Poster 1  
**Title:**  A Survey of Potential Adherence to Capsule Colonoscopy in Patients who have Accepted or Declined Conventional Colonoscopy  
**Submitted by:** Douglas K. Rex, MD\(^1\), & David A. Lieberman, MD\(^2\)  
1. Indiana University Medical Center, Indianapolis, IN  
2. Oregon Health & Science University, Portland, OR  
**Abstract:** Background: Capsule colonoscopy might improve adherence to colorectal cancer screening. Goals and Objectives: Measure attractiveness of capsule colonoscopy in patients who have declined conventional colonoscopy, using patients who have undergone colonoscopy as a control group. Methods: 308 geographically diverse, high-school or higher educated, middle to upper income, insured U.S. internet users who had previously been offered colonoscopy completed an internet survey. The main outcome measurements were preferences for colonoscopy, capsule colonoscopy, fecal occult blood test or no screening. Results: After an initial description of technologies, 43% of those who had undergone colonoscopy and 69% of those who had not preferred capsule colonoscopy. After learning additional features of the capsule examination, including “no need for a ride,” “no time off work,” “approximately 5% less accurate,” “booster preparation needed” and “follow-up colonoscopy needed in 20% of patients,” 24% of those who had undergone colonoscopy and 49% of those who had not preferred capsule colonoscopy. Conclusions: Capsule colonoscopy could increase colorectal cancer screening adherence rates in patients who decline screening colonoscopy.  
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Poster 2  
**Title:** Patient Navigation to Increase Adherence to Screening Colonoscopy  
**Submitted by:** Lina Jandorf, MA\(^1\), Lauren Stossel, BA\(^1\), & Julia Cooperman, BA, MSEd\(^1\)  
1. Mount Sinai School of Medicine, New York, NY  
**Abstract:** Background: Colorectal cancer (CRC) is the second leading cause of cancer death in the United States. Early detection/removal of polyps effectively prevents the occurrence of colorectal cancer (CRC). While CRC screening rates have improved over time, improvement is unequal across racial/ethnic groups. In East Harlem, NY, predominantly populated by African Americans and Latinos, fewer than half of residents participate in CRC screening. Studies have identified system (e.g. physician referral) and intrapersonal (e.g. fatalism) barriers to CRC screening. Culturally targeted patient navigation programs (CTPN) can help overcome these barriers but are not widely implemented. Objectives: Patient navigators can be either professionals (Pro-PN) or peers (Peer-PN) from a targeted community. This study
investigated the relative increases in adherence to screening colonoscopy when PN is delivered by professional or peer navigators in a direct referral screening program.

Methods: Patients referred for screening colonoscopy were recruited from an urban primary care clinic and randomized to receive CTPN delivered by a Pro-PN (n=106) or a Peer-PN (n=134). The primary endpoint was completion of colonoscopy. Results: Nine PNs successfully completed our training curriculum (5 Peer-PN and 4 Pro-PN). 240 African American primary care patients consented to be navigated and were randomized to either Peer-PN (55.8%) or Pro-PN (44.2%). No differences were detected in completion of the exam (71.3% completed in the Peer-PN group; 80.0% in the Pro-PN group). Conclusions: Peers can be effectively trained as PNs and together with Pro-PN are effective in increasing CRC screening rates via colonoscopy.

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Poster 3

Title: Colorectal Cancer Screening: Maryland’s Success Story Targeting Low Income, Uninsured, and Minority Clients

Submitted by: Diane M. Dwyer, MD, Carmela Groves, RN, MSN, & Eileen Steinberger, MD, MS

1. Center for Cancer Surveillance and Control, Maryland Department of Health and Mental Hygiene, Baltimore, MD

Abstract: Background: In 2000, colorectal cancer (CRC) was the second leading cause of cancer death in Maryland; African Americans had an age-adjusted CRC mortality rate 1.4 times that of whites. Maryland used part of its Cigarette Restitution Funding to perform CRC education and screening. Goals and Objectives: To describe the feasibility and outcomes of Maryland’s statewide public health CRC screening program targeting low income, uninsured, and minority clients. Methods: 23 local health departments (LHDs) in Maryland contracted with community-based medical providers to provided CRC screening. Screening was done with colonoscopy, fecal occult blood test (FOBT), sigmoidoscopy, and/or double contrast barium enema. Data collected in a central Intranet-based database were analyzed by screening procedure and outcome. Results: The CRF programs enrolled 17,065 clients (48.7% of minority race or ethnicity) between 2000 and 2008. Neoplastic results in the first colonoscopy screening cycle of 11,553 clients included 107 (0.9%) clients with invasive adenocarcinoma, 58 (0.5%) with adenomas with high grade dysplasia, 766 (6.6%) with other high risk adenoma(s), and 1,735 (15%) with low risk adenoma(s). Colonoscopy complications included six intestinal perforations. Conclusions: In this ongoing public health program, CRC screening targeted to reach low income, uninsured, and minority clients was challenging yet feasible, acceptable to the contracted providers and those served, and associated with good outcomes. Lessons learned have been useful in implementing other U.S. population-based CRC screening programs.

