

Brief Report**Impact of JayDoc Free Clinic on Emergency Department Usage in Kansas City**Ethan Kallenberger, B.S.¹, Eilidh Chowanec, B.S.¹, Andrew Pirotte, M.D.²¹University of Kansas School of Medicine, Kansas City, KS²University of Kansas Department of Emergency Medicine, Kansas City, KSReceived Oct. 20, 2023; Accepted for publication Nov. 6, 2023; Published online Nov. 30, 2023
<https://doi.org/10.17161/kjm.voll6.21392>**ABSTRACT**

Introduction. JayDoc Free Clinic (JayDoc) serves medical needs of uninsured patients in the Kansas City metropolitan area. It is known that patients who have access to primary care are less likely to visit their local Emergency Department (ED) for non-emergent needs. However, it is not well described if JayDoc lowers usage of The University of Kansas Health System (TUKHS) ED. This is the first study to assess the patient referral process between TUKHS ED and JayDoc.

Methods. The authors administered a voluntary survey to every patient triaged at JayDoc, even if they were ultimately not accepted for a visit. Items on the questionnaire included health insurance status, primary language, and access to a primary care physician. The authors included questions on the usage of TUKHS ED in the last 12 months.

Results. Seventy-three patients completed the questionnaire. Approximately 10% of respondents reported they visited the ED in the last 12 months and received a referral to JayDoc from staff. However, authors observed no statistically significant difference in the proportion of new patients who used the ED in the last 12 months compared to that of returning patients.

Conclusions. Results of this study demonstrated an existing referral system between JayDoc and TUKHS ED. However, the authors could not conclude that JayDoc reduces non-emergent ED visits among its patient population. Future initiatives will include further education to ED providers to increase the number of patients being referred to JayDoc. *Kans J Med* 2023;16:286-288

INTRODUCTION

Use of the ED for non-emergent needs negatively affects patients, physicians, and hospital systems across the United States. Prior studies have defined ED visits as “avoidable” if they “did not require any diagnostic or screening services, procedures or medications, and were discharged home.”¹ Uninsured individuals are more likely to visit the ED for non-emergent ailments.² The non-emergent use of EDs is considered financially unsustainable for patients and those who utilize EDs as a replacement for primary care can suffer from unnecessary testing and a lack of care coordination.³ In addition to insurance status, proximity to alternative healthcare options affects ED utilization. There have been observed correlations between decreased use of the ED for low acuity illnesses and presence of an urgent care clinic within one mile of patient residence.⁴ This illustrates that the barriers to accessing alter-

native healthcare options, such as distance or insurance status, results in increased rates of ED use.

Safety net clinics and student-run free clinics (SRFC) often serve as healthcare alternatives to EDs for acute conditions. These clinics provide services to those lacking insurance or access to primary care. The patient population served by these clinics largely overlaps with the group of patients more likely to use the ED for non-emergent illnesses.³ A study conducted at a SRFC in Boston, Massachusetts observed a decreased rate of ED utilization among patients who established care at the SRFC.⁵ The results from this study provide insight on how to reduce the care burden for patients served by SRFCs. JayDoc in Kansas City, KS has tried to decrease the burden posed by non-emergent ED use by providing ED staff at TUKHS with materials outlining clinic resources. These materials are to be distributed to uninsured patients upon discharge from the ED.

There has not been a prior assessment of the efficacy of the educational materials provided to TUKHS staff and whether they successfully refer patients to JayDoc. Reviewing the efficacy of this program would allow leadership at JayDoc to understand if the services provided by the clinic are reducing non-emergent ED visits and implement necessary changes to our educational programs. This observational study investigates if previously established JayDoc patients are less likely to utilize the ED when compared to patients who are new to the clinic. This study also assesses the method in which patients are referred to JayDoc, either via the ED or another source.

