

Pediatric Emergency Room as a Promising Setting for Receiving the Flu Shot

Christine Miller D.O.¹, Erin McMahan D.O.¹, Marissa Parrillo D.O.¹, Celia Sobelman M.D.¹, Peter Golenia Pharm. D.²,

Rory Kirchner Ph.D.³, Christina Hermos M.D.¹, Bonnie Mathews M.D.¹

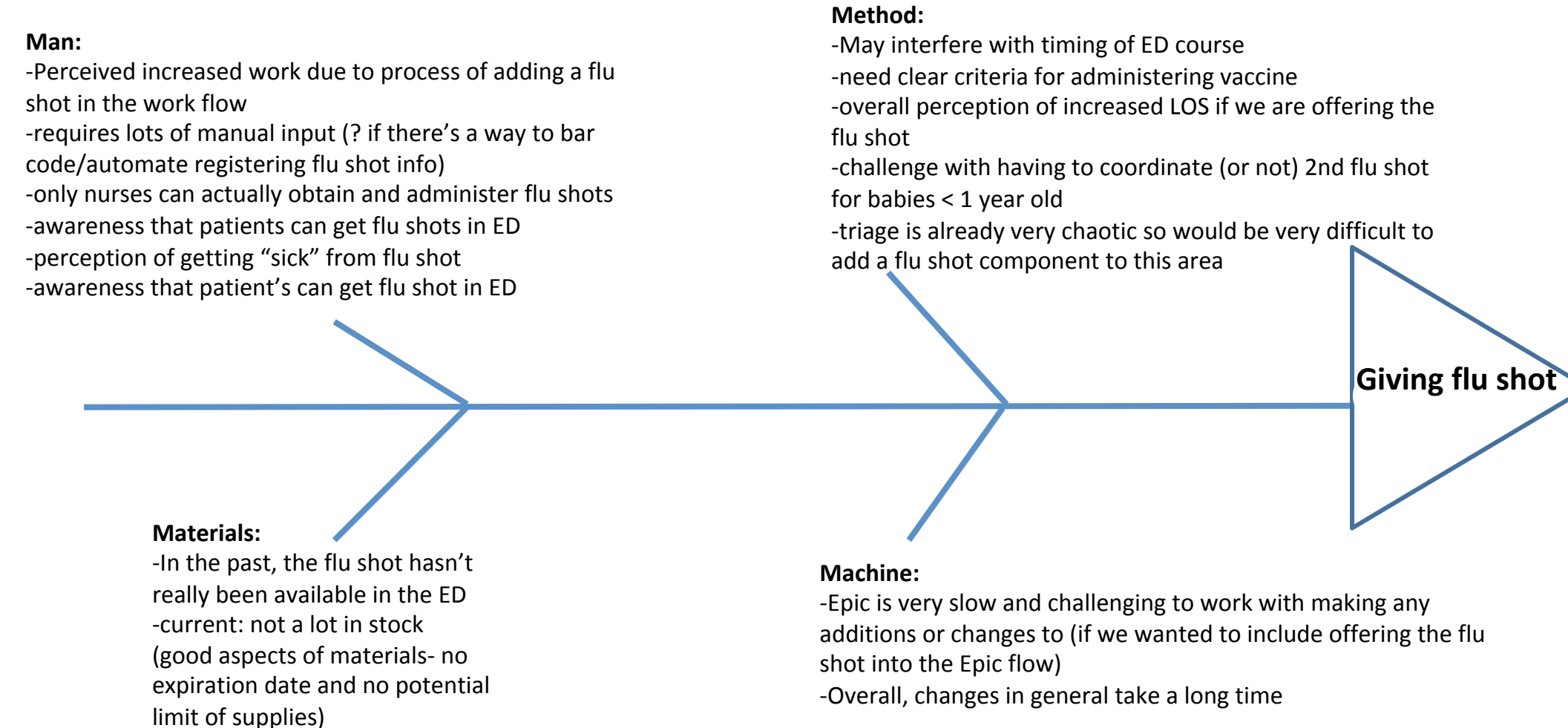
Problem Statement

Eligible patients are not being given flu shots in the Pediatric Emergency Department, resulting in missed opportunities to prevent influenza and the associated morbidities and mortalities of influenza in the pediatric population.

