

**COMMUNICATIONS ON COLORECTAL AND PROSTATE CANCER SCREENING: ARE PATIENT PERCEPTIONS CONSISTENT WITH ACTUAL INFORMATION EXCHANGED** B. Ling<sup>1</sup>; J.M. Trauth<sup>2</sup>; M.J. Fine<sup>3</sup>; M.K. Mor<sup>4</sup>; C.H. Braddock<sup>5</sup>; S. Bereknyei<sup>5</sup>; J. Weissfeld<sup>2</sup>; R. Schoen<sup>2</sup>; J. Whittle<sup>6</sup>. <sup>1</sup>VA Pittsburgh Healthcare System and the University of Pittsburgh, Pittsburgh, PA; <sup>2</sup>University of Pittsburgh, Pittsburgh, PA; <sup>3</sup>VA Pittsburgh Health Care System and the University of Pittsburgh, Pittsburgh, PA; <sup>4</sup>Pittsburgh VA Health Care System and The University of Pittsburgh School of Medicine, Pittsburgh, PA; <sup>5</sup>Stanford University, Palo Alto, CA; <sup>6</sup>Medical College of Wisconsin, Milwaukee, WI. (Tracking ID # 190450)

**BACKGROUND:** Several clinical controversies impact decision-making regarding colorectal (CRC) and prostate cancer (PC) screening. Therefore, effective patient-provider communication on these topics is essential. The quality of such communication depends upon the content of the communication as well as patient perception of the interaction. We compared audiotaped clinical encounters containing patient-provider communication relevant to these screening decisions with patient report of the information they received during the encounters.

**METHODS:** We audiotaped and transcribed interactions between 112 enrolled male patients (38 African American and 74 white) aged 50–74 years and the primary care team during clinic visits to the VA Pittsburgh. Patients were asked after the visit whether there were discussions on: CRC or PC screening in general; advantages/disadvantages of CRC or PC screening; or particular screening tests for CRC [i.e., fecal occult blood testing (FOBT) or sigmoidoscopy (Sig)] or PC [i.e., prostate specific antigen (PSA)]. In addition, patients were asked whether the provider made a recommendation to complete a FOBT, Sig, or PSA. The transcripts were independently coded for these same topics. We determined the level of agreement for the occurrence of a communication topic during the clinic visit (% of instances when both the transcript and patient response matched regarding whether or not the topic of interest occurred) and Kappa coefficients to measure agreement occurring beyond chance. We tested the equality of the Kappa coefficients by race for each communication topic using a chi-square test with significance defined at the  $p < .05$  level. Also, we assessed whether providers elicited patient understanding of the topic areas discussed during the clinic visit by examining the transcripts.

**RESULTS:** The following were the levels of agreement (LOA) and Kappa coefficients (K) for patients' perceptions of topics discussed compared with the coded transcripts of the recorded patient-provider communication: (1) CRC screening in general (LOA 87%, K.67), (2) advantages/disadvantages of CRC screening (LOA 74%, K.08), (3) FOBT (LOA 84%, K.68) or Sig (LOA 84%, K.44) in general, (4) recommendations to perform FOBT (LOA 84%, K.66) or Sig (LOA 90%, K.51), (5) PC screening in general (LOA 65%, K.33), (6) advantages/disadvantages of PC screening (LOA 80%, K.17), (7) PSA in general (LOA 74%, K.45), and (8) recommendations to perform PSA (LOA 82%, K.42). There were no statistical differences in the Kappa coefficients by race. Further review of the transcripts showed no instances when providers assessed patient understanding regarding any of these topics.

**CONCLUSIONS:** While a majority of patients accurately recalled discussions of CRC and PC screening immediately after a clinic visit, there is a sizable proportion of instances (13–35%) when patients' perceptions of the interaction differ from the transcripts of the audio-recorded patient-provider communication. In particular, the topics that exhibited the poorest Kappa scores are discussions of advantages/disadvantages of CRC (.08) and PC screening (.17) as well as talk regarding PC screening in general (.33). Therefore, patient-provider communication on CRC and PC screening can be improved upon so that decision-making toward these services is optimized. A potential approach worth considering would be to have providers assess patient understanding of the communication and correct any misperceptions at the time of the clinic visit.

