,232	457
97754	Prineville	9,373	20,731	452
97347	Grand Ronde	900	1,994	451
97344	Falls City	521	1,157	450
97365	Newport	5,061	11,252	450



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

<sup>2</sup>Claritas 2018 Population Estimates

# UTILIZATION GROUPS OVERVIEW



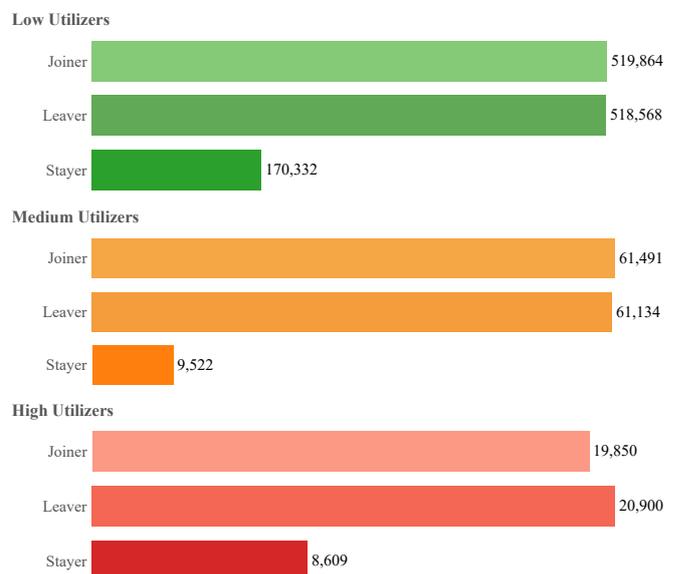
One goal of the EDIE project is to identify overutilizers of Emergency Department resources. Patients who visit an Emergency Department many times a year constitute a strain on the healthcare system. Because of this, patients in this report have been grouped into the categories below based on the number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



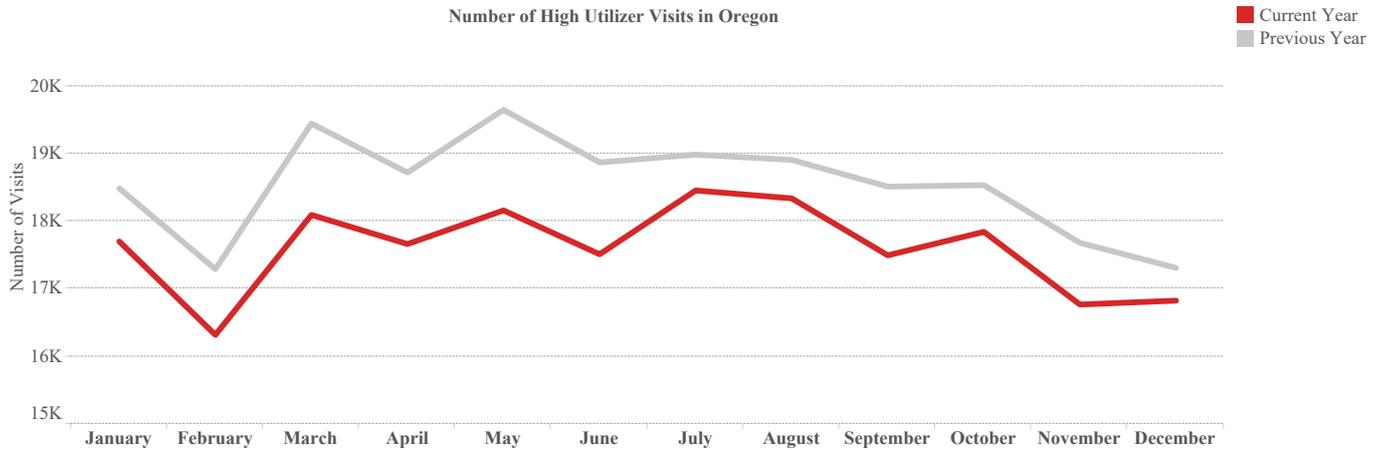
As important as knowing how many patients fall into each group, is knowing the movement between those groups. Within a utilization group (High, Medium, Low) further groupings have been created to show this movement. These movement groups are **Joiners**, **Leavers**, and **Stayers**.

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 2017 - Q4 2017 and a High Utilizer from Q1 2018 - Q4 2018 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.



