

Introduction

Senior and Disabled Services (SDS) performs eligibility screening, case management services, and facility oversight for people in Lane County, including those people on the Oregon Health Plan (OHP). SDS services are provided to clients age 60 and over and disabled individuals age 18 and over, as well as people on long-term care. Lipa is the managed care organization contracted with the Department of Medical Assistance Programs (DMAP) to manage the OHP population's physical health and process claims in Lane County. SDS and Lipa have a long history of communication regarding the care of members who are managed by both entities; however, data has not in the past been transferred or shared via health information exchange.

This report looks at Lipa's emergency department (ED) visits for the shared population, stratifying cost and utilization by patient demographics as provided by SDS, to determine which members are the highest utilizers and cost-drivers, and which members would benefit most from targeted and integrated interventions coordinated by both SDS and Lipa.

Methods

Health Policy Research Northwest (HPRN) pulled member identifiers for all Lipa members who accessed the ED in the two years spanning July 2009 to June 2011. Only paid visits were included in the claims pull. Examples of ED visits that were not paid were denials because the member wasn't eligible or denials for duplicate claims submitted. In addition, ED visits that resulted in an admission to the hospital were not included in this analysis because the payment is bundled into payment for the inpatient hospital claim. The member identifiers were sent to SDS, who then provided HPRN with member demographics from Oregon Access, the online system of the Department of Medical Assistance Programs. There were 3,339 members for which SDS provided information; for these members, SDS was able to determine case management status and marital status as well as the service priority level (SPL) of members on long-term care. Other information was provided for the case managed population only and included place of residence, whether the member was reported or self-reported as having a mental health disorder(s), and diagnosis-related information from case managers or self-reported by the member. This information was not used since it was available for only 10 – 17% of the population; the high missing rate meant no valid analysis could be performed.

Lipa's policy is to send letters to members who utilize the ED twice or more in six months, warning that their use of the ED is high. Using this policy to identify members with high ED utilization, a cut-point for high utilization was established as ≥ 2 visits in six months of enrollment. HPRN determined the number of months the member was enrolled (member months) and the total number of ED visits in the two year timeframe. If a member had at least 33.33 visits per 100 member months enrolled (the equivalent of two or more visits in six months), the member was flagged as a high utilizer. To establish a cut-point for low utilizers, HPRN used the matching lower percentile that mirrored the percentile of the high utilizers. Assigning a percentile to all visits per 100 member months enrolled, a high utilizer (≥ 33.33 visits per 100 member months) was classified as a percentile of 72.5 or higher. Therefore, the cut-point for a low utilizer was set at the 27.5th percentile, or 8.33 visits per 100 member months enrolled. Because there were such a large number of members with 8.33 visits per 100 or less, however, the low ED use population comprised 33% of the population.

HPRN also classified a visit as emergent or non-emergent. A non-emergent visit was identified based on a total payment of the claim equal to a small screening fee. ED visits with a screen fee indicated that after medical chart review, Lipa's medical management team classified the visit as non-emergent (i.e., treatable in an office setting).

Using the primary diagnosis, HPRN assigned 2010 Clinical Classification Software (CCS) Level I and II diagnosis categories for each ED visit. The CCS was developed by the Agency for Healthcare Research and Quality to classify the more than 13,000 ICD-9 diagnoses into clinically relevant categories. The CCS Level 1 consists of 18 broad categories while Level II provides more detailed classifications within the Level 1 categories.

Findings

There were 3,339 members managed by both SDS and Lipa who utilized the Emergency Department (ED) between July 2009 and June 2011; these members comprised about 16% of Lipa members who utilized ED in this timeframe. The shared population had 32% higher visits per member month enrolled than did the rest of the Lipa population (Table 1). In addition, this population showed 31% higher ED costs per member month enrolled than the Lipa population. However, the percent of ED visits classified as non-emergent in the SDS population was substantially lower than the Lipa only population (10% vs. 19%, respectively).

