

Rapid Adoption of Telehealth on EHR Fluency within a Student-Run Free Clinic during COVID-19

Introduction

Healthcare during the COVID-19 pandemic has been characterized by a rapid transition to telemedicine. This stands to shorten wait times, improve patient outcomes, and cut healthcare costs. Its issues, however, include patient discomfort and lack of resources as well as heightened provider stress. Any means of standardizing the transition to a telehealth platform can positively impact patient management.

This study aimed to determine whether barriers to telemedicine within a local student-run free clinic impeded electronic health record (EHR) fluency. A retrospective study was carried out to compare EHR fluency prior and subsequent to the transition to telehealth with the hypothesis that this transition will impair EHR fluency.

Methods

EMR data extraction: 9/12/19 to 11/05/20.

Similarly to previously published results at this clinic (Sega 2021) assessed quality of entries (see table 1).

Using Fisher's exact test, in SPSS, differences in frequencies between each group were determined.

Table 1: Assessment of Completion and Accuracy

Parameter	Completion	Accuracy
Vitals Note	Height, weight, heart rate, blood pressure, temperature, SaO2, and respiratory rate	Completed in full with no missing vitals
E-Signing Vitals Note	Note signed and password protected	First and last name scribe, first and last name other vitals staff, first and last name triage provider with credentials
Medications	Medications entered	Drug name and dosage
Allergies	Entry present under allergy tab	Allergy, reaction, severity
SOAP Note	Note was entered and submitted in some form	Contained complete subjective, objective, assessment, and plan entries
E-Signing SOAP Note	Note signed and password protected	First and last name scribe, first and last name other patient room staff, first and last name provider with credentials

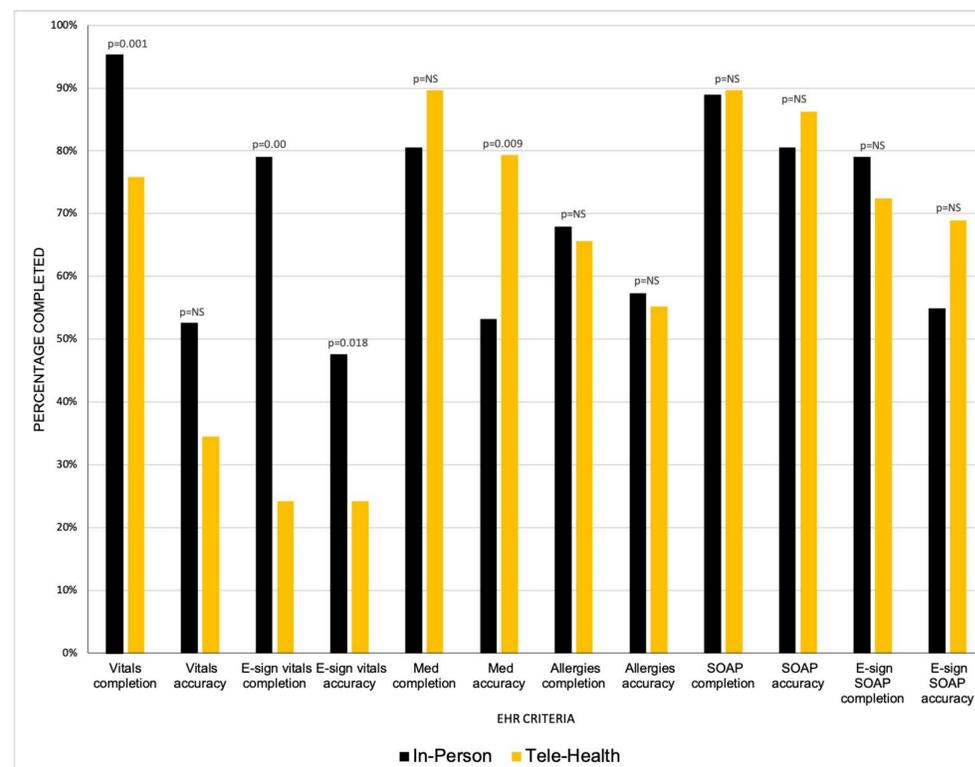
Data

Table 1: In-person and Telehealth EHR Completion and Accuracy

	In-person	Telehealth	p-value
Vitals completion	95.26%	75.86%	p=0.001
Vitals Accuracy	52.57%	34.48%	p=0.078
E-signing vitals completion	79.05%	24.14%	p=0.000
E-signing vitals accuracy	47.62%	24.14%	p=0.018
Medication completion	80.56%	89.66%	p=0.316
Medication accuracy	53.17%	79.31%	p=0.009
Allergies completion	67.98%	65.62%	p=0.835
Allergies accuracy	57.31%	55.17%	p=0.845
SOAP Note completion	88.93%	89.66%	p=1.00
SOAP Note accuracy	80.56%	86.21%	p=1.00
E-signing SOAP note completion	79.05%	72.41%	p=0.474
E-signing SOAP note Accuracy	54.94%	68.97%	p=0.170

Total charts analyzed were 282, in-person n=253, telehealth n=29. Percentage was calculated by dividing total in person and telehealth parameters that were coded for completion and accuracy, then dividing by total visits. P<0.05 was considered statistically significant.

Figure 1: In-person and Telehealth EHR Completion and Accuracy



Discussion

There was a statistically significant difference between in-person and telehealth visits regarding vitals note completion, e-signing vitals completion and accuracy, and medications accuracy.

There were no statistically significant differences regarding vitals note accuracy, medication completion, allergies completion and accuracy, SOAP note completion and accuracy, and e-signing SOAP note completion and accuracy.

Telehealth entries had a higher frequency of e-signing SOAP note accuracy, SOAP note completion and accuracy, and medication completion and accuracy.

Telehealth visits had a lower frequency of vitals and e-signing of vitals completion and accuracy. Patients often arrived simultaneously to the clinic, creating a rushed atmosphere that may have hindered providers' ability to record vitals

Limitations

In previous literature, the ease at which EHR data could be downloaded into a spreadsheet served as a metric for EHR fluency. This was not possible for the current study due to HIPAA compliance

A limited sample of 29 patients seen after the telehealth transition required use of Fisher's exact test.

Conclusion

The transition to telehealth visits has positively impacted most EHR entries. Awareness of the reduced completion and accuracy of vitals and vitals e-signatures at the start of telehealth visits can improve recording of EHR data.

Future research can determine reasoning for improvements in e-signing SOAP note accuracy, SOAP note completion and accuracy, and medication completion and accuracy

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