to enrollment. HRU data associated with SREs (spinal cord compression, surgery to bone, pathologic fracture or radiation to bone), as attributed by investigators, were collected retrospectively for 90 days prior to enrollment and prospectively for up to 18−21 months. HRU included number and length of inpatient hospitalisations, outpatient visits, emergency room visits, nursing home/long-term care facility stays, home health visits, procedures and certain medications. These data are from centres in Germany, Italy, Spain and UK.

Results: Of the 631 European patients 223 (35.3%) had a primary diagnosis of BC, 135 (21.4%) LC, 120 (19%) PC and 153 (24.3%) MM. There was limited variation in HRU across tumour types (Table) although HRU varied by country (ranges) due to different treatment approaches.

Cancer type (SREs)	BC (457 [47–180])	LC (214 [31−63])	PC (222 [34−97])	MM (281 [43–109])
% of SREs requiring inpatient hospitalisation	23–27.8	29–47.6	20.6–29.1	33.3–41.9
Length of stay per SRE, days (SD)*				
Mean	12.9 (12.3)–	16.4 (11.3)–	16.3 (11.2)–	16.5 (10.9)–
Median	27.2 (24.8)	20.1 (14.2)	25.9 (14.3)	25.5 (36.4)
	8.0–17.0	17.0–20.0	15.0–21.0	11.5–14.5
% of SREs requiring outpatient visits	68.1–82.0	58.3–83.9	74.5–82.4	60.5–71.2

*SREs with inpatient hospitalisation; ranges are for intercountry variation

The least common SRE requiring hospitalisation, radiation to bone (BC 6.9–11.4% of 279 events; LC 20.8−50% of 140 events; PC 4.5–23.3% of 166 events; MM 6.7–17.9% of 107 events), was still associated with mean in-patient length of stays ranging 2.0–29.9 (16.2) days across all tumour types and countries.

Conclusions: SREs can lead to lengthy hospitalisations and outpatient visits in patients with bone metastases/lesions. Although HRU was generally similar across tumour types, there is a trend to a higher percentage of SREs requiring hospitalisation in LC and MM. Preventing SREs across all cancer patients is important to substantially reduce the burden of hospitalisation for patients and of costly HRU across European healthcare systems.

3614 POSTER

HRQoL in Different Health States of Colorectal Cancer

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Background: This study was conducted to assess the health-related quality of life (HRQoL) for different health states in colorectal cancer (CRC) and to explore factors determining HRQoL as well as to compare different HRQoL instruments.

Material and Methods: An observational cross-sectional study among CRC patients in the Helsinki and Uusimaa hospital district was carried out between September 2009 and December 2010. A total of 502 CRC patients (aged 26−96; colon cancer 56.4%; female 46.8%) assessed their HRQoL with the generic 15D and EQ-5D and the cancer specific EORTC-QLQ C30 questionnaires.

Patients were divided into five mutually exclusive groups based on disease state: baseline before treatment, 1st year after diagnosis or recurrence, 2nd or following years of remission, metastatic disease and terminal care. Linear stepwise regression analysis was used to evaluate the association between the VAS score and clinical and demographic factors and the EORTC scales for symptoms and functioning.

Table 1. The mean HRQoL scores of the CRC patients in different health states

	Baseline (n = 51)	1st year (n = 87)	Remission (n = 212)	Metastatic disease (n = 110)	Terminal care (n = 42)
15D score	0.890 (0.091)	0.879 (0.099)	0.885 (0.106)	0.860 (0.090)	0.756 (0.143)
EQ-5D index value	0.764 (0.228)	0.829 (0.203)	0.849 (0.205)	0.824 (0.194)	0.644 (0.307)
EORTC C30 Global Health Score	65.84 (21.61)	72.89 (20.61)	75.31 (22.11)	68.96 (20.72)	55.15 (19.90)
VAS score	69.40 (21.52)	75.75 (19.73)	78.82 (18.10)	74.44 (17.81)	58.09 (22.14)

Results: The 15D provided the highest utility values, whereas EQ-5D, VAS and EORTC Global Health were lower in each state. Utility scores provided by EQ-5D, VAS and EORTC C30 improved after diagnosis and were highest in the remission state whereas 15D scores were highest in the baseline state (Table 1). Largest differences between the instruments were seen in baseline and terminal care states. Most 15D dimensions deteriorated with advancing severity of disease with most marked decline seen in “usual activities”. In regression analysis poor HRQoL measured by VAS was significantly associated with female sex, dysponea, fatique and diarrhea while emotional and role functioning predicted better scores.

