Factors associated with addressing barriers to accessing cancer care in a patient navigation program
Azadeh Nasseh 1; Karen M Freund 1; Sharon Bak 1; Kristine Beaver 1; Timothy Heeren 2; Tracy A Battaglia 1.
1Women's Health Unit, Section of General Internal Medicine, Evans Department of Medicine, Boston Medical Center and Boston University School of Medicine, Boston, Massachusetts; 2Boston University School of Public Health, Boston, Massachusetts. (Proposal ID # 10729)

BACKGROUND: Patient navigation, which aims to reduce barriers to care, is increasingly being adopted as a model to reduce cancer health disparities in underserved communities across the country. Although studies are ongoing to assess the full benefit of this model on cancer care outcomes, there is little understanding of the process of navigation to achieve these outcomes. In this study, we examine documented barriers to care and corresponding navigation activities to address them.

METHODS: Data from the intervention arm of a multi-site quasi-experimental patient navigation study included eligible women with abnormal Mammogram or Pap tests from 5 urban community health centers, during January 2007 to December 2008. Navigators were trained to identify, document and address 20 pre-defined barriers to care at each patient encounter. The goal of navigation was to engage in activities to ameliorate these barriers in order to facilitate timely diagnostic resolution of the abnormality. In each patient encounter, navigators documented unique barriers and corresponding actions taken to address that barrier. Based on literature review and consensus of the research committee, access barriers were grouped into 3 types: Logistic (e.g. Transportation), Cultural (e.g. Fear) and Financial (e.g. Employment). A barrier is considered addressed when there is a corresponding documented action (e.g. Arrangement for Transportation). Our analyses used the barrier as the unit of analysis and examined associations between patient characteristics and types of barrier with whether or not a barrier was addressed. Patients can contribute multiple barriers from multiple visits, and we used Generalized Estimation Equation (GEE) multiple logistic regression to examine these associations, accounting for correlation between multiple observations per subject.

RESULTS: Among 1118 female intervention subjects, mean age was 42 years; 67% were non white; 71% had either public or no insurance. Overall, 602 (54%) subjects had 1 or more unique barriers identified across all encounters. This resulted in 1691 unique barriers to care of which 620 (37%) were Logistic, 167 (10%) were Cultural and 71 (4%) were Financial; almost half 833 (49%) of documented barriers did not fit into one of the predefined categories and were documented as Other. Overall 72% of the identified barriers were addressed. The Other barrier category had the lowest percentage of addressed barriers (59%), followed by Financial (79%), Logistic (84%) and Cultural barriers (92%). In bi-variate analysis, using GEE model, Other barriers were less likely (OR: 0.29, CI: 0.21, 0.4) and Cultural barriers were more likely (OR: 2.4, CI: 1.2, 4.6) to be addressed compared to Logistic barriers. In bi-variate analyses, African American women compared to White women had a lower odds of having an addressed barrier (OR: 0.64, CI: 0.42, 0.97) as did those from two community health centers (OR: 0.2, CI: 0.1, 0.4 and OR: 0.25, CI: 0.13, 0.48). In Multivariate GEE model, using type of barriers and adjusting for race, age, marital status, language, type of insurance and site of care to assess whether or not a barrier was addressed; type of barrier (Other barriers vs. Logistic barriers, OR: 0.32, CI: 0.23, 0.46, and Cultural barriers vs. Logistic barriers, OR: 2.67, CI: 1.34, 5.35) and belonging to one of the community health centers (OR: 0.33, CI: 0.15, 0.77) were the only significant predictors of the outcome.

