Improving Patient Flow in L&D Triage

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BACKGROUND

- The Triage Flow Project originated from an increased focus on decreasing the overall length of stay for obstetrics (OB) patients at Boston Medical Center (BMC). After meeting with departmental leadership, Triage was identified as a top priority for more timely assessment and treatment of Triage patients.
- Triage is the area of the Labor & Delivery (L&D) unit in which patients receive their initial evaluation for admission, and the Overflow area is the waiting area for those patients awaiting an evaluation or a room in Triage. Patients are evaluated by a nurse (RN) in Triage and assigned an acuity number (1-5; 1=most severe, 5=least severe) based on the severity of their chief presenting complaint. These patients are then assigned a Triage bed based on their acuity and bed availability.
- This project focuses on improving patient flow in order to have patients assessed and treated efficiently and moved out of Triage to the next appropriate level of care.
- At baseline patients spent an average of 57 minutes waiting in Overflow and 3 hours 8 minutes bedded in Triage.
- BMC L&D has a monthly average of ≈ 420 visits to Triage and 244 deliveries.

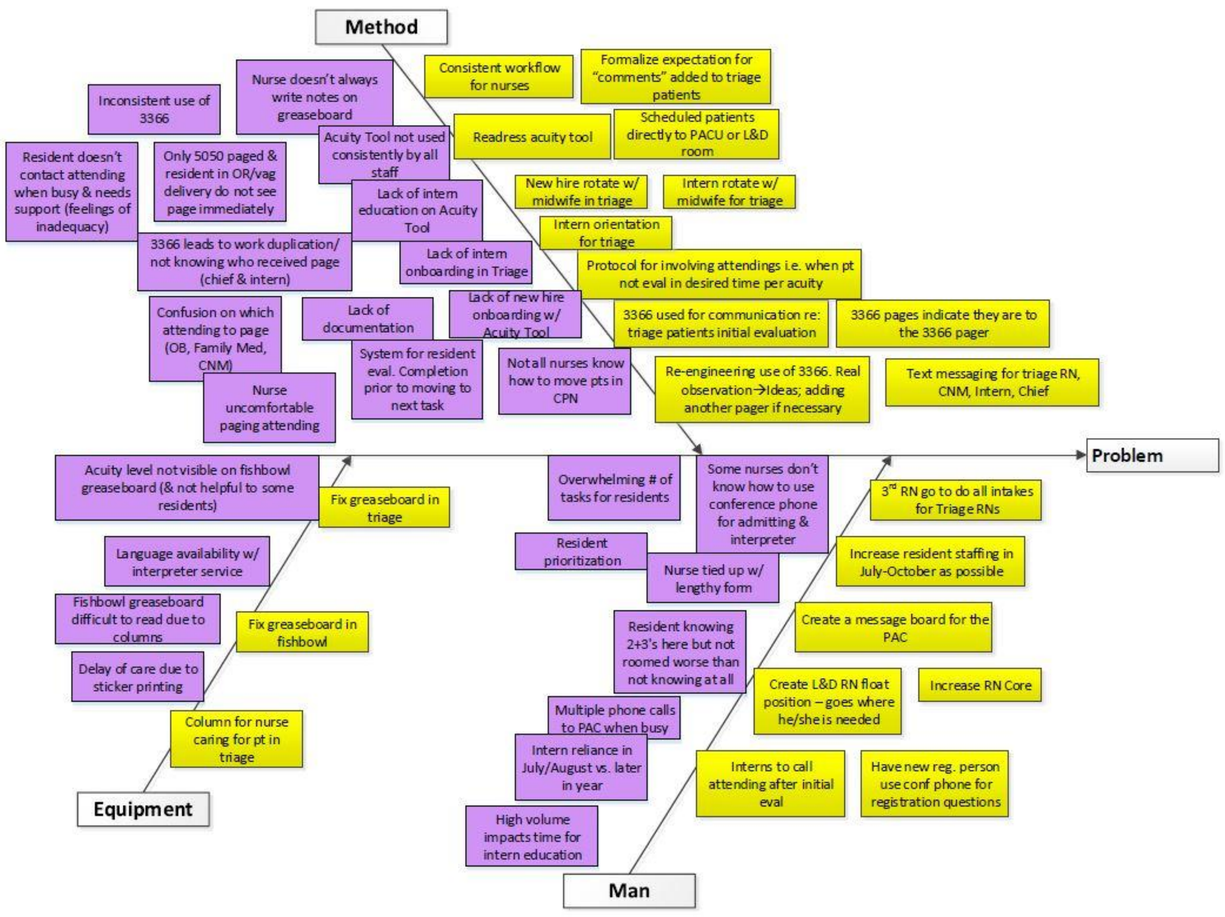
AIM

- More timely assessment for Triage patients as measured by decreasing the average length of stay in Overflow and Triage by 10% for patients delivering during their admission from October 2017 to April 2018.

METHODS

- A multidisciplinary team was assembled including nurses, CNMs, obstetric physicians, and department leadership.
- Process mapped current state & ideal state of patient progression from registration to discharge from Triage.
- Gap analysis employing fishbone diagram for obstacle identification and solution derivation.
- Prioritization matrix to rank & select countermeasures to barriers.
- Baseline data & monthly performance data through OB Flow report.
- Monthly auditing of adherence to Triage intake workflow protocol.
- A3, Lean, and PDSA methodologies.

