

EXECUTIVE SUMMARY

Emergency Department Utilization in Lane County, 2005 & 2006

Background

Health Policy Research Northwest is pleased to submit a report of Emergency Department utilization in Lane County for 2005 and 2006. This work was supported by a grant from the 100% Access Healthcare Initiative. Emergency Department discharge data was received and analyzed in aggregate from four hospitals in Lane County: McKenzie-Willamette Medical Center, Sacred Heart Medical Center, Peace Harbor Hospital and Cottage Grove Hospital. Results are based on metrics identified by the 100% Access Healthcare Initiative members and the 100% Access Metrics Committee and are intended to provide insight into healthcare access utilization patterns in Lane County. HPRN was fortunate to receive mentorship and technical expertise from Robert A. Lowe, MD, MPH, Director of the Center for Policy and Research in Emergency Medicine at Oregon Health & Science University.

This report completes a series of three presentations to the 100% Access Healthcare Initiative (March 14, May 9, & July 11, 2007). Presentations are included in the appendices. In addition to the information previously presented to the Healthcare Initiative, the final report includes additional detail regarding:

- * admitted versus discharged patients,
- * frequent Emergency Department utilization,
- * "potentially preventable" Emergency Department visits and visits that might have been treated or prevented by a primary care providers, &
- * comparison of ED utilization among Lane County residents with a statewide sample of ED visits.

Result Highlights

Results are limited to Emergency Department (ED) visits by patients with Lane County zip codes of residence in 2005 and 2006 and include cumulative frequency of visits for both years. Years were combined to strengthen validity of comparison to a statewide sample of emergency department visits maintained by OHSU. Repeat data collection and analysis in 2007 will allow Lane County to begin analyzing utilization trends over time.

Demographics, Insurance Type, & Charges

- * 198,651 total visits to Emergency Departments in Lane County
- * **19.8%** of visits were visits by uninsured Lane County residents versus an estimated **15%** of ED visits statewide,
- * 53% of all ED visits were by females,
- * 65% of all visits were by clients between 18 and 64 years,
- * 28% of all visits to the ED occurred during weekday business hours, 72% of ED visits occurred at times when most primary care offices were closed,
- * **15%** of ED visits resulted in hospital admission,
- * ED patients that are admitted incurred **78%** of \$590 million in charges over a two year period.

Result Highlights

Frequent or "High Use" Emergency Department Visits

- * Overall, approximately **1 in 10 clients (10%)** visited the Emergency Department at least 4 times in a two year period.
- * 43,556 visits were made by 4506 clients with at least six ED visits in a two year period, of which 40.5% were clients between 18 and 39 years.
- * **Among visits by clients with at least six visits in two years, 23.5% were uninsured, 28.3% were Medicare-sponsored and 30.5% were OHP-sponsored.**
- * There was substantial insurance instability or "churning" among frequent users. Of the 1,615 clients who made six or more ED visits in two years and were covered by OHP for at least one of those visits, 632 (39%) had at least one visit while uninsured. Of 87 clients who made 24 or more visits and were covered by OHP for at least one, 43 clients (49%) had at least one visit while uninsured.
- * In total, 165 clients visited the ED at least 24 times (one time per month) in a two year period, **42.5%** of their visits were OHP-sponsored.

Disease-Specific Findings

Two different methodologies were applied to determine why Lane County residents visit the Emergency Department; a standardized disease classification system that groups ICD-9 codes by 18 broad categories and alternatively, selection of specific ICD-9 codes that allow for a comparison of Emergency Department utilization in Lane County versus a statewide sample.

The Multiple-Level Clinical Classification System, developed by the Agency for Healthcare Research and Quality, was utilized to describe:

- * Primary diagnoses for all Emergency Department visits
- * Primary diagnoses for "high use" OHP and uninsured clients
- * Mental health conditions among uninsured clients

Disease-specific algorithms were used to better define Emergency Department visits related to:

- * Mental health conditions
- * Drug and alcohol diagnoses
- * Co-morbid behavioral health conditions
- * Dental care
- * Diabetes
- * Asthma
- * Injuries

Result Highlights

The table below compares Emergency Department visits, for any diagnosis, among Lane County residents with Oregon's statewide sample of rural and urban Emergency Department visits for mental health, drug and alcohol-related diagnoses. Dental visits are reported as a primary diagnosis. The statewide data sample contains an estimated 55% of all Oregon ED visits, including one hospital system in Lane County.

Lane County resident Emergency Department Visits (2005 & 2006) versus a sample of Oregon rural and urban Emergency Department visits (2004).

Diagnosis	Lane County (2005 & 2006)	Oregon Rural (2004)	Oregon Urban (2004)
Mental Health*	12.8	7.2	7.7
Alcohol	4.0	2.4	2.6
Drugs	3.3	1.1	1.7
Primary Dental	2.8	2.0	2.0

*excludes drug and alcohol diagnoses, organic disorders of the brain, such as Alzheimer's, sleep disorders.

Defining behavioral health conditions as mental health, drug and/or alcohol diagnoses reveals that **29.7% of all visits to the Emergency Department are by persons that have at least one additional ED visits for a behavioral health diagnosis.** Among OHP and uninsured clients, this frequency of co-morbid behavioral health conditions increases to 35.0%.