**COMMUNITY WEALTH AND EDUCATION PREDICT THE AVAILABILITY OF HOSPICE** M.J. Silveira<sup>1</sup>; S.D. Goold<sup>1</sup>; L.F. McMahon<sup>1</sup>. <sup>1</sup>University of Michigan, Ann Arbor, MI. (Tracking ID # 190596)

**BACKGROUND:** Research has shown that the local availability of hospice is an important predictor of its use. Unfortunately, little is known of the factors that determine the local availability of hospice. What we do know is that most hospices are built and maintained

thanks to charity and volunteerism. Thus, we hypothesized that the local availability of hospice would be strongly determined by the wealth and education of the residents in its community.

**METHODS:** We used data from Medicare's 2000 Provider of Service Files to identify the point location of every hospice in the US and defined its service area according to the 60 mile great circle radius. Our outcome of interest was county-level availability of hospice defined according to the amount of geographic clustering of hospice services areas measured using the Hot Spot Analysis Tool in ArcView GIS 3, and grouped into 5 categories according to standard deviation. We used multivariate, ordinal logistic regression to test the relationship between this outcome and county wealth (% households with incomes  $> \$100,000$ ) and education (% individuals with a high school diploma), adjusting for confounding by race (% blacks), ethnicity (% Hispanics), age (% over age 65), population count, and area.

**RESULTS:** In multivariable ordinal logistic regression examining the determinants of hospice availability, we found that wealth and education positively determined availability and age negatively determined availability. For every 1% increase in the proportion of households with incomes  $> \$100,000$ , there was a 16% greater odds of being in the next highest category of hospice availability. For every 1% increase in the percentage of high school educated in a county, there was a 24% greater odds of being in the next highest category. For every 1% increase in the percentage of elderly in a county, there was a 10% lower odds of being in the next highest category. In testing for confounding, we found wealth, education, and age each influenced the strength, though not the significance, of the relationship between our predictors and outcome. There was no confounding by race and ethnicity.

**CONCLUSIONS:** Hospice is more available in communities with larger proportions of wealthy and, educated residents. These findings suggest that to address disparities in the utilization of hospice, policy-makers may need to address inequities in the availability of hospice first.

**COMPARISON OF HEALTHCARE USE AND COSTS OF ADULT PATIENTS WITH "PURE OBSESSIVE-COMPULSIVE DISORDER" VERSUS "PURE DEPRESSION": NINE-YEAR (1997–2006), LARGE-SCALE, RETROSPECTIVE CLAIMS ANALYSIS OF FLORIDA MEDICAID ENROLLEES** C. Hankin<sup>1</sup>; L.M. Koran<sup>2</sup>; L. Culpepper<sup>3</sup>; J. Knispel<sup>4</sup>; D. Dougherty<sup>5</sup>; E. Hollander<sup>6</sup>; D.V. Sheehan<sup>7</sup>; J. Dunn<sup>8</sup>; A. Levin<sup>9</sup>; D.W. Black<sup>10</sup>; A. Bronstone<sup>1</sup>; Z. Wang<sup>1</sup>. <sup>1</sup>BioMedEcon, LLC, Moss Beach, CA; <sup>2</sup>Stanford University, Stanford, CA; <sup>3</sup>Boston University, Boston, MA; <sup>4</sup>Humana, Singer Island, FL; <sup>5</sup>Massachusetts General Hospital, Boston, MA; <sup>6</sup>Mount Sinai School of Medicine, New York, NY; <sup>7</sup>University of South Florida, Tampa, FL; <sup>8</sup>SelectHealth, Inc., Salt Lake City, UT; <sup>9</sup>Health Plus, Bronx, NY; <sup>10</sup>University of Iowa, Iowa City, IA. (Tracking ID # 190671)

**BACKGROUND:** Whereas the healthcare burden of depression is well documented, little is known about the burden of obsessive-compulsive disorder (OCD), a highly debilitating anxiety disorder. We compared healthcare use and costs of newly-diagnosed patients with "pure OCD" (P-OCD; OCD in the absence of bipolar disorder, psychoses, or depression) to a matched sample of patients newly-diagnosed with "pure depression" (P-D; depression in the absence of bipolar disorder, psychoses, or OCD).

