

Increasing the Quality of Care for Stroke Patients: A Collaboration between ED and ICU.



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Background/Introduction

It is vital for patients who receive Alteplase in the Emergency Department (ED) receive an inpatient bed quickly; for our facility that is a bed in the Intensive Care Unit (ICU). Current standards from DNV-GL report that a patient should receive a monitored bed within 180 minutes from arrival to ED. Houston Methodist St. John did not start admitting Alteplase (tPA) patients until June 2017, with an average of 391 minutes to a monitored bed. Alteplase qualified patient volume was low and chart fall outs were high for the ED and ICU teams. There are six domains of charting for Alteplase patients.

Objectives

The nursing team identified areas that needed improvement soon after HMSTJ began to admit Alteplase patients to the ICU. In the fall of 2017 the ED and ICU teams began to collaborate and brainstorm solutions. They came up with the following objectives:

1. Decrease ED Door to Monitored Bed (ICU) to goal of 180 minutes
2. Increase Charting Compliance for all patients receiving Alteplase to 100%.
3. Standardize a process of continuing care for the patient receiving Alteplase and being admitted to the ICU.
4. Achieve Primary Stroke Center by DNV-GL

Charting Standards for Alteplase Patients:

1. 15 minute pre tPA vital sign and NIHSS
2. Vital Sign and NIHSS (or Neuro Check) every 15 mins for 2 hours
3. Vital sign and NIHSS (or Neuro Check) every 30 mins for 6 hours
4. Vital Sign and NIHSS (or Neuro Check) every 60 mins for 16 hours
5. NIHSS 1 hour post tPA
6. NIHSS 24 hours post tPA

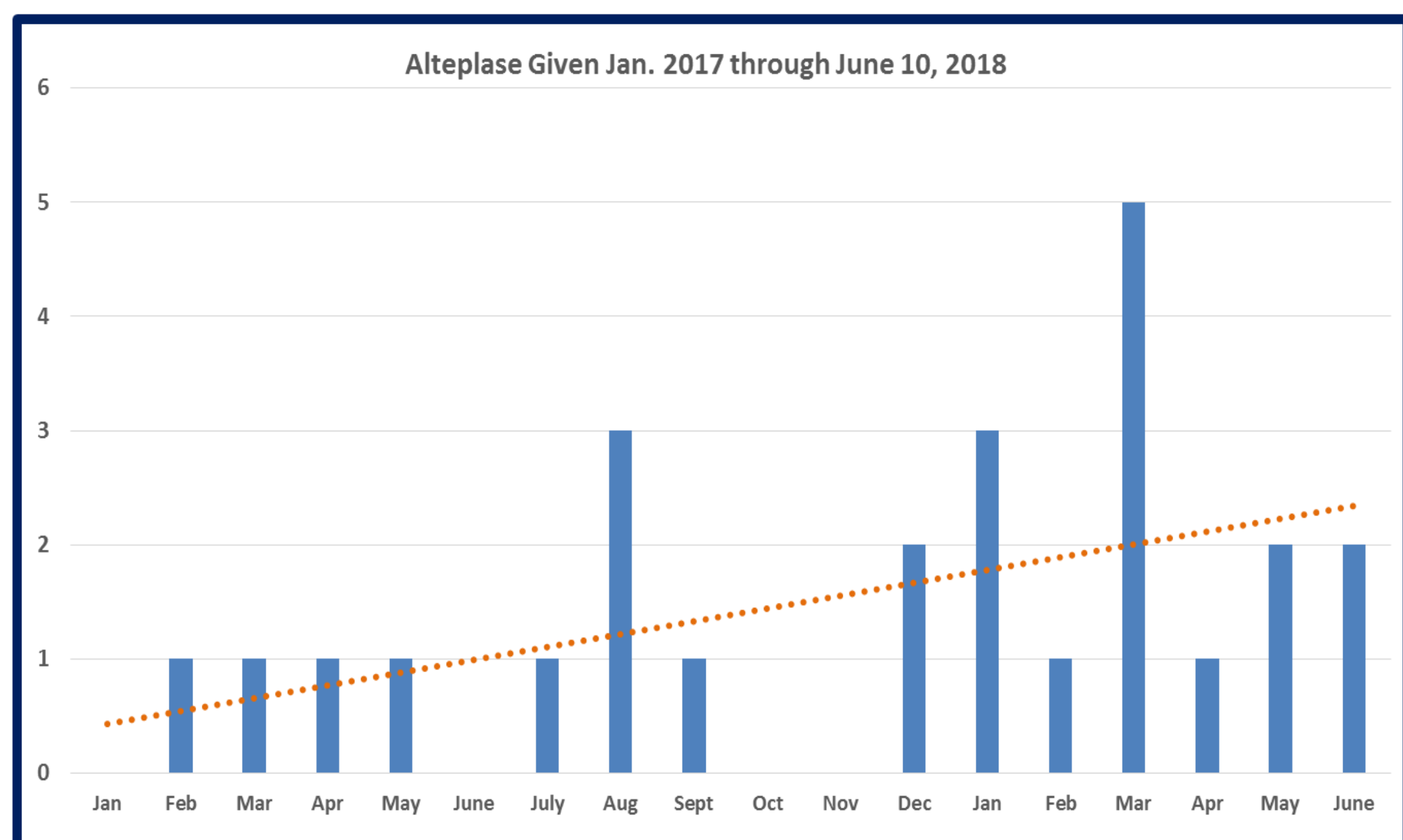
The image shows two forms: 'Pre and Post tPA Vital Signs' and 'tPA Worksheet'. The 'Pre and Post tPA Vital Signs' form is a grid for tracking vital signs and NIHSS scores at various intervals (15, 30, 60, 150, 300, 600, 1200, 2400 minutes). The 'tPA Worksheet' form contains detailed instructions for documentation in the Emergency Department and in the EMR, including requirements for vital signs, NIHSS, and patient education.

Methods

ICU and ED team met several times to develop the following interventions to meet their goals:

1. **Standardize the Code Stroke Packet:**
 - a. When a patient meets criteria for a Code Stroke the ED Nurse grabs a packet
The packet includes the following:
 - tPA dosing card
 - Vital Sign and Neuro Check Work Sheet
 - tPA Patient Family Education form
 - tPA Documentation How To's
 - 24 Hours Post tPA How To's
 - b. The packet stays with the patient - The ED RN will hand the packet off to the ICU RN
2. **Code tPA initiated by ED**
 - a. When ED is giving Alteplase, the ED RN will broadcast via Vocera to the ICU "Code tPA: ED Room X."
 - b. This lets the entire ICU team know there is a Alteplase patient needing a bed immediately, allowing the ICU team to coordinate bed placement timely.
3. **ED/ICU bedside shift report includes NIH scale**
4. **ED to assist ICU team when giving Alteplase in the ICU**
5. **Code Stroke/Code Alteplase Drills** to increase compliance with process and charting
6. **More timely chart audits for identification of deficiencies**

Results/Implications



The number of patients receiving Alteplase in the ED increased from less than one a month in 2017 to an average of over 2 per month.



December of 2017, the facility received Primary Stroke Center Designation by DNV-GL

Charting Compliance:

Out of 6 main areas
2017 Compliance- 76%
2018 YTD- 85%

Door to Monitored Bed

Since collaboration began there has been a **53% decrease** in the time it takes for an Alteplase patient to get from the ED to the ICU.