METHODS

JayDoc operates an acute care clinic on a triage basis every Monday and Wednesday. The triage process determines if a patient’s chief complaint is within our scope of care and decides how many patients can be seen on a given night. We chose to utilize the triage process instead of the patient visit to avoid excluding patients who did not meet criteria to be seen in clinic that night. A qualitative cross-sectional survey was administered at JayDoc over a three-month span from December 1, 2021, to March 14, 2022. Any patient over the age of 18 years who completed the triage process met eligibility requirements for the study. Once the standard triage survey was complete, the volunteer conducting triage explained the study to the patient and obtained informed consent from those interested in participating. Survey questions included demographic information, insurance status, current chief complaint, and ED utilization the prior year. No patient identifiers such as name, date of birth, medical record number, or home address were collected. We obtained Institutional Review Board approval from The University of Kansas before survey responses were collected. To investigate the proximity of other acute care services, we collected data on the number of urgent care services and ED per zip code using Google Maps.

Our primary outcome was whether a patient had visited TUKHS ED in the last 12 months. Secondary outcomes included if the patient had received a referral to JayDoc and the method in which the patient received the referral. Due to the cross-sectional nature of our study, a Chi-Squared test and risk ratio were calculated to assess the relationship between exposure to care at JayDoc and ED utilization in the last 12 months. If the patient indicated on the survey that they received prior care at JayDoc for any reason, they were considered exposed.

Calculations were performed using statistical functions in OpenEpi.

RESULTS

During the dates the survey was administered, 250 patients were triaged in clinic. Of those, 73 (29.2%) patients agreed to be surveyed about their ED utilization following the survey format shown (Appendix; available online at journals.ku.edu/kjm). Of the 73 patients, 71 (97%) met criteria to be seen at JayDoc for their chief complaint. Table 1 summarizes the primary languages, insurance status, primary care access, and JayDoc visit history of the participants.

Table 1. Patient demographics (N =73).

Primary Language			Insurance Status		Primary Care Provider		Seen at JayDoc Before	
English (%)	Spanish (%)	Other (%)	Insured (%)	Uninsured (%)	Yes (%)	No (%)	Yes (%)	No (%)
41 (56.2)	26 (35.6)	6 (8.2)	12 (16.4)	61 (83.6)	10 (13.7)	63 (86.3)	33 (45.2)	40 (54.8)

While the survey participants lived in 33 different zip codes in the Kansas City metropolitan area, six zip codes accounted for 47.6% of participant residences (Table 2). One of these zip codes encompassed both TUKHS ED and JayDoc. Of note, the remaining five zip codes contained zero EDs and varied in their number of urgent care clinics. Zip code distance from JayDoc was measured from the geographic center of the zip code to the clinic's address.

Table 2. Incidence of urgent care clinics and emergency departments by zip code.

Zip Code	Distance from JayDoc (Miles)	Number of EDs	Number of Urgent Care Clinics
66101	4	0	0
66102	6.7	0	2
66103	1.4	1*	1**
66104	10	0	0
66106	5	0	1
64055	15	0	4

*TUKHS Emergency Department

**JayDoc Free Clinic

A total of 16 (22%) patients who completed the survey reported they visited TUKHS ED in the last 12 months. It was later identified that two previously established JayDoc patients incorrectly answered “yes” to TUKHS ED use, and had visited a different ED. These patient responses were changed to “no” for analysis. There was no difference ($p > 0.05$) in ED utilization between new and returning JayDoc patients. The χ^2 test of independence reported $\chi^2_1 = 0.04$, indicating no statistically significant difference in ED usage between new patients and returning patients in the last 12 months ($p = 0.84$). The risk ratio between these two groups was calculated using a 95% confidence level and equaled 0.91 [0.35, 2.88]. This illustrated that there was not an increased risk in visiting the ED based on prior establishment of care at JayDoc.

