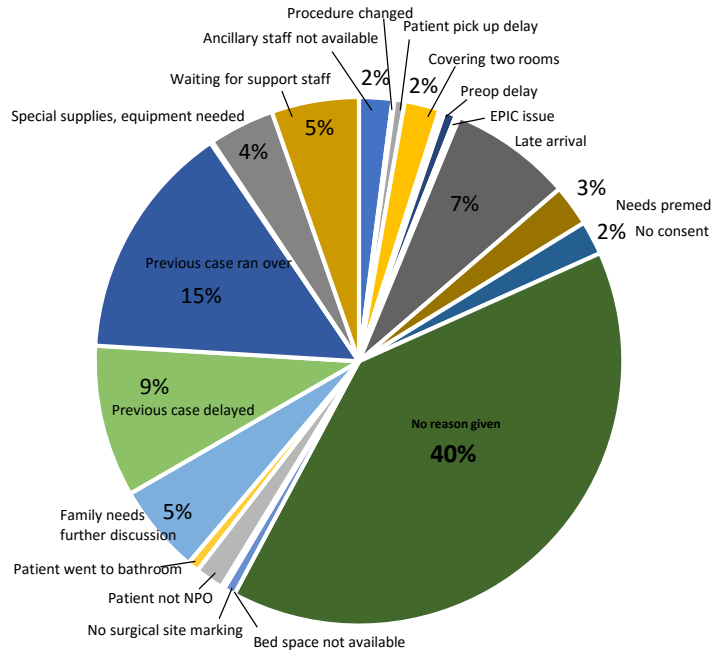


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BACKGROUND

- Electronic medical records (EMR) have become commonplace for ORs in the United States
- EMRs allow for large amounts of data to be collected and analyzed
- Can present with problems in accessibility and utilization of usable data
- A quality improvement (QI) project was initiated, aimed at decreasing delays throughout the ORs in a large tertiary hospital system, only to be terminated due to unusable data as retrieved through the EMR
- This setback redirected focus to a different objective that could open the door to future QI projects, having the potential to improve perioperative efficiency and performance
- This project focuses on decreasing the amount of undocumented and inaccurate data for delay reasoning throughout the operating rooms of a large hospital system



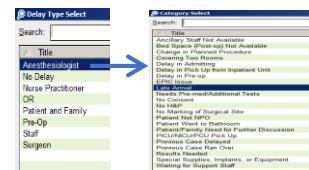
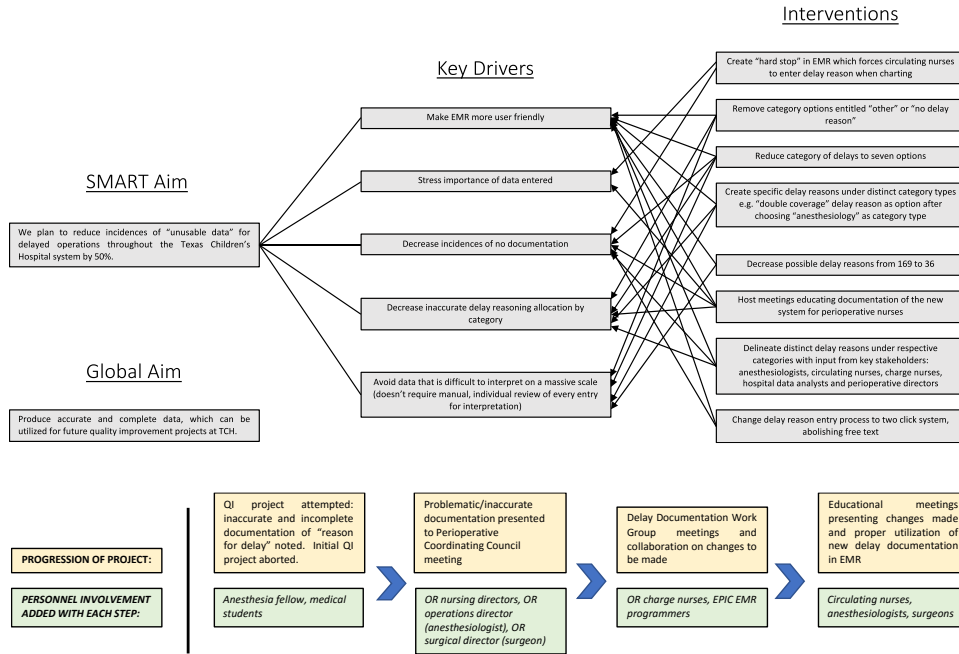
Above graph: 3-month (April – June 2017) span of delays from all Texas Children's Hospital campuses broken down by reason. A total of 93 delay reasons were represented in this graph (most not shown).