Table 1: Lipa Members Who Utilized the Emergency Department (ED), SDS-Lipa Population vs. Lipa - Only Population, 7/2009-6/2011

Member Type	Average Member Months Enrolled	Visits per 100 Member Months Enrolled	Percent of Visits Non-Emergent	ED Cost per Member Month Enrolled
Lipa/SDS Population (n=3,339)	20.24	32.83	10%	\$62.68
Lipa Only (n=17,834)	16.08	24.90	19%	\$47.86

Cost and Utilization Analysis for Shared SDS-Lipa Members

Case Management Status

Between 2009 and 2011, on average, about one in five SDS members was case managed. Of the shared members who utilized the ED, the same percent were case managed by SDS (Figure 1). Because the non-case managed population made up the vast majority of SDS-Lipa members, this group also accounted for the greatest percent of ED utilization and cost (Figure 2). Case managed members accounted for 19% of ED visits but accrued 17% of ED costs, showing slightly lower costs than expected based on percent of membership and visits. Their non-emergent ED visits comprised only 10% of all non-emergent ED visits in the shared population (Figure 2), substantially less than what would be expected based on percent of membership and visits. Members who were not case managed also had a higher cost per member and higher cost per month enrolled (Table 2).

All 650 case managed members were on Long Term Care, of which 594 had service priority levels (SPL) assigned to them, indicating the level of care needed due to physical and mental functionality. Due to small sample sizes for most SPLs, cost and visit averages were not calculated. SPLs 3, 7 and 10, however, comprised the largest percent of members on LT C who utilized the ED. These three SPL categories accounted for 12% of ED costs, and 14% of visits, but had lower costs per member, costs per claim, and visits per member than those members not on long term care (Table 3).

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Figure 1: Shared SDS-Lipa Members Who Utilized the Emergency Department (N=3,339), Stratified by Case Management (CM) Status, 7/2009-6/2011

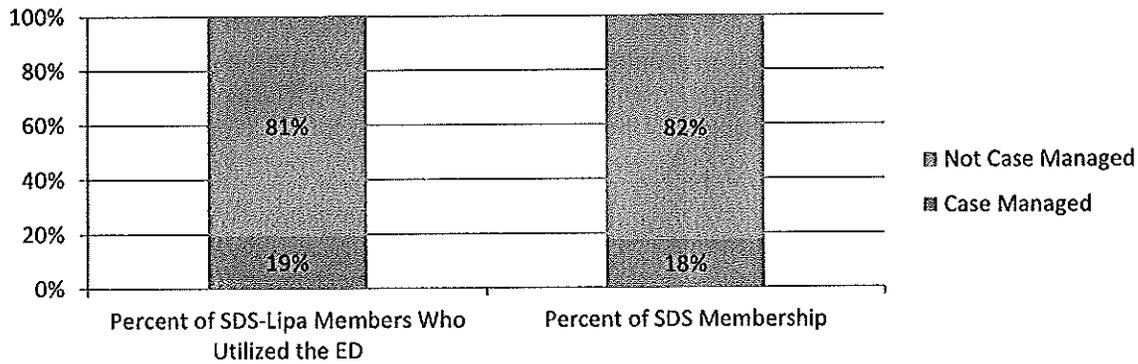


Figure 2: Cost and Utilization by Shared SDS-Lipa Members Who Utilized the Emergency Department (N=3,339), Stratified by Case Management Status, 7/2009-6/2011

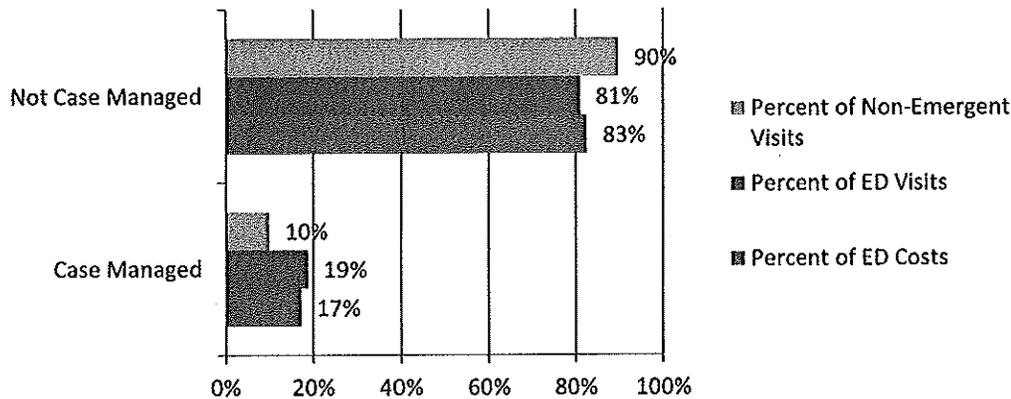


Table 2: Average ED Costs and Utilization by Shared SDS-Lipa Members Who Utilized the Emergency Department (N=3,339), Stratified by Case Management Status, 7/2009-6/2011

