Imaging Stewardship

Defining STAT Portable Digital Radiographs in the Cardiac ICU

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Disclosures

- None

Background and Aim

- High priority or “STAT” portable digital radiographs (DR) are crucial for addressing urgent patient needs
- Concerns arise when STAT portable DR are requested regardless of patients’ urgency
- Delaying STAT portable DR in the ICU causes delays in delivering time-sensitive care

Aim: Enhance STAT portable DR workflow through decreasing technologist turnaround times (TAT*) from a median of 24 minutes to 20 minutes over a 6-month period

*TAT: Duration between technologist acknowledgment of the order within EPIC and exam completion

Methods

- This project was a quality improvement initiative performed following the *Realizing Improvement Through Team Empowerment (RITE)* model

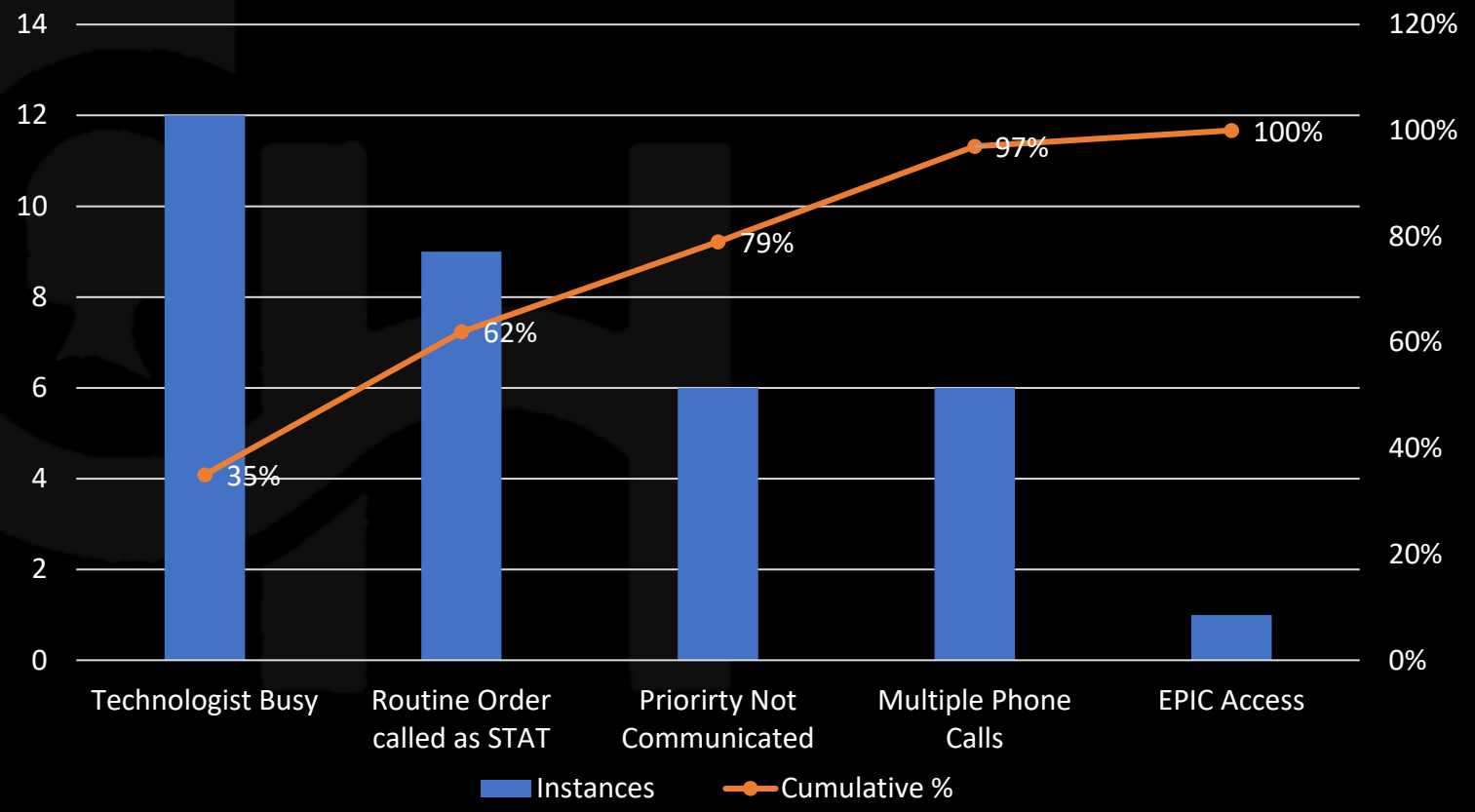
- A multidisciplinary team including technologists, nurses, physicians, a human factors engineer, and safety & quality specialists conducted regular Gemba walks and applied PDSA cycles to improve each step of the process

