IAP Medicaid Innovation Accelerator Program

Medicaid Innovation Accelerator Program

Medicaid Beneficiaries with Complex Care Needs & High Costs

BCN IAP: Population Profiling and Analytics

IAP BCN State-to-State Workshop

(Texas portion)

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State and Regional Variation of Outpatient Emergency Department Utilization and Costs Among Individuals with Complex Needs

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ABSTRACT

Addressing the needs of frequent emergency department (ED) users is a focal point of state Medicaid programs. This Texas-based study offers a state perspective of high-utilizers from a large, diverse state Medicaid program. Enrollees who visited the ED five or more times represented 3.3 percent of the Texas Medicaid population, yet accounted for 37.2 percent of visits and 39.2 percent of total ED expenditures. Furthermore, these patients were responsible for 11 percent of hospital stays and 13.2 percent of inpatient expenditures. Approximately, 75 percent of the extremely frequent ED users—enrollees with 10 or more visits—in 2012 remained enrolled in Medicaid two years later. Frequent ED users in Texas Medicaid tend to have high chronic disease burdens (e.g. substance abuse disorders) and present for conditions that are often non-emergent or primary care treatable. These state-level results largely corroborate one of the largest high-utilizer studies in the literature.

BACKGROUND

- Texas Medicaid accounts for approximately 7% of Medicaid enrollees in the United States.[1]
- In 2013, 19% of Medicaid recipients had ≥2 visits compared to 3.9% and 8.1% of those privately insured or with no coverage.[2]
- One systematic review, found that publicly insured populations were over-represented among frequent ED users.[3]
- An estimated $64.4 billion is spent on potentially avoidable ED encounters.[4]
- In one large study, Billings and Raven (2013) reported that, among Medicaid enrollees visiting EDs in New York City in 2007, 10.3% visited ≥5 times, representing 34.2% of all ED visits.[5]
- Regional analyses can reveal geographic variations in health care and outcomes; and identify opportunities for geographically targeted health systems improvement.

OBJECTIVES

1. To examine the variation in patterns of ED utilization and cost at state level. Most of Medicaid care (75%) is provided through a Managed Care system, organized in multiple regions called Service Delivery Areas (SDAs) – **Map 1.**
2. The focus on regional analyses here was on two of the largest Medicaid programs:
   - STAR which serves primarily children and women, and
   - STAR+PLUS which serves members 18 years and older who have a severe disability or those with low income who are 65 years and older.
3. To model the persistence of utilization of ED visits at the ≥5 visit level as a function of health status and other key variables.

Map 1. Texas Managed Care Service Delivery Areas (SDAs)

METHODS

- Examined sociodemographic, financial, and health status indicators across multiple categories of ED visits (i.e., 1, 2, 3-4, 5-6, 7-9, 10-14, and 15 or more outpatient visits).
- Employed the New York University (NYU) ED profiling algorithm[6] to classify visits as "emergent" and "non-emergent" with further classification into categories of preventability - **Figure 1**.
- Studied the variation in ED utilization and preventable visits by Medicaid program and managed care regions (SDAs). Particular focus on those with 5-6 ED visits.
- Applied preliminary behavioral model of healthcare utilization[7] to predict future use of the ED using logistic regression analysis over a period of three years (2012 – 2014) - **Figure 3**.

RESULTS

- Almost one-third of Medicaid enrollees visited the ED at least once in 2014.
- Patients who used the ED ≥5 times represented 3.3% of the Medicaid population, yet accounted for 37.2% of ED visits and 39.2% of total ED expenditure.
- Extremely high users—enrollees with ≥ 10 visits—on average were White (32.6%), female (71.2%), had an average age of 38 years old, had multiple chronic conditions (76.6%), substance use disorders (82%) and mental illness (88.2%).
- Highest ED associated costs were among those who had 3-4 visits - **Figure 2**.
- High utilizers who had ≥5 ED visits in 2012 were 11 times more likely to visit the ED in subsequent years, over two times more likely to have a diagnosed mental illness and 1.5 times to be in the top 10% of ED expenditures - **Figure 3**.

Figure 1. Classification of ED visits according to the NYU algorithm, Texas Medicaid, 2014

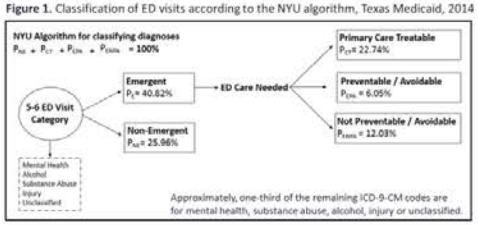
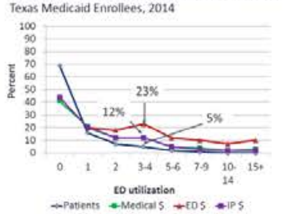
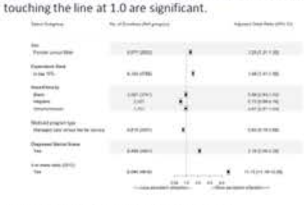


Figure 2. Percent of Total Patients and Medical, ED, and Inpatient (IP) Dollars by ED Utilization Category, Texas Medicaid Enrollees, 2014



Enrollees with 3-4 visits represent 5% of the ED utilizing population 12% of the inpatient costs, and 23% of the ED costs. These estimates exclude pharmacy claims.

