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Improving the Care of Patients with Suspected Appendicitis

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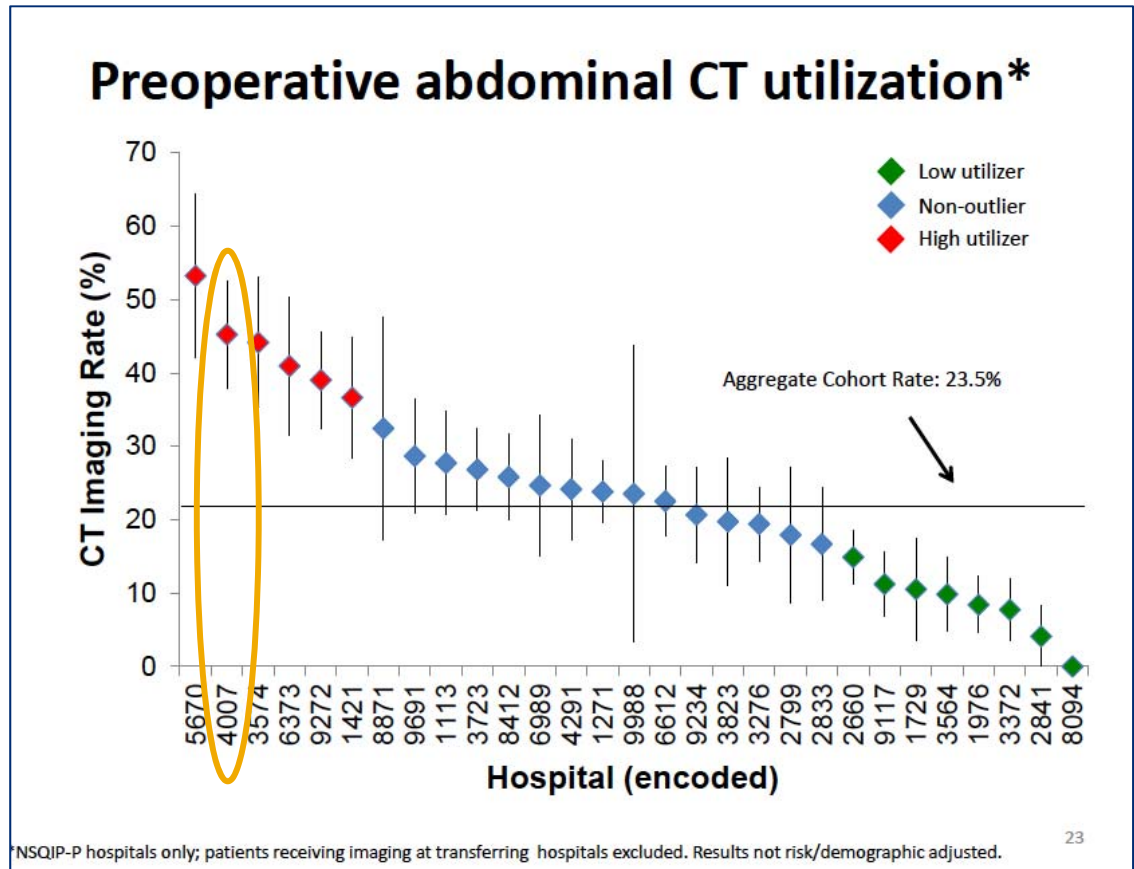


Abdominal pain

- Appendicitis is most common surgical condition in children.
- Nearly 2000 patients present to our ED/UC every year with abdominal pain and suspicion for appendicitis.
- 1/3 of patients will present with perforation
 - Higher in children with Medicaid



In 2013, the National Surgery Quality Improvement Program – Pediatric (NSQIP-P) presented data on the comparative use of CT amongst like Children’s Hospitals.



Children's Hospital Association Pediatric Health Information System data - 2013

	Outlier Status	Quartile	Measure (+/- 95% CI or IQR)	Peer Median
Preoperative Diagnostic Evaluation (All Patients)				
Advanced Diagnostic Imaging Rate (US or CT)*		4	100.0% (78.5 - 100.0)	90.6%
CT Scanning Rate*	L	4	41.1% (28.5 - 53.7)	16.2%
US Rate*	N/A	2	72.5% (52.0 - 93.0)	94.7%
Compliance with American College of Radiology Imaging Guidelines	L	3	31.7% (17.5 - 46.0)	75.0%
Ultrasound Diagnostic Success Rate		3	72.9% (60.3 - 85.5)	79.8%



Baseline CT Utilization Rates

Patient Location	2013-2014 In-House
Anschutz Campus	25%
Network of Care	66%
System-wide	35%

Project Aim

Reduce unnecessary imaging in patients undergoing appendectomy surgery and achieve a system-wide CT use $\leq 20\%$, (with no change in negative and missed appendicitis rates)

	Baseline (2013- 2014)	Target
CT utilization in patients undergoing appendectomy surgery	35%	$\leq 20\%$

“Imaging Gently” Improvement Project

Multidisciplinary team/Governance:

- Surgery (Jen Bruny MD)
- Radiology (John Strain MD)
- ED/UC (Lalit Bajaj MD, Kevin Carney MD)
- Process Improvement (Jesse Herrgott, RN)
- Data (Matthew Kopetsky/Brad Ewald)

Activities

- Internal collection of data from Epic/Clarity
- Creation of real time data dashboard
- Extensive Process Mapping
- Time series studies
- Assessment and revision of Clinical Care Pathway



