RESULTS: Average costs from admit to discharge were $7,642 in total and pharmacy was $525 (p value <.05). The geometric mean outcome rates were: death 0.8%, 2nd MI following PTCA 2.4%, revascularization procedures 3.2%, hemorrhage 8.7%, transfusion 3.4% and thrombocytopenia 1.3%. The sub-group with the highest costs and worst clinical outcomes were women, urgently admitted, > 65 years old who had renal failure, acute MI, or dysrhythmia, in descending impact.

CONCLUSION: The analyses provide a baseline to assess the future impact of a new medication on the formulary, as well as a basis to evaluate a new business agreement. The economic and clinical analyses will be repeated following the new medication’s usage, and will then be evaluated by the Center’s healthcare personnel in a group session.

CANCER

ECONOMIC EVALUATION OF CAPECITABINE-DOCETAXEL COMBINATION TREATMENT OF METASTATIC BREAST CANCER: A MICRO-SIMULATION STUDY

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OBJECTIVES: Capecitabine-docetaxel (CD) combination therapy significantly prolongs time to disease progression and overall survival, compared with docetaxel monotherapy (D). This study assessed the cost-effectiveness of CD versus D from perspective of a US health delivery organization.

METHODS: The model is based on analyses of a 2-armed, balanced, multicenter, randomized trial of CD compared with D for the treatment of advanced anthracycline-pretreated breast cancer (n = 511). Mean time to progression and mean survival were estimated using Kaplan-Meier methods. Data were collected on hospital resource use data, infusions, drug use, and number of consultations. Adjustments for QoL and cost per unit of resources were based on published data. The uncertainty in the cost-effectiveness was estimated using Monte Carlo simulation methods.

RESULTS: CD resulted in longer mean duration of treatment (129 days) than D (98 days). Patients lived an average of 80 days longer with CD and experienced 64 days longer progression-free survival. No significant differences were observed in medication use and consultations. Patients receiving CD had fewer treatment-related hospitalization days (4.8 days versus 5.5 days per patient). Because of the lower planned docetaxel dose in the combination arm (75 vs. 100mg/m²), the cumulative dose of docetaxel was 648mg in combination, compared with 847mg in monotherapy. 93% of the acquisition cost of capecitabine was offset by lower docetaxel costs for total added costs of $1,341. Cost per quality-adjusted year of life (QALY) gained with CD was $5,520. The 5th and 95th percentiles of cost-effectiveness were $4,400 and $11,600, respectively.

CONCLUSIONS: Combining capecitabine with docetaxel is cost-effective compared with docetaxel monotherapy in anthracycline-pretreated patients, by CD significantly prolonging time to progression and overall survival and lowering treatment-related hospitalization days. The results of the simulation analyses provide assurance that combination therapy is likely to be cost-effective when applied to non-trial settings.

COST-UTILITY ANALYSIS OF LHRH AGONISTS IN THE TREATMENT OF METASTATIC PROSTATE CANCER

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OBJECTIVES: We performed a pharmacoeconomic evaluation of LHRH agonists (LAs) in treating metastatic prostate cancer compared to standard care, as identified in the literature and by clinical experts, including: estrogens (DES), orchiectomy, antiandrogens (AAs), and combinations therapy (LAs + AAs).

METHODS: A Markov model was constructed to perform a cost-utility analysis (CUA) over 5 years, from a Canadian provincial healthcare payer perspective. Treatment efficacy was determined by meta-analysis of published clinical data, and utilities were derived from the literature.

RESULTS: In the base case analysis, DES was least costly ($588) but also least effective (0.52 QALYs). Orchiectomy ($830 for 0.92 QALYs), with an incremental cost-utility ratio of $615/QALY versus DES, dominated LAs ($8,116 for 0.75 QALYs) and AAs ($4,108 for 0.62 QALYs). Treatment with combination therapy was the most costly at $18,029 and the most effective (1.04 QALYs), with an expected incremental ratio
$141,220/QALY versus orchiectomy. Changes in key variables in the sensitivity analyses did not affect the ranking of the treatment strategies, suggesting that the model was robust.