Background

- Children are the most likely population to get influenza, and are two times more likely compared to adults aged 65 and greater (attack rate by age group: 0-17 year olds 9.3%, 18-74 year olds 8.8%, 65+ year olds 3.9%).
- Children are at high risk of suffering complications from influenza.
- According to the CDC, the overall effectiveness of the 2019-2020 flu vaccine for both strains A and B was 33% in children aged 6m-8 years and 37% in children aged 9- 17 years.
- Currently our Pediatric Emergency Department (PED) does not routinely offer influenza vaccine to unvaccinated patients.
- Our project goals are to identify barriers to the administration of influenza vaccine in the PED and to offer and administer influenza vaccine to eligible patients.

Root Cause Analysis



Methods

-Developed screening form to be administered in Pediatric Emergency Department (PED) (Figure 1)

-Primary outcomes:

- Number of patients screened
- Percent of patients who were eligible to receive vaccine
- Percent of patients who received the vaccine in the ED

-Secondary outcome:

- Length of PED stay

UMass Memorial Flu Vaccine Quality Improvement Study:

Date: _____ LOS: _____
Patient age/ sex / complaint: _____

Patient eligibility for flu vaccine, check all that apply:
() Age > 6 months, Temp () < 100.4F, () clinically stable, () not yet had vaccine

Did patient get a flu vaccine last year? (Circle one) Yes / No
If yes, where? (PCP/ urgent care/ hospital)

If patient meets eligibility criteria continue below:

Would patient like a flu vaccine this year? (Circle one) Yes / No
If no, patient reason? _____

Did Patient receive flu shot in ED? (Circle one) Yes/No

Figure 1: Screening form administered by providers in UMass Pediatric Emergency Department

