commonly used therapies, taking country-specific treatment patterns into account. Decision-modelling allows for comparators from Phase III trials and other treatments to be compared by using multiple sources of data.
Methods: A decision model was developed from Janssen's unpublished clinical trials for vorozole and megestrol acetate and published clinical trials for anastrozole and formestane. A modified delphi panel was carried out in each country to obtain data which was not otherwise available and to obtain country-specific treatment patterns. Cost data were obtained from databases and published sources. A Q-TWiST (quality-adjusted time without symptoms and toxicity) approach is being used for comparing treatments. Q-TWiST methodology allows for the comparision of treatments by combining the incidence and duration of symptoms and adverse events and clinical outcomes into a single score (Gelber et al, 1986; Gelber et al, 1991).
Results: Separate cost-effectiveness ratios will be calculated for each of the four countries. Sensitivity analysis will be conducted to assess the robustness of the model and the impact of key parameters on the conclusions.
Discussion: Cost effectiveness will be influenced by efficacy, the side effects profile and the cost of management of the different drug regimes. The study will determine if vorozole's longer duration of response, as demonstrated in two Phase III clinical trials, results in a more cost-effective outcome.

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PP51. Information asymmetries and strategic consequences of a prospective payment-like regulation in health care: Evidence from the twenty French cancer institutes

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Background: French public and private but non-profit hospitals have been experiencing for two years a major change in the financing mechanisms. Up to then, the financing system was roughly a retrospective payment system. Because of skyrocketting health expenditures, a prospective payment-like system based on the inventory of medical information's about patients' stays implemented in 1991 has been set up. Average costs have been calculated from inpatients and outpatients stays over a sample of 3 regional and 18 general public hospitals, 11 private non-profit hospitals and 3 cancer institutes (for the year 1995). They constitute the backbone of the payments given by the regulator on the basis of the casemix of the hospitals.
Methods: The paper uses the casemix of the twenty French cancer institutes over two years. It puts forward a unified framework in order to assess the genuine components of the (mis-)appreciation of anticancer activity by the prospective payment-like system and the actual pernicious effects entailed by such payment mechanisms.
Results: First the overall decrease in the standard deviation/average cost ratio (a proxy for costs' convergence across hospitals) computed from the said representative sample of hospitals may come from a statistical artefact. Second, despite that downward trend, a significant part of the activity of cancer institutes (up to 25%) is allocated to Diagnosis Related Groups (DRG) which are overrepresented in the casemix of cancer institutes but which value dramatically varies around the average costs. This finding means that the activity of the twenty French cancer institutes may obviously be mis-assessed. Consequently the cancer institutes are likely to prevent from detrimental effects of such a payment system by taking benefit from their own private information about the production cost and the quality of health care. They can achieve this goal either by cutting the length of stay for DRG which payment is cut (which can be considered as a cut in the health care quality), by selecting patients whose stays are classified in DRG which payment increases, or by both ways.
Discussion: The former strategy (decrease in health care quality) has already been documented as a moral hazard effect. The latter one has been described as a selection effect when the hospital actually selects patients, as DRG creep when the DRG coordinator of the Hospital uses a crafty legal codification in order to assign a patient stay to the most profitable DRG. However papers about those hospitals strategies did not cope with a specialized medical field like anticancer treatments nor dealt with French health care system. The results clearly shed light on a necessary and quick reassessment of the DRG costs involved in the treatment of cancers.

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PP52. Determinants of treatment costs for stage III and IV colon cancer patients in Latvia. Evaluation of oral treatment with Ftorafur and Ftorafur/Leucovorin

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Background: The standard treatment regimen for stage III colon cancer patients in adjuvant setting in Latvia is Fluorouracil (5FU) and Leucovorin (LV); as for stage IV patients, no standard treatment is established. The characteristic feature of chemotherapy treatment as a rule is administering of the regimen on impatient basis. Reason for such strategy is based on specific social and financial situation of the society during transitional period economy - large hospitals located in the capital and low income of patients arriving from distant regions with financial situation not allowing them to receive treatment on out-patient basis.
Methods: As hospitalization increases the costs of treatment, an investigation is being carried out evaluating oral ftorafur (FT) 600 mg/m²/d 1-28 and FT 600 mg/m²/d 1-28 + LV 20 mg/m²/d 1-28 in decreasing costs and maintaining the efficacy of treatment in stage III as well as quality of life (QoL) in stage IV colon cancer patients.
Results: First results on oral usage of FT and FT + LV have shown efficacy of both regimens comparable to that of standard treatment in stage III colon cancer. In stage IV colon cancer patients several advantages of oral treatment were seen, including reduced toxicity and improved well-being. At the same time in both stages significant decrease in costs of treatment is observed.
Conclusion. Our results as well as data from other sources lead to the conclusion that oral treatment can be used as an alternative to standard regimen; it seems to us that such treatment may serve as a base for home therapy in stage III and IV colon cancer patients.