CONCLUSION: In this community health center-based navigation program, navigators addressed most identified barriers when they were able to clearly categorize the barrier. After adjusting for site of care and barrier type, no individual patient characteristic was found to be associated with the ability of a navigator to address an identified barrier. This suggests that navigator training, which targeted 20 known barriers to care, provided navigators with the skills necessary to address those known barriers yet highlights unmet navigator training needs that are specific to the population served across each site of care.
DISPARITIES IN SURGERY FOR EARLY STAGE LUNG CANCER: AN ANALYSIS OF MORTALITY ONE YEAR AFTER DIAGNOSIS Samuel Cykert 1; Giselle Corbie-Smith 2; Peggye Dilworth-Anderson 3; Michael Monroe 4; Franklin McGuire 5; Paul Walker 6; Lloyd Edwards3. 1University of North Carolina, Chapel Hill, Chapel Hill, North Carolina ; 2University of North Carolina- Chapel Hill, Chapel Hill, North Carolina ; 3UNC-CH, Chapel Hill, North Carolina ; 4Carolinas Medical Center, Charlotte, North Carolina ; 5USC School of Medicine, Columbia, South Carolina ; 6ECU -Brody School of Medicine, Greenville, North Carolina . (Proposal ID # 10927)

BACKGROUND:
Our recent, prospective cohort study confirmed reports of administrative data showing that African-Americans (AA) with early stage, non-small cell lung cancer do not receive potentially curative surgery as often as similar white patients (W). We also found that comorbid illnesses and lack of a regular source of care were factors associated with less surgery for AA but not W patients. Poor perceptions of communication predicted lower surgical rates for all. We now report an analysis of outcomes one year after diagnosis and examine whether racial differences are associated with one year mortality in this cohort or whether other factors explain mortality differences.

METHODS:
Using pulmonary, oncology, thoracic surgery, and generalist practices in 5 communities, we enrolled 437 newly diagnosed patients with early stage, non-small cell lung cancer. Inclusion criteria were as follows: patients were required to be at least 18 years old, have a tissue diagnosis or > 60% probability of non-small cell lung cancer using Bayesian methods, and be limited to Stage I or II disease by clinical and radiological testing. Patients were identified from direct referral from practices or through the utilization of a chest CT review protocol. After being informed of the diagnosis of probable or definite lung cancer, but before the establishment of a treatment plan, patients were administered a 100-item survey. Chart reviews were performed 4 months after enrollment to assess comorbidities, pulmonary function tests, and treatment with surgery. Mortality data were obtained by personal or family contact and death certificates 1 year after enrollment. Regression analyses were performed with one-year mortality as the primary outcome.

RESULTS:
Of the 437 patients enrolled, 386 were eligible for lung cancer surgery based on diagnostic stage and absence of absolute contraindications. Eighty-eight percent had the diagnosis confirmed pathologically. Of those patients enrolled, 29% were AA, 90% had health insurance, and the median age was 66 years. The one-year mortality rate for the cohort was 17% (N = 66). Although mortality was similar according to race (AA 17%, W 17% p = 0.9), AA were, on average, 4.4 years younger at the time of death compared to W (66.9 vs. 71.3 years). The one-year mortality for surgically treated patients was 12% compared to 25% for the no surgery group (p = .002). Regression analysis revealed that age over 66 (OR 3.4, 95% CI 1.8-6.6) and ≥2 comorbid illnesses (OR 2.8, 95% CI 1.2-6.4) were associated with worse mortality while surgical treatment (OR .52, 95% CI .29-.93) was protective. Race, income, education, marital status, gender, and regular source of care were not associated with one-year mortality.

CONCLUSION:
Older age and comorbid illnesses are associated with one-year mortality in early stage lung cancer. Although African-Americans receive lung cancer surgery less often than white patients, it is surgical treatment, not race, that is associated with survival.
Palliative and Oncologic Co-Management: Symptom Management for Outpatients with Cancer

Kara Bischoff 1; Vivian Weinberg 1; Michael Rabow 1. 1UCSF, San Francisco, California . (Proposal ID # 11144)

BACKGROUND: Although outpatient palliative care clinics are increasingly common, evidence of their clinical efficacy is limited. This prospective study assessed the impact of palliative care co-management on symptoms and quality of life among ambulatory patients at a comprehensive cancer center.