Conclusions: CRC has clear impact on patients’ HRQoL. The effect is most evident within baseline and terminal care patients, but results vary between HRQoL instruments. Regression analysis showed that female sex, symptoms and functional capacity have more impact on HRQoL than clinical factors.

3615 POSTER

A Pharmacoeconomic Model of Personalized Chemotherapy for Primary Breast Cancer Based on Cross-activity Analyses Using an Ex Vivo Chemosensitivity Assay

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Background: During the last two decades, the costs of chemotherapy (Ctx) for primary breast cancer (PBC) have been dramatically increased mainly due to the use of expensive drugs. It is unclear however, which individual patient (pt) is likely to befit from such a Ctx compared to a less expensive one. We therefore developed a pharmacoeconomic model of personalized Ctx for PBC using the results of cross-activity analyses of standard Ctx regimens (Ctx-R) in the *ex vivo* ATP-based chemosensitivity assay (ATP-TCA).

Methods: Eight Ctx-R were studied in a total of 96 native PBC samples: epirubicin (EPI); mitoxantrone (MXN); paclitaxel (PCT); docetaxel (DCT); CMF, 4-OH-cyclophosphamide (4-HC)+methotrexate (MTX)+5-fluorouracil (5-FU); EC, EPI+4-HC; ET, EPI+PCT; NT, MXN+PCT. Each Ctx-R was tested at a 1.5 log dose range. Using a semiquantitative score, the individual chemosensitivity was classified as complete, incomplete, or resistance. Eight head-to-head comparisons were made: CMF vs EC, n = 56; CMF vs PCT, n = 49; CMF vs DCT, n = 34; EC vs PCT, n = 51; EC vs DCT, n = 35; EC vs ET, n = 45; ET vs NT, n = 24; PCT vs DCT, n = 34. For every comparison, the assumed cost reduction if using ATP-TCA directed Ctx was calculated for the tested population in regard to the German prices of both Ctx and supportive medication and the costs for the ATP-TCA, as well.

Results: CMF was at least equal to EC in 47 (84%), to PCT in 37 (76%), to DCT in 29 PBCs (79%). EC was at least equal to PCT in 41 (80%), to DCT in 28 (80%), and to ET in 28 PBCs (62%). NT was at least equal to ET in 19 PBCs (79%), and PCT was at least equal to PCT in 27 PBCs (80%). The calculated potential cost reduction by personalized ATP-TCA directed Ctx ranged between € 457 (PCT vs DCT) and € 18.847 (CMF vs DCT) per treatment. Regarding the whole study population, the potential cost reduction ranged between € 2.550 (PCT vs DCT) and € 611.819 (CMF vs DCT). Assuming a total of 30.000 newly diagnosed PBC pts per year subjected to Ctx in Germany, the extrapolation of our data would lead to a potential yearly cost reduction of around 75–240 million € if every pt would receive personalized chemotherapy.

Conclusions: Our results are in good agreement with clinical studies showing that novel Ctx-R will benefit only a limited proportion of PBC pts. Systemic analyses using biological methods like the ATP-TCA could help to identify individual pts who are likely to benefit from costly Ctx whereas the remainder could be equally subjected to less expensive or less toxic Ctx-R. Depending on the particular comparison made in this study, the use of ATP-TCA based personalized Ctx could lead to a considerable cost reduction in the treatment of PBC.

3616 POSTER

The Relationship Between Volume or Surgeon Specialty and Outcome in the Surgical Treatment of Lung Cancer − a Systematic Review and Meta-analysis

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Background: Whether improvement of quality and increased cost-effectiveness of surgical cancer care can be achieved by centralising care