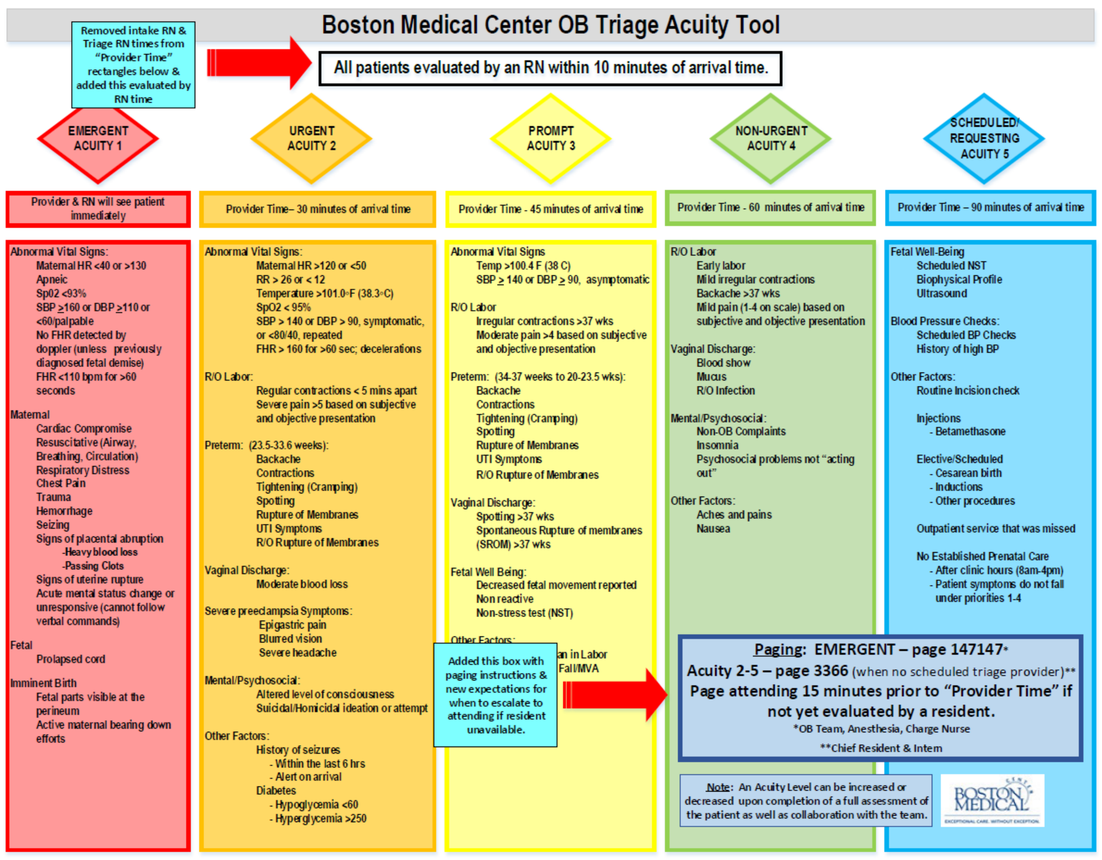
Fishbone Diagram



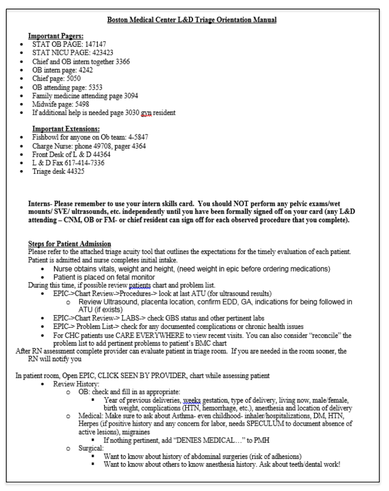
Triage Nurse Workflow Auditing Tool

Triage Improvement and Monitoring of PDSA (Plan, Do, Study, Act) Cycles						
Date	Triage Patient	Pt eval in 10 by a RN	Presenting problem on greaseboard	Provider Notified at the end of the intake	Attending paged 15 min prior to goal time if necessary	Inititals

Triage Acuity Tool



Triage Orientation Manual



Boston Medical Center L&D Triage Orientation Manual

Important Pagers:
- STAT OB PAGE: 147147
- STAT NICU PAGE: 423423
- Chief and OB intern together 3366
- OB intern page: 4242
- Chief page: 5050
- OB attending page: 5353
- Family medicine attending page 3094
- Midwife page: 5498
- If additional help is needed page 3030 gyn resident

Important Extensions:
- Fishbowl for anyone on Ob team: 4-5847
- Charge Nurse: phone 49708, pager 4364
- Front Desk of L & D 44364
- L & D Fax 617-414-7336
- Triage desk 44325

Interns- Please remember to use your intern skills card. You should NOT perform any pelvic exams/wet mounts/ SVE/ ultrasounds, etc. independently until you have been formally signed off on your card (any L&D attending – CNM, OB or FM- or chief resident can sign off for each observed procedure that you complete).