Problem Analysis: Causes of Extended DR TAT

At project initiation: median technologist TAT for portable DR in the CICU was 24 minutes

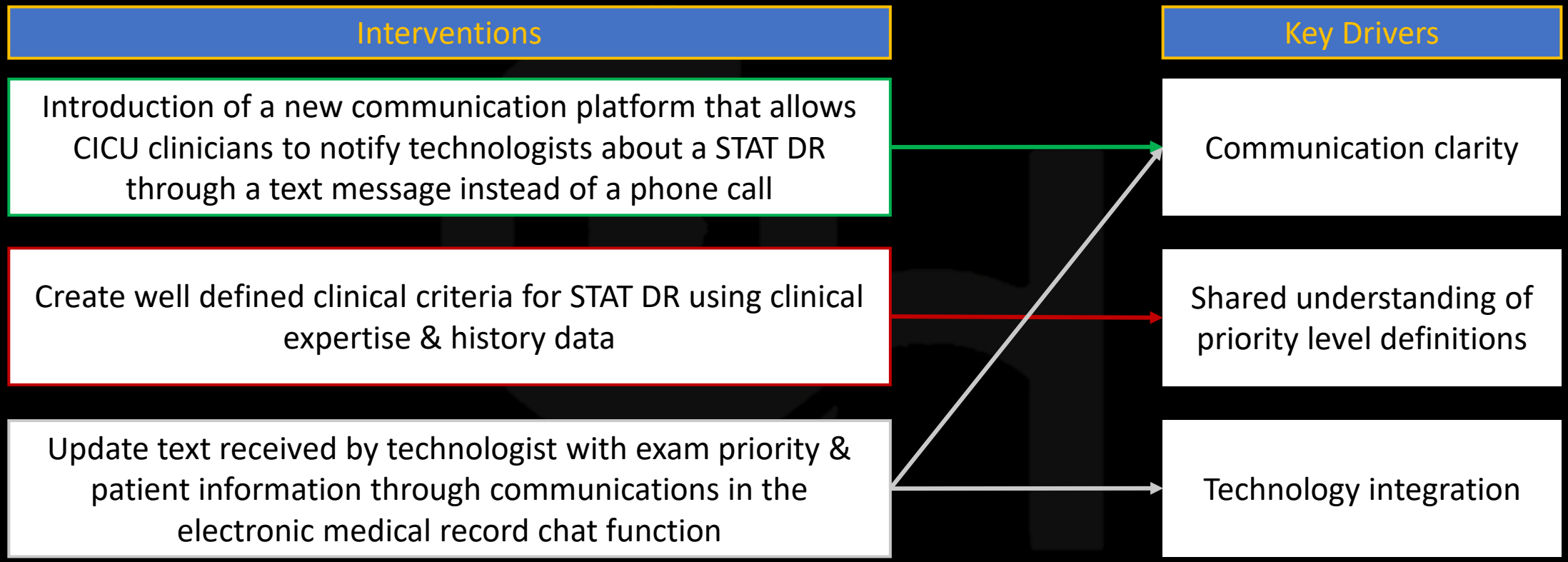
Process	Problem
Determine patient's need for portable DR and its priority (inpatient team)	
Call portable DR technologist (RN)	Technologist might be busy performing another exam
Schedule portable DR in electronic medical record (technologist)	Technologist must have access to electronic medical record
Perform & complete DR (technologist)	Patient might not be ready for DR to be performed