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Poster 4

Title: **Rollin’ into Northern Plains Tribal Communities to Increase Colorectal Cancer Screening**

Submitted by: Karen Workman, BS, PhD(c), & Tinka Duran

1. Northern Plains Comprehensive Cancer Control Program, Rapid City, SD

Abstract: The Northern Plains Comprehensive Cancer Program (NPCCCP) is funded by the Centers for Disease Control and Prevention and is a program of the Great Plains Tribal Chairman’s Health Board. NPCCCP serves the 18 Northern Plains American Indian tribes in Iowa, Nebraska, North Dakota, and South Dakota by utilizing a collaborative process through which the community and its partners pool resources to promote cancer prevention, improve cancer detection, build community capacity, develop and implement tribal data initiatives, increase access to health and social services, and work to reduce the burden of cancer. NPCCCP maintains several local and national key partnerships and sustains a large regional coalition. Colorectal cancer incidence and mortality rates among American Indians in this region are high when compared to the national average. Presently, only about 30% of eligible American Indians receive colorectal cancer screening. There is a vital need for education to increase awareness of colorectal cancer and importance of screening. As an educational tool, NPCCCP makes use of the Rollin’ Colon which is a large, inflatable, walk-through colon that is transported to tribal community events, powwows and tribal health fairs. Pre and post test questions are administered to gauge knowledge before and after the colon walk-through. To date, over 1,000 tribal community members have walked through the colon from several Northern Plains tribes. The intention is to increase colorectal cancer screening and, thereby reduce high colorectal cancer rates in the Northern Plains American Indian population.

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Poster 5

Title: **The Twists and Turns of Colorectal Screening: The Role of the Patient Navigator**

Submitted by: Andrea Dwyer, BS

1. University of Colorado Cancer Center, Aurora, CO

Abstract: Background – The Colorado Colorectal Screening Program (the Program) provides endoscopic screening to Coloradans who are uninsured for colorectal screening and have an income ≤250% of the federal poverty level. The coordinating center at the University of Colorado Cancer Center partners with the safety net clinics to implement the Program; as they largely serve as the medical home for the medically underserved. Program components include: endoscopic screening, follow-up and treatment, patient navigation, and public awareness. Goals and Objectives – Prior to Program implementation, safety net clinics reported poor prep quality and ‘no show’ rates as high as 70% for referrals to screening. The goal is to ensure patients present for their appointments and are adequately prepped.

Methods – Screening navigation is a key element of the Program as it the navigator’s role to: provide clinic in-reach to specifically educate patients about colorectal cancer prevention, the preparation and procedure; reduce barriers to obtain screening; navigate through screening and provide follow-up. Results – Since inception in 2006 to June of 2010, the
Program screened over 10,000 individuals. The Program evaluation data demonstrate a no show rate of 13% and adequate or better bowel preparation at 94%, both indicative of the success of the screening navigation. Conclusions – The decision to base the screening patient navigator directly within the patient’s medical home has resulted in vast improvements in adherence in show rates and the quality of care; also improving the relationship between clinics and their screening partners. The Program is working to integrate navigation into healthcare reform.

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**Poster 6**

**Title:** Quality Control in a Public Health Colorectal Cancer Screening Program

**Submitted by:** Annette Hopkins, RN, MS¹, Eithne Keelaghen, MD, MS¹, & Carmela Groves, RN, MSN¹

¹. Maryland Department of Health and Mental Hygiene, Baltimore, MD

**Abstract:** Background: One aspect of public health is to eliminate health disparities and increase healthcare for low income individuals. Reliable methods are essential for assuring that care meets acceptable standards. Information technology coupled with clinical review can help to assure quality of care. Goals and Objectives: To assure a high standard of care in a colorectal cancer (CRC) screening program serving low-income uninsured clients.

