categorized into low grade and high grade. Two-sided non-parametric statistical analyses were performed using the SAS v. 9.3 (SAS Institute, Cary, NC). **Results:** Expression of KOC, p16, pVHL and Ki67 was significantly different between low and high grade tumor categories. No significant difference was observed for CD117. High grade tumors showed greater expression of Ki-67 (OR=13.85, 95% CI 3.34-57.47, p=0.0003), p16 (OR=3.52, 95% 1.75-7.11, p=0.0004) and KOC (OR=4.24, 95% CI 1.88-9.56, p=0.0005) while pVHL expression was less in high grade tumors (OR=0.31 95% CI 0.12-0.84, p=.022). We detected a statistically significant probability of joint overexpression of three of the biomarkers [p16 and KOC and Ki_67] in small cell carcinoma relative to atypical carcinoids (OR=2.53. 95% CI 1.24-5.17, p=.011). **Conclusions:** Findings from this pilot project suggest that Ki-67, KOC and p16 are an effective antibody panel in differentiating high grade neuroendocrine carcinoma from low/intermediate grade neuroendocrine carcinoma.

**Keywords:** Distinguishing grades of carcinoma, Biomarkers, Diagnostic accuracy

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C-C3-01:

**Adolescent and Young Adult Cancer Survivors in the Cancer Research Network**

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**Background and Aims:** Adolescents and young adults (AYA) with cancer face unique challenges related to their stage of physiological and psychosocial development, yet their diagnosis, treatment, and survivorship experiences remain poorly understood. To ascertain the CRN's potential to address these issues, we examined the characteristics of and available follow-up time among AYA diagnosed with cancer at two CRN sites. **Methods:** Using the CRN's Virtual Data Warehouse cancer registry files, we identified all individuals diagnosed with their first primary invasive cancer at ages 15 to 39 years from 1992 to 2007 at one site and 1996 to 2007 at the other. Next, we extracted demographic, vital status, and tumor data, categorizing tumor type using the combined childhood (ICCC) and adult (ICD-O3) classification approach from the SEER 2006 AYA cancer epidemiology report. We used administrative data to calculate post-cancer enrollment through September 2009. To address potential variations in enrollment patterns and pediatric to adult care transitions, we stratified the vital status and follow-up data into ages 15 to 24 years and 25 to 39 years. **Results:** We identified 7,121 AYA with incident cancer, of whom 4,424 (62%) were female and 2,820 (40%) were non-white. Common tumor types included breast (n=1,391, 20%); lymphoma (n=996, 14%); thyroid (n=858, 12%); genital (female, n=798, 11%; male, n=720, 10%); leukemia (n=327, 5%); and central nervous system (n=315, 4%). Among the 1,194 (17%) individuals diagnosed at ages 15 to 24 years, 955 (80%) were alive through the follow-up period; the median enrollment after diagnosis was 3.5 years (interquartile range [IQR] 1.5 to 6.6). Among the 5,927 (83%) individuals diagnosed at ages 25 to 39 years, 4,682 (79%) were alive through the follow-up period; the median enrollment after diagnosis was 4.2 years (IQR 1.7 to 8.0). **Conclusions:** Within two CRN sites we were able to identify a sizable, racially diverse group of AYA cancer survivors who remained enrolled and thus could be followed for several years after diagnosis. The CRN provides a unique setting in which to explore contemporary AYA cancer survivorship issues in the short-term, collect prospective long-term data, and test relevant interventions.

**Keywords:** Adolescent and young adult cancer, Survivorship, Cancer treatment and diagnosis

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C-C3-02:

**Ethnic Differences in Interval Diagnosed Breast Cancers in South Carolina**

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**Background/Aims:** The incidence of breast cancer (BrCA) among African-American (AA) women is lower than European-American (EA) women, yet their mortality rate is twice as high. Numerous hypotheses have been proposed to explain this disparity ranging from the biological to factors related to access to care. The relatively under-studied area of interval-diagnosed BrCAs, tumors which arise between regular mammograms and represent one of the most aggressive types of tumors, among AA women may represent such a biological factor. The goal of this investigation was to describe and compare detection patterns of BrCAs and their related histopathology among AA and EA women in South Carolina. **Methods:** A longitudinal file on 65,766 women was created with multiple clinic visits representing each mammography or diagnostic service performed and the final findings of these procedures. Women with a malignancy diagnosis were classified as cases provided they had an abnormal screening and were subsequently found to have histopathologically-confirmed malignancies. Interval cancers were defined as those that occurred between regular screenings of the American Cancer Society recommended 1-2 years. After electronic identification of the interval cancers, the actual mammography films from each interval cancer case were combined with a random sampling of negative and positive films and underwent a "blinded" review by a radiologist. Chi-square and t-tests were used to assess for differences between AA and EA women and between screen-detected and interval-detected malignancies. Polytomous regression was also employed to describe and compare patterns of BrCA detection among our cohort of women. **Results:** Among the study population, AA women were more likely to be younger than EA women. AA women were also more likely to have poorly differentiated tumors and to have interval-detected malignancies. Variables found to be significantly associated with interval cancers included age and marital status. Furthermore, AA women were found to be at a 1.8 times higher risk of interval-detected cancers than EA women. **Conclusions:** Taken as a whole, these results indicate that the characterization of interval-detected tumors among AA women may prove to be a promising avenue to help explain ethnic disparities in BrCA and offer an opportunity for medical intervention such as increased screening guidelines.

**Keywords:** Breast Cancer, Ethnic disparities, African American women

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C-C3-03:

**Indicators of Lifetime and Annual Mammography Screening in the Brazos Valley**

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**Background and Aims:** Early detection and treatment of breast cancer is associated with reduced cancer mortality. While these preventive strategies are still seen as beneficial, new guidelines have recently been announced for the recommended timing of mammogram screenings for various age groups. This study examines patterns of mammogram use in 2006 and examines the relationship between demographic, health status, and healthcare access factors. **Method:** Survey instruments were mailed to a random sample of households in the seven county region of the Brazos Valley in Texas (n=1,935). Data were analyzed from a sample of 617 adult females age 40 and older. Study variables include: age groupings (i.e., 40-49, 50-74), education, race/ethnicity, residence rurality, self-reported health status, depression scale scores (5 items, a=0.802), having had a visit with a medical

provider in the previous 12 months, having had a lapse of insurance in the previous 3 years, and having had a mammogram in the previous 12 months. Associations were examined with Spearman correlation analyses. A logistic regression analysis was performed to identify variables associated with having had a mammogram in the previous 12 months. **Results:** Over ninety percent of respondents (91.2%; 563 of 617) self-reported having had a mammogram in their lifetime and 62.4% (385 of 617) reported having had a mammogram in the previous 12 months. Of the females who had a mammogram in the previous 12 months, 14.0% (24 of 171) reported having not visited a medical provider in the previous 12 months. Having received a mammogram in the previous year was significantly correlated with having more education ($\rho$ =0.083, P<0.05) and not having a lapse in health insurance coverage over the previous 3 years ($\rho$=0.155, P<0.01). Having received a mammogram in the previous 12 months was significantly associated with having visited a medical provider in the previous 12 months (OR=28.352, P<0.001). **Conclusion:** Most women have had at least one mammogram, which suggests the successful dissemination of preventive cancer screening guidelines and minimal evidence of health disparities. Routine check-ups are the major driver for meeting prior mammogram recommendations, which emphasizes the importance of access to regular care when implementing the new screening guidelines.

**Keywords:** Breast cancer, Mammograms, Preventive cancer screening

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C-C3-04:

**Neighborhood Socioeconomic Conditions and Use of Preventive Health Care Services in Insured Populations**

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**Background and Aims:** Several studies have found variations in cancer health outcomes among persons in different socioeconomic (SES) groups, but the presence and extent of such disparities in insured populations is unclear. The objective of this study was to determine whether, among persons enrolled in HMOs, there are differences in the use of services for early detection of cancer according to neighborhood SES. **Methods:** This was a retrospective cohort study of men and women aged 50+ years, enrolled for at least 1 calendar year beginning in 2000 at one of 3 health plans participating in the Cancer Research Network. Follow-up was to the date of disenrollment from the health plan, or December 31, 2007, whichever was earlier. Using administrative data, we obtained dates of examinations and tests related to screening for colorectal cancer (CRC) for men and women and mammography among women. CRC tests were defined as time to the first colonoscopy or sigmoidoscopy (endoscopy) during the follow-up period; and also time to an endoscopy that was not preceded by gastrointestinal conditions in the 6 months prior to the test. SES neighborhood measure was computed using 12 US Census (2000) measures of racial and SES composition and context at the tract level. **Results:** A total of 123,222 members, 54% women and average age 64 years, were followed for an average of 5.5 (SD=2.8) years. During 673,938 person-years of follow-up, about 41% had at least 1 endoscopy and 32% had an endoscopy not associated with prior GI-related diagnoses. Among women, 77% had at least 1 mammogram during the study period; 7% had mammograms during each of the first 5 years of follow-up. In Cox regression models, compared to lowest quartile of SES, persons residing in the highest quartile had a hazard ratio (HR) of 0.76: (95% confidence interval (CI): 0.75-0.78) for receipt of any endoscopy; 0.72: (CI: 0.70-0.74) for ‘screening’ endoscopy; and 0.86: (CI: 0.84-0.88) for mammography. **Conclusion:** Even among patients receiving care in HMOs, those in socioeconomically deprived neighborhoods are less likely to undergo cancer early detection services. Interventions targeting enrollees residing in lower SES neighborhoods may help reduce cancer health disparities.

**Keywords:** Cancer health outcomes, Socioeconomic status, Health disparities

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PS3-07:

**A Microsimulation Model of the Natural History of Smoking in the US**

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**Background:** Smoking and other forms of tobacco use is the largest preventable cause of morbidity and mortality in the US. An understanding of the natural history of this behavior can help in improving smoking cessation efforts. **Aim:** To develop a microsimulation model to depict the natural history of smoking in the US using data from the National Health Interview Survey (NHIS) and a structured literature review. **Methods:** Data from NHIS and the literature were used to model smoking prevalence by year of age over the lifetime of a birth cohort of US teenagers. The model accounted for age at initiation, quit attempts by age, success of quit attempts, and relapse. Smoking states in the model were “never smoker,” “current smoker,” “recent quitter,” and “former smoker.” Demographic variables such as age, gender and race/ethnicity were also analyzed to understand variations in smoking behavior by individual characteristics. Utilization of clinical interventions to promote cessation was built-in to the model in order to create two scenarios for use in evaluating the benefit of interventions to reduce smoking. In these two scenarios, lifetime smoking patterns in the absence and presence of clinical intervention were estimated. Use of these scenarios facilitated the comparison of smoking patterns with and without clinical intervention. The second scenario was also used to validate the model against observed prevalence rates and will facilitate future analyses of smoking patterns with selected community interventions incremental to current use of clinical interventions. **Results:** Model estimate of overall smoking prevalence of approximately 20% (for ages 18-65 years) was comparable to the available national estimates for the US. The model also successfully reproduced the smoking prevalence by age, gender and race/ethnicity, thus allowing for future analyses of various interventions at the clinic and at the community level. The model predicts a reduction of smoking prevalence by 4% at age 65, due to clinical interventions. **Conclusions:** Microsimulation modeling provides a useful framework for understanding smoking prevalence by individual variables such as age, gender and race/ethnicity. The current model will be expanded to include the impact of community interventions targeted at smoking reduction/cessation.

**Keywords:** Variables in smoking prevalence, Microsimulation modeling, Smoking cessation

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PS3-10:

**Barriers to Screening Colonoscopy Differ Among Health Plan Member Groups**

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**Background/Aim:** Colorectal cancer screening for average risk patients is recommended beginning at age 50, with screening colonoscopy every 10 years considered by many to be the gold standard for screening (USPSTF, 2008). The purpose of this study is to explore the differences in barriers to colonoscopy between men and women. **Methods:** A stratified random sample of Scott & White Health Plan members was drawn—1000 50-year-old men, 1000 50-year-old women, 1000 men aged 51-80, and 1000 women aged 51-80. Sampled members received surveys by mail requesting information about colonoscopy in the past 10 years, readiness to have colonoscopy in the next six months, demographic information, time since last primary care visit and barriers to colonoscopy for those who had not had the procedure in the past 10 years. We compared barriers to colonoscopy between males versus females by the chi-square test or Fisher’s exact test. **Results:** Response rate was 31% (1234 of 4000). Over 35% of the sample (438/1234) reported not having a colonoscopy in the past 10 years. The most commonly reported barriers were “My regular doctor has not told me I need a