OBJECTIVE: To estimate the long-term benefits of chemopreventive tamoxifen and mammography screening in women who are healthy but at high risk of developing breast cancer. Long-term benefits were defined in terms of life expectancy (LE) gains achieved through addition of chemopreventive tamoxifen (5-year therapy) to routine mammography screening.

METHOD: A Markov process with time-and-state-dependent transition probabilities was developed. Two hypothetical cohorts of high-risk women were initiated at age forty and were followed over their lifetime. The first cohort consumed tamoxifen and underwent routine mammography screening as per recommendations of the American Cancer Society (ACS). The second cohort (control cohort) did not consume tamoxifen and underwent mammography screening at rates observed in general population settings (these rates are much lower than the ones recommended by the ACS). Tamoxifen intervention was modeled based on the 5-year Breast Cancer Prevention Trial results. Data from published analyses, which investigated effects of mammography screening on breast cancer mortality, was used to model mammography screening intervention. Mortality data were obtained from life tables and other published sources.

RESULTS: Tamoxifen coupled with routine mammography screening prolonged the average survival of cohort members who started consuming the drug at age of forty by 86.14 days as compared to the control group. One-way sensitivity analysis was performed to evaluate the potential impact of each assumption on average cohort survival. Sensitivity analysis involved varying intervention-related effectiveness parameters, rates of intervention-related adverse events, compliance with intervention, and mortality rates associated with different health states in the model. For all variations, tamoxifen plus routine mammography screening group had higher average survival than the control group.

CONCLUSION: The model was found to be robust to sensitivity analysis and hence tamoxifen plus routine mammography screening can be expected to increase survival among women who are at higher risk of breast cancer.

AN INTERIM COST AND OUTCOME COMPARISON ALONGSIDE A PROSPECTIVE RANDOMIZED CLINICAL TRIAL COMPARING EARLY INTENSIFICATION WITH BONE MARROW TRANSPLANTATION (BMT) TO CONVENTIONAL DOSE CHEMOTHERAPY FOR PREVIOUSLY UNTREATED PATIENTS WITH AGGRESSIVE NON-HODGKIN’S LYMPHOMA

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OBJECTIVES: To identify and compare the costs and outcomes associated with early intensification with bone marrow transplantation versus conventional dose chemotherapy for previously untreated patients with aggressive non-Hodgkin’s lymphoma at high risk for relapse.

METHODS: Costs and patient responses (outcomes) were evaluated for the first 84 patients in this ongoing prospective randomized clinical trial. Data were compiled from November 1995 until May 2001. Patient outcomes were retrieved from the institutional Protocol Data Management System and costs were retrieved from institutional financial and administrative databases. Direct costs included hospital, clinic, pharmacy, and physician costs. Pearson chi square was used to analyze the association between costs and treatment group.

RESULTS: Forty-four patients received conventional dose chemotherapy and 40 patients received BMT. The average cost of therapy per patient for conventional dose chemotherapy was $61,515 (range $5,360 to $186,684) and the average cost per patient for BMT was $133,365 (range $11,868 to $431,248). Outcomes were categorized as complete response (n = 36), partial response (n = 35), and other (incomplete to date n = 13). Costs were categorized as low (<$45,000), medium ($45,000–$80,999), medium high ($81,000–$125,999), and high (>126,000). In the conventional dose chemotherapy group 61.1% of patients had a complete response and 38.9% of patients in the BMT group had a complete response. Costs for conventional dose chemotherapy patients were in the low to medium cost groups, and costs for BMT patients were in the medium-high to high cost groups (chi square = 29.422, d.f. = 3, p < 0.001).

CONCLUSIONS: Overall, higher costs were observed in the BMT group, and more complete responses were observed in the conventional dose chemotherapy group.

COLLECTION OF INFECTIOUS DISEASE AND ECONOMIC OUTCOMES FOR NON-HODGKIN’S LYMPHOMA AND MULTIPLE MYELOMA PATIENTS ADMITTED FOR INFECTIOUS COMPLICATIONS UTILIZING A PALMTM HANDHELD

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OBJECTIVES: To evaluate infectious disease outcomes and cost of care for lymphoma and myeloma patients admitted for infectious complications. To evaluate a Palm handheld as a tool for prospective data collection utilizing Pendragon Forms software.

METHODS: Patients admitted to the Lymphoma/Myeloma service receiving anti-infective therapy for infectious diseases were followed. Targeted outcomes were collected prospectively during hospitalization and included length of hospitalization (days), adverse events attributed to the anti-infective, febrile days (≥38.3°C),
resolution of signs/symptoms, and survival. Financial data were collected for the time of hospitalization.

