

ABSTRACT**“The Show” Must Go On. Improving the No Show Rate in an Internal Medicine Resident clinic through Continuous Quality Improvement Using Lean Methodology**Anna Prishchepova¹, Thomas Levanos¹, Helen Kornblum¹, Paula Buchanan², Safa Farrag¹¹Department of Internal Medicine, SSM Health St. Mary's Hospital, St. Louis MO²Saint Louis University Center for Health Outcomes Research, Saint Louis University, St. Louis MOCorresponding author: Anna Prishchepova, MD. a.prishchepova@gmail.com

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Am J Hosp Med 2020 Jan;4(1):2020.009 <https://doi.org/10.24150/ajhm/2020.009>**INTRODUCTION**

“No shows” or missed appointments impede optimal medical care and organizational functioning, particularly in primary care setting¹. They lead to expenses associated with loss of the continuity of care, inadequate control of chronic diseases, and increased rates of emergency visits and hospitalizations². Our aim was to implement a multidisciplinary continuous quality improvement methodology utilizing Lean to identify the gaps resulting in no shows and to apply specific interventions to lower their rate in our clinic.

METHODS

This project was carried out from 2017 to 2019 by the Internal Medicine Resident Clinic multidisciplinary team. Lean system and A3 format were implemented (identifying the problem, understanding the current state, developing a goal, performing root cause analysis, determining countermeasures, checking results and updating standard work)³. Through daily meetings utilizing the performance board, the reasons for now shows were identified based on patient feedback.

Major gap areas identified were social determinants of health (like transportation),

work schedule, patient understanding of the clinic policies and importance of follow ups and appointment awareness. The most effective interventions included providing community outreach resources for transportation assistance, reminding patients to take time off work, using visual aids to emphasize a scheduled appointment at the time of discharge, using teach back, revising the clinic no show policy and implementing printed letter reminder system. At the end of each month no show rates were analyzed, all implemented interventions were discussed and new countermeasures were added (Plan-Do-Check-Act). All interventions that were considered successful are continued to the present day. The data was examined by year, quarterly, and monthly using independent sample t-test. An individual and moving range chart was utilized to see if there were any daily outliers.

RESULTS

There was significant fluctuation in no show rates throughout the analyzed period. A significant decrease in daily mean no show rate was revealed by comparison of time periods December 2017-July 2018 and December 2018-July 2019 (0.23 (SD 0.12) vs 0.19 (SD 0.11), respectively, $p = 0.006$). Seasonal comparison of the means of no

show rates between 2018 and 2019 also showed improvement in all groups: winter (December-February) 0.25 (SD 0.12) vs 0.22 (SD 0.14), $p=0.31$; spring (March-May) 0.23 (SD 0.12) vs 0.19 (0.08), $p=0.03$; summer (June-July) 0.24 (SD 0.11) vs 0.16 (SD 0.11), $p=0.01$; fall 2019 data was not available at the time of analysis.

CONCLUSION

This project demonstrated an improvement in the Internal Medicine Clinic no show rates through the implementation of multiple interventions and with the involvement of an entire care team. It also created a culture favoring continuous improvement and refined quality of care in our clinic. Outcomes of this project may aid in development of strategies to improve

appointment attendance in other residency training clinics and community outpatient settings. Major limitation in interpreting the data is inability to assess the exact outcome of each intervention due to their overlap and potential influence of unassessed interventions.

References

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