Case Management Status	Cost per ED Visit	Cost per Member Each Month Enrolled	Mean Visits per 100 Member Months Enrolled	Percent of ED Costs
Case Managed (n=650)	\$175	\$53	30.46	17%
Not Case Managed (n=2,689)	\$195	\$65	33.43	83%
Overall	\$191	\$63	32.83	100%

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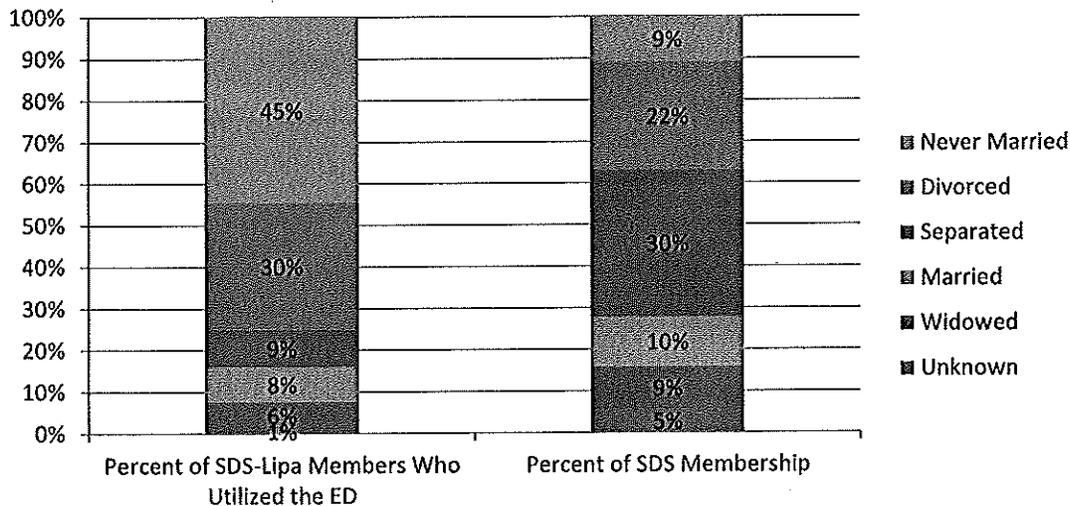
Table 3: Average ED Costs and Utilization by Shared SDS-Lipa Members Who Utilized the Emergency Department (N=3,174), Stratified by Selected Service Priority Level, 7/2009-6/2011

Service Priority Level	Cost per ED Visit	Cost per Member Each Month Enrolled	Mean Visits per 100 Member Months Enrolled
Not on Long Term Care (n=2,689)	\$195	\$65	33.43
3 (n=283)	\$166	\$47	28.49
7 (n=143)	\$180	\$57	31.57
10 (n=59)	\$177	\$55	31.05

Marital Status

Comparing the percent of members in the SDS program to the percent of SDS-Lipa members who utilized the ED, a substantially higher percentage of members who were never married or divorced utilized the ED than did members who were separated, married, or widowed. Shared members who were never married or divorced comprised 31% of the SDS population, but were 75% of the shared members who utilized the ED (Figure 5).

Figure 5: Shared Lipa-SDS Members Who Utilized the Emergency Department (N=3,339) and All SDS Members, by Marital Status, 7/2009-6/2011



Shared members who were never married or divorced accrued 74% of costs and 76% of visits (Figure 6). These same members accounted for 71% of non-emergent ED visits (Figure 6). However, members who were separated comprised 9% of members who utilized the ED, but accounted for 13% of non-emergent

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ED visits and had higher costs per visit, costs per member, and visits per member than the rest of the population (Table 4).

