GSN705: Healthcare Economics and Advanced Practice

Business Case with Operational Budget Assignment

BUSINESS CASE with OPERATIONAL BUDGET

Proposed Title for Project/Initiative/Opportunity to Improve

Improve colorectal cancer (CRC) screening compliance ratings in accordance with select Healthcare Effectiveness Data Information Set (HEDIS) measures in Primary Care

Opportunity Statement *(Description of Proposed Project/Initiative/Opportunity to Improve)*

We need to increase CRC screening to 100% compliance for those eligible health care beneficiaries who meet the criteria based on the standards set forth by the U.S. Preventive Services Task Force (USPSTF, 2008) and Army Medical Department Healthcare Informatics Division (2011). Doing so will allow us to become fully compliant for this HEDIS measure, in addition to maximizing the monetary incentives for it.

Business Opportunity/Objectives *(Prioritize listing)*

The goal is to maximize the number of patients who receive CRC screening.

- **Macro objectives:** The overarching goal for this business case is to increase colorectal cancer screening to 100% of all eligible health care beneficiaries.
- **Micro objectives:** Micro objectives include increasing healthy behaviors, providing both superior service and patient safety for our health care beneficiaries, advancing wellness by maintaining, restoring, and improving health, and increasing both financial prosperity and readiness (Army Medical Department [AMEDD], 2013; Madigan Army Medical Center [MAMC], 2015).

Potential Impact of Business Results *(Identify metrics to measure outcomes associated with the objectives identified)*

The impact of improving CRC screening to 100% compliance will surpass the targets (75% & 90%) set forth for CRC screening HEDIS measures and maximize monetary incentives awarded for reaching each benchmark. Increased CRC screening contributes to increasing the health of our beneficiaries, while at the same time increasing provider readiness by maintaining skills. Metrics used to track these benchmarks are performed in accordance with the formula for CRC screening set-forth in the Military Healthcare System Population Health Portal (MHSPHP): Methodology Document (Army Medical Department Healthcare Informatics Division, 2011). We are currently at 77.6% overall, and have been at the 77% mark for the past 12 months. We can now set a timeline/date for when we would like to reach 90% and then 100%. Other micro objectives can be achieved through our MTF goal of becoming and then maintaining status as a Highly Reliable Organization for our beneficiaries. Metrics used to track the micro objectives include APLSS scores for patient-provider satisfaction, and the daily/weekly/monthly/quarterly checklists for safety incorporated into the HRO Operational Placemat (MAMC, 2015).

Alternatives (courses of action) chosen for Analysis

1. Recruit more gastroenterologists to fill available slots and perform more colonoscopies
2. Perform fecal occult blood tests (FOBT) on all patients eligible for CRC screening
3. *"Status Quo"*: poor compliance with screening patients properly and for referring them for proper testing

Assumptions

1. Info points needed to compare alternatives
   - Need to know average salary for gastroenterologists in private practice in the local area vs. a DoD salary
   - Need to review metrics for tracking CRC screening and what type of screening fulfills compliance for the colorectal cancer screening HEDIS measure
   - Need current FTE data and salaries for gastroenterologists and lab technicians
   - Need to identify the current "best practice" guidelines for CRC screening

- Need to know the costs to perform a FOBT

2. Time frame for info collection
   - We will use current baseline compliance data as a starting point and also compare it with compliance rates over the previous 12 months
   - Need to re-evaluate data monthly

Analysis of Alternatives

Alternative 1:	**Recruit more gastroenterologists to fill available slots and perform more colonoscopies**