Of the 14 patients who visited TUKHS ED in the last 12 months, 12 (86%) visited JayDoc for the same chief complaint. Seven (58%) of those patients reported being referred by ED staff, three (25%) reported being referred by a family member or friend, one (8%) patient

learned about JayDoc through a Facebook advertisement, and one (8%) patient did not specify their referral source (Figure 1).

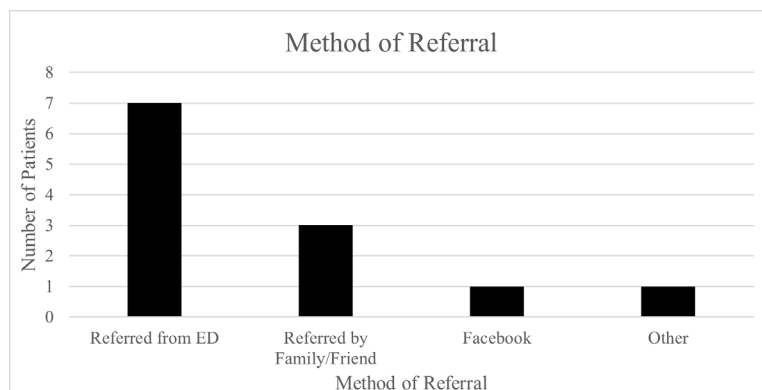


Figure 1. Method of referral.

DISCUSSION

Only 50% of patients who visited TUKHS ED in the last 12 months received a referral to JayDoc, indicating missed opportunities to educate patients on free healthcare resources. This study informed JayDoc leadership on the gaps in patient education that could prevent non-emergent ED usage among individuals who have previously used clinic services. Future endeavors should center around identifying avenues to close these education gaps. In the ED, this could take the form of automatically adding information on clinic services to the discharge summary of any patient without a primary care provider (PCP) or insurance listed in their electronic medical record. In clinic, this could involve sending every new patient home with information on which ailments JayDoc can treat, which ailments can be treated by other safety net clinics in the area, and which ailments require a visit to the ED. Additional points for education can include lists of acute care services in proximity to patient residence, resources for low cost or free transportation, and a complete schedule of operating hours for acute care services in the region. There are current programs offered by JayDoc to enroll eligible patients in Medicaid and connect patients to PCPs. Future studies could explore if participation in either of these programs affect non-emergent use of the ED.

This observational cross-sectional study sought to determine if an existing referral program between an ED and a SRFC prevented patients established with that clinic from utilizing the ED. We did not observe a statistically significant difference in the rate of ED utilization between patients previously seen in clinic compared to new patients. We also observed that several patients seen in the ED were not given the appropriate clinic education materials, identifying a shortcoming in our referral system. Other SRFCs can use the results and associated discussion of this study to guide how they educate patients on appropriate resources and create their own partnerships with EDs in their community.

REFERENCES

- ¹ Hsia RY, Niedzwiecki M. Avoidable emergency department visits: A starting point. *Int J Qual Health Care* 2017; 29(5):642-645. PMID: 28992158.
- ² Agarwal P, Bias TK, Vasile E, Moore L, Davis S, Davidov D. Exploring health insurance status and emergency department utilization. *Health Serv Res Manag Epidemiol* 2015; 2:2333392815606094. PMID: 28462264.
- ³ Xin H, Kilgore ML, Sen BP, Blackburn J. Can nonurgent emergency department care costs be reduced? Empirical evidence from a U.S. nationally representative sample. *J Emerg Med* 2015; 49(3):347-354. PMID: 25846051.
- ⁴ Carlson LC, Raja AS, Dworkis DA, et al. Impact of urgent care openings on emergency department visits to two academic medical centers within an integrated health care system. *Ann Emerg Med* 2020; 75(3):382-391. PMID: 31515180.
- ⁵ Thakkar AB, Chandrashekar P, Wang W, Blanchfield BB. Impact of a student-run clinic on emergency department utilization. *Fam Med* 2019; 51(5):420-423. PMID: 31081913.

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