METHODS: 267 adult outpatients with cancer were referred by their oncologist and seen for at least 2 visits within 120 days at the UCSF Symptom Management Service; 152 of these patients were also seen for a third visit within 240 days of the first. Patients completed a modified Edmonton Symptom Assessment Scale and a validated spiritual wellbeing questionnaire prior to each visit. Overall change in symptom severity from the first to subsequent visits was calculated using two-tailed analysis of variance (ANOVA) methods for repeated measures; a test for a trend in scores over time was defined by a linear contrast. ANOVA models and Kruskal-Wallis tests were used to determine the difference in means and distributions, respectively, for baseline symptoms and for pairwise change in symptoms according to demographic and clinical variables.

RESULTS: At baseline, mean age of studied patients was 57.3 years (SD 13.9). Median time since cancer diagnosis was 17.5 months (range 18-256). Fifty-four percent of patients were female; 67% were Caucasian. Prostate, breast, gastrointestinal, and gynecologic cancers were the most common diagnoses. Fifty-nine percent of patients had metastatic disease at baseline. During the study period, 68% of patients received oncologic treatment (chemotherapy, hormonal therapy or radiation) and only 3% were enrolled in hospice. At baseline, severity of evaluated symptoms did not differ significantly by presence of metastatic versus localized disease. However, female gender, African-American ethnicity, and non-prostate cancer diagnoses were associated with greater baseline pain (p=0.02, p<0.001, p<0.001, respectively) and fatigue (p=0.05, p=0.02, p<0.001, respectively).

Second clinic visits were on average 41 days after the first. Between the first and second clinic visits there was a significant improvement in pain (p<0.001), fatigue (p<0.001), anxiety (p<0.001), depression (p<0.001), quality of life (p=0.002) and spiritual wellbeing (p<0.001), but not nausea (p=0.14) or relationship problems (p=0.31). For the subset of patients with evaluable data who were seen for a third visit, the improvement in pain, fatigue, anxiety, depression, quality of life and spiritual wellbeing observed at the second visit persisted to the third visit (p<0.005 for each symptom).

CONCLUSION: Palliative care, provided in a symptom management clinic concurrent with oncologic care, was associated with significant improvement in nearly all symptoms evaluated. A sustained effect is suggested by the subset of patients seen for a third visit. Although cancer stage has a key impact on prognosis, cancer patients with localized disease had a symptom burden similar to patients with metastatic cancer. To control for the impact of time and non-palliative treatments, as well as for referral bias, randomized controlled studies of outpatient palliative care are indicated.
Does Patient Assistance Reduce Racial Disparities in Quality of Breast Cancer Care? Nina A Bickell 1; Soji Oluwole 2; Kathie Ann Joseph 3; Tehillah Menes 4; Anitha Srinivasan 5; Margaret Kemeny 6; Joseph A Sparano 7; Rebeca Franco 1; Kezhen Fei 1; Howard Leventhal8. 1Mount Sinai School of Medicine, New York, New York; 2Harlem Hospital Center, New York, New York; 3Columbia University Medical Center, New York, New York; 4Elmhurst Hospital Center, Elmhurst, New York; 5Metropolitan Hospital Center, New York, New York; 6Queens Hospital Center, Jamaica, New York; 7Albert Einstein College of Medicine, Bronx, New York; 8Rutgers, State University of New Jersey, New Brunswick, New Jersey. (Proposal ID # 12359)

BACKGROUND: Breast cancer patients' informational, psychosocial and access needs may affect receipt of post-surgical adjuvant treatment. High quality community-based patient assistance programs which address such barriers are often underutilized presumably b/c pts are unaware of such programs. We conducted a RCT to inform and enable women to connect with programs that can address underlying needs that might interfere with care delivery.