**Methods:** We reviewed the process of quality assurance for colonoscopy screening in the Maryland Cigarette Restitution Fund program for low-income uninsured clients. Results: Maryland local health departments (LHD) offer CRC screening for eligible clients. LHDs entered data from 16,559 colonoscopies performed from 2001-2010 into a secure Intranet database maintained at the state health department (SHD). Data include demographics, risk factors, colonoscopy report findings including adequacy of the colonic preparation, completeness of the exam, specific findings (e.g., cancer, adenoma number, size, and histology), and recommended recall. Using database queries and clinical chart reviews, the SHD has analyzed data to assure program quality for each of the 24 counties since 2004 to detect non-standard case management practices including those related to recommended recall intervals. Issues related to data and clinical quality are reported back to the LHDs who address the issues with the providers to ensure compliance with national standards for recall intervals. Conclusions: Collecting data on screening procedures, establishing routine data cleaning and verification procedures, and utilizing data analysis through reports and database queries enables oversight of screening programs to assure quality of care in those programs.

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Poster 7  
Title: **Designing an Impact Evaluation for CDC’s Colorectal Cancer Control Program**

Submitted by: Amy DeGroff, PhD, MPH¹, Michelle Revells, MA², & Faye Wong, MPH¹

1. Centers for Disease Control and Prevention, Atlanta, GA
2. ICF Macro, Atlanta, GA

Abstract: Background: In 2009, CDC funded 26 grantees to implement the Colorectal Cancer Control Program (CRCCP) over a five-year period. The CRCCP emphasizes policy and systems-level strategies to increase population-level colorectal cancer (CRC) screening prevalence. The program goal is to increase CRC screening prevalence to 80% in participating states/tribes. Goals and Objectives: CDC will conduct an impact evaluation of the CRCCP to assess the extent to which observed increases in CRC screening prevalence among grantees are attributable to the CRCCP. This poster is designed to provide a real-life example of challenges faced when planning, designing, and implementing a program evaluation. Methods: Evaluation planning efforts involved the development of a conceptual program framework, articulation of a program logic model, assessment of existing data sources, and extensive discussions among evaluators, survey researchers, epidemiologists, clinicians, and qualitative researchers. To assess impact and evaluate the fidelity of our program theory, a quasi-experimental approach is used and includes a subset of 3 grantees with matched state-based comparison sites. Data collection methods include periodic cross-sectional population and provider surveys in both intervention and control sites, a longitudinal qualitative case study in both intervention and control sites, a periodic survey of grantees, and secondary analysis of surveillance data (e.g., BRFSS, NPCR, SEER). Results and Conclusions: The complexity of the CRCCP program (e.g., multiple intervention strategies that vary by grantee, population-level outcomes, differing context) challenged evaluators to construct a rigorous design that will allow assessment of program effectiveness. While many challenges were met, limitations remain in the evaluation design. Contact: Amy DeGroff, PhD, MPH, adegroff@cdc.gov

Poster 8  
Title: **Rollin’ to Colon**

Submitted by: Jennifer Dunavan, MS, RD¹, & Kelli Sweet, BA, MA²

1. Nebraska Cancer Coalition (NC2) of the Nebraska Comprehensive Cancer Control Program, Lincoln, NE
2. Great Plains Colon Cancer Task Force, Omaha, NE

Abstract: Background: Nebraska is home to one of only five “Colons” in the United States. In June 2010, the inaugural “Rollin’ to Colon” cycling event was held. This event drew 200 riders that rode to Colon, NE and back to raise funds for the Great Plains Colon Cancer Task Force, a community cancer coalition that seeks to increase colon cancer screening rates in the Omaha metropolitan area. Goals: Through the poster session we wish to not only share how communities can easily raise funds at a grassroots level, but also the keys to success of putting on such a large event. Specifically, the goal of the Rollin’ to Colon event is to raise
funds for the Great Plains Colon Cancer Task Force. The first annual Rollin’ to Colon event raised $10,000 through sponsorship and event registration. These funds will be used to support the work of the Great Plains Colon Cancer Task Force. Annually, the Task Force distributes FOBT kits during a March screening initiative, reaching an average of 4,000 persons. Methods: In subsequent event years, we wish to document an increase in: riders, volunteers, sponsorship dollars, overall funds raised, and media attention. Conclusion: Planning for the 2011 Rollin to Colon event is underway with a goal of 500 riders!

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**Poster 9**

**Title:** Increasing Colon Cancer Screening Rates in Utah

**Submitted by:** Genevieve Greeley, CHES\(^1\) & Whitney Johnson, MPH, CHES\(^1\)

1. Utah Cancer Control Program, Salt Lake City, UT

**Abstract:** Background: In 2002, the Utah Department of Health (UDOH) convened a Colon Cancer Dialogue for Action. Participants determined there was a need for statewide, educational mass media campaigns to increase the public’s awareness of colon cancer screening. The campaigns began in 2003. Utah has since increased screening rates by 35%.

