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Improving Nurse to Patient Ratios in the Emergency Department Utilizing LEAN

Paul Delpais MSN, RN, CEN, NEA-BC
Lehigh Valley Health Network, Paul_A.Delpais@lvhn.org

Lindsa Houck MSN, RN, NEA-BC, CEN, CPEN, PHRN
Lehigh Valley Health Network, lindsay_j.houck@lvhn.org

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Improving Nurse to Patient Ratios in the Emergency Department Utilizing LEAN

Emergency Services - LVH–Cedar Crest campus
Lehigh Valley Health Network, Allentown, PA

Background

- Current staffing model for a busy Level 1 Trauma Center Emergency Department (ED): primary 1:4 nurse to patient ratio, supported by a registered nurse (RN) "pod leader," RN charge nurse and RN core trauma nurse.
- As volumes and acuity escalated, along with inpatient capacity constraints, RNs could experience having primary responsibility for up to 7 patients.
- Clinical nurse input via Leadership Rounding and Employee Satisfaction Survey prompted a re-evaluation of the staffing model.

Goal

Develop at least one or more cost neutral RN staffing model(s) that could be piloted through rapid cycle tests (RCTs).

Process

8-Hour Rapid Improvement Event (RIE)

- Participants
  - ED clinical nurses
  - Internal lean coach
  - ED director
  - RN administrator
  - Medical vice chairperson
  - Patient care specialist (educator)

Q: *"What is the optimal RN staffing model to maximize efficiency in the ED?"*

Result

Two different staffing models were designed by the participants. These models were tested during three, 3-day Rapids Cycle Tests (RCT's). Feedback from staff was gathered via a formal evaluation tool and shared with all staff.

PLAN DO STUDY ACT

RAPID IMPROVEMENT EVENT

What are we doing?
We are trialing a new staffing model.

Why?
To decrease the patient load of each RN and to increase staff satisfaction.

When?
May 14, 15, 16 from 0700-1900.

How?

- Pod Leader will continue to relieve RNs for lunch breaks. The scheduled lunch break windows are as follows:
  - *0700-1500 Shift:* 1100-1300
  - *0700-1900 Shift:* 1300-1600
  - *1100-2300 Shift:* 1700-1900
  - *1500-2300 Shift:* 1800-2000
- Huddle 1 hour into shift at 0800.
- Pod Leader should run the board with the physician Q4 hours.
- Pod 4 TP becomes trauma TP.
  - *If a 7th TP is available, that TP becomes the trauma TP.*
- Pod Leader will take a section of hallways. Those hallways are as follows:
  - *Pod 1:* 1B, 1C, 1D
  - *Pod 2:* 2A, 2B, 2C
  - *Pod 3:* 3A, 3B, 3C
  - *Pod 4:* 4A, 4B, 4F
  - *Responsibilities of hallway patients must be reabsorbed by primary RN (of that section) when necessary (i.e., traumas, lunch breaks).*
- Assign appropriate hallway patients.

Rapid Cycle Test #2

What are we doing?
We are trialing a new staffing model.

Why?
To decrease the patient load of each RN and to increase staff satisfaction. To increase accountability and teamwork.

When?
May 21, 22, 23 from 0700-1900.

How will it work?
Pt Room assignments are changing.

- **Pod 1**
  - RN Rooms: 1-3, and 1A
  - RN Rooms: 4-6, and 1B
  - RN Rooms: 7-9, and 1D
  - RN Rooms: 10-12, and 1C
- **Pod 2**
  - RN Rooms: 13-16
  - RN Rooms: 17-20
  - Please use hallway beds last in Pod 2
- **Pod 3**
  - RN Rooms: 21-23, 3A
  - RN Rooms: 25-28, 3C
  - RN Rooms: 24, 29, 30, 3B
  - Do not use rooms 3D or 3E unless we are upstaffing
- **Pod 4**
  - RN Rooms: 32-34, and 4A
  - RN Rooms: 35-37, and 4B
  - RN Rooms: 38-40, and 4C
  - RN Rooms: 41, 42, 31, and 4F

