did not show significant differences over time when evaluated in the same fashion.

Table 1: Change in QOL Scores over time by Marital Status for EC Patients

	Married (N = 180)	Single (N = 31)	p value
Fatigue	−0.4	−0.6	0.64
Finance	0.4	0.8	0.36
Legal	0.2	1.1	**0.04**
Overall Emotional	0.1	0.4	0.63
Overall Mental	0.1	0.3	0.61
Overall Physical	−0.4	0.7	**0.02**
Pain Frequency	−0.9	0.6	**0.03**
Pain Severity	−0.6	0.2	0.10
Social Activity	−0.1	0.0	0.90
Spiritual	0.0	0.3	0.42
Family/Friend Support	−0.2	0.1	0.13
Overall QOL	−0.3	0.3	0.24

Positive values indicates improvement

1108 POSTER

Health-related quality of life (HRQOL) and kidney cancer-related symptoms in patients with metastatic renal cell carcinoma (mRCC) treated with sunitinib versus interferon (IFN)-alfa: results for European and US subsample analyses in a randomized, multinational phase III trial

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Background: Sunitinib malate is an oral, multitargeted tyrosine kinase inhibitor of VEGFRs, PDGFRs, KIT, RET and FLT3, with antitumor and antiangiogenic effects. In an international, randomized phase III trial, sunitinib demonstrated statistically superior efficacy and HRQOL over IFN-alfa as first-line mRCC therapy ($P < 0.001$) [Motzer et al. NEJM 2007; 356: 115−24]. Here we explore the association between geography and treatment effect on patient-reported outcomes (PROs).
Methods: 750 mRCC pts were randomized 1:1 to sunitinib 50 mg PO QD in 6-wk cycles (4 wks on, 2 wks off) or IFN-alfa (9 MU SC TIW). HRQOL was measured by the Functional Assessment of Cancer Therapy-General (FACT-G) and its 4 subscales; the FACT-Kidney Symptom Index (FKSI) and its disease-related symptom subscale (FKSI-DRS); and the population-preference-based health state utility score (EQ-5D Index) and pt self-rated overall health state (EQ-VAS) from the EQ-5D self-report questionnaire. Pts completed questionnaires on days 1 and 28 of each cycle. Data were analyzed using repeated-measures mixed-effects models for the EU+ (France, Germany, Italy, Poland, Russia, Spain, UK, plus Australia and Canada; n = 400) and US (n = 346) subsamples.
Results: The overall post-baseline least-square means significantly favored sunitinib in all 9 PRO endpoints ($P < 0.05$), except EQ-5D in the US subsample (Table). Most of the 9 FKSI-DRS items also favored sunitinib (data not shown). These findings were consistent with the overall sample results. In general, the EU+ subsample had larger between-treatment differences.

HRQOL Endpoints	EU+ Subsample		US Subsample	
	Diff.*	P value	Diff.*	P value
FKSI	3.96	<0.0001	2.29	0.0007
FKSI-DRS	2.55	<0.0001	1.26	0.0009
FACT-G total score	6.01	<0.0001	4.56	0.0002
Physical well-being	1.56	0.0005	1.12	0.0148
Social/family well-being	1.33	0.0001	0.80	0.0269
Emotional well-being	0.80	0.0197	0.64	0.0363
Functional well-being	1.97	<0.0001	1.75	0.0003
EQ-5D index (utility score)	0.05	0.0066	0.01	0.4105
EQ-VAS	4.98	0.0004	4.01	0.0224

*All results favor sunitinib.

Conclusions: Sunitinib offers consistent HRQOL and kidney cancer-related symptoms advantages compared with IFN-alfa in the first-line treatment of mRCC for pts in both Europe and the US. These advantages were more pronounced in the EU+ sample, possibly reflecting differences in treatment experience or underlying differences in HRQOL reporting.

1109 POSTER

Can the incentive system in health care create behaviour changes in patient treatment?