PDSA/Results

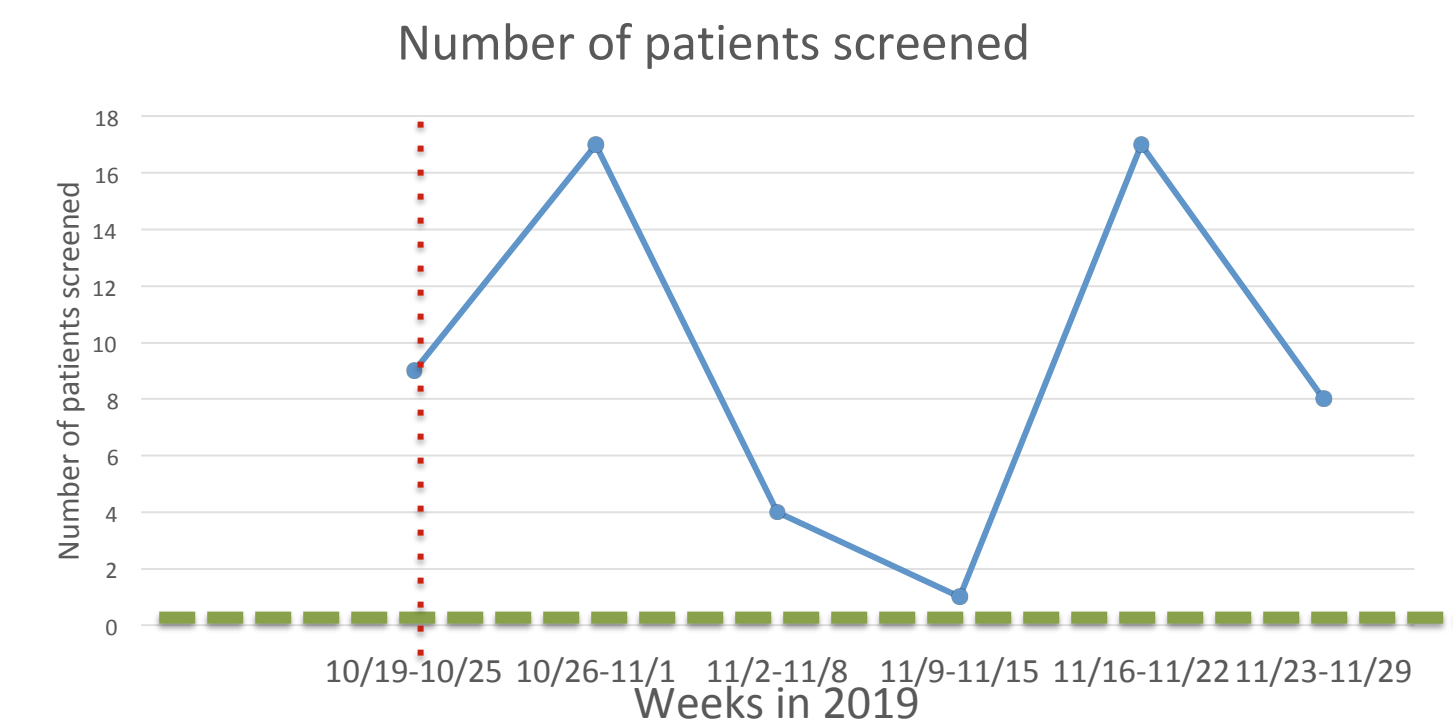


Figure 2: Run Chart of patients screened for receiving flu shot. Chart shows how effective the providers were at screening patients over time. Baseline screening prior to our quality improvement study is zero and represented by green dashed line. Red dashed line represents when screening began.