Pros	**Cons**
• **Cost benefit/avoidance:** More colonoscopies performed directly impacts and increases compliance for CRC screening. Greater access means wait times will decrease for patients needing colonoscopies, which may make the difference between having it performed in the MTF or in the private sector. • **Expectations when costs or revenues will be realized**: It takes three months to gather all appropriate data for tracking compliance, so expected increases in revenue for compliance will not be seen until after 3 months from the date that an increase in colonoscopies are performed. We are already operating above 75%, which means every patient we add to the compliance list gains the facility another $10-20/month (Army Medical Department Healthcare Informatics Division, 2011). • **Potential impact on other metrics:** Greater access will also have a positive impact on APLSS patient satisfaction scores (MAMC, 2015). • **Unquantifiable benefits:** The MTF will increase the amount of care provided to military beneficiaries instead of relying on the public sector • **Business impact**: Having all FTE filled will add one more provider to the GI service to perform colonoscopies/sigmoidoscopies and will also allow greater access for beneficiaries to the GI clinic.	• **Overall impact on costs:** The DoD salary for a gastroenterologist is $120,000.00 to $310,000.00/year (USAJOBS, 2015). The active duty average yearly pay for a 0-4 gastroenterologist living in the MAMC area and with 12yrs of service is $145,000 (Defense Finance and Accounting Service [DFAS], 2015). • **Cost benefit/avoidance:** Adding another provider will only increase the number of colonoscopies/sigmoidoscopies by an average of 40 per month as the provider can only perform about 10 per day and only does them once per week. Many patients will still need to have the testing performed in the private sector, so outside providers will need to be reimbursed for their services. • **Business impact:** The median salary plus bonus of a gastroenterologist in the local area is $386,000, which is the salary we must compete with. Based on the salary we can offer, we may not be able to recruit civilians and will have to wait for an active duty gastroenterologist to be available (Salary.com, 2015)

Alternative 2:	Perform fecal occult blood tests (FOBT) on all patients eligible for CRC screening

Pros	Cons
• **Cost benefit/avoidance:** Avoidance of performing unnecessary invasive exams will cut costs significantly. The cost to perform a FOBT is inexpensive, at only $1 for supplies, and it will generate compliance revenue of $10-20 per person after 75% compliance is reached (Army Medical Department Healthcare Informatics Division, 2011). • **Expectations when costs or revenues will be realized:** It takes three months to gather all appropriate data for tracking compliance, so expected increases in revenue for compliance will not be seen until after 3 months from the date that an increase in FOBTs are performed. We are already operating above 75%, which means every patient we add to the compliance list gains the facility another $10-20/month (Army Medical Department Healthcare Informatics Division, 2011). • **Potential impact on other metrics:** Compliance for CRC screening will increase, as providing patients the choice of having a FOBT performed instead of a colonoscopy saw a compliance rate of 69% vs 38% respectively (Inadomi et al., 2012). FOBT has a 61-91% sensitivity and 91-97% specificity for detecting CRC based on what type of FOBT is performed (National Colorectal Cancer Roundtable, 2008) • **Business Impact**: Proper screening and timely screening results in earlier identification of health issues before they become major concerns. Treating early prevents issues from becoming major health problems, which saves money in the long run and decreases impact on the healthcare system (Lansdorp-Vogelaar, Knudsen, & Brenner, 2011). • **Overall impact on costs**: Instead of referring and performing colonoscopies or sigmoidoscopies on all patients of eligible age, only those with positive FOBT or who have increased factors necessitating invasive screening will be referred to GI. This will cut down on unnecessary costs and decrease wait time to have the procedures performed (Lansdorp-Vogelaar, Knudsen, & Brenner,	• **Overall impact on costs:** To remain at 100%, our data from the past year indicates we will need to perform 2,700 FOBT per month, which is the current average number of patients at our facility who are not compliant on a monthly basis. The processing lab is open 24/7, which translates to 90 tests run per day in a 30-day calendar month. It takes approximately 5 minutes to run the test and enter the results into the EMR, which equals 12 tests per hour. We will need to utilize one 1 FTE employee for 8hrs per day, every day, to complete each lab test. This would normally be the job of an active duty E-3, who has a salary of $2,055/month (DFAS, 2015). • **Potential impact on other metrics:** Using the lab tech in the capacity of only running FOBT will take one person away daily from performing other lab tests, which will increase the amount of time it takes for those labs to be processed. • **Unquantifiable benefits or costs:** Morale of the lab staff may decrease as having to run FOBT for 8hrs may become boring and tedious. Rotating this job among the staff, or splitting the 90 tests among three techs over the course of a 24hr day may help mitigate a decrease in morale

2011; Sarfaty, M., 2008).	

