

## Executive Summary

### *Emergency Department Utilization in Lane County, 2005 – 2007* *A Project of the 100% Access Healthcare Initiative*

## Background

Community healthcare collaboratives such as the 100% Access Healthcare Initiative may play an increasingly important role in local healthcare delivery. Over 600 communities across the United States are engaged in collaborative efforts to increase access to timely and effective health services and decrease access-related disparities. Each collaborative's approach is as unique as the community it serves, but they all share a common need for evidence-driven solutions. Local policy- and decision-makers need the most practical and feasible mechanisms for quantifying the impact of such efforts to reform healthcare delivery. Population-based studies can drive new program development and provide long-term benchmarking for healthcare collaboratives over time. Emergency Department utilization data are an important tool for assessing the healthcare needs of any community and for benchmarking progress toward common healthcare delivery goals.

In 2007, the 100% Access Healthcare Initiative commissioned the first study of ED utilization in Lane County, Oregon. The study provided baseline data based on 2005-2006 ED visits and highlighted significant disparities in Lane County when compared to a sample of statewide data. The current report expands on this earlier work, describing three years of potential trends (2005, 2006, 2007). The dataset includes all ED visits in Lane County, thereby ensuring generalizability of the results to the population that uses the ED.

## Methods

Emergency Department discharge data were 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 Community Hospital. Data recoding is comparable to the strategies used to evaluate aggregate statewide data, which was completed by the Center for Policy and Research in Emergency Medicine (CPR-EM) at Oregon Health & Science University. Results are presented in two parts: all ED visits and uninsured ED visits. Both analyses are limited to ED visits by Lane County residents. To compare one group to another, statistical significance was evaluated with an odds ratio (OR) and a 95% confidence interval. An OR is a ratio of the odds of a disease/characteristic occurring in one group compared to the odds of it occurring in another group.

## Result Highlights

### Who Visits the ED, When and How Much Cost is Incurred?

The increase in emergency department (ED) visits between 2005 and 2007 (6.3%) outpaced the estimated county population growth over the three year study period (2.2%). Substantial changes occurred in the proportion of ED visits by payer type:

- Uninsured visits **increased** from 19.2% to 20.3%
- Commercial visits **decreased** from 25.9% to 24.3%
- Oregon Health Plan – OHP (Medicaid) visits **slightly decreased** from 19.9% to 19.4%

Weekday, business hour ED utilization is lowest in the commercial and OHP populations, although the commercial population demonstrated the largest increase in weekday business hour ED visits (8.1%).

Heavy users (more than six ED visits between 2005 and 2007) comprise 2.3% - 2.6% of the individuals that visited a Lane County ED. Each year, patients with OHP accounted for the largest proportion of high use ED visits (31%-33%), followed by Medicare patients (26%-28%), and patients without insurance (23%-25%).

Many differences were noted between ED utilization in the entire patient population versus the uninsured patient population. Nearly 60% of uninsured visits occurred among 18-39 year olds, compared to 35% of ED visits overall. Females make up the majority of the ED visits across the county (54%), while the uninsured visits are mostly males (54%).

According to the National Coalition on Healthcare, the medical inflation rate in 2007 was approximately 6.9%, nearly double the overall inflation rate. While the total number of ED visits in Lane County increased 6.3% from 2005 to 2007, the total charges increased 33.3% from approximately \$274 million to \$365 million annually. Only 15% of ED visits resulted in hospital admission, but incurred 78% of total charges. Charges incurred by the uninsured totaled \$96.4 million over the three year period, with a 47% increase in uninsured charges between 2005 and 2007. It is important to note that not all uninsured care is uncompensated.

### Why Do Lane County Residents Visit the ED?

Intentional and unintentional injury, excluding poisoning, accounted for the greatest proportion of ED visits across all payer types (25% annually). Injury accounted for approximately 43% of all visits among children aged 10-17 years. Uninsured ED patients were less likely to present with injury-related problems than insured clients, with injuries accounting for only 23% of uninsured visits.

### *Behavioral Health*

Behavioral health-related conditions demonstrate notable trends:

- Mental health-related diagnoses were noted at 16% of ED visits in 2007, compared to 12% in 2005, a significant 31% increase.
- The increase in mental health visits was highest among patients with commercial insurance (34.4%) and patients without insurance (32.7%).
- The proportion of visits with an alcohol-related diagnosis was over twice as high in the uninsured patient population as the insured patient population each year.
- OHP clients showed the largest increase in alcohol-related visits between 2005 and 2007 (31% increase versus 24% across all payer types).
- ED visits by uninsured Lane County residents were three times as likely to be alcohol-related as were ED visits by insured residents.
- Drug-related diagnoses did not increase significantly between 2005 and 2007.

### *Dental*

Dental conditions among the uninsured continue to present challenges. A total of 10,399 (3.4%) ED visits from 2005 to 2007 included a diagnostic code for dental care (no trend over time). Dental care was the primary diagnosis among 82% of these visits (n=8,578).