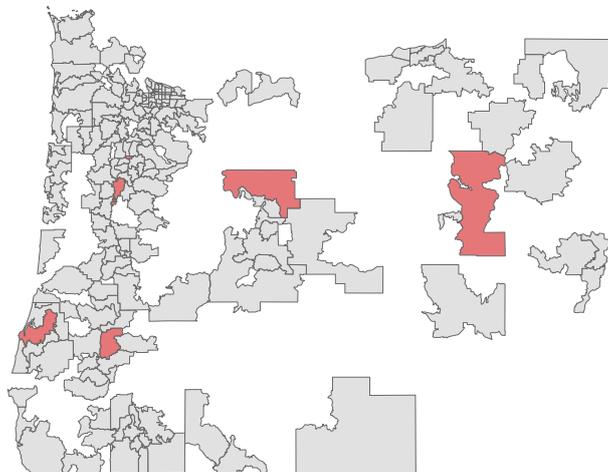
# HIGH UTILIZER OVERVIEW



High utilizer visits have **decreased by 5%** in the past year. Cumulatively, there were **211,179 visits** from **28,459 high utilizers** during this time period, averaging out to about **7.4 visits per patient**.

The ten zip codes with the most high utilizer visits per 1000 population are shown below<sup>1</sup>.

Zip Code	Name	Number of HU Visits	Total Population <sup>2</sup>	HU Visits / 1000 Pop.
97204	Portland	1,164	1,372	848
97209	Portland	5,930	19,853	299
97761	Warm Springs	653	3,320	197
97741	Madras	1,835	13,033	141
97420	Coos Bay	3,612	27,825	130
97205	Portland	1,056	8,460	125
97470	Roseburg	2,298	20,232	114
97321	Albany	3,260	28,735	113
97301	Salem	6,150	57,852	106
97869	Prairie City	115	1,110	104

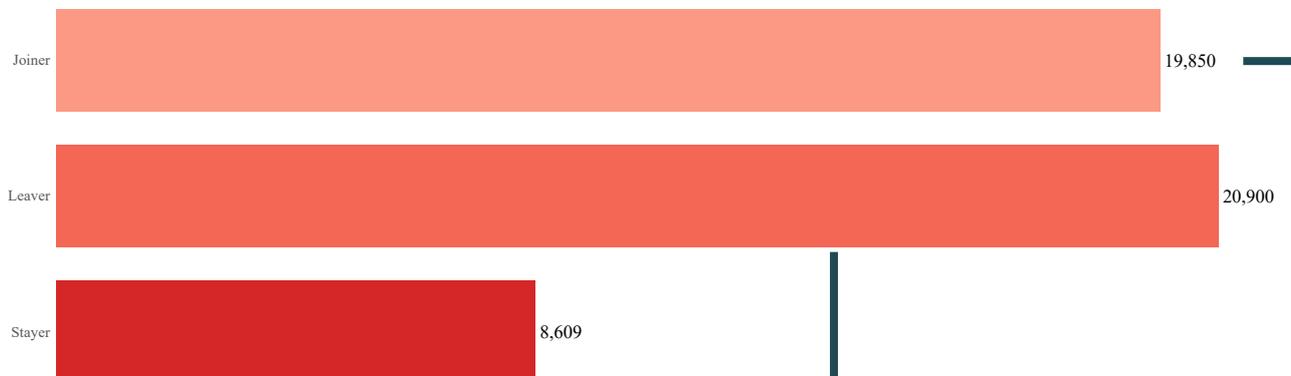


<sup>1</sup>Only Oregon zip codes with at least 100 HU visits and 1,000 residents were considered valid

<sup>2</sup>Claritas 2018 Population Estimates

# HIGH UTILIZER MOVEMENT

## High Utilizers



### STAYERS:

- 29% of all high utilizers last year remained high utilizers this year
- Most visits / 1000 Pop: 97204 (Portland), 97209 (Portland), 97761 (Warm Springs)
- 686 care guidelines created (8% of patients)

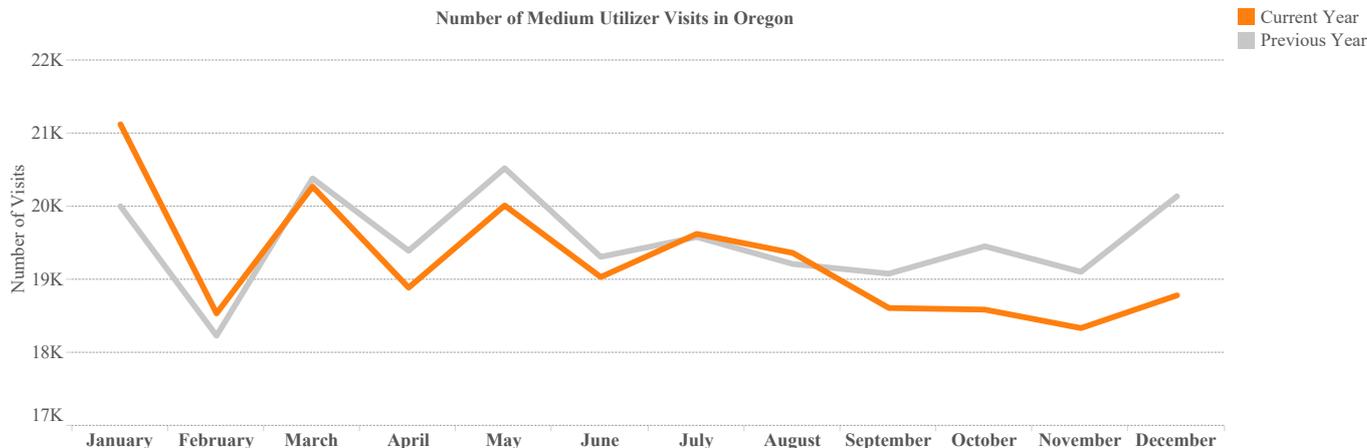
### LEAVERS:

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

### JOINERS:

- 28% were previously medium utilizers
- 41% were previously low utilizers
- 31% did not have a record in the previous year
- Most visits / 1000 Pop: 97204 (Portland), 97209 (Portland), 97761 (Warm Springs)
- 944 care guidelines created (5% of patients)

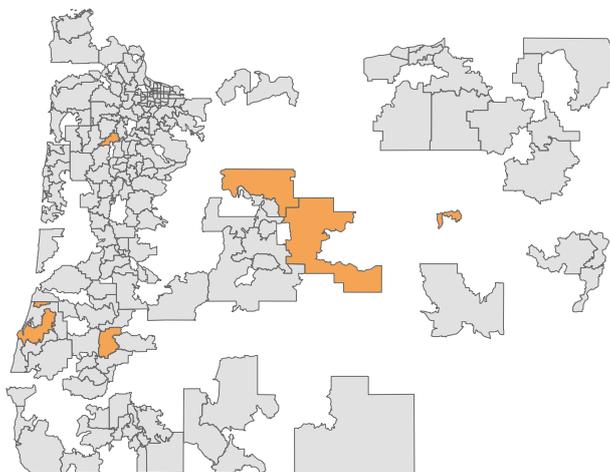
# MEDIUM UTILIZER OVERVIEW



Medium utilizer visits have **decreased by 1.4%** in the past year. Cumulatively, there were **231,235 visits** from **71,013 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 below<sup>1</sup>.

Zip Code	Name	Number of MU Visits	Total Population <sup>2</sup>	MU Visits / 1000 Pop.
97204	Portland	262	1,372	191
97761	Warm Springs	577	3,320	174
97741	Madras	1,790	13,033	137
97420	Coos Bay	3,415	27,825	123
97470	Roseburg	2,286	20,232	113
97754	Prineville	2,256	20,731	109
97101	Amity	408	3,795	108
97449	Lakeside	204	1,924	106
97845	John Day	308	2,985	103
97344	Falls City	118	1,157	102



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

<sup>2</sup>Claritas 2018 Population Estimates

# MEDIUM UTILIZER MOVEMENT

## Medium Utilizers



### STAYERS:

- 13% of medium utilizers last year remained medium utilizers this year
- Most visits / 1000 Pop: 97204 (Portland), 97761 (Warm Springs), 97741 (Madras)
- 276 care guidelines created (3% of patients)

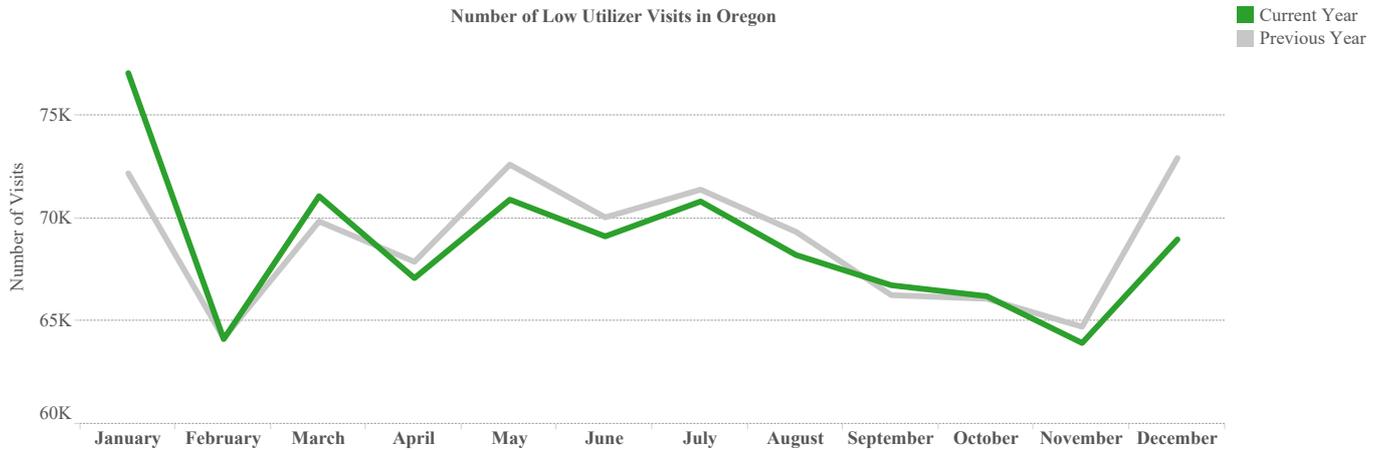
### LEAVERS:

- 9% became high utilizers
- 44% became low utilizers
- 47% did not have a record in the current year
- Most visits / 1000 Pop: 97204 (Portland), 97761 (Warm Springs), 97741 (Madras)
- 640 care guidelines created (1% of patients)

### JOINERS:

- 9% were previously high utilizers
- 44% were previously low utilizers
- 47% did not have a record in the previous year
- Most visits / 1000 Pop: 97204 (Portland), 97761 (Warm Springs), 97741 (Madras)
- 582 care guidelines created (1% of patients)

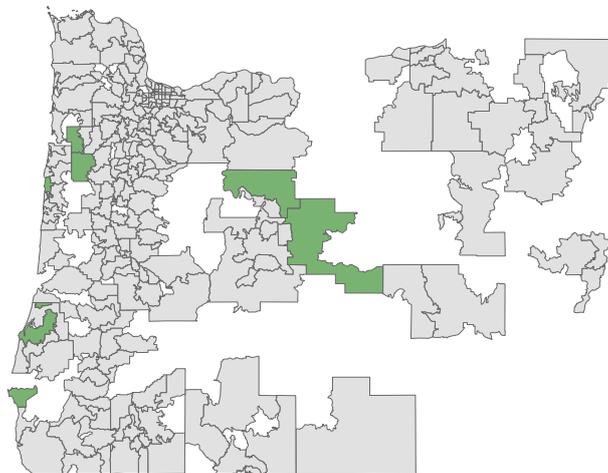
# LOW UTILIZER OVERVIEW



Low utilizer visits have **decreased by 0.4%** in the past year. Cumulatively, there were **824,272 visits** from **690,196 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 below<sup>1</sup>.

Zip Code	Name	Number of LU Visits	Total Population <sup>2</sup>	LU Visits / 1000 Pop.
97761	Warm Springs	1,196	3,320	360
97204	Portland	443	1,372	323
97344	Falls City	331	1,157	286
97741	Madras	3,690	13,033	283
97347	Grand Ronde	555	1,994	278
97365	Newport	2,957	11,252	263
97449	Lakeside	501	1,924	260
97420	Coos Bay	7,236	27,825	260
97465	Port Orford	521	2,108	247
97754	Prineville	5,095	20,731	246