Alternative 3:	***"Status Quo"*: Continue to operate at a level that has been stagnant in CRC screening compliance for the past year**

Pros	**Cons**
• **Cost benefit/avoidance:** The system is already in place, so no additional costs are necessary. • **Business impact**: Continue to maintain a compliance rate above the 75% benchmark, which generates some revenue. Current data shows we have not been below 76.9% for the entire MAMC footprint during the past 12 months (MAMC, 2015).	• **Expectations when costs or revenues will be realized:** Some monetary benefit is already realized, but there has been no growth in those incentives in over a year (MAMC, 2015). No additional incentives should be expected. • **Unquantifiable benefits or costs:** The facility will continue to be stuck in a "limbo" state, neither moving forwards or back. • **Business impact:** Current month figures of 77.6% are the highest we've achieved in the past six months, which is a growth of only 0.7% (MAMC, 2015). No further increase in compliance should be expected.

Recommendation and Rationale

Recommendation

My recommendation is to perform fecal occult blood tests (FOBT) on all patients eligible for colorectal cancer screening to help determine who needs further testing by colonoscopy or sigmoidoscopy.

Rationale

Current EBP and guidelines indicate FOBT will suffice for colorectal cancer screening for the majority of the U.S. population (National Colorectal Cancer Roundtable, 2008; USPSTF, 2008). Even though colonoscopies are the gold standard, FOBT has a 61-91% sensitivity and a 91-97% specificity for detecting CRC, based on what type of FOBT is performed (National Colorectal Cancer Roundtable, 2008). Only those patients identified as "at-risk" are in need of invasive screening colonoscopies/sigmoidoscopies (Levin et al., 2008).

Operating Budget Supporting Project/Initiative *(forecasted)*

I. Volume projection based on: 100% compliance of eligible patients to receive colorectal screenings

Vol = # of patients over age 51 who qualify for colorectal screening within MAMC/MTF footprint	10,880 patients
As of April 2015, we are at 77.6% compliance for performing colorectal cancer screening on all eligible patients	8,444 patients
If we recapture the other 23.4%	2,436 patients

Total	**10,880 patients**

II. Reimbursement calculated for: 100% compliance with colorectal screening

Monetary incentive for ≥75% to 89.9% compliance is $10 per patient. For the month of April 2015, we were at 77.6%, which was 282 patients eligible for the incentive	282 patients x $10 = $2,820/month
We need to screen an additional 1,350 patients to move from 77.6% to 90%	1,350 patients x $10 = $13,500
Monetary incentive for compliance ≥90% is $20 per patient. So, this is $20 for the top 10% of the eligible patient population.	1,088 patients x $20 = $21,760/month

III. Costs:

Variable Costs:

FOBT cards and testing solution	2,436 x $1 = $2,436
Total	**$2,436**

Fixed Costs:

Cost of one lab technician	$2,055/month
Total	**$2,055/month**

IV. Forecasted P&L statement:

Revenues:

Current incentive revenue for being at 77.6%	$2820/month
With 100% capture of the 10,880 patients for April (an additional 2436 pts above the 77.6% mark)	$35,260/month
Total	**$38,080/month**

Costs:

Variable costs	$2,436
Fixed costs	$2,055
Total costs	**$2,301/month**

PROJECTED PROFIT ***$35,779/month***

Risks and Mitigation Plan	
Risks	**Plan**
1. Non-compliance of staff	• Encourage employees to properly screen all patients for age-related health measures. Emphasize to them the importance these screenings have in mitigating the impact of disease both on the patient and on the facility (Levin et al., 2008; Sarfaty, 2008). Having both an LVN and then a provider review each chart decreases the chances that the need for a CRC screening will be missed.
2. Non-compliance of patients	• The first step of a FOBT is performed at home and patients may be repulsed to smear their own stool on the testing card. Ensure providers are stressing the importance of adherence to the patients. Also, patients are more willing to perform the FOBT rather than the colon preparation and invasiveness of the colonoscopy, so remind them of their options (Inadomi et al., 2012).
3. **Missing a diagnosis of colorectal cancer**	• Though advances in FOBT have increased detection rates of CRC over previous years, colonoscopy is the gold standard as it has a 75-100% sensitivity for detecting CRC, with an average 90% reduction in the incidence and mortality of colorectal cancer (Winawer et al., 2007). However, FOBT has proven just as effective of preventing CRC if it is performed yearly (Levin et al., 2008). Therefore, the importance of ***yearly*** repeat testing must be stressed to every eligible patient as they must be made aware it does not take the place of a colonoscopy and is therefore not a once-every-10yr test.