RESULTS: Eleven patients have been enrolled. The average age of the patients is 57 years (range 40–80). The majority (64%) of the patients were female and 53% of the patients had lymphoma. The infection was microbiologically documented in 27%, clinically documented in 46%, and twenty-seven percent of patients had a fever of unknown origin. The average length of hospitalization was 9 days (range 3–27). One patient had an adverse event due to an anti-infective and included chills and rigors with amphotericin-B lipid complex. The average number of febrile days was 3 (range 1–8). Every patient except one had resolution of signs and symptoms of the infection. One patient died due to a viral pneumonia. The anti-infective utilized most frequently was imipenem/cilastatin. The average cost of hospitalization per patient was $22,438 (range $5,222.60–$53,398.95). The average cost of pharmaceuticals per patient was $6,947.50 (range $2,929.81–$18,642.82).

CONCLUSIONS: Infectious complications in cancer patients can produce morbidity and mortality as well as be costly. Infectious disease outcomes can easily be collected utilizing a Palm handheld.

CANCER—Economic Outcomes Presentations

RETROSPECTIVE COST ANALYSIS OF GEMZAR™ IN COMBINATION WITH CISPLATIN IN NON-SMALL CELL LUNG CANCER COMPARED TO OTHER COMBINATION THERAPIES IN GERMANY

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OBJECTIVES: Gemcitabine/Cisplatin (Gem/Cis) is a standard regime commonly used in the treatment of non-small cell lung cancer. This study uses currently available clinical trial data to evaluate the cost implications of Gem/Cis versus other combination regimes in Germany.

METHODS: Two published randomised controlled clinical trials were used for this retrospective cost analysis to evaluate and compare the cost of platinum-based combination regimes. Comella et al. (2000) compared, among others, Gem/Cis versus Vinorelbine/Cisplatin (Vin/Cis) and Schiller et al. (2000) compares Gem/Cis with Paclitaxel/Cisplatin (Pac/Cis), Paclitaxel/Carboplatin (Pac/Carbo) and Docetaxel/Cisplatin (Doc/Cis). Equal efficacy was assumed for the analysis. Resource use and unit costs associated with both treatment and toxicity management were collected from the perspective of a German sickness fund. Only direct cost (acquisition and administration of chemotherapy, hospitalisation and other medical resource use) were considered.

RESULTS: Based on the Comella et al. (2000) clinical trial, Gem/Cis was associated with lower overall costs compared to Vin/Cis (€7638 vs. €8143). The higher acquisition cost of Gem/Cis was more than compensated by lower drug administration cost (€798 vs. €1278) and fewer adverse events resulting in fewer hospitalisations (€1633 vs. €2680). Based on the Schiller et al. (2000), Gem/Cis was associated with the lowest overall costs of all first-line treatment arms, Pac/Carbo and Pac/Cis (€8.418 vs. €12.268 and €11.050). Even though the drug acquisition cost of Gem/Cis was lower than Doc/Cis, higher administration cost lead to slightly higher total cost of Gem/Cis compared to Doc/Cis (€8418 vs. €8331).

CONCLUSIONS: From the perspective of German sickness funds, Gem/Cis as first line treatment offers cost advantages over Pac/Cis and Pac/Carbo in the treatment of non-small cell lung cancer. Further research is necessary to validate these findings in a setting outside of clinical trials.

PROSPECTIVE HEALTH ECONOMIC EVALUATION OF MEDICAL CARE FOR PATIENTS WITH MALIGNANT LYMPHOMAS IN GERMANY: FIRST RESULTS

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OBJECTIVES: Data on costs of care and typical care paths for patients with malignant lymphomas in Germany are scarce. The aims of this prospective health economic survey are to identify typical clinical pathways and assess the costs and clinical benefits of different treatment settings and modalities for patients with newly diagnosed malignant lymphomas.

METHODS: The recruitment of patients for this project started in 2000 and will be continued through 2003 in the Cologne and Saarland regions, Germany. Data on resource consumption and outcomes are collected prospectively by means of a patient book and a health economic questionnaire. For the cohort of the one-year pilot phase, hospital costs and costs of chemotherapy for the first 6 months since initial diagnosis were calculated.

RESULTS: 192 patients have been recruited during the pilot phase. Of these, 22 (11.5%) were diagnosed with Hodgkin’s disease (HD), 111 (57.8%) with non-Hodgkin’s lymphoma (NHL), 36 (18.8%) with chronic lymphatic leukemia (CLL) and 18 (9.4%) with multiple myeloma (MM) (5 = 2.6% undefined). The treatment setting was as follows: 72 (43.6%) of the patients were treated in an outpatient setting, 37 (22.4%) in an inpatient setting and 56 (33.9%) in a combined inpatient and outpatient setting. 54 (33.5%) patients were treated