Process Details:

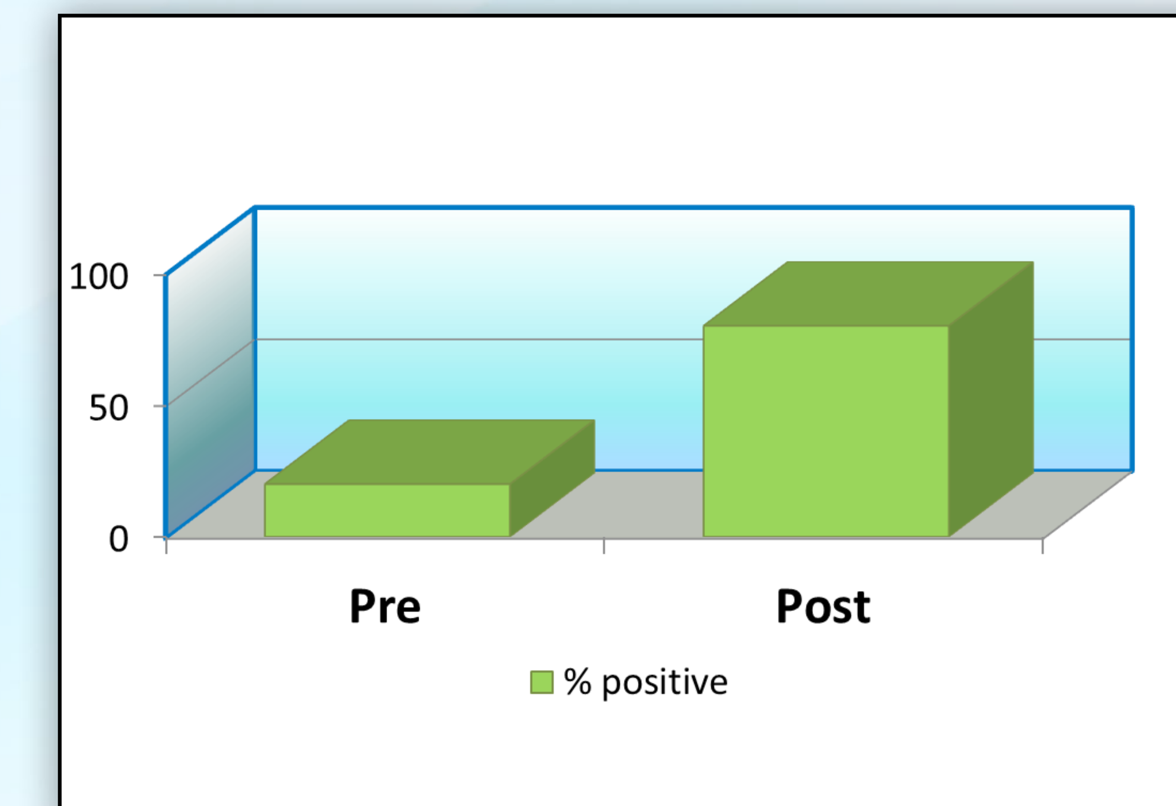
1. The TRAUMA RN is to be Pod Leader for Pods 1 and 2
2. The CORE TRAUMA RN is to be Pod Leader for Pods 3 and 4
3. At 11AM, if there are hallways patients, the oncoming RN will assume care of hallways in Pod 2. If there are no hallway patients, the oncoming RN will assist in breaking for lunches. If there is no meal break RN, patients will be divided amongst remaining nurses in the pod. ***Remember:*** *This will give you a potential of a MAXIMUM of 6 patients-a very common occurrence currently.*
4. Hourly rounds should occur with every RN in the pod, physician, and tech partner to run the board.

Outcome

Based on the feedback, a staffing model which provides for no greater than a

1:5 RN to patient ratio, during periods of high volume and acuity in the ED, was chosen.

Pre- & post-implementation survey data revealed a 60% increase in a positive response to the Q: *"How well could you manage your patient load today?"*



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