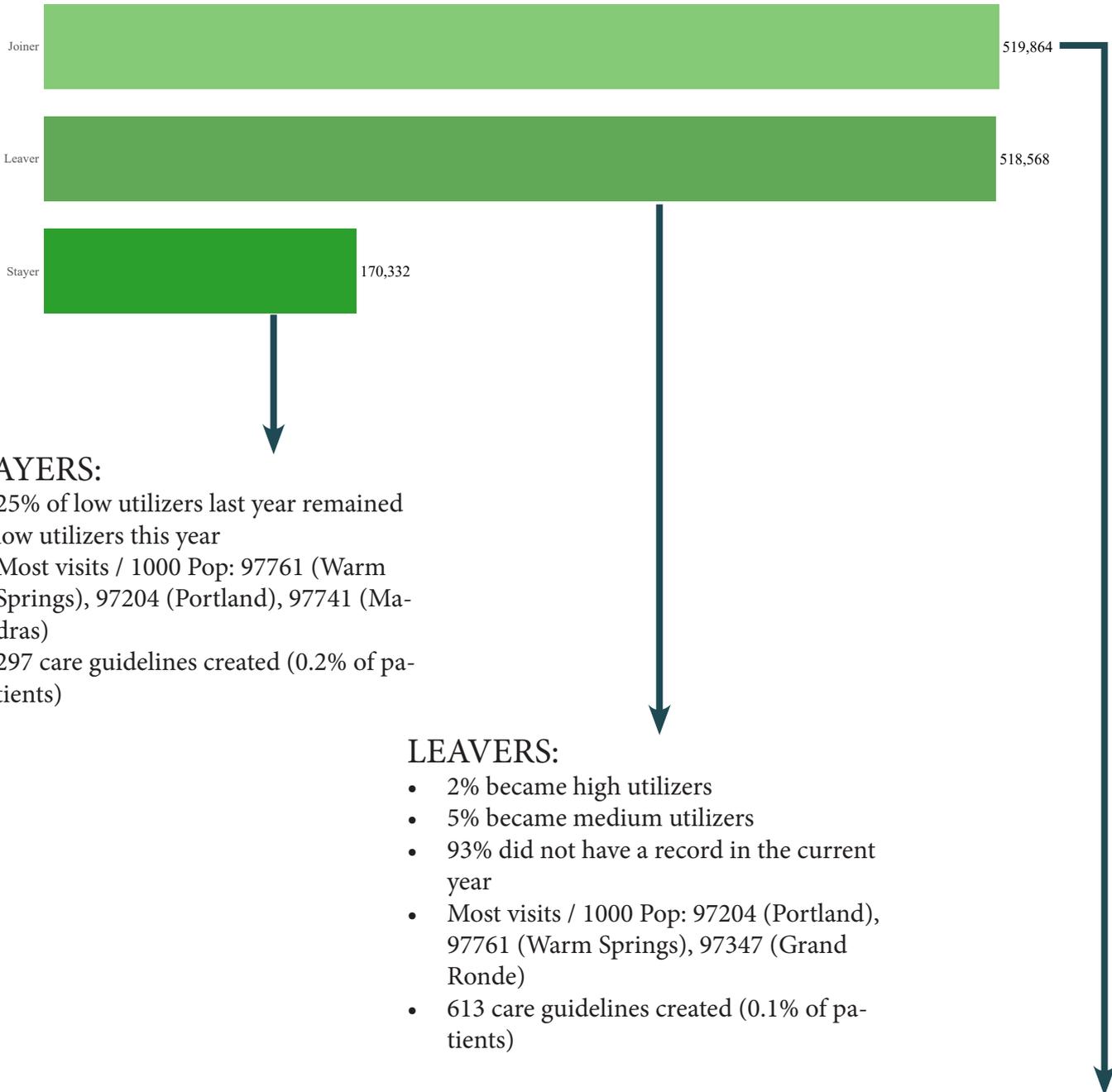


<sup>1</sup>Only Oregon zip codes with at least 100 LU visits and 1,000 residents were considered valid

<sup>2</sup>Claritas 2018 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), 97204 (Portland), 97741 (Madras)
- 297 care guidelines created (0.2% of patients)

### LEAVERS:

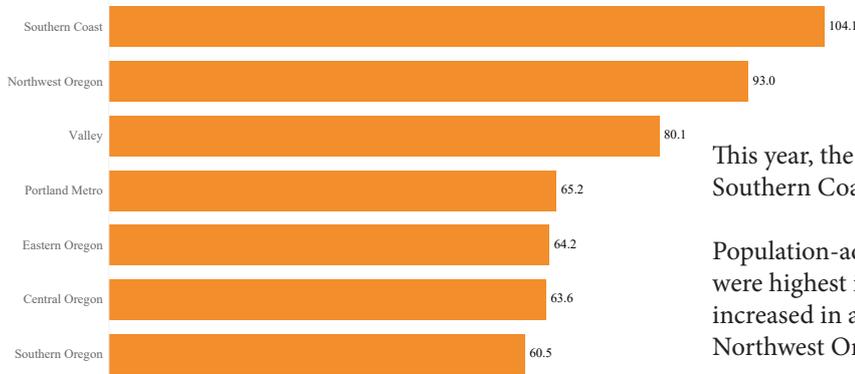
- 2% became high utilizers
- 5% became medium utilizers
- 93% did not have a record in the current year
- Most visits / 1000 Pop: 97204 (Portland), 97761 (Warm Springs), 97347 (Grand Ronde)
- 613 care guidelines created (0.1% of patients)

### 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), 97741 (Madras)
- 571 care guidelines created (0.1% of patients)

# REGIONAL ANALYSIS

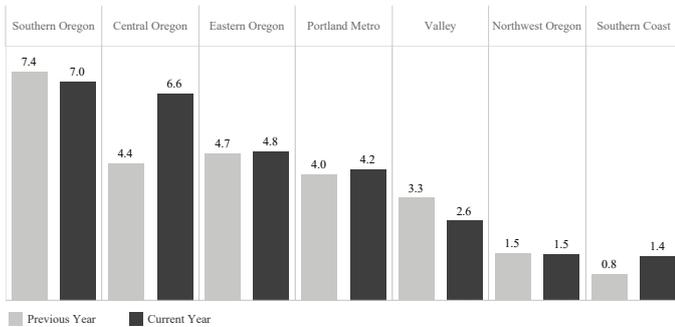
**Utilization by Region**  
(High Utilizer Visits /1000 Residents)



This year, the most common regions for High Utilizers were Southern Coast and Northwest Oregon.

Population-adjusted Mental Health visits with Comorbidity were highest in Southern Oregon and Central Oregon. They increased in all regions except for Southern Oregon, Valley, and Northwest Oregon.

**Comorbidity & Mental Health by Region**  
(High Utilizer Visits /1000 Residents)

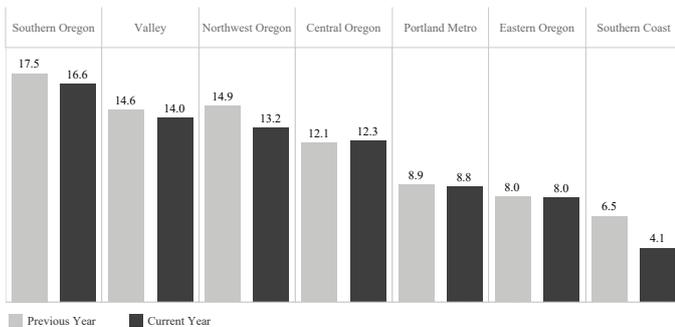


Population-adjusted Substance Use Disorder visits with Comorbidity were highest in Southern Oregon and Valley regions. They decreased in all regions except for Central Oregon.

