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Introduction/Background

- 130 million yearly emergency department (ED) visits across the country with varying clinical presentations and acuities
- ED length of stay (LOS) impacted by:
 - Throughput
 - Assessment and management of clinical presentation
 - Completion of diagnostic tests
 - Variables: volume, staffing, inefficient practices/protocols, inpatient process
- ED crowding and inefficiencies negatively impact quality of care:
 - Increased inpatient mortality
 - Increases adverse events
 - Longer inpatient lengths of stay
 - Consumption of more resources
 - Delays in delivery of care
 - Compromised emergency care to other patients
- New financial incentives/penalties for ED LOS as part of Affordable Care Act value based purchasing program
- High volume diagnoses with time intensive diagnostics on the rise (e.g. chest pain, abdominal pain)
- Lack of evidence-based guidelines to drive clinical care that directly impacts ED LOS – Focus on abdominal pain evaluation
- Significant variability in the time spent for evaluation of abdominal pain patients based on type of diagnostic exam ordered
 - Use of oral and intravenous contrast for abdominopelvic CT in patients presenting with abdominal pain
 - Personal discretion vs Evidence-based guideline
 - Current process for contrast use takes nearly 2 hours from order to CT completion
 - Recommendations from American College of Radiology leave choice up to organizational preference

Setting

- 800 inpatient bed Level II Trauma Center hospital in rural eastern mountainous part of U.S. that sees > 100,000 ED patients yearly
- Currently performs below state and national benchmarks
 - Average length of stay for admitted and discharge patients >300 minutes
 - Average time to see provider 58 minutes
 - 4% of patients leave without seeing provider



Purpose

The purpose of this project was to construct an evidence based practice guideline for the use of oral contrast in abdominopelvic CTs to increase efficiency in the diagnostic evaluation of patients with abdominal pain. Additionally, the author wanted to demonstrate the role of the DNP in designing and implementing an interdisciplinary evidence-based practice change.

Review of the Literature

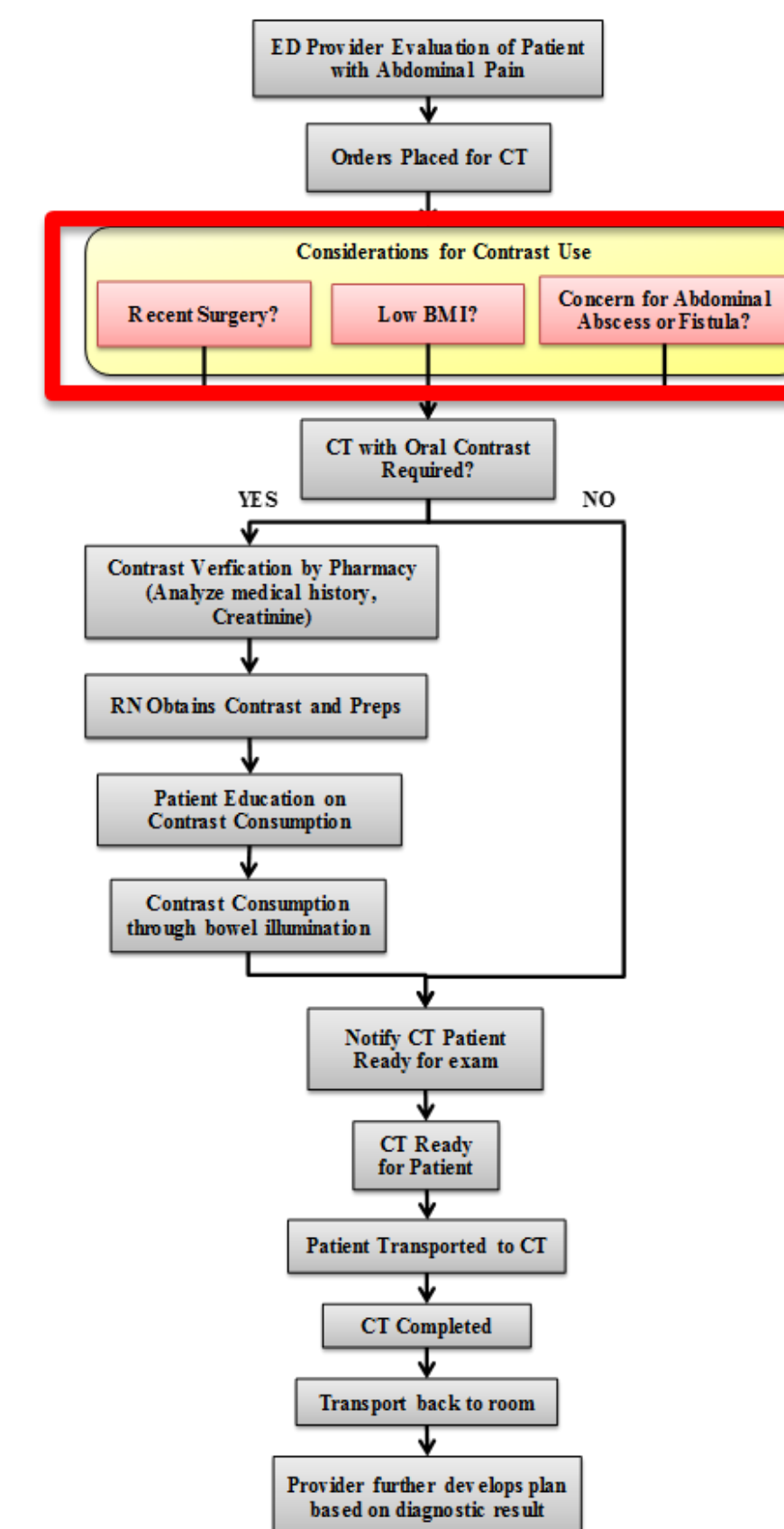
- Numerous large studies citing reductions in ED LOS (30 minutes to upwards of 2 hours) with elimination of oral contrast
- CTs completed without the use of oral contrast prior to exam yields equivocal results to those performed with oral contrast
- Upwards of 30% of patients may not have oral contrast reach area of interest
- Elimination of associated oral contrast side effects
- Develop clinical guidelines based on best evidence and assessment of risk and benefits of alternative care options
- Use standard criteria for development of clinical guidelines

