Reducing Medication Barriers before Patient Check-Out at a Student-Run Free Clinic

Jenna Reisler, M.D.¹, Daniel Bao, M.D.², Alison Zill, B.S.¹, Marysuna Wilkinson, M.D.¹
¹ University of Texas Medical Branch, Galveston, TX 2) HCA Houston Healthcare Kingwood, Kingwood, TX

Background

- Prescription medication adherence is related to out-of-pocket cost among other socioeconomic factors
- St. Vincent’s House has an internal pharmacy to dispense many generic medications free of charge via the "Provide" class on EPIC
- Eligible patients may be "opted-in" via simple financial net screening or defaulted to formulary medications for convenience
- Patients typically pick up medications after finalizing their plan with a provider and before they check out
- Subsidizing medications lowers direct costs for the patient, but may affect other patient's waiting times and check-out delays
- Clinical leadership and volunteers anecdotally have reported longer times for patients who have medications provided internally

Objective

- Do encounter times for patients who have medications provided in-house vs. traditional scripts sent to a pharmacy differ?
- Can a simplified pharmacy inventory system, automated pill counter, and pre-filled quantities of the most commonly prescribed medications reduce encounter times?

Methods

- Visits between 03/15/21-08/13/23 with demographics and other metadata/orders were extracted from St. Vincent's EPIC (n=1597)
- Lab and medication orders were aggregated by total counts, order signing datetime, and class (eRx, Provide, and Prefilled)
- Primary outcome metric; time from the first order was signed to when the patient checked out (Order2CheckOut)
- Invalid durations (<0 min, or >120 min., or satellite facility encounters) were filtered out
- Invalid durations (<0 min, or >120 min., or satellite facility encounter) were filtered out
- Four categories of medication orders were created ('Only eRx', 'Only Provide', 'Only Prefilled', and 'All other combinations')
- Multiple linear regression based on the different classes and number of medication orders and labs were fitted against the Order2CheckOut duration
- R was used for data analysis and modeling

Results

- Unadjusted, the number of "Provide" medications and number of labs is significantly associated with increasing Order2CheckOut times (B=4.29 min/med, p=1.58e-09, B=1.05 min/lab, p=2.43e-10)
  - eRx (B=0.526 min/med, p=0.913)
  - Prefilled (B=1.81, p=0.172)
- Adjusted for patient demographics (Age, Sex, Race, Ethnicity, Language), the number of "Provide" and labs were still significant (B=4.81 min/med, p=1.66e-6, B=5.04 min/lab, p=5.5e-7)
  - Age (B=2.7 min/yr, p=7.02e-3)
  - Prefilled (B=2.22 min/med, p=2.27e-3)
- When grouped by medication source, "Only eRx" encounters had the shortest average Order2CheckOut and were significantly different from the other groups
  - Only eRx (n=709), mean 38.7±3.3 min and mean 3.8 labs
  - Only Prefilled (n=39), mean 43.0±7.6 min and mean 3.3 labs
  - Only Provide (n=620), mean 47.2±3.5 min and mean 4.0 labs
  - All others (n=229), mean 45.1±3.2 min and mean 4.5 labs

Discussion

- Providing medications and labs increase non-clinical patient encounter time, which potentially impacts clinical times for other patients
- Initial analysis of a multi-pronged lean medication system are not significant, but results may be limited due to small sample sizes and operator unfamiliarity
- Future work should continue to optimize internal workflow to maximize the value of care provided

Conclusion

- Acknowledgements

St. Vincent's Mediation Management Team; Dr. Norman Farr, Paulina Chait, Martha Diaz, Andrea Hurtado, Julian Quinero, and Dr. Nadia Ahmed for piloting the initial pharmacy rollout as well as dispensing and filling medications for all the patients

This research was supported in whole or in part by HCA Healthcare and/or an HCA Healthcare affiliated entity. The views expressed in this publication represent those of the author(s) and do not necessarily represent the official views of HCA Healthcare or any of its affiliated entities.