

# Improving Emergency Room Throughput without Spending a Penny

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## Innovation Description

- Safety concern for patients who leave the ED without being seen (LWBS)
- Triage time, ED overcrowding, and seasonal variation, impact the LWBS percentages
- Providers voiced concern over triage being the patient flow bottleneck
- A two-phase Lean Transformation was began by embedding Lean Six Sigma Black Belt (LSSBB)

## Pre-intervention Metrics

Metric	Value
Median Door to Physician Time	15.01 min
Median Discharge-LOS Time	168.98 min
% LWBS	1.34 %

- In **Phase-1**, "Pull till Full", an immediate bedding process, was implemented where triage is bypassed when beds are available in the ED.
- If no beds, the ED reverts to traditional triage

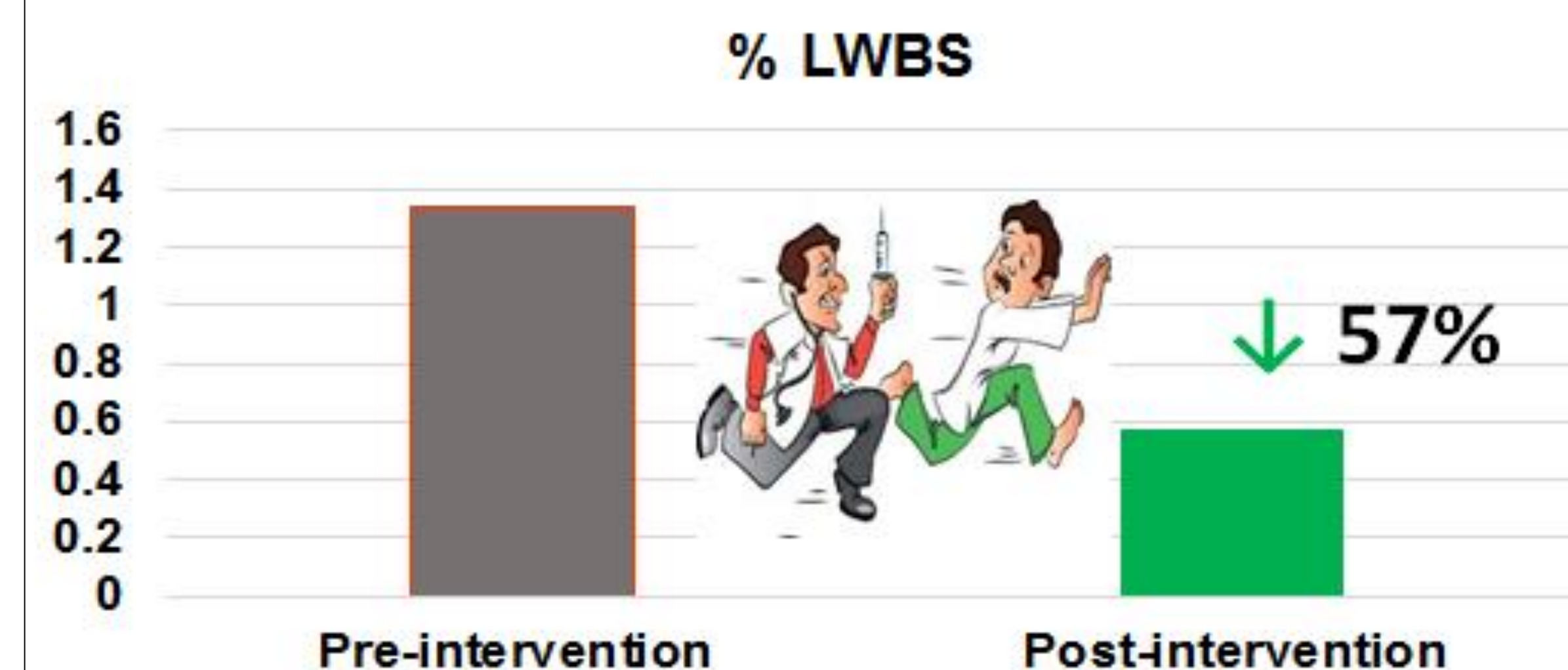
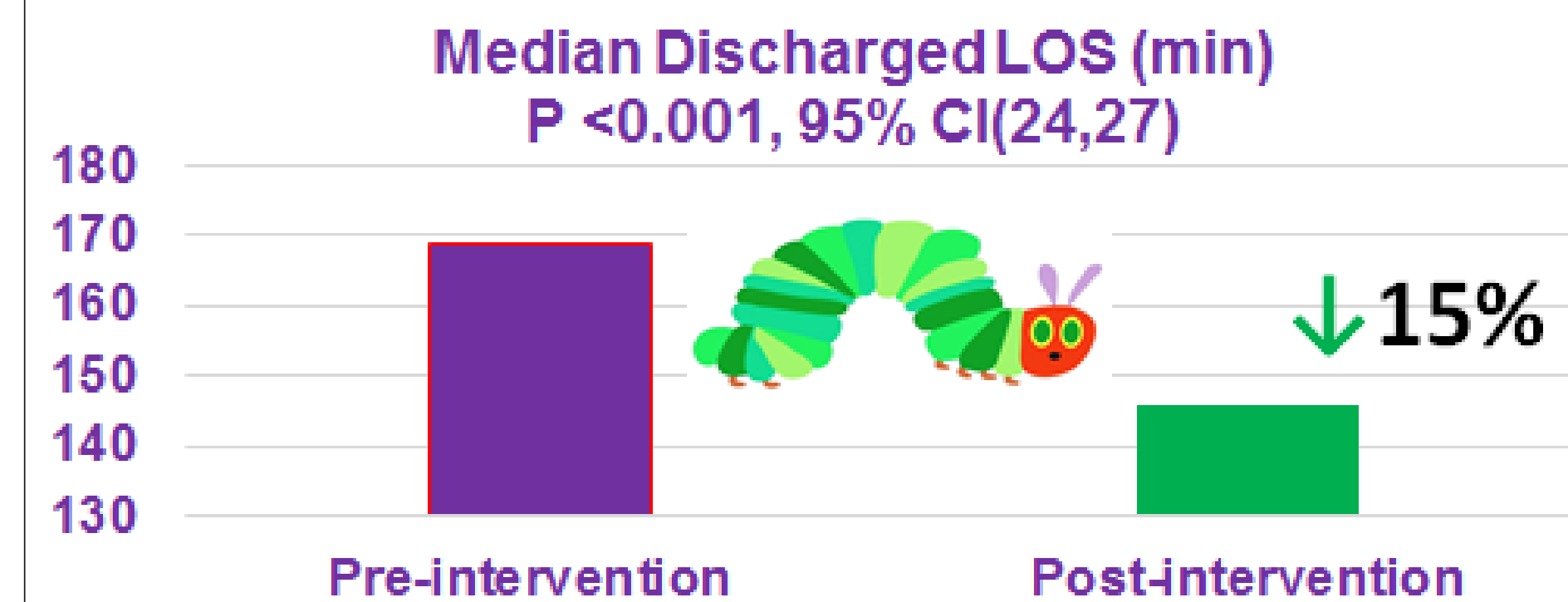
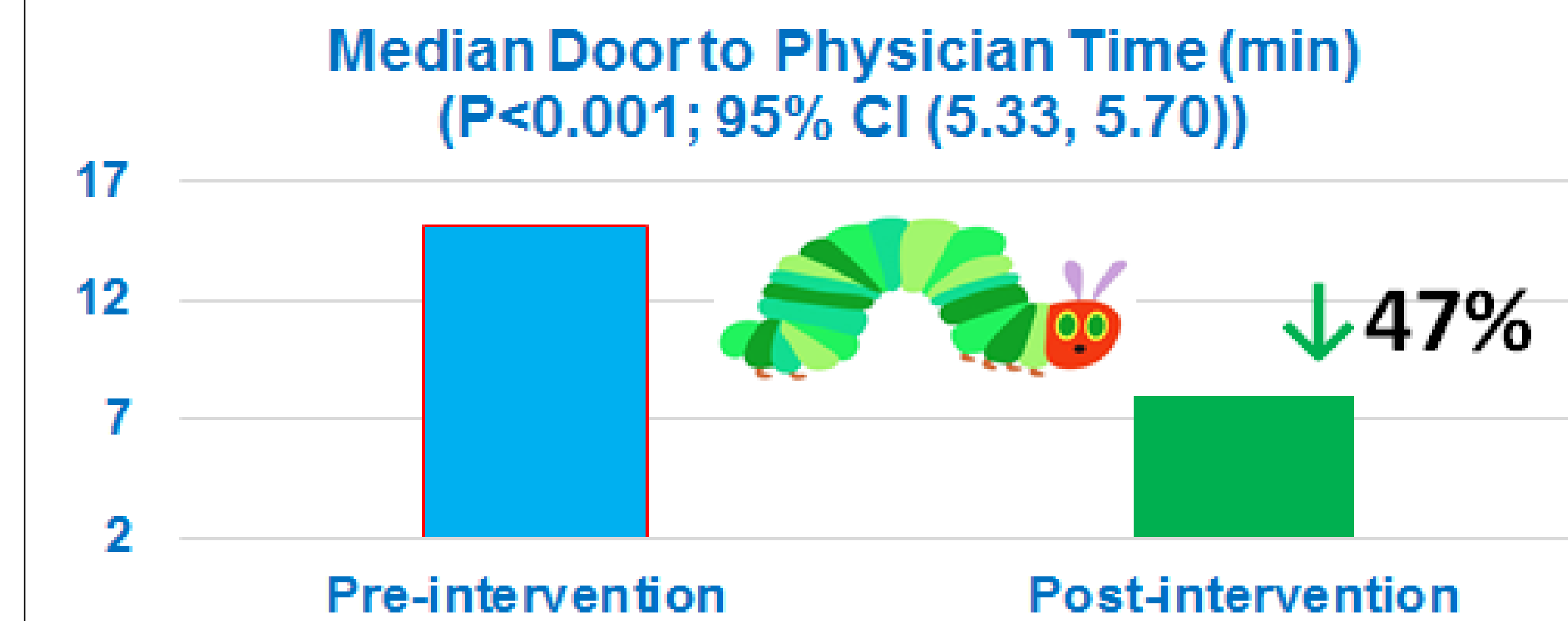
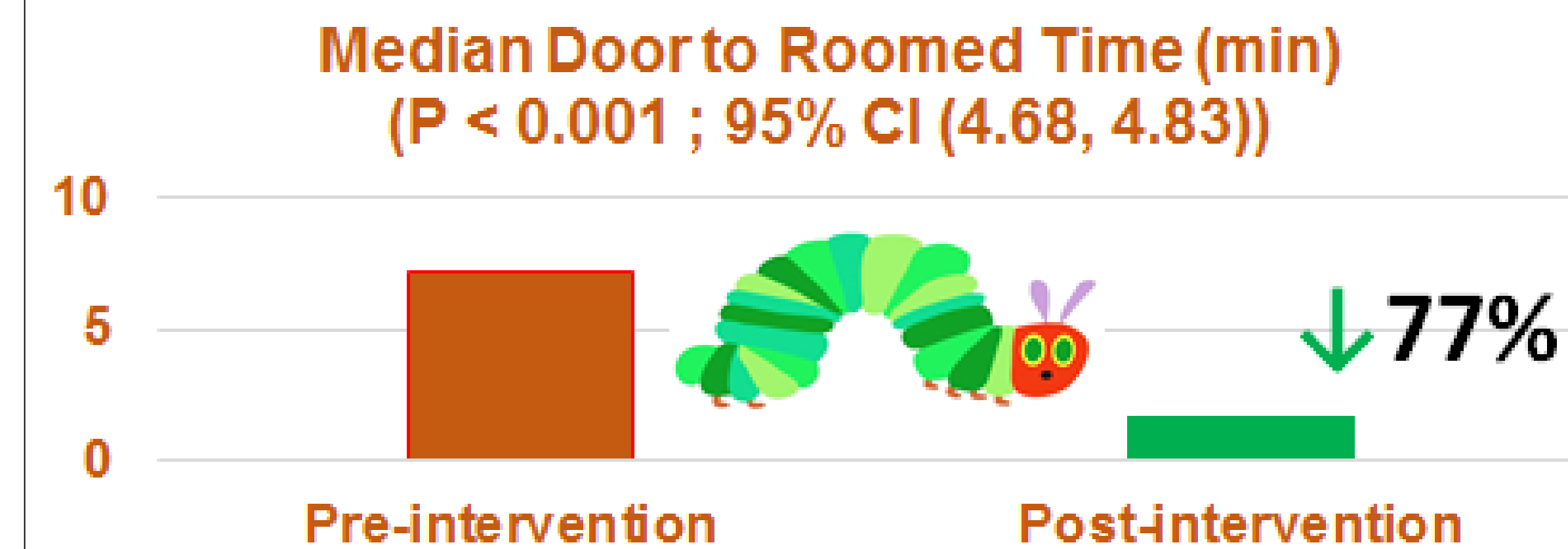
## Pull till Full Metric Targets

