

# Implementation of a 'Flow' Attending Reduces Overall ED Length of Stay in Telehealth Intake Model

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## Background

In an effort to improve our efficiency, the Department of Emergency Medicine recently transitioned from an in-person physician triage model to a telehealth intake model. With this change, many new gaps have been identified. By uncoupling triage from the in-person intake provider, we lost the ability to manage "quick" discharges, to provide secondary oversight of the patients in the internal waiting room, and to directly supervise patients seen in the fast track area. In order to address these new concerns, and to mitigate the loss felt by removing the in-person provider from intake, a 'flow' attending role was added. Our objective in this study was to determine if the addition of an attending physician for 30 hours per week significantly impacted our patient flow through the department, which we measured primarily using length of stay for discharged patients.

## Methods

This is a before and after study design, with the pre-intervention period spanning from 01/02/2019 to 03/03/2019, with telehealth intake only. The time period from 03/04/2019 to 5/28/2019 represents a combination of telehealth intake and the 'flow' attending from 12 to 6 PM Monday through Friday, or 30 hours per week. The primary outcome measured was length of stay for discharged patients. Secondary outcomes measured included: door to admit times, percentage of patients who left without being seen, and time to provider. The data was extracted from the Epic clarity database through Qlik analytics software. Analysis was performed through R statistical software.



Jefferson intake nurse posing with telehealth physician on screen at Methodist Hospital.

## Results

	Teletriage	Teletriage + Flow	
<b>Length of Stay for Discharged Patients</b> (minutes)	263.3 [148.0 - 449.4]	236.3 [133.35 - 390.95]	p <0.001
<b>Time to Admission for Admitted Patients</b> (minutes)	235.9 [143.55 - 369.05]	202.4 [123.05 - 310.10]	p <0.0001
<b>Time to Provider</b> (minutes)	13.2 [7.2 - 24.1]	11.1 [6.3 - 20.7]	p <0.0001
<b>Left Without Being Seen</b> (percentage)	1.104 % [0.924 - 1.320]	0.7486 % [0.6246 - 0.8964]	p <0.0027

Table 1. Comparison of Primary and Secondary Outcomes between Teletriage and Teletriage with Flow Attending.

	Teletriage Arrivals	Teletriage + Flow Arrivals
<b>ED Arrivals</b>	11,412 patients	16,297 patients
<b>Time Period</b>	61 days (01/02/2019 to 03/03/2019)	87 days (03/04/2019 to 05/28/2019)
<b>Daily Mean Census</b>	187.0	187.3

Table 2. Populations Studied (Arrivals in ED for 2019).

## Discussion

With the advent of telehealth, there are many forthcoming changes in medicine. Our goal was to demonstrate one means of increasing efficiency in the emergency department through the paired addition of a 'flow' attending to our current telehealth intake model. There were many limitations to our simple cohort study. These include the seasonal changes in patient population, boarding, and a gradual transition from triage physicians to nurse practitioners that started on 03/04/2019. Future areas of inquiry could include comparing the cost and efficiency between the in-person physician triage model from years prior to our current and evolving telehealth intake model with 'flow' attending.

## Conclusions

This study demonstrated that the addition of a 'flow' attending resulted in improvement of four key ED metrics: door to discharge, door to admit, time to provider, and left without being seen.

## References

- Wiler JL, Gentle C, Halfpenny JM, et al. Optimizing emergency department front-end operations. *Annals of Emergency Medicine* 2010 Feb; 142-160.
- Isso JA, Watson J, Bhat R, et al. Diagnostic accuracy of a rapid telemedicine encounter in the Emergency Department. *American Journal of Emergency Medicine* 2018 Nov; 2061-2063.
- Marconi GP, Chang T, Pham PK, et al. Traditional nurse triage vs physician telepresence in a pediatric ED. *American Journal of Emergency Medicine* 2014 Apr; 325-329.