**METHODS:** We examined 9 years (1997–2006) of computerized Florida Medicaid claims. Among patients with  $> 1$  OCD diagnosis (ICD-9 300.3), we identified their first occurring ("index") OCD claim. Those with 2 years of data preceding their index OCD claim were selected. Of these, P-OCD patients were identified as having no diagnoses of depression (ICD-9 296.2, 296.3, 296.9, 300.4, 309.0, 309.1, 311), psychoses (ICD-9 295, 298) or bipolar disorder (ICD-9 296) in the 2 years prior and 2 years following their index OCD claim. P-D patients were identified similarly, except that the index claim was depression and the exclusion diagnoses included OCD rather than depression. Each P-OCD patient was matched to  $> 1$  P-D patient on sex, race/ethnicity, medical illness severity (Charlson Comorbidity Index), and age and year at index diagnosis. P-OCD patients without a match were excluded from the analysis. We examined inpatient and outpatient primary diagnoses to classify medical versus psychiatric care, and NDC codes to classify pharmacy claims; we assumed amphetamines, antidepressants, anti-manics, antipsychotics, anxiolytics, hypnotics, mood stabilizers, and stimulants were prescribed for psychiatric illness, and other medications were prescribed for medical illness. Numbers and costs of

inpatient stays, outpatient visits, and pharmacy claims were calculated over the 2 years following each patient's index claim. We then compared median per-patient total, medical, and psychiatric healthcare use and costs.

**RESULTS:** Among 2,924,412 Medicaid enrollees, 156 met criteria for P-OCD and 16,055 for P-D. Of these, 135 patients with P-OCD were matched to 1,511 patients with P-D (21 P-OCD patients could not be matched). Numbers of matches of P-OCD to P-D patients ranged from 1 to 76. The 2-year, median, per-patient total (inpatient, outpatient, and pharmacy) number of healthcare claims was approximately 2 times greater among patients with P-OCD than patients with P-D (P-OCD 126.0 versus P-D 68.4,  $p < 0.0001$ ). Those with P-OCD had a 65% greater median number of outpatient visits for medical treatment (86.0 versus 56.0,  $p = 0.0007$ ) and approximately 2 times greater median total medical costs for these visits than their P-D counterparts. Median total healthcare costs were approximately 3 times higher among patients with P-OCD than among those with P-D (P-OCD \$25,666 versus P-D \$7,732,  $p < 0.0001$ ).

**CONCLUSIONS:** Although patients were matched on medical illness severity, those with P-OCD used significantly more outpatient medical services and incurred 2 times greater outpatient medical costs than their counterparts with P-D. These findings suggest that much of the care for patients with OCD may occur within the outpatient medical setting.

#### COMPARISON OF METHODS EXAMINING HOSPITAL USE VARIATION AMONG ELDERLY HEART FAILURE PATIENTS

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**BACKGROUND:** Recent national and California studies have documented variation in hospital resource utilization among expired elderly Medicare beneficiaries with chronic illnesses in their last two years and six months of life. However, findings may differ for elderly Medicare beneficiaries who did not expire and with expanded risk-adjustment.

**METHODS:** 7,301 hospitalizations for elderly Medicare beneficiaries with a principal diagnosis of heart failure (HF) were identified at six California academic medical centers between January 1, 2001 and June 30, 2005. Local administrative data and the National Death Index were used to generate outcomes of hospitalization length of stay, hospitalization total costs, inpatient mortality, and one month mortality. Two multivariate risk-adjustment models were used. The first model matched the model used in studies of expired elderly individuals, and included age, gender, ethnicity, and twelve chronic conditions; over-dispersed Poisson models were used for resource utilization outcomes and logistic models were used for mortality outcomes. The second expanded model included patient age at admission, gender, ethnicity, 26 comorbidities, admission year, Medicaid as an additional payor, transplant patient status, transfer patient status, and surgical Diagnostic Related Group classification; zero-truncated negative binomial models were used for resource utilization outcomes and logistic models were used for mortality outcomes. Adjusted means for each outcome were generated for each site using recycled estimates from the entire cohort to minimize selection bias.