Figure 6: Shared Lipa-SDS Members Who Utilized the Emergency Department (N=3,339), by Marital Status, 7/2009-6/2011

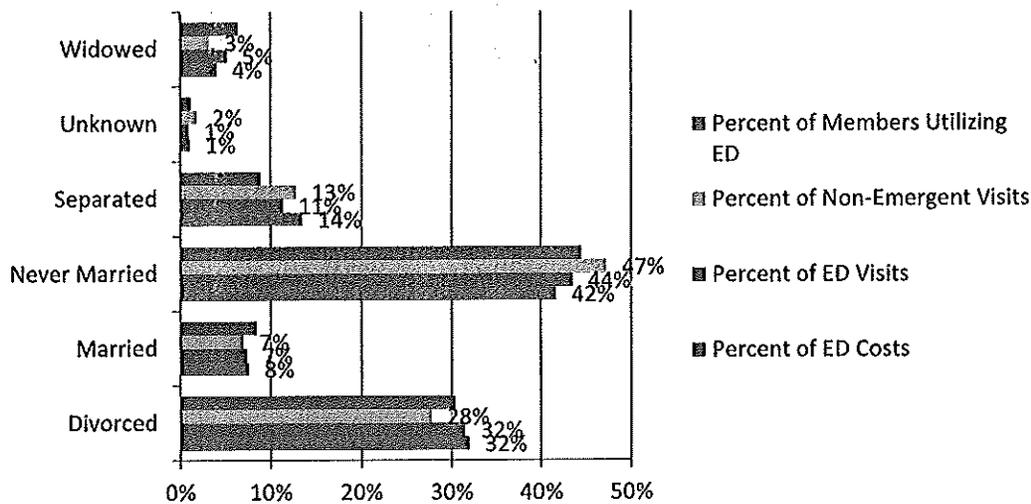


Table 4: Average ED Costs and Utilization by Shared SDS-Lipa Members Who Utilized the Emergency Department (N=3,339), Stratified by Marital Status, 7/2009-6/2011

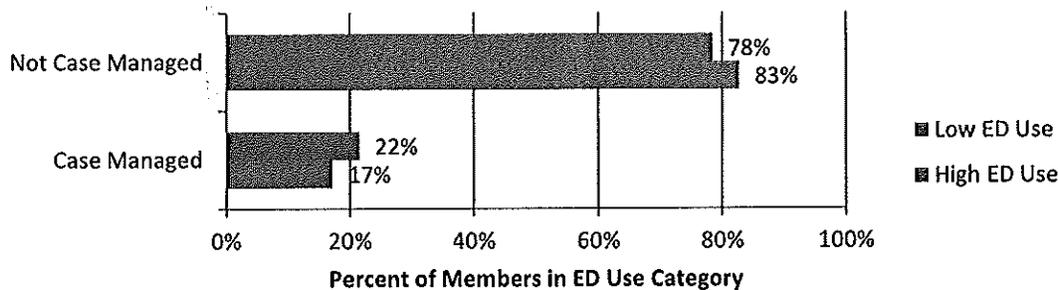
Marital Status	Mean Cost per ED Visit	Cost per Member Each Month Enrolled	Mean Visits per 100 Member Months Enrolled	Percent of ED Costs
Divorced (n=1,018)	\$194	\$65	33.45	32%
Married (n=283)	\$196	\$59	29.98	8%
Never Married (n=1,486)	\$183	\$58	31.77	42%
Separated (n=297)	\$227	\$98	43.22	14%
Unknown (n=40)	\$221	\$72	32.49	1%
Widowed (n=215)	\$149	\$40	26.82	4%
Overall	\$191	\$63	32.83	100%

Characteristics of High-Utilizers vs. Low-Utilizers

Members were considered high ED-utilizers if they had 2 or more visits per 6 months enrolled, or 33.33 or more visits per 100 member months enrolled. Members were considered low ED-utilizers if they had one visit or less every 12 months, or 8.33 or fewer visits per 100 member months enrolled. There were 918 high ED utilizing members and 1,096 low ED utilizing members, comprising 27.5% and 33%, respectively, of the shared Lipa-SDS members who utilized the ED.