Metric	Value
Median Door to Roomed Time	<2 min
Median Door to Physician Time	< 10 min
Median Discharge-LOS Time	< 145 min
% LWBS	<1.00%

- In **Phase-2**, ED-LSBB assists ED ancillaries to identify and eliminate their process wastes
- Discharge-LOS >145 min triggers a Root Cause Analysis including ED ancillary Key Performance Indicators of Lab Blood Specimen and CT turnaround times
- Early outcomes include implementation of red colored bags to expedite STAT lab specimens and trial for dedicated Radiology transport tech

## Results of Innovation

Pre-intervention (n= 29,493) metrics compared to post-intervention (n = 31,807) for the same time period in the previous year to captured seasonal variability (Mann Whitney Wilcoxon Test)



## Results of Innovation

- Decreased Door to Roomed Time allowed ED providers' more timely access to patients
- Decreased likelihood of patients LWBS
- Improved patient experience and created a safer environment by reducing wait times

## Percentile Ranking of EHR Peers

Metric	Pre	Post
Median Door to Roomed Time	78	95
Median Disch-LOS Time	56	74
%LWBS	47	83

Note: Door to Physician time not captured in report

## Lessons Learned

### Phase 1 : "Pull Till Full" in ED

- Delay in obtaining vital signs when "Pull till Full" in effect was a concern from both providers and nursing; a triage tech was assigned for this task
- "Pull till Full" placed more pressure on the physicians to see more patients
- Communication with front line staff is crucial
- Mechanism for course correction is very important to prevent backsliding

### Phase 2: ED-Ancillary Process Improvement

- ED Lean transformation cannot succeed without ED ancillary improvement
- Quality improvement is a continuous process. It doesn't happen overnight, especially in a complex system like an ED.

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