Emergency Department visits for **asthma** were examined as a primary diagnosis and among visits for any diagnosis. Result highlights include:

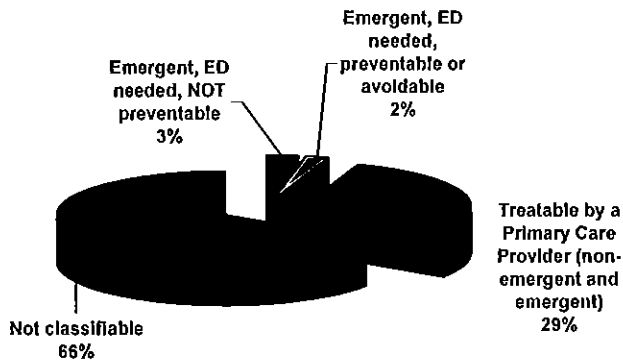
- * Asthma as a primary or co-morbid condition is highest among OHP clients, accounting for approximately 7.2% of ED visits compared to 5% of visits among Commercial and uninsured populations.
- * The uninsured have the highest frequency of discharged asthma visits (n=604 uninsured visits versus 541 and 562 visits for Commercial and OHP, respectively).
- * The frequency of admissions for primary asthma cases among Commercial (11%) and OHP patients (11%) is approximately twice that of uninsured patients (5%).
- * 26% of Medicare patients with a primary diagnosis of asthma are admitted.

Result Highlights

Potentially Preventable or Avoidable Emergency Department Visits

A standard algorithm was applied to Emergency Department visits to determine the proportion that may have been potentially preventable or treatable in a primary care setting. The majority of visits could not be classified. Nearly 1/3 of ED visits that were classified may have been treatable by a primary care provider, although up to 25% of these "treatable" visits may actually be more appropriately classified as emergent visits that required use of the ED. These results should be interpreted with caution. The developers of the algorithm emphasize that it was not developed to identify "inappropriate" ED visits or visits that could be triaged out of an ED but rather to identify population groups that have compromised access to primary care outside of the ED. The algorithm applied can potentially be used as a benchmarking index, but should not be used to generalize "inappropriate" visits to the Emergency Department.

≥ 75% probability that the visit to the Emergency Department was:



Among visits that could be classified, the data suggests OHP and uninsured ED visits may be more likely to be treatable in a primary care setting than visits by Commercial or Medicare visits. Due to the high number of unclassified visits, this observation cannot be validated statistically with confidence. As improved algorithms are developed in upcoming years, more rigorous assessment of preventable/avoidable visits to the Emergency Department can be applied to Lane County utilization data.

Geography of Uninsured Visits in Lane County

A geographical mapping assessment suggests a disparity in access to health services based on frequency of Emergency Department visits by zip code. West Eugene (97402) and Springfield (97477) represent a combined 36.5% of uninsured ED visits, yet the population that resides in these two zip codes represents an estimated 25.1% of Lane County residents. In contrast, South Eugene (97405) houses roughly 13.6% of Lane County residents, but accounts for 5.1% of uninsured ED visits between 2005 and 2006.

Result Highlights

The table below estimates the uninsured ED visit rate per 1,000 population, based on 2000-2005 projected growth rate for Eugene and Springfield.

Uninsured Emergency Department visits, Eugene and Springfield metropolitan areas,* 2005 & 2006.

City	Zip Code	Frequency of Hospital Admissions	2005 Uninsured ED Visits	Uninsured Visits per 1,000
Eugene	97401	3744	38766	96.6
Eugene	97402	6688	47052	142.1
Eugene	97403	633	10727	59.0
Eugene	97404	2436	29939	81.4
Eugene	97405	2010	45628	44.1
Eugene	97408	485	9871	49.1
Springfield	97477	7685	37304	206.0
Springfield	97478	4872	33505	145.4

*based on 2000-2005 growth estimates for Eugene and Springfield, US Census.

Discussion & Recommendations

Annual benchmarking of Emergency Department visits by Lane County residents can assist in determining health impact and the community's economic return on investment for programs that increase access to health services. Communities have realized that as the proportion of uninsured residents increases, expensive Emergency Department utilization will increase. Results provide a standardized and objective measurement tool that can be applied to capture county-wide, regional or community level progress toward achieving goals of the 100% Access Healthcare Initiative. As the database grows in future years, we will have the ability to look back in time and tailor results for specific committees, disease interventions or apply improved Emergency Department algorithms, when developed. The following areas of need in Lane County are highlighted:

- * Low frequency of hospital admissions (15%) account for 78% of ED charges, suggesting that interventions aimed at providing timely and effective health care that prevent hospital admissions warrant particular attention;
- * The large number of ED visits that were assigned high probabilities of being primary care treatable (29%) points to the need for improved access to primary care for uninsured and under-insured Lane County residents;
- * Marked difference in frequency of behavioral health conditions exist between insurance types in Lane County (mental health, drug and alcohol diagnoses);
- * Marked differences in frequency of ED visits for primary dental care exist between insurance types in Lane County;
- * OHP and uninsured clients demonstrate similar patterns of care, frequency of high ED use and changes between OHP and uninsured status suggesting care delivery patterns and impact of interventions are linked;
- * Geographic disparities in utilization patterns suggest community health resources are needed in Springfield (97477) and West Eugene (97402).

HPRN recommends the 100% Access Healthcare Initiative continue to track Emergency Department utilization in Lane County.