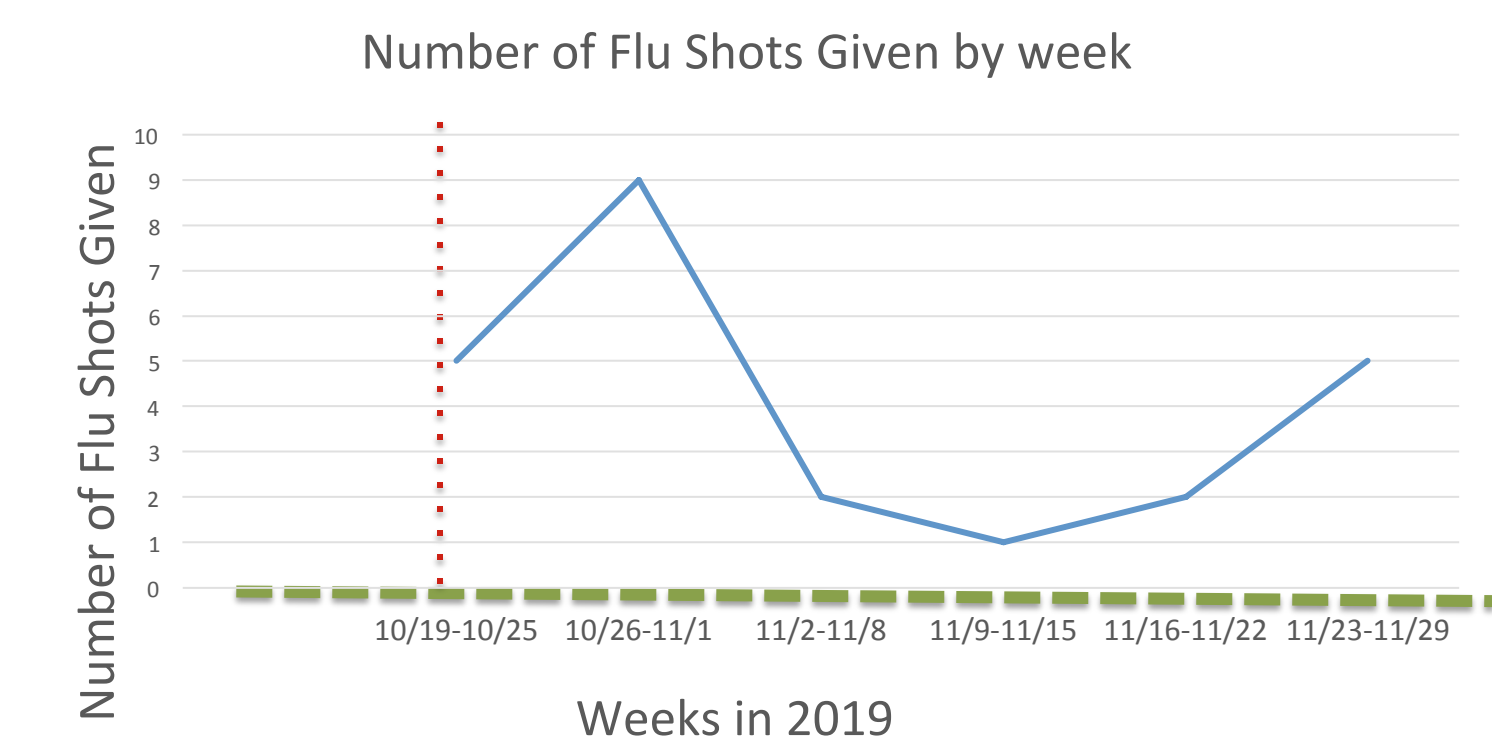


Figure 3: Run Chart showing number of flu shots given over time. Baseline of flu shots given prior to our quality improvement study is zero and represented by green dashed line. Red dashed line represents when screening and offering the flu vaccine began.

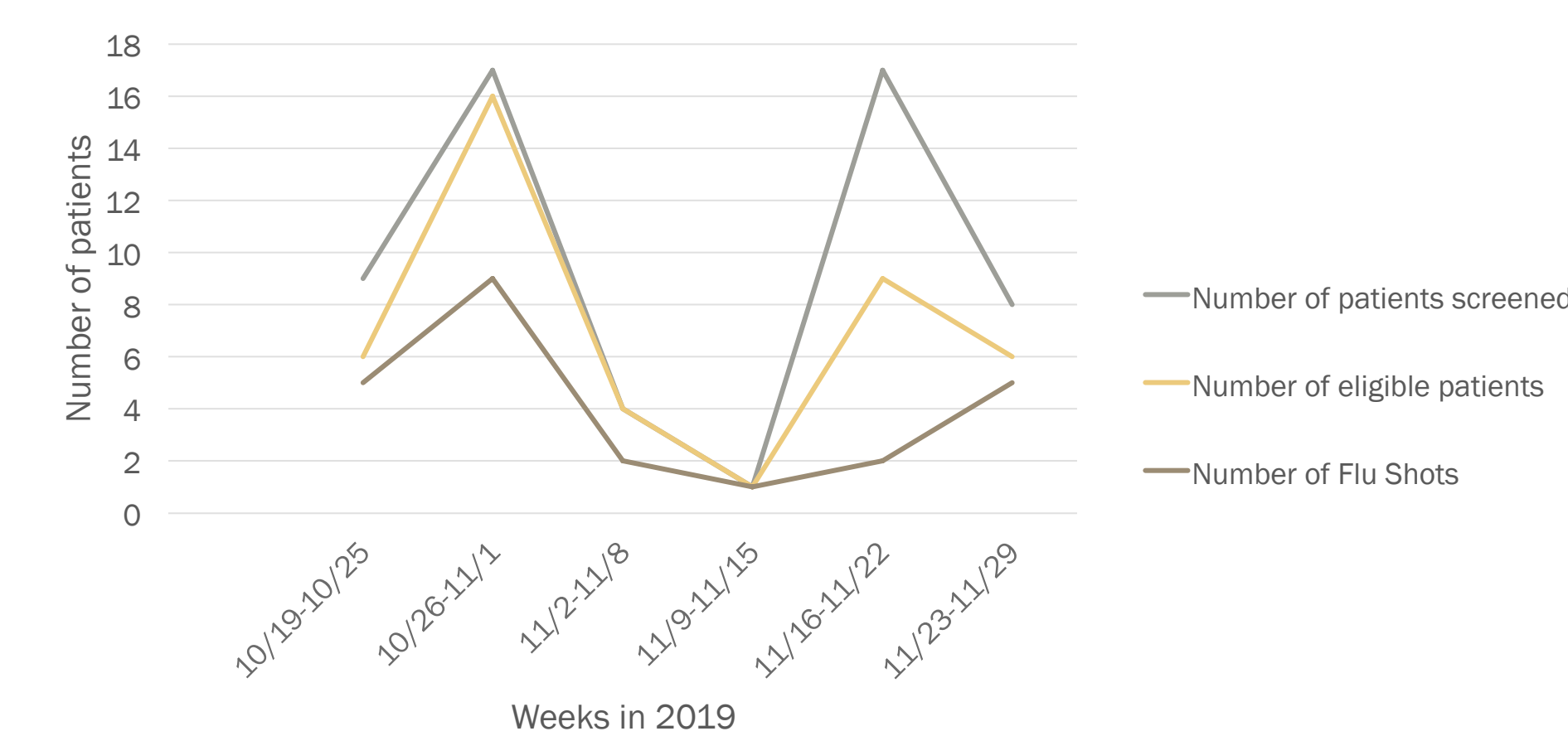
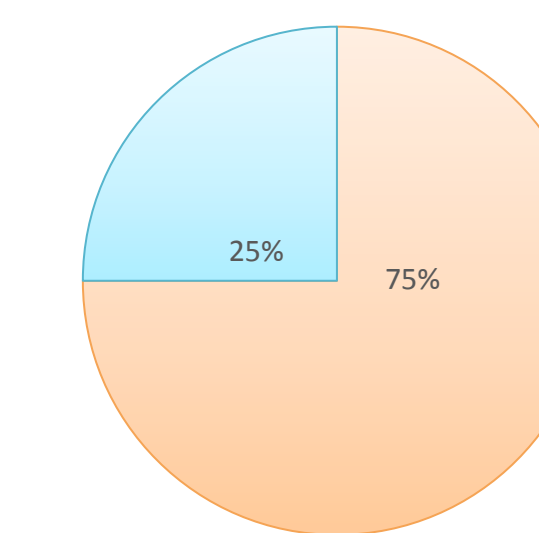


