

Vision in Action: Improving Patient Access Through Efficient Patient Flow in the Emergency Department

Anne Jackson, RN, MS, CEN; Harinder Dhindsa, MD, MPH, CPE, FACEP, FAAEM; Kathy Baker, RN, PhD, NE-BC; Jeremy Sauer, MD, MS; V. Ramana Feeser, MD

Virginia Commonwealth University Health System, Emergency Department, Richmond, VA



Background

- The ED at Virginia Commonwealth University Health System in Richmond, VA is a busy, urban, Level I Trauma Center and provides care for 100,000 adult and pediatric patients.
- VCU had Door to Doc times as high as 45 minutes and LBE rates as high as 8.5% in FY15. Access to care is an important mission for the ED and various interventions were done to reduce these numbers over time with small incremental improvements but had plateaued. With long boarding times and increasing annual volumes, there was the need to redesign flow for especially the treat and release population to create capacity in the ED for all patients.

Innovation Description

Intensive data analysis revealed various areas of focus for low and mid acuity patients and restructuring included:

- Triage/intake area streamlined and nursing triage questions that were part of traditional nursing triage were deferred until patients were placed
- Nurses that were made available by revising nursing triage were deployed to the expanded mid track space
- PIT, an attending level provider, saw every low/mid acuity walk-in patient who arrives and determines what treatment area they will go to in collaboration with the Front Flow Facilitator, a senior nurse in charge of the triage area.
- Expansion of the hours of the day that there is a provider in triage (PIT) based on peak arrival times and volume of walk in arrivals
- PIT also orders lab and radiology testing for patients on arrival which can be done while still in triage to start their care earlier in their stay.
- Expansion of mid track beds from 5 to 12
- Extending hours of fast track and mid track to correspond with historical arrival times of these patients