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(This work is part of a master of management study; economic understanding in leadership.)
The Norwegian goverment through national cancerplan St.prp nr 61 (1997−98) made available 7.3 billion NOK to a national cancerplan. One of the main goals was to increase the capacity and quality of radiation therapy to palliative patients. Norway has a incentive system in radiation theraphy where the refund is connected to each beam field. And as we know, it is common that curative treatment uses many beams and fractions while palliative treatment uses few beams and few fractions. By these facts we can suppose that it is "bad business" to treat palliative patients with radiation theraphy. But no one in Norway has estimated this exactly.
By using ABC (Activity Based Costing) analysis (method) I wanted to estimate how the costing for polyclinical palliative and curative patients (undergoing radiation therapy) corresponds to the income from the refund system.
The ABC method is quite a new system to distribute indirect costs. Kooper (1998, pp. 79−80) define ABC as; ". . . an economic map of the organizations's expenses and profitability based on organizational activities . . . An activity-based cost system provides companies with an economic map of their operations by revealing the existing and (. . .) forecasted cost of activities and business processes, which, in turn, leads to knowledge of the cost and profitability of invidual products, service, costumer, and operating units".
351 patients were included in the project. That includes 5815 patient meetings in which 24.581 beams were given. Refund was 10,226,543 NOK plus a basis payment of 2,948,484 NOK. Total 13,175,025 NOK.
The total cost was estimated at 13,189,000 NOK. This includes wages of everybody working in the department, merchandise costs, electricity, cleaning etc. (write-downs on the building, the linac and other machinery was not included because it was given by the goverment).
The results show that the department

- has an undercoverage on each (average) polyclinical palliative patient of −10,232 NOK but
- has an overcoverage on each (average) polyclinical curative patient of +18,873 NOK

The project proves the hypothesis that it is "bad business" to treat palliative patients with radiation therapy. This is the opposite of the intention in the national cancerplan.
It is likely that this system gives palliative patients poorer treatment and less possibilities than if the refund system was better for this patients. That will be the next step to look into.

1110 POSTER

Management of anaemia in patient with cancer. Results of the F-ACT Study (French Anaemia Cancer Treatment)

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Background: anaemia is one of the most dreaded complications in patients with malignant pathologies. Its causes are varied and whatever its severity, the impact on the quality of life of the patient remains essential. This is why we carried out a large national survey with the goal to assess the prevalence and the management of anaemia in patients with malignant diseases.
Methods: the F-ACT (French Anaemia Cancer Treatment) study is a retrospective observational multicentric study conducted in 178 experts among 112 centers which treat patients with solid tumours and/or malignant haematological diseases. Assessment was performed over one day for each questioned expert.
Results: a total of 2782 patients were enrolled, including 1335 women (48%) and 1447 men (52%). The median age was 61 years (range: 18−93 years). There were 1892 (68%) patient with solid tumour and 890 (27%) patient with malignant haematological disease. The main sites of cancer localization were: breast (19%), colo-rectal (14%), lymphoma

(13%), lung (12%), myeloma (6%), leukaemia (6%), prostate (6%), head and neck (6%), stomach (3%), myelodysplastic syndrome (2%), unknown primary site (2%), pancreas (1%), uterus (1%), kidney (1%), bladder (1%) and testis (1%). A the date of enrolment, the median level of haemoglobin (Hb) was 11.6 g/dl (range: 5.2−18.5 g/dl) and 44% of patient had a level of Hb < 11 g/dl. Anaemia was found in all cancer localizations and independently of the stage or the therapeutic status of the disease. Approximately 2/3 of the anaemic patients received treatment by erythropoiesis stimulating agent (ESA), combined with an oral martial treatment in 25% of cases, and 17% of them did not receive any specific treatment for this anaemia. Transfusion was required in 23% of patient: 18% in patient with solid tumours and 35% in patient with malignant haematological diseases. The median level of Hb at the introduction of the ESA was 10 g/dl. A large majority (61%) of ESA treatment was initiated when Hb level was between 9 and 11 g/dl, according to the EORTC guidelines (Bokemeyer et al, Eur J Cancer, 2007).
Conclusion: these results, compared with those reported in ECAS study (European Cancer Anaemia Survey) in 2001, seem to indicate more involvement in the management of anaemia with a higher frequent use of ESA and an earlier introduction of this type of treatment since the appearance of anaemia.

1111 POSTER

The wide spectrum of cutaneous side effects of epidermal growth factor receptor inhibitors and their treatment: experience from a digestive oncology–dermatology collaboration