Implementation Plan			
Phase 1:	Increase CRC Screening		
Milestone Description:	Goal is to identify 100% of eligible population in need of CRC screening and provide each person with a FOBT kit.		
Deliverables		Due Date	Accountable Person
• Meet with clinic chiefs to gain buy-in. • Have staff begin handing out FOBT kits to every patient presenting for an appointment who is eligible for CRC		3 months from start date	Primary care staff at all outpatient clinics; lab technicians

screening and explaining to the patients the importance of promptly returning the cards to the lab. • Provide a list to each provider of the patients in the panel that are not in compliance. • Have staff begin contacting those patients (about 2-3 per day) during the business hours either by phone or Relay Health and ask the patient to pick up a FOBT kit at the lab or the clinic front desk. • Lab will also need to adjust staff scheduling to handle the expected increase in number of testing cards that will be received. • Clinic staff will need to identify barriers to performing proper electronic health record (EHR) review for HEDIS measures and provide remedial training as indicated.		

Resources Needed
FOBT kits will need to be stocked in every room of every clinic; MTF supporting staff; a budget to purchase supplies; lab staff; list of non-compliant patients per individual provider panel
Expected Level of Benefit
Screening improvement has benefits across the board. The staff will become more comfortable with and quicker at reviewing the EHR the more they do it. This increases the number of patients who are identified as being in need of care for ***all*** HEDIS measures, not just CRC screening. Ultimately, the patient receives the greatest benefit as healthcare is improved.

Phase 2:	Compliance Evaluation: Evaluate Metrics and Benchmarks
Milestone Description:	Goal is for compliance rate to increase from 77% to at least 90% over the first three-month period of implementation.

Deliverables	Due Dates	Accountable Person
• Evaluate compliance rates for CRC screening. Compile all data in accordance with current methods as dictated by the MHSPHP: Colorectal Cancer Screening methodology document and then document compliance rates.	6 months from start date. Data takes time to compile, so the compliance rates for the first month of implementation will not even be known until 4 months after start date. Months 4-6 will give us data on	Business office personnel; clinic staff

• Disseminate results to all clinic chiefs for further analysis and discussion. • Clinic staff will need to continue to evaluate for barriers to proper EHR review and train new staff on importance of HEDIS measures and how to review the EHR for them.	how we did during the first 3 months of implementation.	
Resources Needed		
MHSPHP: Colorectal Cancer Screening methodology document; business office staff; HEDIS measures properly entered into EHR; clinic staff		
Expected Level of Benefit		
An increase in compliance will bring about the desired monetary gains. Continually working with staff will also provide the added benefit of increasing adherence to implementing all steps of the PCMH model as barriers and deficiencies in multiple areas may be discovered and corrected. This will further benefit the patients and the healthcare they receive.		
Phase 3:	Continue CRC Screening and Evaluation of Metrics and Benchmarks	
Milestone Description:	The ultimate goal is 100% compliance in CRC screening for all eligible patients.	
Deliverables	Due Dates	Accountable Person
• Re-evaluate and then provide deliverables in the same manner as Phase 2	Monthly - indefinitely	Primary care staff at all outpatient clinics; lab technicians; business office personnel
Resources Needed		
FOBT kits will need to be stocked in every room of every clinic; MTF supporting staff; a budget to purchase supplies; lab staff; MHSPHP: Colorectal Cancer Screening methodology document; business office staff; HEDIS measures properly entered into EHR		
Expected Level of Benefit		
Monthly re-evaluation is essential to maintaining compliance levels, which contributes to increasing the health of the patients and maximizing financial incentives for the organization.		

Note. Modified from Harvard Business Review Press. (2011). *Pocket mentor: Developing a business case.* Boston: Author (pp 82-85).

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