- Uninsured patients were 3.5 times more likely to have a dental-related visit than all other payer types combined.
- Although OHP clients had more primary dental care visits than other insured visits, OHP had the largest proportional decline in primary dental visits during the study period (15%).
- Across all three years, charges for primary dental care accounted for less than 0.3% of all ED charges.

### *Diabetes*

The proportion of diabetes-related visits has increased significantly from 2005 to 2007 from 8% of ED visits to 10%.

- A majority of diabetes-related visits were by Medicare patients; however, visits with a diabetes diagnosis increased by 35.1% among OHP patients, much higher than the overall community increase of 23.8%.
- Overall the proportion of diabetes-related visits increased 50% among 10-17 year olds.
- There is no significant trend among uninsured diabetes-related ED visits.

### *Asthma*

Asthma-related visits increased from 4.9% to 5.7% of ED visits between 2005 and 2007.

- The frequency of asthma-related visits was significantly higher (60%) among OHP patients for each year as compared to all others combined.
- Among patients aged 10-17 years, the proportion of visits with an asthma diagnosis increased nearly 30% from 2005 to 2007.

### Where Might Additional Resources Be Needed?

A geographical assessment was completed to determine the rate of ED visits per 1,000 population based on U.S. Census estimates for each year (Eugene and Springfield cities). The number of uninsured in each zip code is unknown; therefore, the estimates are based on the total population.

- The estimated rate per 1000 total population of uninsured ED visits increased between 10% and 28% in metropolitan area zip codes.
- Compared to the full study population (all ED visits), the percent of ED visits in each zip code attributable to the uninsured ranged from 14% in North Eugene (97408) to 25% in West Eugene (97402).
- There is a disproportionately high number of ED visits attributable to the uninsured population compared to all ED visits across all zip codes.
- Both Springfield zip codes and Eugene's 97402 zip code (West Eugene) had higher estimated rates per 1000 total population of uninsured behavioral health and dental visits.
- Between 44% (97404 and 97478) and 67% (97403) of all dental-related visits were made by uninsured residents in those zip codes.

## Discussion and Recommendations

Reliable data are required to assess the needs of the community, identify critical gaps and to quantify return on community investment. Emergency Department (ED) studies are locally relevant and can be conducted on an annual basis to evaluate the activities of community healthcare collaboratives.

Important differences between the total Lane County ED utilizing population and the uninsured population were identified that should be considered in a comprehensive strategy to improve access and decrease ED utilization. Of these, none was more compelling than the alarming trend observed in alcohol-related ED visits. Unlike drug-related visits, which held stable, alcohol-related visits demonstrate a clear and alarming increase over the past three years. In Lane County, ED visits by uninsured Lane County residents were three times as likely to be alcohol-related as were ED visits by insured residents. Combined with the increasing frequency and proportion of alcohol-related visits between 2005 and 2007, the public health impact of a targeted intervention to reduce alcohol use should be considered, as well as programs to better integrate counseling into existing community prevention services.

The proportion of mental health-related visits increased significantly over the three year period (31%). In 2007, the proportion of mental health-related visits was 16%. In the statewide dataset presented with the Lane County data for 2004, the proportion of mental health-related visits across the state was only 7-8%. The increase in the proportion of mental health related visits across all payer types suggests the current efforts to better integrate physical and mental health should be sustained, if not become a central objective of 100% Access.

The current study highlights areas of increasing community need relating to chronic conditions (diabetes and asthma), particularly among the youth population ages 10-17 years. The ED utilization trend for diabetes-related visits is particularly concerning among youth people ages 10-17 years. Overall, the proportion of diabetes-related visits increased 50% among 10-17 year olds. If these trends continue, the burden of preventable type 2 diabetes will cause increased morbidity and mortality among Lane County youth. Community benefit programs, including the Medical Access Program, should consider the value of comprehensive family-based education regarding the importance of daily physical activity and healthy dietary habits.

The data do not suggest dental care is a significant cause of emergency department utilization in Lane County. Dental care is neither a common reason (3.4% of visits) for visiting the ED or a costly diagnostic code (0.3% of charges for primary dental). However, the uninsured were significantly more likely to have dental care needs than other payer types. The data do not negate the imperative to meet additional preventive and acute dental care needs in the community, and may simply reflect a lack of emergent dental cases in the county EDs.

The proportion of Lane County ED visits by uninsured patients has risen at a higher rate than any other payer type, while the proportion of visits with commercial and OHP sponsored coverage declined. Although the uninsured are burdened with substantial barriers to accessing healthcare services, insured Lane County residents also demonstrated increasing utilization for behavioral health conditions and chronic diseases. Results suggest all payer types could benefit from innovative community approaches to care coordination, chronic disease management and health education initiatives.