Steps for Patient Admission
Please refer to the attached triage acuity tool that outlines the expectations for the timely evaluation of each patient.
Patient is admitted and nurse completes initial intake.
- Nurse obtains vitals, weight and height, (need weight in epic before ordering medications)
- Patient is placed on fetal monitor

During this time, if possible review patients chart and problem list.
- EPIC->Chart Review->Procedures-> look at last ATU (for ultrasound results)
  - Review Ultrasound, placenta location, confirm EDD, GA, indications for being followed in ATU (if exists)
- EPIC->Chart Review-> LABS-> check GBS status and other pertinent labs
- EPIC-> Problem List-> check for any documented complications or chronic health issues
- For CHC patients use CARE EVERYWHERE to view recent visits. You can also consider "reconcile" the problem list to add pertinent problems to patient's BMC chart

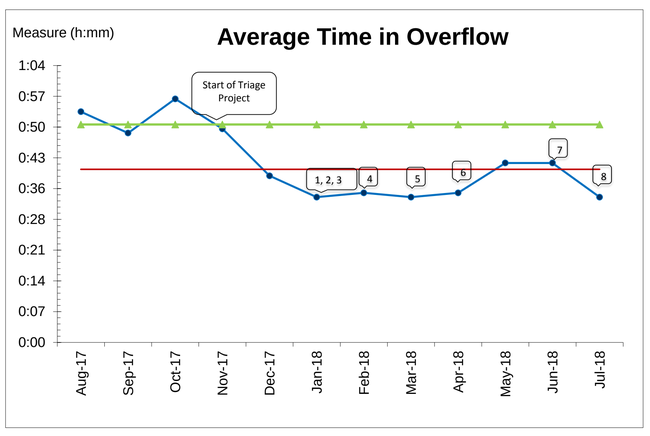
After RN assessment complete provider can evaluate patient in triage room. If you are needed in the room sooner, the RN will notify you