SMART AIM

We plan to reduce incidences of "unusable data" for delayed operations in all Texas Children's Hospital campuses by 50% by the end of 2018.

METHODS

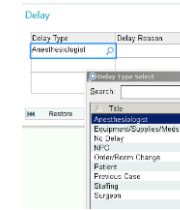
The initial discovery of undocumented and "unusable data" was first presented at a monthly TCH Perioperative Coordinating Council meeting in an effort to dedicate further resources towards a solution. This multidisciplinary team, which focused on systematic concerns surrounding the operating rooms and their procedures, determined that the issue was worthy of correction for which a "Delay Documentation Work Group" was formed consisting of nurses, EMR specialists/programmers, and anesthesiologists.



Screenshot of documentation process prior to changes. Delay reason corresponded poorly to categories. Redundancies led to a possible 169 delays.

After EMR reprogramming was finalized, education was provided to nursing and physician staff. OR delays are now being reviewed over a three-month period. The percentage of unusable data post-reprogramming will be compared to the pre-reprogrammed results.

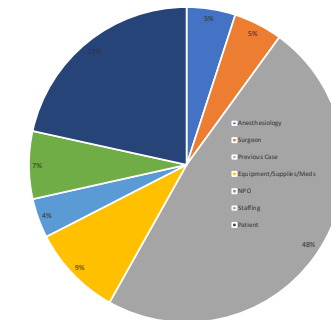
RESULTS & PROGRESS



Documentation process now involves category type (left) followed by specific reasons which correspond to previously clicked category for delay. Less potential options noted on second part of process (right).

CHANGES AFTER IMPLEMENTATION

- two-click process
- no freetexting
- categories assigned corresponding reasons
- decreased delay reasons possible upon data review
- "hard stop" enforced



A projection: Delays, following changes. Far fewer reasons per category represented (right). Right graph showing potential breakdown of delay reasons within category ("Anesthesiology" used in example).

DISCUSSION/CONCLUSION

- With access to proper documentation of delay reasons in the perioperative setting, large amounts of data can be collected and reviewed more efficiently. This would allow for the possibility of future QI projects to target, understand, and eliminate the inefficiencies and barriers resulting in these delays.
- Decreasing just one, 30-minute delay in an operating room can result in higher patient/parent satisfaction, **financial gains on average of \$3,000**, and more efficient use of providers and staffing.
- EMR is an invaluable tool, however, they require proper programming as **customized by the health professionals** using them, improved user interface with **ease of use**, and **proper education** for utilization of the EMR.

REFERENCES

- Murphy, K. HER Intelligence. 2017
- Chan, K.S. et al. Medical Care Research and Review. 2010
- Roth, C.P. American Journal of Medical Quality. 2009

SMART Aim

We plan to reduce incidences of "unusable data" for delayed operations throughout the Texas Children's Hospital system by 50%.

Global Aim

Produce accurate and complete data, which can be utilized for future quality improvement projects at TCH.

Key Drivers

Make EMR more user friendly

Stress importance of data entered

Decrease incidences of no documentation

Decrease inaccurate delay reasoning allocation by category

Avoid data that is difficult to interpret on a massive scale (doesn't require manual, individual review of every entry for interpretation)

Interventions

Create "hard stop" in EMR which forces circulating nurses to enter delay reason when charting

Remove category options entitled "other" or "no delay reason"

Reduce category of delays to seven options

Create specific delay reasons under distinct category types e.g. "double coverage" delay reason as option after choosing "anesthesiology" as category type

Decrease possible delay reasons from 169 to 36

Host meetings educating documentation of the new system for perioperative nurses

Delineate distinct delay reasons under respective categories with input from key stakeholders: anesthesiologists, circulating nurses, charge nurses, hospital data analysts and perioperative directors

Change delay reason entry process to two click system, abolishing free text

PROGRESSION OF PROJECT:

**PERSONNEL INVOLVEMENT
ADDED WITH EACH STEP:**

QI project attempted:
inaccurate and incomplete
documentation of "reason
for delay" noted. Initial QI
project aborted.

*Anesthesia fellow, medical
students*



Problematic/inaccurate
documentation presented
to Perioperative
Coordinating Council
meeting

*OR nursing directors, OR
operations director
(anesthesiologist), OR
surgical director (surgeon)*



Delay Documentation Work
Group meetings and
collaboration on changes to
be made

*OR charge nurses, EPIC EMR
programmers*



Educational meetings
presenting changes made
and proper utilization of
new delay documentation
in EMR

*Circulating nurses,
anesthesiologists, surgeons*

- CHANGES AFTER IMPLEMENTATION**
- **two-click process**
 - **no freetexting**
 - **categories assigned corresponding reasons**
 - **decreased delay reasons possible upon data review**
 - **"hard stop" enforced**