Figure 4: Run Chart with combined data in overlay plot showing number of patients screened vs eligible patients vs patients that received the flu shot. Number of eligible patients appears to decline over time.

a.

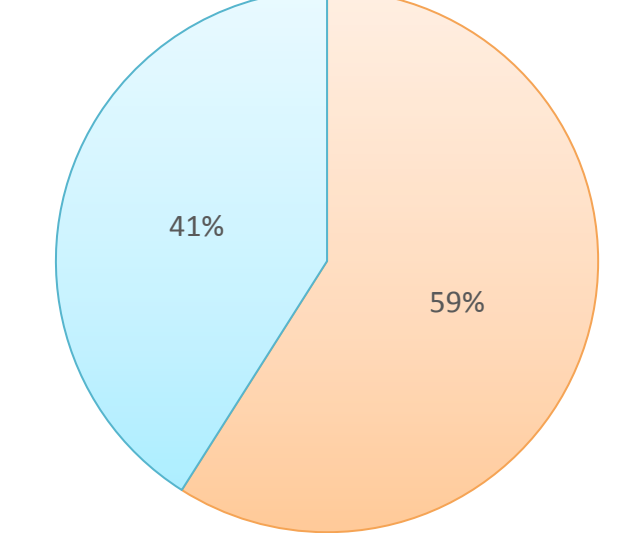
Eligibility to Receive Flu Shot



Eligible Not Eligible

b.

Flu Shot Administration for Eligible Patients



Received Did Not Receive

Figure 4: (a) Percent of patients who were eligible to receive the flu shot in our ED. 42/56 (75%) patients who were screened were eligible to receive the flu shot. (b) Percent of eligible patients who received the flu shot in our ED. Out of the eligible patients, 25/42 (59%) did receive the flu shot.

