Fecal Occult Blood Test (FOBT) efficacy in hospitalized patients

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Introduction

Fecal occult blood test (FOBT) is one of the most popular diagnostic tools for screening colorectal cancer in the inpatient setting. Despite that, its outpatient use has been largely replaced by more advanced tools that decrease cost and increase sensitivity/specificity. This is essential when factors including diet and medications contribute to the low sensitivity and elevated false positive results FOBT demonstrate when detecting gastrointestinal (GI) bleeds.

Both square test areas in the upper area of the card show the intense blue color of a positive result. The lower two smaller circular areas on the orange stripe are analytical control reactions, positive on the left and negative on the right, that help assure that the card and developer bottle have been maintained in proper conditions and have not been damaged before the test is performed.

Aim of investigation

This study aims to decrease the amount of FOBTs ordered in hospitalized and emergency room patients at Knapp Medical Center by 35-40% in 6 months via formal staff educational meetings. We hope that by conducting this study, we can gain knowledge regarding testing indications and their effect on patient care.

Methods

This will be a quality improvement study at Knapp Medical Center facilitated by the Internal Medicine department.

- **Data Collection**

We will assess the number of FOBTs ordered over a 6-month period in 2021 via chart review and assistance from the statistics department at Knapp Medical Center.

- **Intervention**

Organizing brief informational sessions frequently for three months, with emphasis on the service that orders FOBTs the most.

- **Pre- and Post-intervention Survey via questionnaire**

Test responses within 24 hours of intervention will serve as the main tool for evaluation.

- **Three Months Post-Intervention Data Analysis**

We will evaluate the amount of FOBTs ordered within 3 months post intervention via chart review to reassess the success rate of the informational sessions.

Data Analysis

- We will perform analysis via chart review of the following data points at Knapp Medical Center:

1. Number of FOBTs ordered during the last 6 months

2. Indications for ordering said FOBTs

3. Changes in management based upon test results

- We will locate the service that disproportionately orders FOBTs:

A. Internal Medicine (academic versus hospitalist)

B. Family Medicine

C. Emergency Medicine (EM)

D. Subspecialty/Consult Services

- We will perform a retrospective analysis for data points 1,2 and 3 after three months post completion of our most recent informational session to assess progress.

Pre-test questionnaire format

In which case of the following cases, would you not an FOBT? (Multiple selections are allowed)

- A. To identify an occult source of GI bleeding
- B. To screen for colorectal cancer in the outpatient setting
- C. Patients in the Emergency Department showing anemia via CBC
- D. Pre-Treatment screening for initiating anticoagulation

Which of the following can cause a false-positive or false-negative FOBT (Multiple selections are allowed)

- A. NSAID or ASA
- B. Recent consumption of red meat of liver
- C. Vitamin C > 250mg per day
- D. Steroids, colchicine or iodine

Will a positive FOBT inpatient change medical management?

- A. Yes
- B. No

Results

We hope to achieve >25 % reduction in inpatient FOBT ordered after the initial plan-do-study-act (PDSA) of a 6-month timeframe.

PLAN - Will educating staff lead to a reduction of FOBTs by >35% in 6 months	**DO** - Host informational sessions - Include subspecialty (GI) for guidance
STUDY - Problems preventing a solution - The indications of FOBT use inpatient	**ACT** - create a solution (decreasing FOBT use)

Conclusion

Fecal occult blood tests are constantly ordered at Knapp Medical Center which can detrimentally prevent patients from essential medical management or cause excessive/unnecessary workups and procedures. Hopefully educating the health care staff at Knapp Medical Center will lead to a reduction in the use of FOBTs in the inpatient setting.

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