Increasing Colon Cancer Screening Rates With a Multi-Component Intervention in Three Satellite Community Health Centers: A Quality Improvement Initiative

Kathleen Birck, BSN, MSN, CFNP, DNP Student
University of Pittsburgh School of Nursing

2745 N. Melody Street, Kingman, AZ 86401 * 520-921-0421 * kbirck@northcountryhealthcare.org

Purpose and Specific Aims

- To increase the colon cancer screening rates at three primary care practices of the North Country Healthcare (NCHC) system in Mohave County, AZ

Design

- A quasi-experimental design with a historical control group

Setting

- Three clinics in NCHC, a large federally qualified health center in northern AZ

Materials and Methods

- Staff members involved in this QI initiative will include 10 providers, outreach workers, the referrals coordinator, a registered nurse (RN), and several medical assistants

Sample

- All adults who meet the following inclusion criteria:
  1. Are 50-75 years of age
  2. Have seen their provider in the last year
  3. Have not had a colonoscopy within the last 10 years
  4. Have not had a sigmoidoscopy or barium study in the last five years
  5. Have not had fecal occult blood test (FOBT) in the last year
  6. Have not had their provider order a colonoscopy or FOBT in the last three months

Intervention

- A patient mailing will be sent with a cover letter signed by the patient’s provider and an investigator-developed bilingual (English and Spanish) educational brochure written at an 8th grade reading level and framed within the Health Belief Model
- Patients who respond to the mailing via automated phone call, arranged through the local company, will choose one of three options:
  1. Request a referral for a colonoscopy
  2. Pick up an FOBT
  3. Decline screening
- Patient calls will be reviewed one to two times weekly
  1. When patients choose the colonoscopy referral or FOBT, an electronic flag will be sent to the provider to complete a referral or order a FOBT
  2. If patients do not have the colonoscopy within two months or complete the FOBT within one month, an RN will call to remind them to follow through on screening
  3. Patients who do not respond via the automated phone line within one month will receive a brief, 1-minute automated reminder call
- Intervention will take place over a 6-month period followed by an evaluation phase

Analysis and Evaluation

At the end of the 6-month intervention:

1. Reports will be run in the electronic medical record system to determine the colonoscopy and FOBT screening rates and compare these rates to baseline
2. Chi square analysis will be used to determine if there is a statistically significant difference between patients who receive the intervention and the historical controls who do not receive the intervention on screening rates
3. An odds ratio with 95% confidence interval will be used to determine the clinical meaningfulness of the intervention

Conclusion

- The proposed intervention relies on the combination of a theory-based educational brochure along with a form letter that encourages patients to choose one of several colon cancer screening options
- The intervention also involves a reminder phone call by staff to ensure follow-through on screening
- The proposed intervention seeks to raise screening rates from 40% to 70% in a 6-month period at which time the evaluative stage will take place to determine the efficacy of the intervention

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Relevance to Nursing

- Colon cancer is the second leading cause of cancer deaths in the U.S and the third most common type of cancer overall
- Screening rates range from about 35% among the uninsured population to about 65% otherwise (CDC, 2010)
- Screening rates vary from 20%-50% in the 12 clinics in the healthcare system participating in the proposed intervention
- Low screening rates for colon cancer suggest that much more can be done in the way of education, dissemination of information, and referrals of patients for testing
- Studies have shown the benefit of suggestion by the patient’s primary care provider in increasing cancer screening rates
- Nurse practitioners are in an ideal role to encourage screening

Clinical Support

- The currently low screening rates at the three clinics and the disparity between these rates and the Healthy People 2020 goal of 70.5%
- Screening catches disease early, resulting in reduced morbidity and mortality
- Survival is inversely related to the stage at time of diagnosis and the costs associated with screening are less than the costs of treatment

Literature Review

- Multiple modalities to raise screening rates are more effective than any single approach
- Successful screening interventions have used a team-based approach that includes both providers and staff
- Patient mailings significantly increased screening rates in multiple studies
- Automated call reminder systems significantly increased fecal occult blood test screening in several studies
- Decision aids allow patients to be more involved in their care and empower them to make health care decisions

Implications for Practice

- Will serve to diagnose more patients earlier in the disease, potentially leading to earlier treatment if diagnosed with colon cancer
- May improve morbidity and mortality as well as quality of life of those diagnosed with the disease
- For those who have negative screenings, they can be reassured and informed that repeat screening is not needed for either 10 years (colonoscopy) or 1 year (FOBT)
- From an economic perspective, treating illness early often results in greater cost savings than waiting until a disease is more advanced

Appendix