**RESULTS:** The unadjusted resource utilization among the sites ranged from 4.3 to 8.4 hospital days and \$8,568 to \$19,185. Adjusted means with the first model showed similar resource utilization variation between sites, which ranged from 4.3 to 8.3 hospital days and \$7,999 to \$19,924. Adjusted means with the second model showed slightly reduced resource utilization variation between sites, which ranged from 4.7 to 8.0 hospital days and \$9,861 to \$19,561. The unadjusted inpatient and one month mortality rates among the sites ranged from 2.8% to 4.6% for inpatient mortality and 6.3% to 8.8% for one month mortality. The adjusted mortality rates using the first model showed increased variation between sites, which ranged from 3.0% to 5.4% for inpatient mortality and 6.2% to 9.9% for one month mortality. The adjusted mortality rates using the second model showed increased

variation between sites, which ranged from 2.8% to 5.1% for inpatient mortality and 6.4% to 11.1% for one month mortality. The site with the highest adjusted hospital days and costs also had the lowest adjusted mortality rate which significantly differed from the other sites. The Spearman correlation coefficients with the first model for one month mortality were  $-0.41$  for adjusted hospital days and  $-0.32$  for adjusted costs. The Spearman correlation coefficients with the second model for one month mortality were  $-0.60$  for adjusted hospital days and  $-0.37$  for adjusted costs.

**CONCLUSIONS:** Resource utilization variation patterns are reduced but persist when using an expanded risk-adjustment model compared to prior risk-adjustment models in a sample of HF patients that both expired and survived. However, focusing only on expired individuals may overlook associations of greater resource utilization and lower mortality among all Medicare beneficiaries admitted with HF.

#### COMPARISON OF PAPER AND ONLINE VERSIONS OF THE WEIGHT MANAGEMENT SUPPORT INVENTORY

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**BACKGROUND:** The Weight Management Support Inventory (WMSI) is a reliable and valid paper instrument to measure social support for weight loss. This measure may be useful for Internet-based studies of weight loss, but an online version has never been tested. We compared the psychometric properties of an online (ON) and paper (PA) version of the WMSI.

**METHODS:** The PA version has 26 five-point Likert items on the frequency and helpfulness of receiving 4 types of support: emotional, instrumental, informational, and appraisal. It yields a total and 4 subscale scores for both frequency and helpfulness. With a counter-balanced order of administration, members of an online weight loss program completed both versions within 2 days. We emailed subjects a link to the ON version and an attached file of the PA version, which they faxed back. We calculated Pearson correlations ( $r$ ) for total and subscale scores and measured between-subjects and within-subjects effects with  $t$ -tests and repeated measures analysis of variance.

**RESULTS:** Of 737 eligible subjects, 511 enrolled and 230 returned both ON and PA versions (93% female, 86% white, mean age 37.0 years [SD=10.1], mean body mass index 31.3 [SD=7.3]). ON and PA versions were highly correlated ( $r = 0.84$  to  $0.95$ ). Between-subjects comparison of ON vs PA (first administration) revealed no differences, except in the emotional frequency subscale (ON 2.61 vs PA 2.31,  $p = 0.04$ ). Within-subjects comparison of ON vs PA (regardless of order of administration) also revealed no differences except in emotional frequency (ON 2.54 vs PA 2.45,  $p = 0.002$ ).

**CONCLUSIONS:** There was no difference between ON and PA versions for total frequency, total helpfulness, and 7 of 8 subscales. The ON version of the WMSI generally retains the properties of the PA version and may be useful for assessing social support for weight loss.

#### COMPARISONS OF ATTITUDES ABOUT, BARRIERS TO AND INTAKE OF VEGETABLES AND FRUIT IN AN URBAN POPULATION AT A HEALTH CLINIC WITH A PROGRAM TO PROVIDE INEXPENSIVE LOCALLY GROWN PRODUCE

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**BACKGROUND:** Fruit and vegetable consumption is lower in poor urban populations compared to more affluent urban/suburban populations. Rising produce costs may contribute to lower produce consumption rates. Some programs providing inexpensive locally grown produce to urban populations increased participant produce consumption. Our objective was to measure: 1) baseline attitudes about 2) perceived barriers to and 3) baseline consumption of fruits and vegetables in participants and a convenience sample of non-participant controls in a program providing low-cost locally grown produce through an urban health center.

**METHODS:** All program participants (N=39) and a convenience control sample (N=75) from the clinic waiting rooms were surveyed. Survey items measured demographic characteristics and the three areas