Methods/Measurements

1. Organizational identification of need for change: ED Quality metrics and efficiency needs
2. Assessment of patient care processes
3. Gathered and synthesized evidence to develop EBP strategy
4. Completed university and organizational requirements for project
5. Identified key stakeholders
 - ED Clinical Nurse Specialist (Project Coordinator)
 - ED Nursing Leadership (Manager, Director)
 - ED Medical Directors
 - Medical Imaging Leadership
 - Medical Director for Radiology
 - Medical Director for Hospitalists
 - Medical Director for General Surgery
7. Gathered baseline data: oral contrast use in CTs, cost analysis.
8. Draft of guideline for oral contrast use
9. Stakeholder focus group for input, suggestions for revisions and the identification of any potential barriers and challenges for implementation
10. Revision of draft
11. Presented revised guidelines to stakeholders with goal of unanimous acceptance
12. Discussed plans for implementation

Results/Findings

Draft guideline for the use of Oral Contrast in ABCT



Results: Baseline Data

	2015	2015	2015	2015	2016	AVERAGE
	Sep	Oct	Nov	Dec	Jan	
Total CT orders	271	268	252	266	213	254
Oral Contrast Usage	169	158	149	140	126	148
% of CT Exams with Oral Contrast	62%	59%	59%	53%	59%	58%

- Contrast cost per patient:
 - Organizational cost = Gastroview \$7.55 + Breeza \$2.71
 - Patient cost >\$100
 - Uncalculated organizational cost of lost revenue when patient occupies bed longer and unable to evaluate additional patients, resulting in patients who leave without being seen

Results: Stakeholder Feedback

- Revisions made to draft
- Re-distributed to stakeholders
- Acknowledged need for implementation plan

Results: Final Guideline

The following guidelines should be used in the adult population (>18 years) to determine whether oral contrast is necessary.

- Considerations for when to use oral contrast:
 - History of bowel surgery
 - Recent abdominal or pelvic surgery (within the last 2 months)
 - Lean body habitus
 - Suspected NEW diagnosis of Crohn's Disease (not necessary for existing diagnosis)
 - Trauma patient if duodenal injury is suspected
 - Acute abdomen with uncertain etiology (e.g. unanticipated abscess/fistula, IBD, oncology workup)

The ED provider maintains the ultimate decision on whether or not the patient should receive a CT with/without oral contrast based on clinical presentation.

Discussion

- Supported by all interdisciplinary team members as an evidence-based strategy to reduce ED LOS in certain population
- Barriers and Limitations:
 - Time constraint for implementation within designated time period
 - Availability to meet with stakeholders
 - Lack of existing national guideline from professional organization
 - Current literature has wide range of inclusion/exclusion criteria
 - Future considerations for resistance to change ordering practices by providers
- Subsequent steps were ED implementation, including changes to the electronic medical record, and monitoring outcomes (both percent of oral contrast used and re-scan rates)

Conclusions

- Literature has supported the elimination of routine oral contrast use for over a decade, however no evidence based guideline to guide practice change
- Engagement of key stakeholders imperative to success of project and enthusiastic about initiatives to drive down ED LOS

References

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