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Background: Epidermal growth factor receptor (EGFR) inhibitors provoke a unique array of class-specific cutaneous side effects. EGFR inhibitor skin toxicity other than acneiform eruption is not so well known. There is a clear need for a better description of these skin effects in order to achieve a reliable classification and effective treatment regimens.
Materials and Methods: Based on the experience of a digestive oncology – dermatology department collaboration in more than 250 patients, we describe the different kinds of cutaneous side effects elicited by EGFR inhibitors (cetuximab, panitumumab, matuzumab, gefitinib and erlotinib). Furthermore we depict them in clinical photographs as well as the results of dermatological treatment.
Results: An acneiform papulopustular eruption of the seborrhoeic skin areas, sometimes with Staphylococcus aureus superinfection, is seen in more than 80% of patients, especially in the first 3−4 weeks of treatment. Hyperkeratotic crusting of the scalp, seborrhoeic dermatitis-like and fulminant rosacea-like variants are observed more rarely. Telangiectasia may accompany the skin rash. Skin dryness leading to fissures and eczema is another feature. Mucosal involvement with conjunctivitis, vaginal dryness, oral aphtae or geographic tongue may also occur. During longer treatment nail fold inflammation with pyogenic granuloma formation, hair changes (trichomegaly of the eyelashes, facial hypertrichosis) and hyperpigmentation (with darkening of solar lentigines) may arise. After treatment for years, small translucent papules may appear on the nose and the cheeks. Satisfactory treatment results for acneiform eruption are obtained with topical metronidazole and oral minocycline (high dose and saline compresses for severe cases).
Conclusion: EGFR inhibitor skin toxicity has many faces but can be treated effectively in the vast majority of cases.

1112 POSTER

Psychosocial problems among patients with different types of cancer before and after their radiation treatment

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Background: The aim was to determine differences in the prevalence of psychosocial problems in patients with three types of cancer at different time points.
Materials and Methods: Patients with lung, prostate and breast carcinoma received the Screening Inventory of Psychosocial Problems (SIPP) as a standard procedure before and after their radiation treatment (RT) to determine their distress levels. The SIPP is a 24 item, self-administered checklist to identify and recognize psychosocial problems in cancer patients in order to facilitate adequate referral to psychosocial caregivers. Patients can indicate on the SIPP which problems they experience. On the basis of these data the physician can decide to refer the patient to a psychosocial caregiver. Data were retrospectively analyzed, along with demographical and medical information.
Results: The SIPP was completed before, and at two points after treatment by 482, 267 and 113 patients respectively. Prevalence (%) of patients with distress for different patient groups and time points are shown in the table below.

Prevalence (%) of patients with distress for different patient groups and time points.

	Lung cancer	Breast cancer	Prostate cancer
Before RT	63%	60%	34%
Four weeks after RT	49%	57%	24%
One year after RT	33%	61%	27%

Except for breast cancer patients, distress decreases over time. Furthermore, distress was significantly more common among women, patients aged 50 years and below, patients with involved lymfnodes and patients who received chemotherapy as compared to their counterparts. Thirty-six percent of the patients with distress before RT who were referred to a psychosocial caregiver did not show distress four weeks after RT. Educational level, extent of the tumor, metastases (except before RT) and WHO-score (except before RT) were not significantly associated with distress.
Conclusions: Distress is very common in cancer patients and varies from 24 to 63%. As expected, distress was more prevalent in patients with lung cancer and breast cancer, perhaps because of worse prognosis and/or more physical complaints and toxicity of treatment. As expected, referral to a psychosocial caregiver may decrease distress. Still 64% of the patients remained distressed four weeks after RT.

1113 POSTER

Brief instrument to identify information preference groups in cancer patients: a latent-class analysis

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Background: In order to facilitate their adjustment to illness, cancer patients (CP) have demonstrated their desire for detailed information on a range of health issues. Indeed, a growing body of literature suggests that CP who are more informed are likely to experience better psychosocial health outcomes. However, patients are often unable to adequately satisfy their health information needs as they often lack success to such information. In this study, a latent-class analysis (LCA) is used firstly, to identify groups of CP who share similar preferences towards their desire for cancer-related information and secondly, to determine the probability of preference-group membership by means of only one question per group. Thus, physicians could be supported to meet the different information needs of CP more easily and time economically.
Methods: A cross-sectional survey was administered to 710 CP, who had been inpatients at the University Hospital Cologne (response rate 49.5%). To measure CPs' desire for cancer-related information we developed a dichotomous (yes/no) 23-item scale and asked, if they would have liked more information about medical information from the physician, social questions and about methods for health promotion. LCA was conducted with "Latent Gold 4.0" software and fit indices like BIC and AIC were applied.
Results: LCA identified a 5-class model: Class 1 (31.4%) had nearly no information desires (ID); class 2 (27%) had moderate desires for information given by physician regarding findings and treatment options as well as high ID about health promotion; class 3 (16%) had only a high desire for information given by physician regarding findings; class 4 (13.6%) had moderate desires for information given by physician regarding findings and treatment, moderate ID regarding social questions and health promotion. Finally, class 5 (12%) had moderate ID regarding social questions and health promotion. Physicians can identify these 5 classes asking not more than 5 questions, which show high identification probabilities for nearly