



Implementation and Spread of "Urgent" Portable Chest X-rays Protocol Across EUH ICUs

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Aim Statement

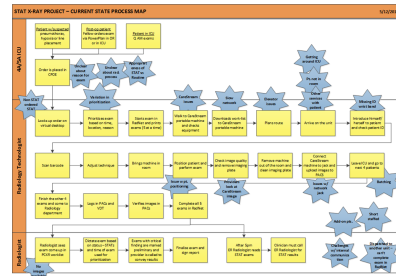
Implement and spread the "urgent" portable chest x-rays protocol across all EUH ICUs by March 2018. "Urgent" chest portable exams ordered will be for clinical decompensation or confirmation of line placement (complication suspected), and time from order placed to exam complete will be 20 minutes and exam complete to preliminary interpretation would be 30 minutes.

Background

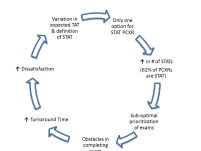
Emory University Hospital (EUH) orders a high number of STAT priority portable chest radiographs (PCXR) (62%) compared to Routine (35%) and Today (3%). Given the high number of STAT priority PCXRs ordered, prioritizing acquisition and interpretation of true STATs has become challenging for technologists and radiologists, leading to process inefficiencies, long turn-around times (TATs), communication failures, and patient safety errors.

In response to a related patient safety incident, our multidisciplinary team designed, tested and successfully implemented a standardized end to end process of identifying, ordering, procuring, interpreting, and communicating results of true STAT exams. The new process was implemented on 4A & 5A ICU in March 2016, and in March 2017, we spread the intervention to 5G & 6G ICU. Described below is our process improvement journey since 2015 and the standardized process which now serves as a template for implementation at other EUH ICUs.

Analysis



PCXR Negative Feedback Cycle



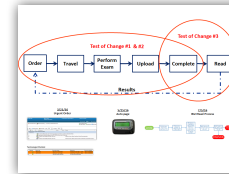
Actions/Tests of Change

- Developed a new "Urgent" PowerPlan for true STAT exams
- Designed and tested the process for 'exam order to complete' and 'exam complete to preliminary read' in two phases
- Oriented ICU ordering providers (MDs, NPs, APPs, Fellows and Residents) and nursing staff on the standard work during each phase
- Spread intervention to 5G & 6G ICU in March 2017

Example of Exam Complete to Preliminary Read PDSA

AIM	PLAN	DO	STUDY	ACT
Reduce the time from exam complete to preliminary read for true STAT exams.	Standardize the process for exam complete to preliminary read for true STAT exams.	Implement the standardized process for exam complete to preliminary read for true STAT exams.	Measure the time from exam complete to preliminary read for true STAT exams.	Adjust the process based on the results of the study.

Test of Change



Standard Work for Ordering Provider

Ordering Provider Process for "Urgent" X-ray

Only for -

- Patient decompensating
- Complication of ETT or Line Placement

Use - "Urgent Chest X-ray Pilot" PowerPlan

Standard Work for Technologist

Technologist Process for "Urgent" X-ray

Ordered only for -

- Patient decompensating
- Complication of ETT or Line Placement

- Order initiated
- Ask page from floor to operator page
- "Urgent" icon appears on monitor
- Start exam and travel to five. Aim to arrive in 15 minutes. Perform exam and Upload to PACS and Complete in RadNet
- Call Midlevel Reading Room Coordinator - 64-572. Provide patient information and call back # 64-27114 SA - 27115 to report critical findings if any. SA - 27068 SA - 27069

Standard Work for Reading Room Coordinator

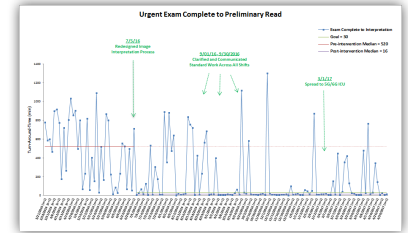
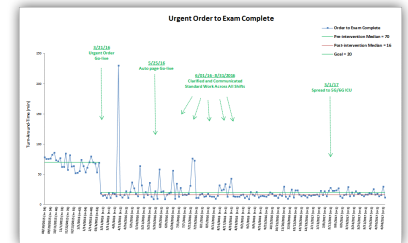
Process for "Urgent" X-ray

Ordered only for -

- Patient decompensating
- Complication of ETT or Central Line

- Urgent order initiated
- Tech completes exam in 20 minutes and calls Midlevel RBC
- Midlevel RBC reaches out to Radiologist Resident for a read
- Radiologist Resident performs the read. Communicate to the doctor within 30 minutes. Call back reading room coordinator # 64-27114 SA - 27115 SA - 27116 SA - 27117 SA - 27118 SA - 27119 SA - 27206 to report critical findings if any.

Results



Reflection/Follow-up

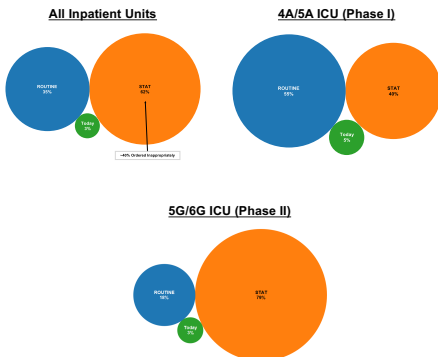
Key to successful implementation were:

- Involvement of all stakeholders in process redesign
- Developing time defined standard work processes
- Sharing of metrics at stakeholder meetings

Some of the recent variation in turn-around-times can be attributed to the fact that the process is relatively new for 5G & 6G ICU clinicians. We will continue to emphasize standard work and share metrics at regular intervals to guide change in practice.

Next steps would be to spread the "urgent" PCXR process to other EUH ICUs by the end of March 2018.

Baseline Conditions



Measures

Urgent PCXR Turnaround Time (TAT)

- Order to exam complete TAT
- Exam complete to exam preliminary read TAT