As observed through Gemba walks



As expressed by Technologists

Key Drivers and Interventions



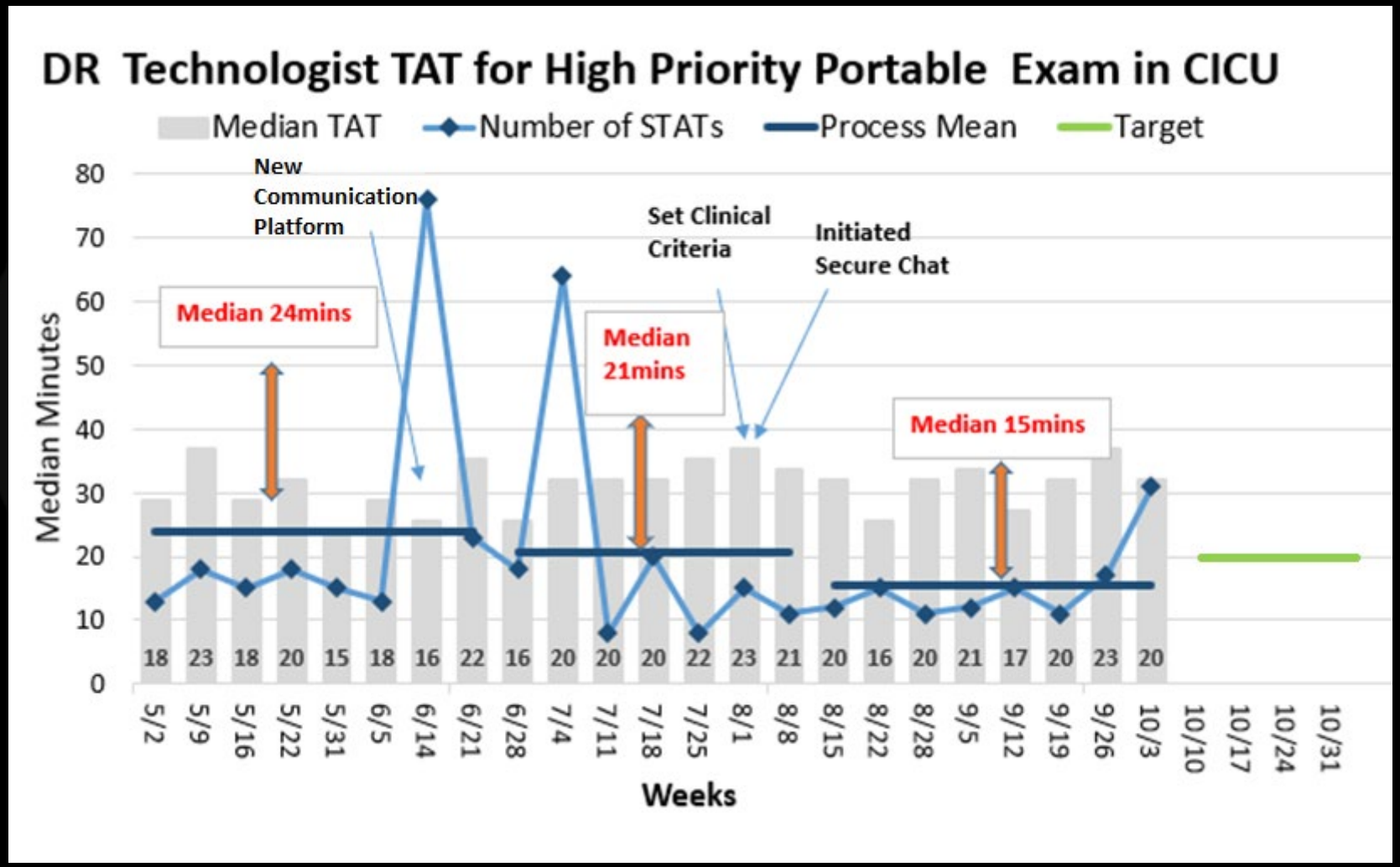
Updated STAT clinical criteria

- Categories of requested portable DR updated to: STAT, ASAP, ROUTINE

STAT	ASAP	ROUTINE
Post-OP	S/P VP shunt revision/placement	Temperature spike
Code	Evaluate for pleural effusion	Check lung status
OR	Evaluate line placement	Evaluate for infiltrates
Evaluate for aspiration	Chest tube pulled	Evaluate for pneumonia
ETT placement	Intracardiac line pulled	Evaluate feeding tube placement
Swan placement	Localized pain	Abdominal distension
PICC placement	Concern for pulmonary edema	Ileus
Respiratory distress	Concern for NEC	Fracture follow-up
Evaluate for pneumothorax		
Evaluate for bleed		
Evaluate for free air		
S/P intubation/extubation		
Bedside surgical procedure		

Results

Interventions decreased technologist TAT from 24 minutes to 15 minutes over the study period of 6 months



Limitations

- The few number of technologists available to respond to CICU STAT portable DR orders limited further decrease in technologist TAT

- Definitions for STAT were designed for the pediatric cardiac ICU, may not be applicable in other clinical settings

Conclusion

- Direct and informative communication pathways between technologists and ordering providers decreases unnecessary interruptions in technologists' workflow
- Effective relay of exam priority to technologists helps assign importance to STAT orders
- Clear criteria for STAT exams prevent inappropriate labeling of non-urgent cases
- The designed workflow improved imaging stewardship at our institution, ensuring we provide the right study for the right patient at the right time using multi-specialty collaboration.