

## Background

- Emergency department (ED) overcrowding is a growing problem nationwide with increased utilization
- Nonurgent visits have contributed to ED overutilization and overcrowding, leading to the following:
  - Increased medical costs and waiting times
  - Delay in medical treatment and pain control
  - Loss of continuity of care
- Previous interventions have shown little success in reducing non-urgent ED visits
- An ED to primary care clinic (PCC) transfer protocol (Figure 1) was created with safeguards to ensure patient safety and Emergency Medical Treatment and Labor Act compliance

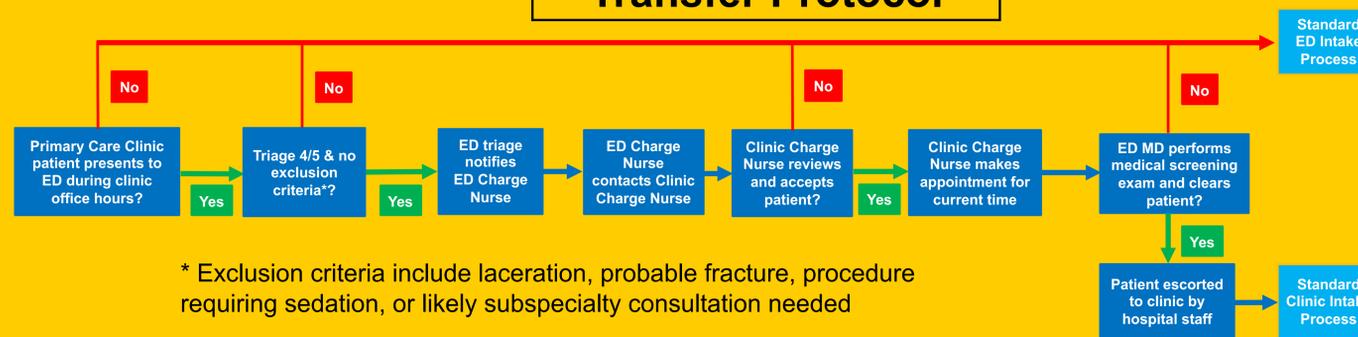
## Objectives

- To analyze the impact of an ED to PCC transfer protocol for non-urgent ED visits of established patients by examining cost, length of stay, and unintended consequences.

## Methods

- Setting:** Tertiary care children's hospital emergency department (ED) and primary care clinic
- Population:** Retrospective cohort study reviewed primary patients of PCC who presented to ED and were transferred to PCC from 09/01/17--08/31/18
- Transfer Eligibility:** Stable condition and low acuity illness that is manageable in primary care
- Primary Outcomes:** Final diagnoses, length of stay (LOS) from arrival time to visit completion, and need for transfer back to ED
- Secondary Outcomes:** Cost and times savings and additional primary care services provided, including well child checks, vaccinations, long term medication refills, and/or referral of subspecialty services
- Technical and professional financial data were obtained from an internal financial and accounting system (EPSi)

## Transfer Protocol



\* Exclusion criteria include laceration, probable fracture, procedure requiring sedation, or likely subspecialty consultation needed

Figure 1: ED to PCC Transfer Protocol Flowsheet

## Results

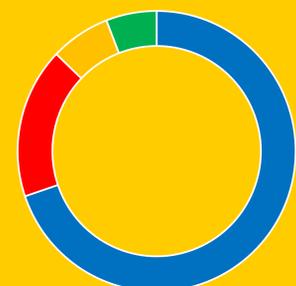


Figure 2: ED to PCC transfer volume by month. November 2017 volume reduced secondary to institutional electronic medical record transition and brief pause of transfer protocol.

### Diagnoses of Completed Transfers

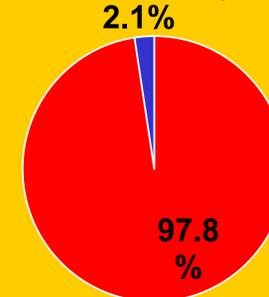
Viral URI	80
Dermatologic	37
Acute Otitis Media	35
Pharyngitis	34
Influenza	34
Viral Syndrome	27
Gastroenteritis	27
Vomiting/Gastritis	11
Musculoskeletal Pain	10
Asthma Exacerbation	8
Fever	8
Conjunctivitis	7
Insect Bite	7
Allergic Rhinitis	6
Constipation	5
Headache	5
Bronchiolitis	4
Otitis Externa	3
Congestion	3
Hordeolum	3
Miscellaneous	18

### Spoken Language



■ English ■ Spanish ■ Arabic ■ Other

### Insurance Type



■ TennCare ■ Private

## Primary Outcomes

- During study period, 374 patient encounters transferred from ED to PCC, including 19 patients multiple times (Figure 2)
- Average age was 4 years old, and 97.6% were Medicaid insured (Figure 3)
- Five most common diagnoses were viral upper respiratory infection (21.8%), dermatologic diagnoses (9.6%), acute otitis media (9.1%), pharyngitis (9.1%), and influenza (8.8%)
- No safety events or inappropriate transfers based on the protocol
- One patient (0.26%) was transferred back to the ED for evaluation of intussusception

## Secondary Outcomes

- Overall, total cost savings were approximately **\$100,000**
- For top five diagnoses:
  - Costs per encounter were reduced by **54-64%**
  - Costs exceeded expected payments; however, evaluation in PCC vs. ED reduced loss of revenue by **23-68%**
  - Length of stay was reduced by a mean of **48 minutes** per encounter

## Conclusions

- Transfer protocol provides a safe solution to reducing urgent care visits in real-time
- Assuming standard of care, the transfer protocol reduces costs for evaluation and treatment of these diagnoses, providing high value care

## Future Implications

- Transfer protocol is reproducible in children's hospitals with ED and PCC sharing same campus
- Providing greater technological advances to triage system may further utilize onsite outpatient services and expedite care of patients at a reduced cost