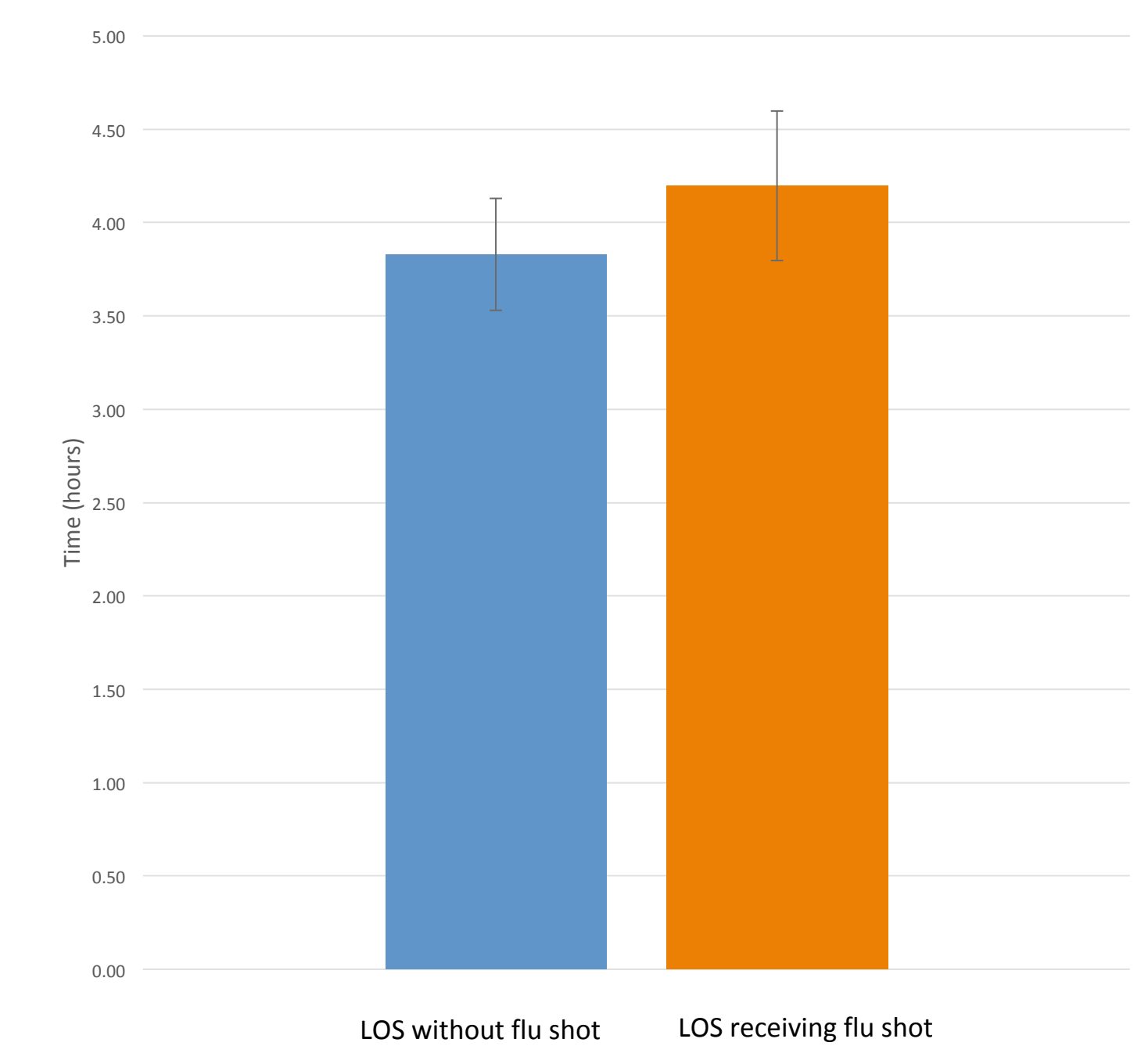


Figure 5: Average length of stay (LOS) in patients who received the flu vaccine versus those that did not. Y axis represents time in hours. P value of 0.4756 calculated using Student's t-test.

Conclusions

- With our model, we were able to both screen and offer the flu vaccine to a subset of patients in the pediatric ED.
- Over half of the eligible patients screened received the flu vaccine.
- As the season went on, less patients received the flu vaccine.
- We found no significant difference in LOS between those that received the flu vaccine and those that did not.