METHODS: Women were recruited w/in 2-4 wks of their surgical Rx of BC. We assessed informational, psychosocial, and practical needs and randomized women to Intervention (INT) vs usual care (UC). The INT consisted of educating women about existing programs by creating an action plan and mailing it to them with related materials. UC patients received a pamphlet about breast cancer and its treatment. All were called 2 wks later to ascertain packet receipt, and for INT patients, ongoing needs and connection to a Patient Assistance Program. Treatment data is based on chart abstraction >6 months after surgery. Analyses were intent to treat.

RESULTS: 370 women with a new primary, early-stage breast cancer operated at 1 of 8 participating NYC hospitals consented to participate: 189 in the INT and 180 in UC. 186 were Black or Hispanic and evenly divided between INT and UC. Rates of need did not differ between trial or racial groups: 234 had informational needs; 200 had psychosocial and 193, practical-access needs; 78 had 1 need, 66 had 2 needs, 139 had 3 needs. At 2 wks, 107 of INT pts had an ongoing need yet only 89 had connected to a program. Rates of treatment in INT vs UC were: 84% vs 89% RT post BCS (p=.28); 93% vs 86% chemo for ER negative tumors >1cm (p=.28); and 87% vs 88% for hormonal therapy for ER + tumors >1cm. Treatment underuse was higher in older women (mean: 61y vs 56y; p<0.01). Race, education, insurance, stage, type or number of needs was not related to underuse.

CONCLUSION: Post-surgical adjuvant treatment rates are high; there is no racial disparity in treatment. Some needs expressed <1 month after surgery appear to resolve without apparent external intervention and some require more intensive involvement to enable connection to a patient assistance program. This finding suggests that future interventions take into account the dynamic changing needs of women with a new breast cancer diagnosis and more intensive efforts be made to connect those with ongoing needs to best target resources to those with unresolved needs that can interfere with treatment receipt.
Disparities in Hospice Care Among Older Women Dying with Ovarian Cancer Kathleen M Fairfield 1; Kimberly Murray 1; Paul Han 1; Heidi Wierman 1; Sarah Hallen 1; F. Lee Lucas1. 1Maine Medical Center, Portland, Maine. (Proposal ID # 12402)

BACKGROUND: Timely hospice referral is an indicator of high quality end-of-life care for cancer patients. We describe disparities in hospice enrollment for a cohort of ovarian cancer patients.

METHODS: We used the Surveillance, Epidemiology, and End Results (SEER)-Medicare database to identify 8,486 women aged 65+ with epithelial ovarian cancer, diagnosed between 2001-2005, with their Medicare claims through 2007. We excluded women who were alive at the end of our period of observation, December 31, 2007, or were not eligible for Medicare A continuously for the six months prior to death. Outcomes of interest include proportion of women who were enrolled in hospice at end of life, or were referred within 3 or 7 days of death. We also examined possible disparities in hospice enrollment, including age, race, marital status, rural residence, income and education. Sociodemographic factors were determined by income tract.

RESULTS: Among 8,486 cases of ovarian cancer, 60.2% of the women received any hospice care (5111/8486). While 11.2% (571/5111) enrolled in hospice within 3 days of death, 26.0% (1,329/5111) received hospice within 7 days of death. Enrollment in hospice was more frequent among white women (61.5% vs 53.2% for blacks and 49.7% for other racial groups, p<0.001), urban dwellers (60.8% vs 56.2% for rural, p=0.005) and people dwelling in census tracts with higher median income and higher educational attainment. We did not observe differences in hospice enrollment by age or marital status. Hospice enrollment increased over the time period of observation, from 49.7% in 2001 to 74.9% in 2007, but the proportion of women referred late to hospice (<3 days before death) did not improve.

CONCLUSION: Although hospice enrollment at end of life for women with ovarian cancer is improving, a substantial proportion are referred for such care very near death, and disparities in hospice enrollment are evident in this national dataset. Ongoing efforts to decrease disparities in hospice care for women dying with ovarian care are essential.