OBJECTIVES: To assess the value of additional research for testing carcinoembryonic antigen (CEA), cancer antigen (CA)-15-3 and CA-27-29 biomarkers for earlier detection and treatment of recurrent breast cancer. METHODS: We developed a decision-analytic model to estimate the expected value of perfect information (EVPI) and expected value of sample information (EVSII) for a treatment strategy involving biomarker testing every 3-6 months for the five years following completion of primary therapy (in addition to standard care), versus standard care alone. Model inputs and ranges were derived from expert opinion, published literature, and expert opinion. EVPI and EVSI were assessed at various willingness-to-pay thresholds. The affected population was estimated from published recurrence data over a discounted 10-year time horizon. RESULTS: At a willingness-to-pay of $150,000 per quality-adjusted life year, the biomarker strategy and standard care strategy resulted in average net-benefits of $598,000 and $600,000, respectively. The standard care strategy produced greater net-benefit in 57% of simulations. Among the 43% of simulations where standard care produced greater net-benefit, the mean difference was $133,000. With an affected population of approximately 17,000 patients, the EVPI was $2.1 billion. Preliminary EVSI estimates range from $36 to $76 million at sample sizes between 500 to 5,000 patients per arm, respectively. CONCLUSIONS: Our findings indicate that research assessing the use of breast cancer recurrence biomarkers and consequent earlier treatment could be highly valuable. The EVPI of approximately $2.1 billion represents the upper bound of the value of additional research, and is driven by the affected population, testing sensitivity and specificity, costs, and uncertainty in the choice of optimal strategy. We are currently conducting EVSI analyses for various trial designs, compared to the cost of conducting these trials. Our analysis allows decision makers to quantitatively assess and prioritize research efforts in biomarker testing for breast cancer recurrence relative to alternative research investments.

PCN11
COMPARATIVE EFFECTIVENESS RESEARCH: ERECTILE DYSFUNCTION ASSOCIATED COSTS AND HEALTH OUTCOMES IN MEN WITH PROSTATE CANCER

University of California, San Francisco, San Francisco, CA, USA

OBJECTIVES: Prostate cancer treatments are comparable in long-term outcome, but associated with different health-related quality of life (HRQOL) outcomes, including erectile dysfunction (ED). We studied influence of changes in sexual functional (SF) and bother (SB) on 3-monthly ED cost over 13.5 years and estimated predictors of ED costs across and within treatments. METHODS: Data were from CaPSURE, a national disease registry of 3,276 men with prostate cancer from 31 urology practices completing questionnaires including risk, healthcare utilization and HRQOL. SF and SB scores (0-100) were measured by UCLA Prostate Cancer Index. ED 2009 costs included drugs, vacuum erection devices and penile implants. Results were from regression models determined using age, BMI, race, marital status, risk, baseline and changes in SF/SB scores, and co-morbidities on ED costs.

RESULTS: 62% had prostatectomy(BP), 48% were low-risk, and mean age was 64.6(41.6-64.6) years. Baseline SF score was 53.8(52.8-54.8) and SB 62.0(61-63.6). Mean ED cost was highest for RP ($78.6;$71.1-$86.1), followed by Brachytherapy ($42.5;$35.8-$54.6), Radiation ($35.5;$28.5-$53.5) and watchful waiting(WW)($25.5;$24.2-$42.9). Increasing baseline SF ($0.61; p<0.001), SF decline ($30.0; p<0.001), >1co-morbidity ($72.6; p<0.001), treatment type (p<0.01), increasing age (p<0.07), being married (32.3;p<0.001), and being non-white ($133.2; p<0.001) significantly predicted ED costs. RP had 41% significantly higher costs than WW while Brachy and Radiation had $15 more. Individuals 70 and older had $32 less ED costs than <50year olds. For WW, increasing age (3.3;p<0.05) and higher BMI ($42.9; p<0.03) significantly predicted lower ED costs. For RP, higher baseline SF ($0.66; p<0.001), declining SF ($48.2; p<0.001), improved/no changes in SB scores ($19.1; p<0.001), being married ($34.9; p<0.007) and non-white ($165.2; p<0.001) significantly predicted higher ED costs. For Brachytherapy, increasing baseline SB ($6.42;p<0.001) and for radiation, higher BMI ($32.6;p<0.06) predicted higher ED costs.

CONCLUSIONS: Treatment type, age, HRQOL, co-morbidities and ED predictors differ across men with prostate cancer and the older WW group with lowest ED costs. These results can guide physicians and patients deciding on prostate cancer therapies.

PCN12
RESOURCE UTILIZATION AND PERCEPTIONS OF MAJOR MOLECULAR RESPONSE IN CHRONIC MYELOID LEUKEMIA: RESULTS OF A DELPHI PANEL STUDY

Rohli V, Quinta-Carada A, Flamm M, Lill M, Thirman M, Ravandi-Kashani F, Akard L, Talpaz M
Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA, 3Columbia University Medical Center, New York, NY, USA, 4Cedars-Sinai Medical Center, Los Angeles, CA, USA, 5University of Chicago, Chicago, IL, 6Indiana Blood and Marrow Transplantation, Beech Grove, IN, USA, 7University of Michigan Health Systems, Ann Arbor, MI, USA

OBJECTIVES: To understand factors that impact therapeutic decisions and to understand healthcare resource utilization. METHODS: A modified Delphi panel study was conducted, utilizing in-depth interviews with 16 CML-treating physicians to develop key themes and questions for testing, followed by an on-line survey to capture initial estimates. Results were discussed at a live meeting with 7 CML-treating physicians to develop consensus and complete another round of surveys. RESULTS: The major themes and consensus areas are that CML therapies are not treated in accordance with CML guidelines. An estimated (mean) 25% of patients are switched from imatinib to nilotinib or dasatinib during the first year. Community oncologists are more likely to switch treatment due to side effects, whereas academic clinicians more frequently switch for other reasons. Six panelists indicated major molecular response (MMR) is a superior endpoint to complete cytogenetic response (CCyR) with credible evidence to support that MMR provides superior protection from progression. Panelists believe that molecular monitoring is less intensive and less time-consuming and is a better predictor of