



Eliminating Repetitive CBC Orders on the Resident Inpatient Service at the Orlando VAHCS

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Project Site: Orlando VAHCS



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Problem Statement

- Currently on the inpatient VA wards, there are CBCs being drawn daily which are not clinically indicated. This increases costs and use of hospital resources, causes hospital acquired anemia, and impacts the patient experience.
- There has been a recent shortage in blood collection tubes which makes this project even more relevant.
- This project has been replicated at multiple institutions and is part of the SHM Choosing Wisely Campaign.



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Background

- Physicians-in-training are important contributors to the burden of tests
 - Focus on reaching a definitive diagnosis regardless of care value
 - Practice of defensive medicine
 - Ignorance of the financial costs associated with testing
- Blood draws can cause hospital acquired anemia and cause patients discomfort.

References:

Fung D, Schabert I, MacLean CA, et al. Test ordering for preventive health care among family medicine residents.

Can Fam Physician. 2015;61(3):256-262.

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Melendez-Rosado J, Thompson KM, Cowdell JC, et al. Reducing unnecessary testing: an intervention to improve resident ordering practices. *Postgrad Med J.* 2017;93(1102):476-479. doi:10.1136/postgradmedj-2016-134513

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Current Condition

- Scope: GME (Alpha, Bravo, Delta) Inpatient Medicine Wards at Orlando VAHCS (excluding ICU)
- 2/28/22-3/6/22: Total Patient Reviewed: 46 patients

*Indicated:

- Active Bleeding
- New onset anemia
- Suspicion for thrombocytopenia
- Leukocytosis (active infection, is clinical status improving?)



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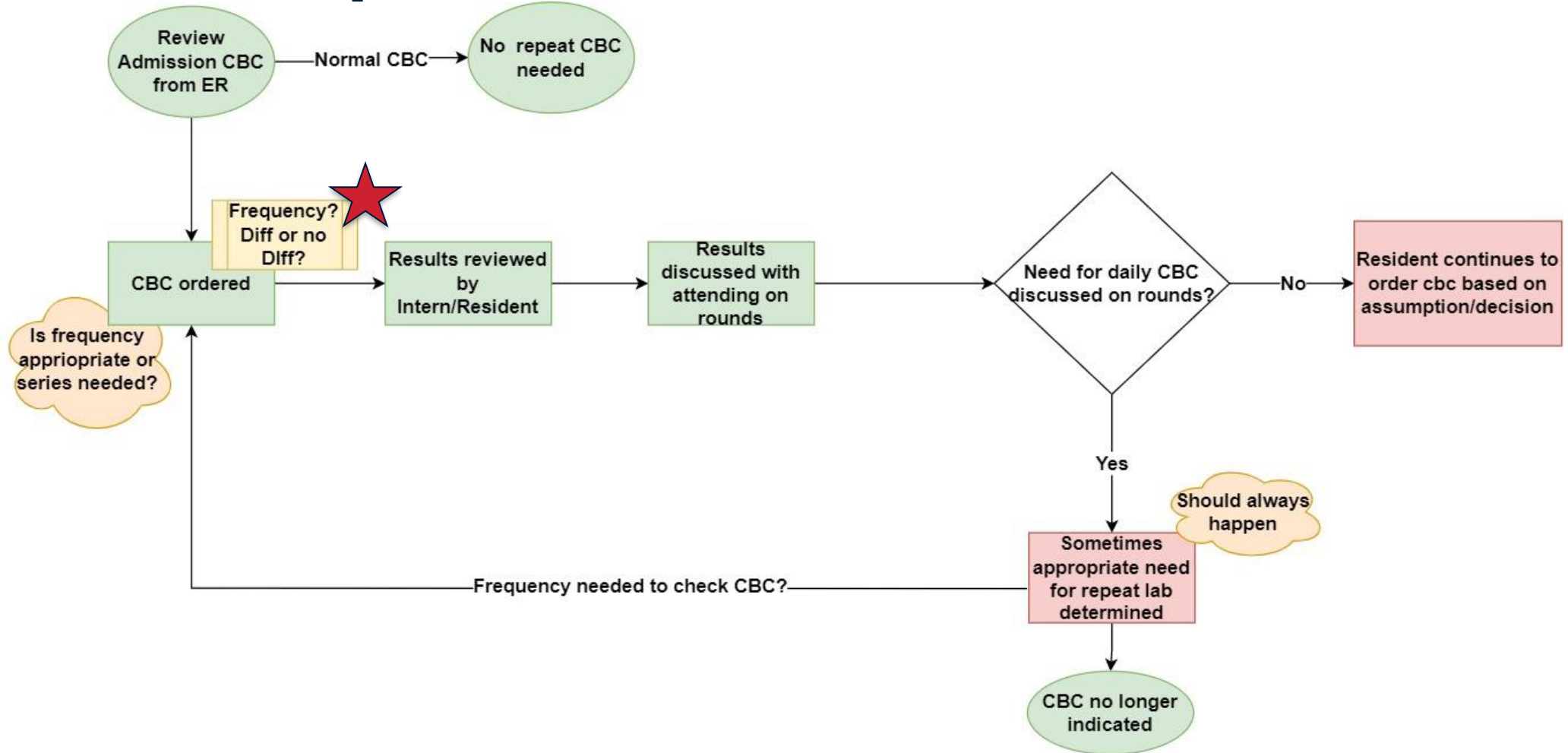
Current Condition

- Average number of CBCs per patient: 4; Median LOS: 2, Average LOS: 3.1
- 100% of CBCs ordered include Differential
- Number of Repetitive CBCs after normalization: 82 repeated CBCs in 28 patients
- Not indicated CBCs: 78/190 total CBCs (41%)
- Number of Patients with not indicated CBCs: 29 patients **(63% of patients reviewed)**



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Process Map



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Data Collection Plan

- We plan to collect data by independent chart review of patients admitted under the medical resident teams at the Orlando VA during periodic weeks 7/1/22- 5/1/23 and track
 - Process: Number of CBCs (and CBCs with diffs) ordered per patient
 - Outcome: Cost of labs, Number of daily CBCs (or CBCs with diffs) that are clinically indicated
 - Balancing: Attending satisfaction, Resident satisfaction



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Target Condition/AIM Statement

- Reduce the number of daily CBCs ordered that are not clinically indicated on the resident teaching service at the Orlando VA Health Care System to 25 % by 4/1/23. (From baseline of 41%)
- We can not find an option to order CBC without Diff. We will try to investigate if this can be a more readily available option.



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Materials

Machine/Plant

Measurement/Policy



No option to order CBC without diff

Policy on repeat CBC not established/
Lack of education on issue of unnecessary tests

Prior CBC not checked prior to ordering

Not aware of cost

IM Residents order repeat CBCs despite this being unnecessary.

Residents were not taught when to stop ordering

Assume resident or attending wants it

Habit/Automatic ordering for next day

Stressful/ busy workflow

Ordering labs in series

Men/People

Environment/Mother Nature

Methods/Procedures



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Countermeasures

| Root Cause | Countermeasure | Plan (Who, What, When, Where) | Completed |
|--|--|---|-----------|
| No daily review of necessity of CBC | Review among team, Publicize with the residents and attendings | Posters, AHD presentation, Publicize cost | N |
| Residents were not taught when to stop ordering CBCs | Perform education for IM interns early in Academic yr | Noon report presentation, posters | N |
| Ordering labs in series | Recommend independent ordering when available | Noon report presentation | N |
| Stressful/ busy workflow | Reinforce checking for unnecessary labs before sign out | Noon report presentation, posters | N |
| CBC without diff not easily available | Check with lab | | N |



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