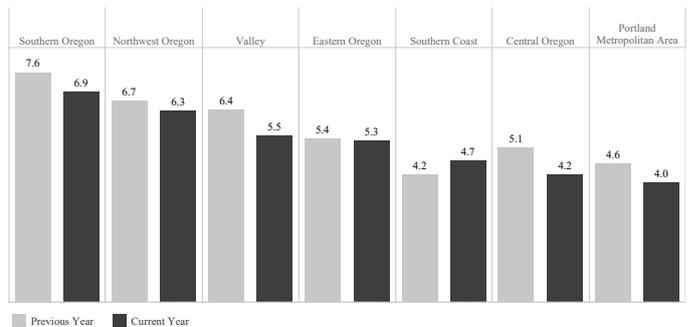
Population-adjusted Potentially Avoidable visits were highest in Southern Oregon and Northwest Oregon. They decreased in all regions except for Southern Coast.

All regions had some form of chest pain among their top three diagnoses for High Utilizers. Northwest Oregon and Portland Metro were the only regions to not have abdominal pain among their top three diagnoses for High Utilizers.

**Comorbidity & Substance Use Disorder by Region**  
(High Utilizer Visits /1000 Residents)



**Potentially Avoidable Visits by Region**  
(High Utilizer Visits / 1000 Residents)



**Top Diagnoses by Region**  
(High Utilizer Visits)

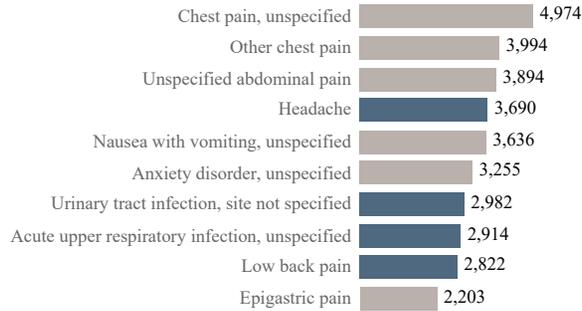
	Central Oregon	Eastern Oregon	Northwest Oregon	Portland Metro	Southern Coast	Southern Oregon	Valley
Chest pain, unspecified	550	258	505	2,827	414	622	2,415
Unspecified abdominal pain	578	294	481	2,080	484	543	1,620
Other chest pain	301	326	557	2,635	361	403	1,400
Headache	332	195	429	2,416	381	457	1,640
Nausea with vomiting, unspecified	337	178	512	2,022	359	484	1,506
Anxiety disorder, unspecified	205	167	409	1,966	314	304	1,301
Urinary tract infection, site not specified	291	208	379	1,173	539	350	1,519
Low back pain	242	236	373	1,577	328	270	1,282
Acute upper respiratory infection, unspecified	188	165	488	1,727	277	248	1,084
Epigastric pain	202	100	317	1,445	148	254	787

