THE UNIVERSITY OF CHICAGO
UChicago Medicine

Center for Healthcare Delivery Science and Innovation

Reducing Disparities in Appointment Assistance by Prioritizing Timely Encounters for Medicaid and Uninsured Emergency Department Patients

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AT THE FOREFRONT UChicago Medicine

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Problem

The Medical Home and Specialty Care Connection Program (MHSCC), an emergency department (ED)-based healthcare navigation program, aimed to assess the impact of prioritizing Medicaid and uninsured patients, increased staffing and to evaluate whether a shorter time from ED discharge to program encounter reduces appointment assistance refusal rates.

People with Medicaid or uninsured face significant barriers to care[1]. The MHSCC seeks to improve access to care for ED patients and reduce avoidable ED utilization by prioritizing program participants with Medicaid or who are uninsured. Prior to May 2024, delays and disproportionately high refusal rates likely contributed to poor follow-up and increased ED returns among this group. Baseline data from April 2022 to April 2024 (T1) showed higher than average appointment assistance refusal rates for patients with Medicaid or uninsured.

This evaluation aligns with UCM's Annual Operating Plan and Elevate 2035 by promoting equitable access, reducing ED utilization, and improving patient outcomes in the Southside of Chicago.

Goal

To evaluate whether prioritizing Medicaid and uninsured program participants and reducing time from ED discharge to program encounter decreases appointment assistance refusal rates by payor group. This evaluation will compare data from April 2022-April 2024 (T1) to May 2024-May 2025 (T2).

Improving timeliness and prioritization could reduce assistance refusal rates, improve outpatient follow-up, decrease avoidable ED visits, and promote equitable access to care. Success will support workflow efficiency within MHSCC, improve patient outcomes, and align with UCM's mission to reduce ED utilization and health disparities.

Strategy

Program Strategy:

- Prioritize patients with Medicaid and uninsured status at ED visit
- Increase in program staffing size by 70%

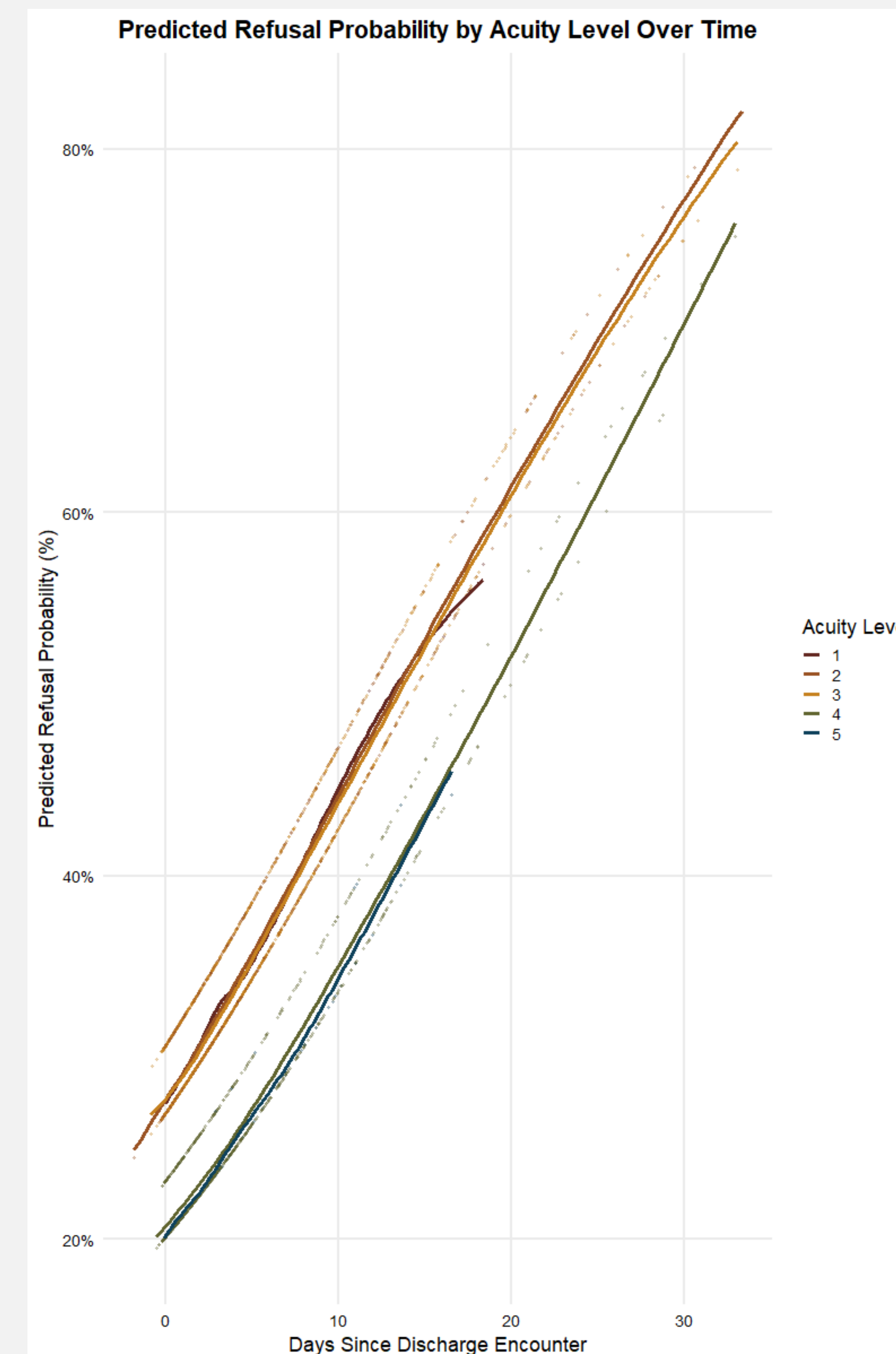
Analysis Metrics:

- Measure differences in pre and post strategies for the time from discharge to patient encounter and proportion of patient who refused follow-up appointment assistance
  - Descriptive analysis comparing:
    - Private payor to Priority group (Medicaid and uninsured)
    - Timeframes T1 and T2
  - Logistic regression:
    - Time from discharge to encounters for refusals
    - Acuity level for refusals

Results

- A total of 10,871 patients were included (T1: 5,766; T2: 5,105).
- Overall, the median time from discharge to program encounter from 5.37 days in T1 to 3.58 days in T2 (a 50% reduction).
  - In T2, Medicaid and uninsured patients were reached sooner (3.3 days) than private patients (5.0 days) on average.
- For refusal rates there was an overall increase of 7% (20.8% to 27.7%)
  - Priority patients rising from 21.3% in T1 to 26.3% in T2,
  - Privately insured patients from 19.0% to 32.7%.
- Logistic regression of refusals and time from discharge to program encounters indicated that each additional day from discharge increased refusal odds by 7% (OR 1.07, 95% CI 1.06–1.09, p<0.001), and high acuity patients were more likely to refuse (OR 1.46, 95% CI 1.27–1.68, p<0.001) as shown in Table 1 and visualized in Figure 1.)
- In T2, priority patients had lower odds of refusal compared with private patients (OR 0.82, 95% CI 0.71–0.95, p=0.007). (Table 1)

FIGURE 1



- Figure 1 plots the regression of predicted refusal probability and days since discharge to program encounter for each acuity level at ED triage.
- There is a significantly higher refusal probability for high acuity groups (1-3) compared to lower acuity (4-5)
- All acuity levels have a linear increase over time from discharge to program encounter.

Table 1. Logistic Regression Results (T2 Analysis)

Variable	OR	95% CI	p-value
Days from discharge to encounter	1.07	1.06 – 1.09	<0.001
Acuity (high vs low)	1.46	1.27 – 1.68	<0.001
Payor Priority (Medicaid/Uninsured vs Private)	0.82	0.71 – 0.95	0.007

- Additionally, for these time periods, acuity level remains to be a strong predictor if patients are willing to participate in the program (Table 1, Figure 1)
- In the combined T1 + T2 model, refusal odds were higher overall in but showed that priority patient refusal odds in T2 were ~40% lower than expected relative to private patients (OR 0.60, 95% CI 0.49–0.74, p<0.001). (Table 2)

Table 2. Logistic Regression Results (T1 + T2 Combined with Interaction)

Variable	OR	95% CI	p-value
Payor Priority	1.20	1.03 – 1.42	0.024
Acuity (high vs low)	1.36	1.23 – 1.50	<0.001
Payor Priority × T2 interaction	0.60	0.49 – 0.74	<0.001

T2: Timeframe 2, May 2024 – May 2025, after prioritization of Medicaid and uninsured patients and increased staffing.

Conclusion and Next Steps

- Prioritizing Medicaid and uninsured patients improved timeliness and reduced refusal odds relative to private patients which supports the overall program prioritization goals of supporting Medicaid and uninsured patient ED revisit rates.
- High-acuity patients continue to predict program refusing program assistance (OR 1.46).
- These program adjustments effectively narrowed disparities, even though rising refusal rates
  - The refusal rates are partially explained by having proportionally more higher acuity patients referred to the program in T2.
  - This could also be explained by doubling the patients encountered from T1 to T2

Next steps

- Continue to monitor results and engage with physician stakeholders to understand program referrals and incentivize low acuity patient referrals to the program
- Engage patients who refuse to see if they can still benefit from program interventions
- Logistic regressions with program outcomes of reducing ED revisits

Acknowledgements

1. Allen et al., Barriers to Care Among Medicaid and Uninsured Patients, 2017.
2. Wyer, et al., Acad Emerg Med. (for https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6452575/)
3. Hwang, et al., ScienceDirect. (for "Effect of Emergency Department Crowding on Outcomes of Admitted Patients")
4. Woodward et al., ScienceDirect. (for "Emergency Department Patient Navigator Program Demonstrates Reduction in Emergency Department Return Visits and Increase in Follow-up Appointment Adherence")
5. Emergency Severity Index 1-5, 1 being most severe, 5 being least severe. Internet Citation: AHRQ's Emergency Severity Index Used to Inform Development of Obstetric Triage Tool. Content last reviewed July 2015. Agency for Healthcare Research and Quality, Rockville, MD. https://www.ahrq.gov/news/newsroom/case-studies/201517.html