Figure A. Patient Flow Model

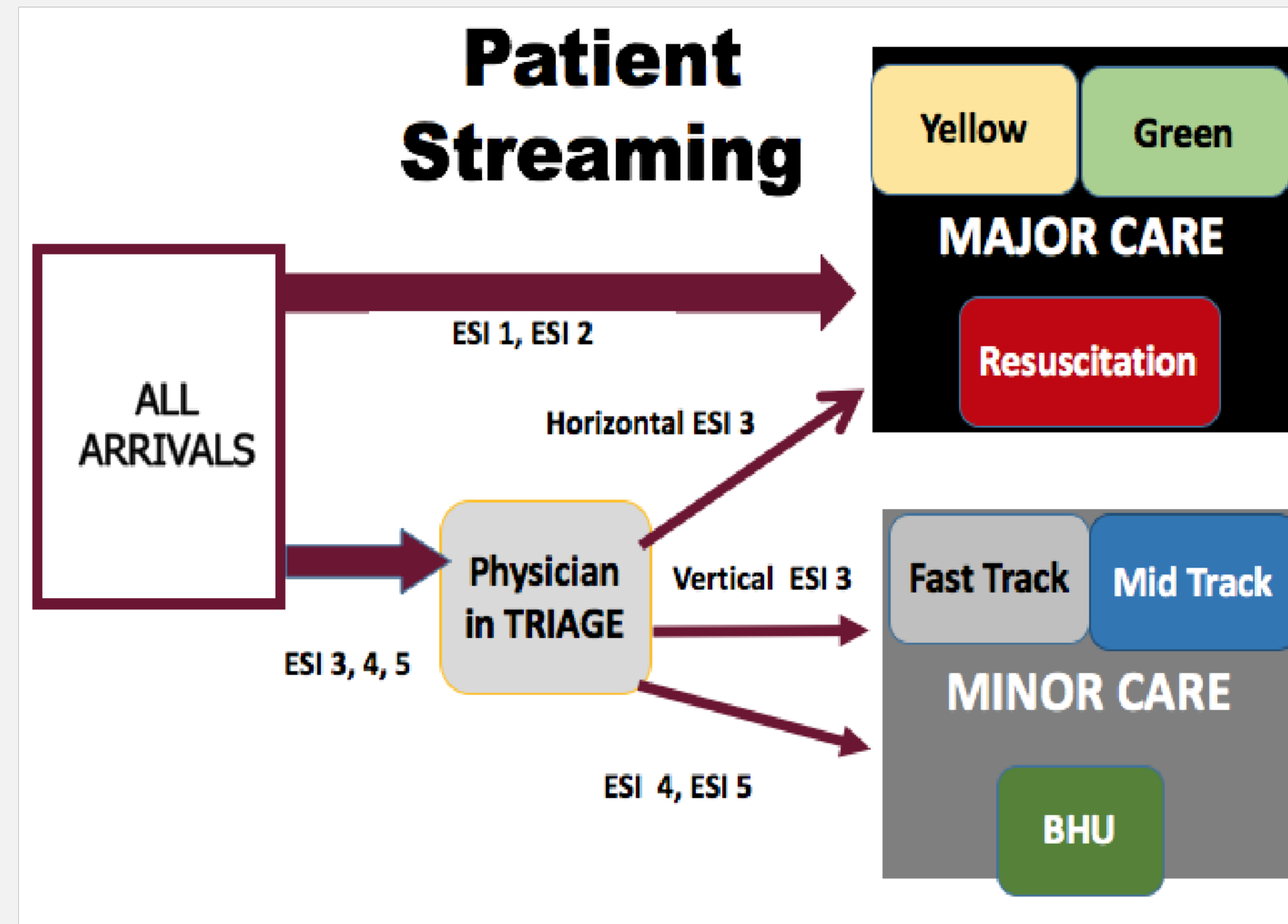
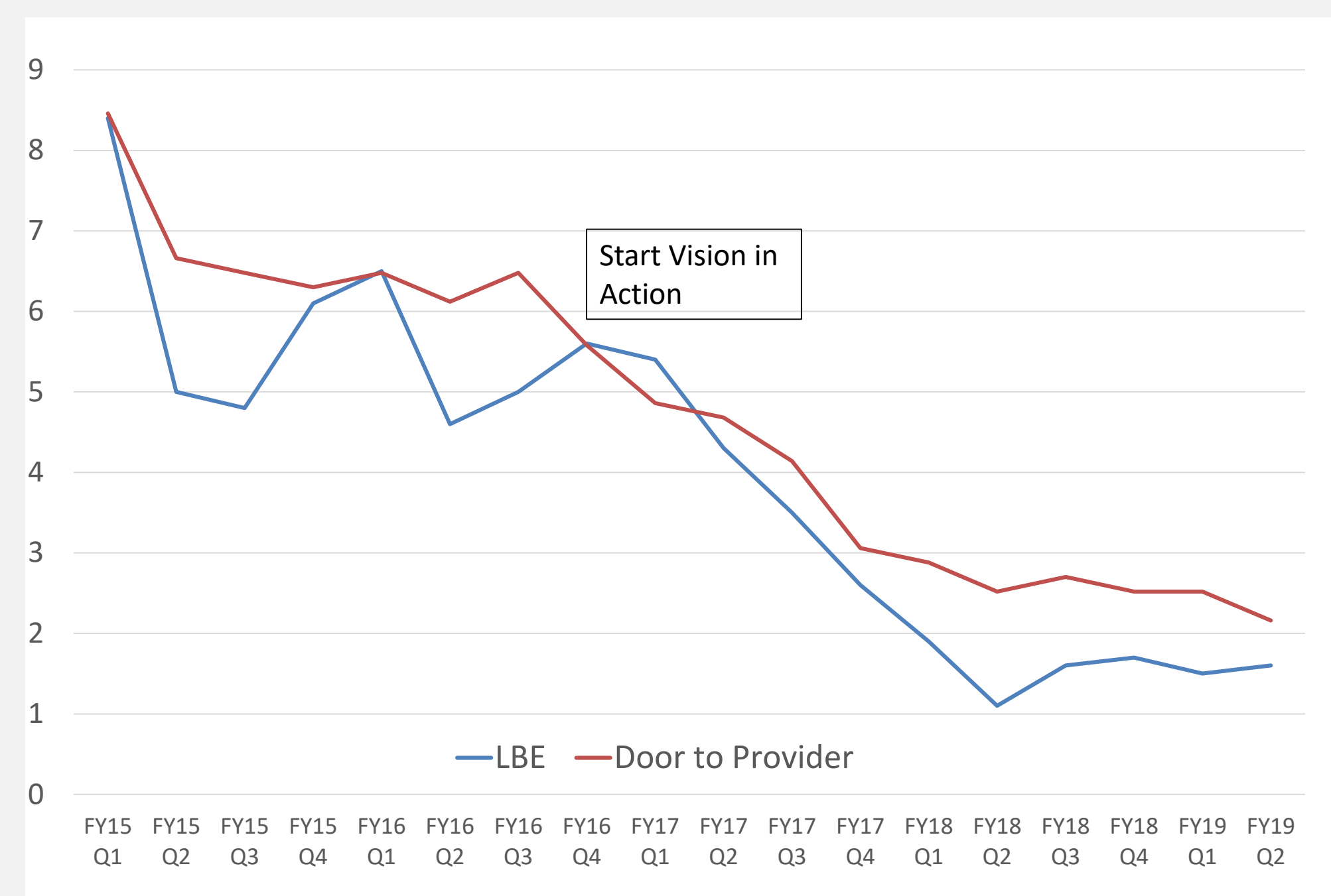


Figure B. Vision in Action Results



Results of Innovation

- 4 Rapid cycle test days were used to test the new model and feedback from these was incorporated into the model.
- Intentional engagement of the entire team in the planning and testing yielded a model of patient flow (Figure A) that has shown sustained improvements.
- Vision in Action's redesign of patient flow resulted in better access to care for patients with sustained improvements for over one year. (Figure B).
- Decreasing the LBE rate without the increase in AMA enabled us to provide medical care for an additional 2000 patients.
- Length of Stay for discharged patients dropped.

ED Disposition	FY 17 (pre VIA)	FY 18	FY 19 TD	% Change from pre-VIA
LBE	3.9%	1.5%	1.4%	62% ↓
AMA	3.5%	3.4%	3.5%	---
Door to Doc	23 min	15 min	13 min	43% ↓
Length of Stay – Discharge	256 min	234 min	237 min	7% ↓

Lessons Learned

- Despite the improvements in patient flow, we are still challenged with a high level of boarding – approximately 6,500 hours per month.
- Mid track space becomes major care overflow when there is a high level of admit holds and slows down the process
- Standardization of care for chief complaints is needed as there is variation in imaging/laboratory orders among providers
- Embarking on another flow modification journey starting in April, 2019