**Goals and Objectives:** The overarching goal has been to reduce colorectal cancer in Utah. The main objective is to increase colon cancer screening through population-based media campaigns that (1) increase awareness of the benefits of colonoscopies, and (2) influence attitudes about colonoscopies. Methods: In 2009, UDOH developed its most recent statewide campaign. Randomized surveys and focus groups were conducted to assess current public knowledge and attitudes regarding colon cancer. Based on the research, the UDOH educational campaign emphasizes colon cancer often has no symptoms and important motivators include being around for your family and peace of mind. The campaign used TV, newspapers, radio, billboards, and online ads to reach men and women over 50.

**Results and Conclusions:** Research results showed the current campaign was successful with a 13% increase in survey respondents who identified colonoscopy as a test to detect colon cancer and a 28% decrease in those who could not identify a screening test. There was also a 50% decrease in survey respondents who claimed they didn’t need a colonoscopy because they didn’t have signs, symptoms or a family history. Finally, 21% of those who saw, heard, or read the ads said it motivated them to take action.

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**Poster 10**

**Title:** Race differences in colon cancer screening: Exploring cancer disparities in an integrated community

**Submitted by:** Shondelle M. Wilson-Frederick, PhD, Roland J. Thorpe, Jr., PhD, Janice V. Bowie, PhD, Lydie A. Lebrun, MS, & Thomas A. LaVeist, PhD

1. Hopkins Center for Health Disparities Solutions, Baltimore, MD

**Abstract:** Background: Cancer control efforts have attributed to overall declines in colon cancer incidence; however, rates of colon cancer screening remain less than optimal in certain subgroups of the population. Objective: To examine whether preventive health behaviors are associated with colon cancer screening among low-income Black and White adults who live in the same community and compare findings to a national sample. Methods: Data included 653 respondents (aged 50 and older) from the Exploring Health Disparities in Integrated Communities-Southwest Baltimore Study (EHDIC-SWB) and 10,817 the National Health Interview Survey (NHIS). Participants screened for colorectal endoscopy or fecal occult blood test within the past two years were considered adherent. Results: In NHIS, Blacks had a lower SES profile than Whites. Regarding cancer preventive behaviors, fewer Blacks had health insurance and current drinking status. Blacks were more likely to be current smokers, obese, or have a cardiovascular condition than Whites. In EHDIC-SWB, no race differences were observed on demographic or preventive cancer behaviors. After controlling for known confounders, Blacks had higher adjusted odds of colon cancer screening (OR=1.27; 95% CI 1.03-1.58) in NHIS than Whites. In EHDIC-SWB, Blacks had higher adjusted odds of colon cancer screening (OR = 2.22; 95% CI 1.54-3.22) than Whites.

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**Poster 11**

**Title:** Colonoscopy costs in Maryland’s public health colorectal cancer screening program

**Submitted by:** Maya King, MPH, Carmela Groves, RN, MS, & Diane M. Dwyer, MD

1. Center for Cancer Surveillance and Control, Maryland Department of Health and Mental Hygiene, Baltimore, MD

**Abstract:** Background: Maryland’s local Cigarette Restitution Fund Cancer Prevention, Education, Screening, and Treatment programs have been screening for colorectal cancer with colonoscopy since 2000. Local programs contract with providers and reimburse using Medicare rates or the Maryland Hospital Services Cost Review Commission (HSCRC) rate for services in “regulated” facilities. Goals and Objectives: To determine the cost of colonoscopy among Maryland programs in FY2009 and compare costs from a similar analysis in FY2003. Methods: We sought to analyze billing data from a convenience sample of 10 colonoscopies from each of 22 local programs (5 colonoscopies with biopsy and 5 without biopsy). We examined what the programs were billed for colonoscopies and what they paid to providers for colonoscopy. Results: Among a sample of 197 colonoscopies from 22 programs in FY2009, there were 102 (51.8%) with biopsy and 95 (48.2%) without biopsy.
The weighted statewide mean billed amount for colonoscopy was $2,181 (range: $678 to $6,232). The statewide mean amount paid was $1,092 (range: $499 to $3,563). Colonoscopy with biopsy was an average of $290 higher than without biopsy. Programs experienced a mean increase of $338 per colonoscopy since 2003. Conclusions: There is wide variation in billed and paid amounts for colonoscopy. Differences in what was paid are due to factors including Maryland HSCRC rates and the increasing use of anesthesiologists during the procedure. The analysis did not take into account operating costs for the screening program such as staff that negotiate contracts, handle billing, perform education/outreach and case management/client navigation.

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