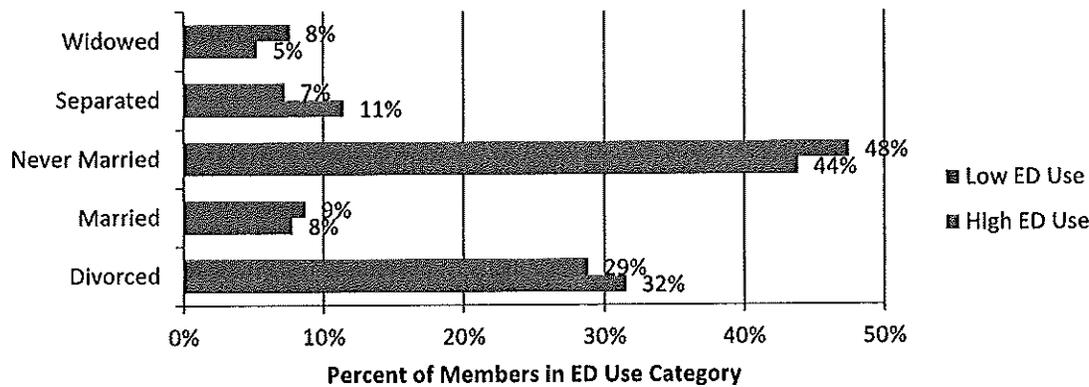
Recall that 19% of the Lipa-SDS ED utilizing population was case-managed. Stratifying the ED utilizing population into high vs. low ED use reveals a slightly lower proportion of high ED utilizers were case managed by SDS than the low utilizing members (17% vs. 22%, respectively; Figure 7).

Figure 7: Shared Lipa-SDS Members Who Utilized the Emergency Department (N=2,014), by Utilization Category and Case Management Status, 7/2009-6/2011



Members classified into the high ED-utilizing category had a higher percentage of “separated” or “divorced” members than the low ED utilizing population. Correspondingly, members classified into the high ED-utilizing category had a lower percentage of “widowed” or “never-married” members than in the low ED utilizing category (Figure 8).

Figure 8: Shared Lipa-SDS Members Who Utilized the Emergency Department (N=2,014), by Utilization Category and Marital Status, 7/2009-6/2011



Cost and Utilization Analysis for High ED Utilizers vs. Low ED Utilizers

The high-use population generated one ED visit every 39 days, and the low ED use population generated one visit every 18 months. Due to the high frequency of use, members with high ED use comprised 68% of ED costs in the shared Lipa-SDS population, and had 15 times higher ED costs per member month enrolled (\$184 vs. \$11). However, the mean cost per visit was also 10% higher for the high-ED use population (Table 5).

Table 5: Average ED Costs and Utilization by Shared SDS-Lipa Members Who Utilized the Emergency Department (N=2,014), Stratified by Utilization Status, 7/2009-6/2011

ED Use	Mean Cost per Visit	ED Cost per Member Each Month Enrolled	Total Visits per 100 Member Months Enrolled	Percent of ED Costs	Percent of Members who Utilized the ED
High (n=918)	\$232.51	\$183.59	78.96	68.2%	27.5%
Low (n=1096)	\$210.34	\$11.85	5.63	7.1%	32.8%

Based on Clinical Classification Software (CCS) Level II categories, Figures 9 and 10 display the 15 ED visit reasons that generated the greatest percentage of ED costs, visits and non-emergent visits for the low ED use and high ED use populations. For low ED utilizers, the top reasons for visiting the ED, based on cost and frequency, were heart diseases, "symptoms, signs and ill-defined conditions," which includes pain and other symptoms for which no underlying cause was discovered, and respiratory infections, followed by sprains and strains and urinary system diseases (Figure 9). For high ED utilizers, the primary reason for ED utilization, based on cost and frequency, was "symptoms, signs and ill-defined conditions." This diagnostic category was followed by heart diseases, diseases of the urinary system, nervous system disorders, headaches and migraines, and superficial injuries. Of note, in the low ED use population, the top 15 reasons for ED use were primarily physical disorders and diseases; however, the high ED use population's top 15 reasons for ED use included mood disorders and alcohol-related disorders (Figure 10).