The top three diagnoses in each region are highlighted

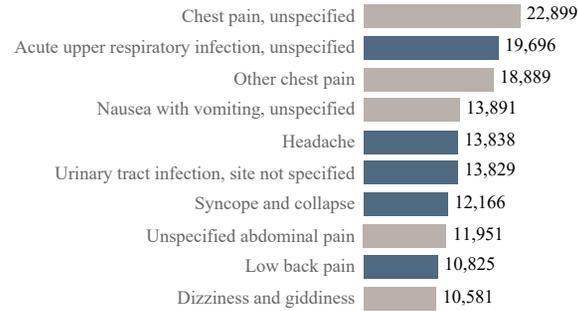
# Q1 2018 - Q4 2018 EDIE DASHBOARD

## HIGH UTILIZER DIAGNOSES

### Top Diagnoses (High Utilizer Visits)

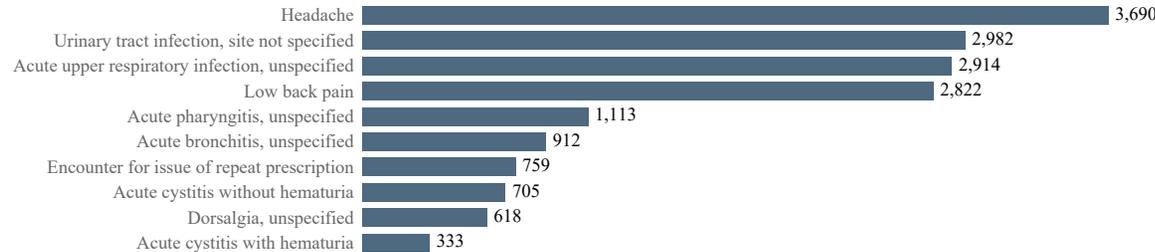


### Top Diagnoses (Non-High Utilizer Visits)

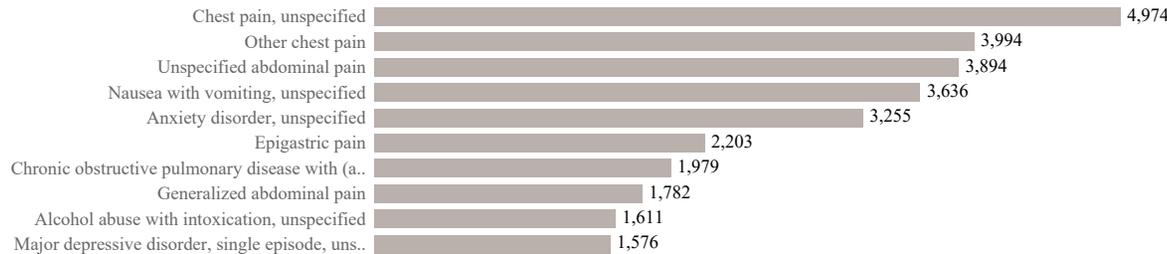


Blue bars represent Potentially Avoidable diagnoses

### 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 third-most common diagnosis for High Utilizers was abdominal pain, which is only eighth 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 urinary tract infections as one of their top diagnoses
- Joiners did not have headache as one of their top diagnoses, unlike the other movement groups

### Top Diagnoses by Movement Group (High Utilizer Visits)

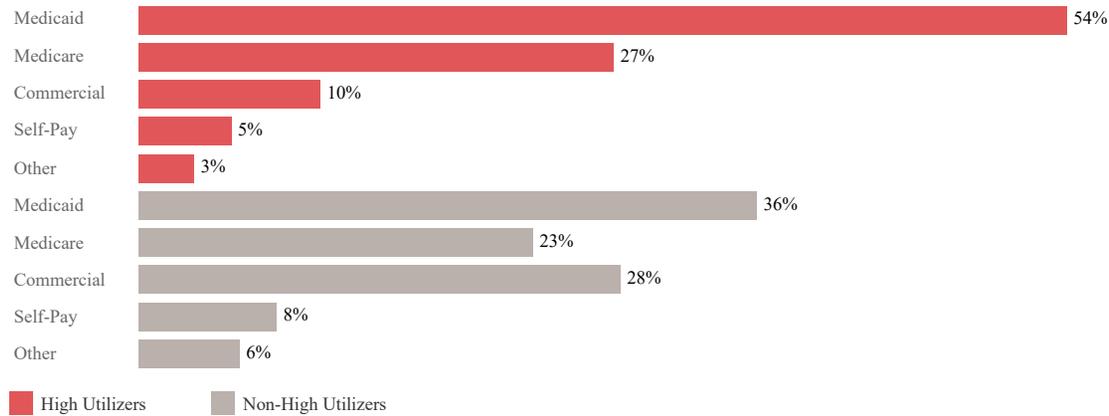
Movement Group	Diagnosis	Count
Joiner	Chest pain, unspecified	2,785
	Other chest pain	2,213
	Unspecified abdominal pain	2,124
	Nausea with vomiting, unspecified	2,048
	Urinary tract infection, site not specified	1,941
Leaver	Chest pain, unspecified	644
	Acute upper respiratory infection, unspecified	610
	Other chest pain	586
	Headache	583
	Urinary tract infection, site not specified	526
Stayer	Chest pain, unspecified	2,189
	Other chest pain	1,781
	Unspecified abdominal pain	1,770
	Headache	1,759
	Nausea with vomiting, unspecified	1,588

# Q1 2018 - Q4 2018 EDIE DASHBOARD

## HIGH UTILIZER PAYORS

### Payor Percent

(High Utilizer vs Non-High Utilizer Visits)



### Insights:

High Utilizer Visits Were:

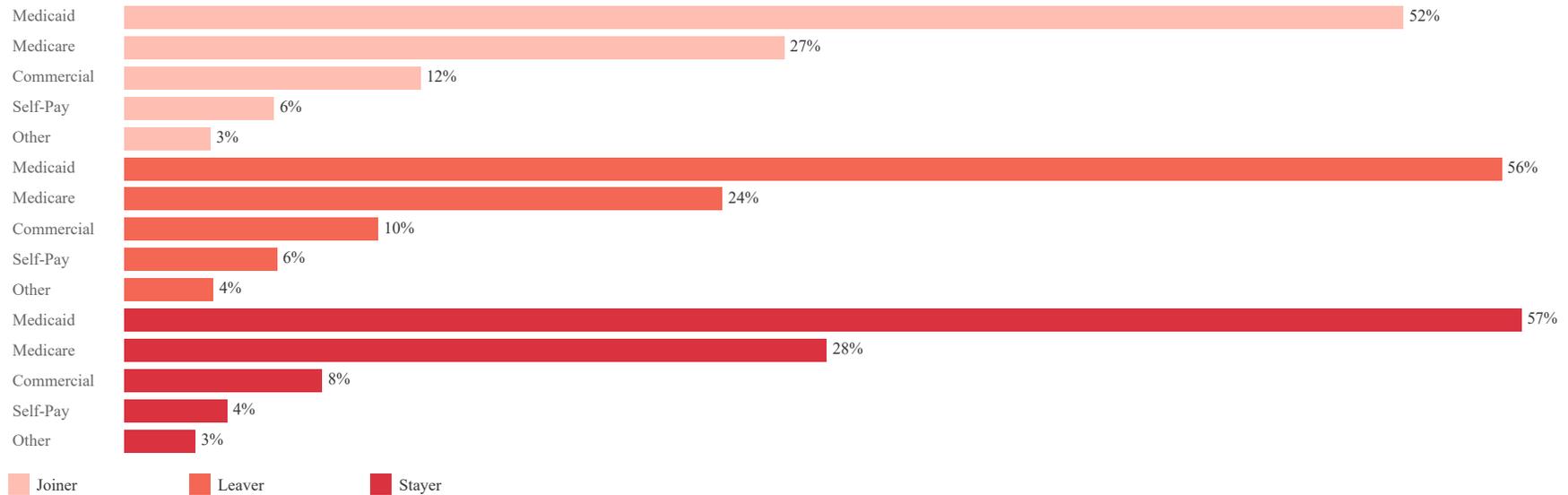
- More likely to be paid by Medicaid than Non-High Utilizers
- Less likely to be paid by a Commercial payor than Non-High Utilizers

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

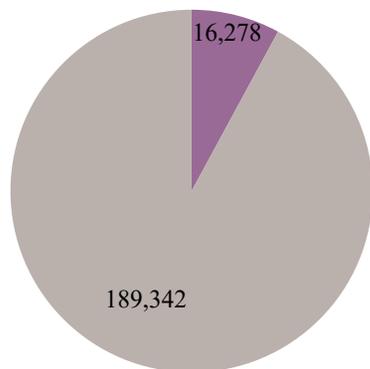
(High Utilizer Visit Movement Groups)



# Q1 2018 - Q4 2018 EDIE DASHBOARD

## SUPER UTILIZER ANALYSIS

**Super Utilizers vs High Utilizers**  
(Count)



■ Super Utilizers    ■ Other High Utilizers

### Insights:

Super Utilizers Basic Info:

- Super Utilizers are patients that have visited an ED 25 or more times during the past four quarters
- 7.9% of High Utilizers are Super Utilizers

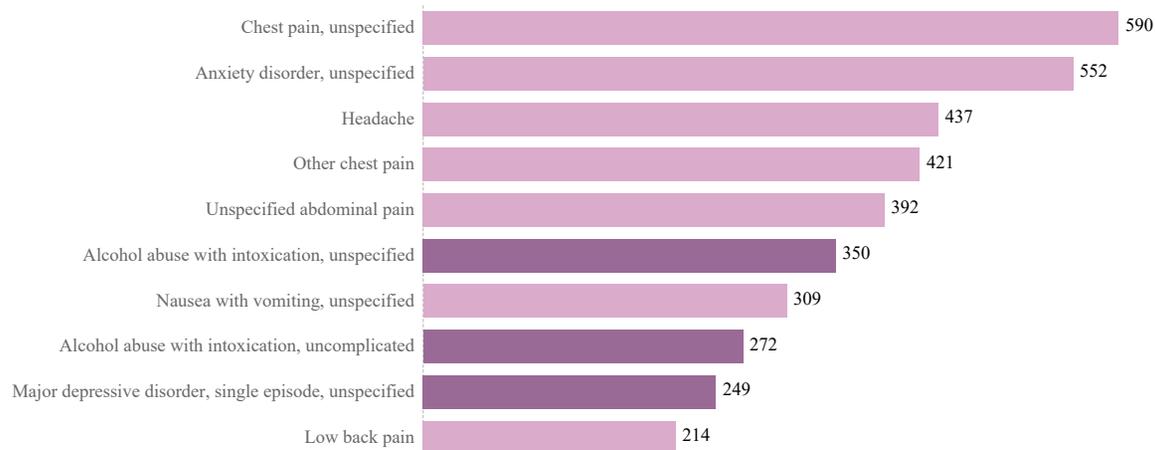
Super Utilizer Diagnoses:

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

Super Utilizer Payors:

- 55% of Super Utilizer visits had a primary payor of Medicaid, compared to 54% for all High Utilizers and 36% for Non-High Utilizers

**Super Utilizer Diagnoses**  
(Top 10 by Count)



**Super Utilizer Payors**  
(Percent of Total)