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PP53. A quality-adjusted survival (Q-TWIST) analysis of EORTC trial 30853 comparing maximal androgen blockade (MAB) with orchiectomy in patients with metastatic prostate cancer

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Background: Prostate cancer is nowadays the first or second most common malignancy in industrialised countries for men. Although early stages of prostatic cancer may be cured by local modalities, the treatment of metastatic disease is much less satisfactory and constitutes a major problem in the management of the disease. The 'classical' data analysis of this trial indicated a significantly better time to progression and duration of survival for the group of patients who received MAB. Most frequently reported side effects for both treatment arms were hot flushes and gynecomastia, but both symptoms were more frequently reported by patients in the MAB treatment arm (Urology 42 no 2: 119-130, 1993).
Methods: The aim of this study was to re-analyse these data by applying the Q-TWIST method to obtain a summary measurement of the trade-off

between time with side effects, time to progression and duration of survival for MAB versus bilateral orchiectomy.
Results: Two hundred and ninety seven patients were included in the analysis (148 in the orchiectomy arm and 149 in the MAB arm). Based on Q-utility scores obtained using time-trade-off questions in a study by J.C. Weeks *et. al.* (J Urol, abstr in press) the mean quality adjusted survival was 40.6 and 35.4 months for the MAB and orchiectomy arms respectively. Thus the adjustment resulted in a 5.2 month difference (95% C.I. -1.1;11.5 months) in favour of MAB.
Discussion: A Q-TWIST analysis may be preferred over the classical approach in clinical trials where the health states are clearly distinct, and differ significantly either in duration or QOL or in both. Individual treatment choices may be obtained for patients using the results of the threshold utility analysis.

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PP54. Economic impact of the harmonization of practice using guidelines: The example of breast cancer surveillance

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Background : We are interested in the development of guidelines and the evaluation of their implementation in practice. A previous study on the adjuvant treatment of breast cancer measured the changes in practice induced by the implementation of a local guideline in a French cancer center. There was an increase of practice conform with the recommendations in the guideline. However the amount of non conform practice for follow-up remains significant. Our goal is to assess the economic impact of this harmonization, particularly for post-therapeutic surveillance in breast cancer.
Methods:. We performed a retrospective survey of 200 medical records from patients treated and followed in the Centre Léon BERARD, in Lyon France between 1993 and 1995. We collected the quantitative data, i.e. the number of examinations and visits during the clinical surveillance. Second, we attributed a monetary value to these physical quantities to compare the cost of follow-up conform with the guidelines and non conform follow-up.
Results: We obtained 106 usable records for a total of 2610 months of follow-up, with a median of 21.5 months per patient. Of these records, 37 met the guidelines and 69 did not (Table 1).

Table 1. Information in 106 records of patients followed up after treatment for breast cancer

	In accord with guidelines					Not in accord				
Year	1	2	3	4	Total	1	2	3	4	Total
Usable records	37	25	3	2		69	57	36	24	
Months of surveillance	median: 17				682	median: 28				1928
Mammography*	26	18	4	1	49	47	44	27	16	134
Visits*	83	44	5	3	135	169	111	68	39	687
Thoracic radiotheraphy*	2	2	0	0	4	60	37	14	10	121
Tumor markers*	8	5	0	0	13	99	75	36	11	221
Liver ultrasonography*	2	1	0	0	3	45	25	5	3	78

* : No of clinical exams

The results are being evaluated in monetary terms, and the overall costs are being analysed. We have already observed a large difference between minimal and intensive follow-up, the latter being much more costly.
Discussion : No significant difference has been showed in global survival with intensive and with minimal surveillance. Follow-up of breast cancer patients is of real economic interest from the point of view of reducing costs by decreasing the number of clinical examinations. Standardization of current practice is not necessarily synonymous with cost reduction. Other therapeutic aspects of adjuvant treatment of breast cancer are also interesting, and the next step in our project is a similar study on chemotherapy, for which results might be different in view of its importance in breast cancer, in health-care programs.

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PP55. Brain stem tumors treatment: Economical cost

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Background: Annual cancer incidence in childhood is 120 new cases per million children under 15 years of age. Tumors of Central Nervous System are, after leukemias, the most common group of malignant tumors (21%). The Brain Stem Tumors are rare in pediatric oncology (5% of all chilhood CNS Tumors) and their current prognosis is poor despite the therapeutic advances (Overall Survival 15-20%). In the last years some studies directed to evaluate the impact in the survival of these children of combined treatment (Radiotherapy + Chemotherapy) have been started.
Methods: In our Unit, in the last five years, 13 brain stem endophytic tumors have been diagnosed in children aged between 4 and 11. It has been about a not explained increment of incidence. All were diagnosed through neurologic examination and MRI. All the 13 children were treated with radiotherapy (RT Linac 55-65 Gy) and chemotherapy using chemotherapeutic agents like: Vincristine, Carboplatin, VP-16 and Cyclophosphamide. To evaluate the cost of this treatment we have used an informatic program (ICM) developed in our Unit for the control of our patient treatment costs. We have quantified the expense of chemotherapeutic agents, diagnostic and therapeutic procedures and material since the moment of the diagnosis until the end of the treatment. The admission expenses for intercurrent process conditioned by the side effects of drugs have been included too.
Results: The OS in this group of patient is 16%. The cost average per patient has been of 6410.5 $ (current change) which has represented a global cost of 83336.5 $ (current change) for all the 13 patients.
Discussion: The historic Overall Survival (OS) and Event Free Survival (EFS) of Brain Stem tumors in our Unit until that moment was of the 15% with radiotherapy treatment only. Despite the use of chemotherapy we could not have demonstrated an increment of the survival of our patients affected of brain stem endophytic tumors. However, the use of chemotherapy has represented an increment of economical cost without evidence of increments in the OS rate.
In our experience the design of therapeutic protocols should do under a strict economical control that allows to identify clearly the criterions of cost/effectiveness.

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PP56. A model of patients' preferences for chemotherapy outcomes in advanced colorectal cancer: Do gains in survival justify the toxicity?

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Background: New aggressive chemotherapy protocols have been developed recently for the treatment of advanced colorectal cancer. They show promising results, measured either as response rate, progression-free survival or overall survival. However, these results seem to be obtained at the expense of increased toxicity. As a consequence, oncologists and patients are faced with puzzling choices between a large variety of treatments, each involving a large variety of risks and benefits. The aim of this study is to show how these puzzling choices may be broken down into simpler choices, and how patients' preferences between various treatments may be predicted.