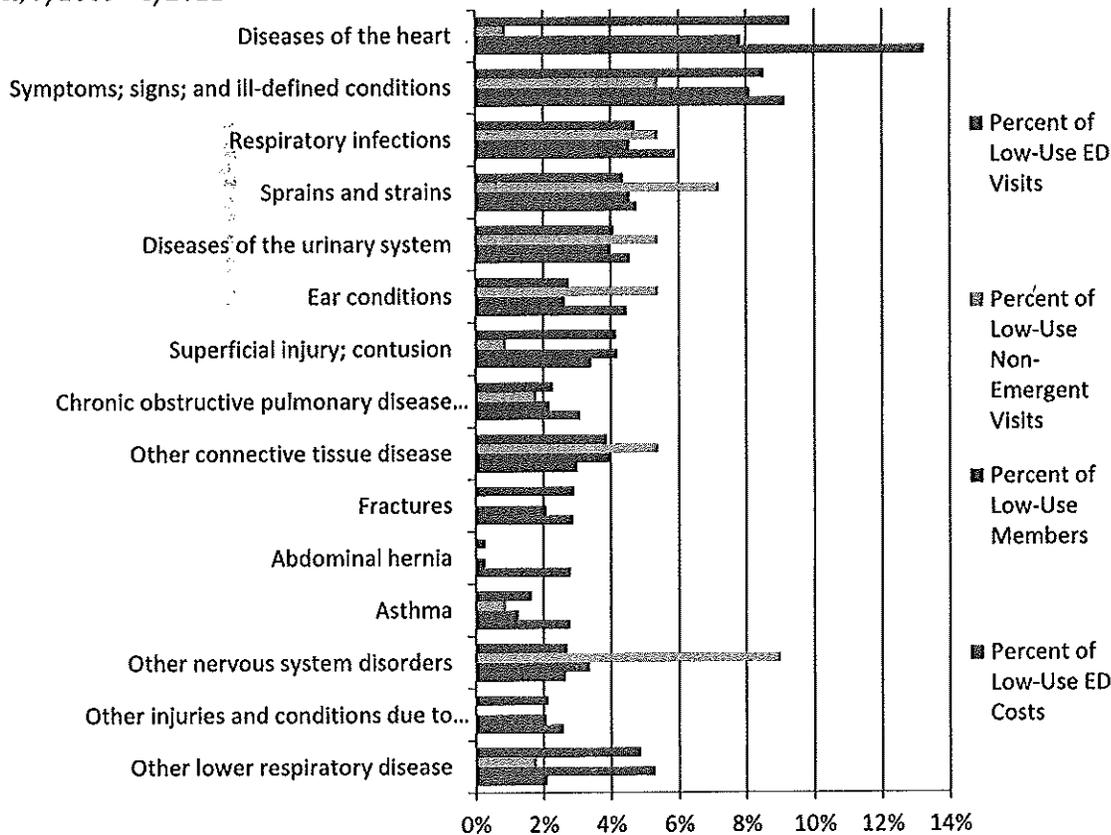
In Figure 10, the first three CCS Level II categories for high ED utilizers showed a disproportionately larger percent of costs compared with visits. We would expect diseases of the heart to generate more expensive visits. The higher cost for diseases of the urinary system were due to calculus of the urinary tract (22% of high-use ED visits and 34% of high-use ED costs for this CCS category). The higher cost for "symptoms, signs and ill-defined conditions" was due to abdominal pain (62% of high-use ED visits and 69% of high-use ED costs for this CCS category). Figures 7 and 8 also show that the ED costs for CCS category "symptoms, signs and ill-defined conditions" was higher in the high utilizers (15%) as compared to low utilizers (9%). Again, this was due to a greater prevalence of visits related to abdominal pain in the high ED utilizers as compared to low utilizers: 47% of high utilizers with "symptoms, signs and ill-defined conditions" had abdominal pain, compared with 42% low utilizers in that category.

Because non-emergent ED visits are reimbursed by Lipa with only a screening fee, non-emergent ED visits were not a large cost-driver. Utilization-wise, both the low and high ED utilizers generated their

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highest percentage of non-emergent visits for nervous system disorders (9% and 10% respectively), followed by sprains and strains (both 7%) and respiratory infections (5% and 7%). This indicates that there is no apparent condition-specific intervention for reducing non-emergent ED use in the high ED use population that could not also be applied to the low ED use population (Figures 9 and 10).

Figure 9: Top 15 Reasons for Emergency Department Utilization for Shared SDS-Lipa Members Categorized as Low Use Who Had Fewer than One ED Visit in 12 Months (n=1,096), Based on CCS Level II, 7/2009 - 6/2011



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Figure 10: Top 15 Reasons for Emergency Department Utilization for Shared SDS-Lipa Members Categorized as High Use Who Had Two or More ED Visits in Six Months (n=918), Based on CCS Level II, 7/2009 - 6/2011