CONCLUSIONS: LAs were dominated by orchiectomy in the base case analysis and most sensitivity analyses. Combination therapy displayed incremental cost effectiveness ratios over orchiectomy ranging from approximately $30,000 to over $100,000 per QALY. Orchiectomy was more effective, had fewer severe adverse reactions, and cost slightly more than DES, the least expensive treatment. However, due to potential psychological impact, further research is warranted to examine its acceptance by patients. Despite robustness, the utilities used in the model warrant further research.

CONCLUSION: Men at-risk for PC had utilities values for health states associated with treatment options intermediate between healthy men and men with cancer, supporting our hypothesis. We discuss why populations at-risk may theoretically be more congruent with Welfare Economics and the Veil of Ignorance concept than populations previously reported in the literature.

BEHIND THE VEIL OF IGNORANCE: ASSESSMENT OF PREFERENCES AND UTILITIES FROM MEN AT-RISK FOR PROSTATE CANCER

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OBJECTIVE: This study aimed to 1) assess and compare the preferences and utilities for prostate cancer (PC) health states from men at increased risk for disease to published reports of healthy men, men with PC, and physician preferences/utilities, and 2) evaluate the theoretical congruence of utility values solicited from an at-risk population with the conceptual framework for utility elicitation, Welfare Economics. Several cost-utility studies have shown little benefit for the cost of screening or treatment of asymptomatic PC. However, subjects from whom utilities were elicited in these studies were not those who would be most affected by health policy decisions. Further, several reports assessed utilities from subjects who violate certain tenets (e.g., Veil of Ignorance) of Welfare Economics.

METHODS: 81 men without PC but at increased risk for disease (defined by age, ethnicity and family history), participating in a PC Risk Assessment Program, were interviewed using the Time Trade-Off Technique. Men’s preferences and utilities for health states of impotence and incontinence associated with treatment options of PC were assessed.

RESULTS: Utility values ranged from a high of 0.8859 (SD 0.2317) for a small (10%) risk of incontinence associated with radiotherapy to a low of 0.7571 (SD 0.2802) for a high (99%) risk of impotence associated with hormones. As compared to previous reports of healthy men and physicians, men at-risk for PC in this study had a higher utility for therapies that have a higher probability of preserving quality of life, but not as high as men diagnosed with PC.

COMPARISON OF TREATMENT MODALITIES IN PROSTATE CANCER PATIENTS

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OBJECTIVE: To determine if cancer treatment choices differ for prostate cancer patients who have had other prior cancers versus those with no history of cancer.

METHODS: Study was conducted using IMS HEALTH’s LifeLink database, a U.S. employer claims database consisting of more than 1.8 million covered lives, with linked medical and pharmacy claims for employees, dependents, and retirees from 1991 forward. Patients selected for the study were newly diagnosed with primary prostate cancer between 1996–1997 and had at least one claim for a therapy of interest (drug, surgery, or radiation) following their cancer diagnosis. Differentiation of prostate cancer patients with prior cancers and those without was based on the documentation of any cancer diagnoses in the 36 months preceding their initial prostate cancer diagnosis. Patients were observed for 36 months after their diagnosis.

RESULTS: 5,569 patients met the inclusion criteria of which 2,811 had a history of prior cancer diagnoses, and 2,758 had no history of prior cancers. Prostate cancer patients with prior cancers were significantly more likely to receive chemotherapy than patients without prior cancers (p = 0.015) but were less likely to receive surgery than patients without prior cancers (p = 0.011). Among patients treated with chemotherapy, those with prior cancers were more likely to receive fluorouracil (p = 0.001), whereas patients with no prior cancers were more likely to receive methotrexate (p = 0.002). Initial treatment modalities also differed significantly (p < 0.001), with prior cancer patients more likely to initially receive chemotherapy than patients without prior cancers (p < 0.001) and significant differences in initial hormonal therapies prescribed (p = 0.024). Among patients with initial hormone therapy, those with prior cancers were more likely to initially receive dexamethasone (p < 0.001).

CONCLUSIONS: Treatment of prostate cancer differs based on patient’s history of other cancers, both in type of treatment received (drug, surgery, or radiation) and selection of hormonal and chemotherapy regimens.