



Comparing the Show Rate Between Telemedicine and In-Person Appointments in a Teaching Clinic



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INTRODUCTION

- Technology as we know is continuously evolving to meet the demands of the modern world.
- The COVID-19 global pandemic crisis has brought an unprecedented challenge to health care professionals.
- Since the beginning of the pandemic, our clinic has transitioned to incorporate “Telemedicine” into its day-to-day outpatient appointments.
- Fundamental in providing care to those patients who felt unsafe coming to the office and to those who were unable to schedule in-person appointments due to COVID restrictions

OBJECTIVE

- The objective of this project is to compare the rate of no-show visits between in-person and telemedicine visits, as the marker for any future hospital readmission.

STUDY DESIGN AND METHODS

- Categorical data was prospectively analyzed between May 11th, 2020 and August 14th, 2020.
- Data collected included the total number of in-person and telemedicine visits daily, as well as the daily associated no-show visits for the former two.
- Chi-square test was used to assess the univariate effect of visit type on no-show rate.
- Poisson regression was used to estimate the relative rate (RR) of no-show for visit type and by day of the week.

RESULTS

- Statistically significant difference in the rates of attendance ($\chi^2=37.27$, $df=1$, $p<0.001$) based on visit types, such that telemedicine visits have a significantly lower rate of no show (0.14) when compared to in-person visits (0.29). (Figure 2)
- Results of Poisson regression model found that when compared to in-person visits, telemedicine visits have almost a 50% reduction in no-show rates (RR = 0.49 (0.37-0.65), $p<0.001$). (Figure 3)
- Finally, when examining the relationship between no-show rates and specific weekdays, descriptive analyses suggested a higher rate of no-show visits for telemedicine on Friday. (Figure 4; Figure 6)
- However, day of the week does not significantly predict the rates of no show across all our visits (likelihood ratio test (LRT) p-value = 0.49).

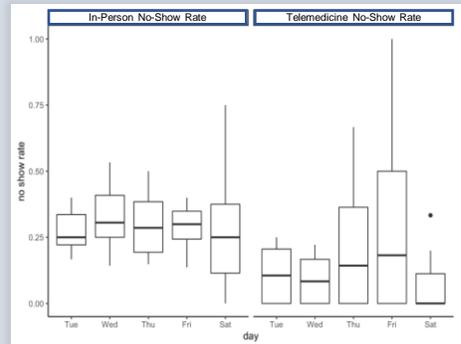


Figure 4: Estimates of the rate ratios, their 95% CIs, p-values, and likelihood ratio tests are in the table below

Model	Rate Ratio	95% CI	p-value	LRT
1. Day of week alone (all visits)				
Wed	1.14	(0.83-1.55)	0.421	0.491
Thu	1.01	(0.76-1.35)	0.937	
Fri	1.18	(0.91-1.52)	0.219	
Sat	0.84	(0.53-1.33)	0.459	
2a. Day of week alone (Telemedicine)				
Wed	0.80	(0.44-1.46)	0.469	0.154
Thu	1.32	(0.64-2.75)	0.456	
Fri	1.65	(0.84-3.22)	0.145	
Sat	0.65	(0.25-1.7)	0.384	
2b. Day of week alone (In Person)				
Wed	1.21	(0.95-1.54)	0.127	0.633
Thu	0.93	(0.72-1.2)	0.576	
Fri	1.05	(0.85-1.29)	0.661	
Sat	0.95	(0.62-1.46)	0.815	
3. Day of week & Visit Type				
Tele	0.50	(0.38-0.66)	0.000	0
Wed	1.13	(0.89-1.44)	0.303	0.641
Thu	1.00	(0.77-1.3)	0.962	
Fri	1.15	(0.92-1.44)	0.226	
Sat	0.88	(0.59-1.31)	0.514	

Figure 5: boxplot below shows the distribution of no-show rates by each visit type

Visit	Attend	No Show	Total	Rate
In Person	692	281	973	0.29
Telemedicine	420	70	490	0.14
Total	1112	351	1463	0.24

Chi-Squared Test of Independence p-value: <0.001

Figure 2: Chi-Square test of independence

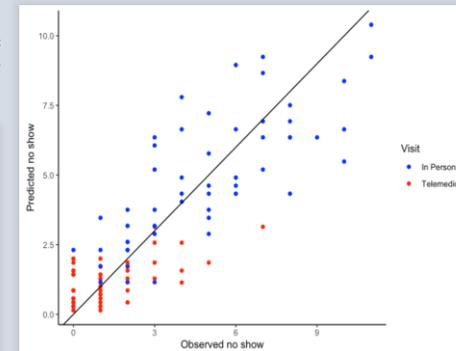


Figure 3: Poisson family regression model comparing the no show rate comparing the no show rate of those in the Telemedicine group to the In-Person group

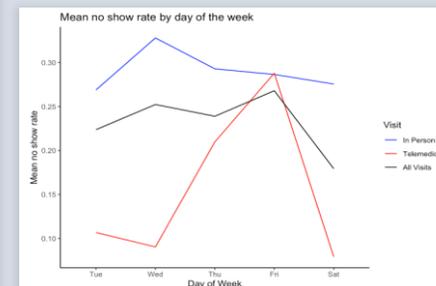


Figure 6: Mean no show rate by day of the week

DISCUSSION

- Our study demonstrates that patients scheduled for telemedicine visits are significantly less likely to miss their appointments when compared to their in-person counterparts
- For any given visit, telemedicine visits will have almost half the rate of no-shows when compared to in-person visits
- However, descriptive analyses suggested there are differences in no show rates by day of week, however, these effects were not statistically significant role in rates of no-show, regardless of visit type

CONCLUSION

- This study only highlights the role telemedicine has in ensuring good continuity of care.
- Telemedicine visits provide opportunities for providers to have greater continuity of care with their patients, thus enabling appropriate outpatient follow-up.
- Future studies will need to be undertaken to determine the effect of the former on patient outcomes, such as 30-day readmission rates, among others.

LIMITATIONS

- We do not control for patient demographic characteristics (e.g. age, sex, race, distance from clinic) or any other health information (e.g. any chronic conditions)
- Possible that these factors may contribute to or moderate the relationship between visit types and no-show rates.