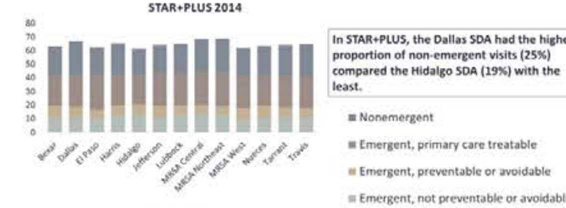
Figure 3. Adjusted* Odds Ratio Plot, predicting ED utilization at the ≥5 visit level in 2013 and 2014. Confidence intervals (CI) not touching the line at 1.0 are significant.



*Adjusted for the following factors (*** = p≤0.005, ** = p≤0.05) Age***, Charlson Comorbidity Index**, disability status***, inpatient stays**, NYU algorithm-based levels of ED visits***

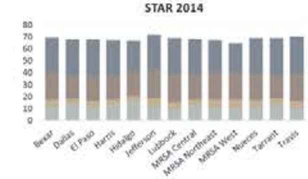
REGIONAL VARIATION IN ED VISIT TYPE

STAR+PLUS 2014



In STAR+PLUS, the Dallas SDA had the highest proportion of non-emergent visits (25%) compared the Hidalgo SDA (19%) with the least.

STAR 2014

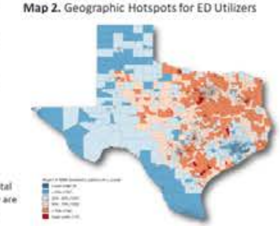


In STAR, the El Paso SDA had the highest proportion of non-emergent visits (31%) compared to the Medicaid Rural Service Area (MRSA) West region (25%) with the least.

FUTURE DIRECTIONS

- **Map 2** shows the geographic distribution of Texas Medicaid enrollees with ≥ 1 ED visits as a proportion of the total number of enrollees.
- This type of analyses, shown here at the census tract level, is planned to identify "hot spots" of high utilizers and target interventions to reduce use and cost.

Map 2. Geographic Hotspots for ED Utilizers



Visit rate was calculated as total number of ED patients/total number of patients. Values are classified as outliers if they are 1.5 times higher/lower than the interquartile range (IQR).

CONCLUSIONS

- One of the largest US state-level studies to date.
- As expected, a relatively small number of Medicaid enrollees are associated with a disproportionate number of visits and costs.
- Statewide, approximately one-quarter of Medicaid visits to EDs are considered non-emergencies. This proportion varies by SDA. NYU algorithm is dated, other methods under consideration.
- Higher prior utilization is a powerful predictor of future ED utilization.
- "Superutilizers" are also complex individuals with concurrent medical problems and socio-economic challenges.

References

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[7] Andersen R, Aday LA, Access to Medical Care in the U.S.: Realized and Potential. Medical Care: 16, 7, 533-546 (1978)

Using data to assist MCOs with BCN

- PPE registry data provided to all MCOs (see sample on next slide)
- HHSC and MCOs regularly compare the findings of the PPEs reports and how to facilitate improvement. It enables a shared view that can be drilled down to individual members.
- HHSC is improving the PPE registry data to enable deeper levels of analysis, which may include data on fee-for-service BCN population
- Additional ad hoc analysis is planned that leverages the EQRO

Enrollees > 3 PPV in 2015

Total Plan	CHIP		STAR		STAR+PLUS		*Plan*	
PPVs	No	%	No	%	No	%	*No*	*%*
3 - 4	229	90.16%	1609	79.65%	2344	58.73%	4182	10.57%
5 - 9	25	9.84%	365	18.07%	1258	31.52%	1648	4.17%
10 - 19	-	-	41	2.03%	301	7.54%	342	0.86%
20- 29	-	-	2	0.10%	53	1.33%	55	0.14%
30 - 39	-	-	2	0.10%	11	0.28%	13	0.03%
40 - 49	-	-	1	0.05%	9	0.23%	10	0.03%
> 50	-	-	-	-	15	0.38%	15	0.04%
Sub-total	254	5.47%	2020	10.02%	3991	27.02%	6265	15.83%
TOTAL	4641	-	20156	-	14770	-	39567	-