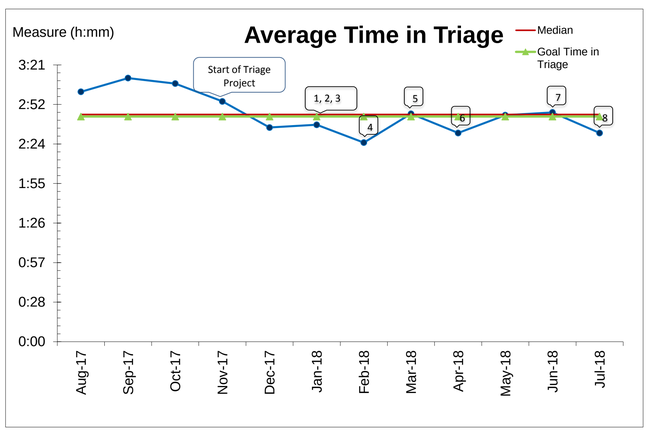
In patient room, Open EPIC, CLICK SEEN BY PROVIDER, chart while assessing patient
- Review History:
  - OB: check and fill in as appropriate:
    - Year of previous deliveries, weeks gestation, type of delivery, living now, male/female, birth weight, complications (HTN, hemorrhage, etc.), anesthesia and location of delivery
  - Medical: Make sure to ask about Asthma- even childhood- inhaler/hospitalizations, DM, HTN, Herpes (if positive history and any concern for labor, needs SPECULUM to document absence of active lesions), migraines
    - If nothing pertinent, add "DENIES MEDICAL…" to PMH
  - Surgical:
    - Want to know about history of abdominal surgeries (risk of adhesions)
    - Want to know about others to know anesthesia history. Ask about teeth/dental work!

Swab Guide

RESULTS

- Between October 2017 and April 2018 we witnessed a 39% decrease in average LOS in Overflow from 57 minutes to 35 minutes (a 22 minute decrease), and a 19% decrease in average LOS in Triage from 3 hours 8 minutes to 2 hours 32 minutes (a 36 minute decrease).





1. Standardization of a paging system: January 2018
2. Formalized expectations for nursing "comments": January 2018
3. OB patient registration moved to floor: January 2018
4. Updates to Triage Acuity Tool: February 2018
5. Training of Triage nurses on standardized Triage intake workflow: March 2018
6. Swab guide: April 2018
7. Creation of Triage Orientation Guide: June 2018
8. Monthly auditing of adherence to Triage intake workflow protocol: July 2018

SOLUTIONS

- Revised Triage Acuity Tool to better define (1) evaluation time parameters based on assigned patient acuity level, (2) paging system instructions for both nurses and providers, and (3) clear designation of responsible providers based on patient acuity and time to evaluation.
- Standardization of a paging system including paging number, paging script, and timeframe for pages from nurse to provider.
- Formalized expectations for nursing "comments" including standardizing scripting of clinical information to be entered on provider greaseboard.
- Patient registration moved onto inpatient OB floor for efficient and patient-friendly registration.
- Education of Triage nurses on standardized Triage intake workflow.
- Reordering of Triage Navigator in EPIC to mirror nursing assessment workflow.
- Swab guide to improve accuracy and efficiency of the collection of pre-term labs.
- Creation of a Triage Nurse-initiated Hypertension Order Set to improve efficiency in delivery of clinical care to patients.
- Creation of Triage Orientation Guide for orientation of new interns and new hires.

CONCLUSIONS

- Triage workflow is more streamlined with a clear paging system, time sensitive interventions, and defined responsible providers.
- Updates to the Triage Acuity Tool focused on initial nursing evaluation in Triage had positive impact on patient wait time in Overflow.

NEXT STEPS

- Continue monthly nursing audits & posting data updates on unit data board.
- Monthly reminders of workflow, communication, and timing expectations in staff meetings.
- Consider alternative workflows for scheduled cesarean sections & laboring patients in order to bypass Triage.