responsiveness to change particularly in oncology. Therefore the objective of this study was to compare the responsiveness (loss of productivity due to premature cancer-related mortality) across cancer sites. A systematic review identified relevant articles reviewing responsiveness of the EQ-5D in adults (EMBASE, Medline). Effects sizes (ES) were calculated for the studies identified where not already reported. A meta-analysis was undertaken of the effect sizes. homogeneity of variance was assessed (fixed effects) and random effects models applied where there was significant heterogeneity. Responsiveness was also compared for improvement/deterioration in health status. Analyses were conducted in SPSS (v.20). The results of death (12 of the 14 references, as well as ovarian, lung and renal cancerals) each with EQ-5D data at a minimum of 2 time points leading to a total of 45 entries. The overall unweighted ES was -0.26 (95%CI: -0.31 to -0.21), however there was significant heterogeneity in terms of effect sizes. Reproducibility (parallel) was assessed (Q=0.07, p<0.001) which was accounted for using the random effects model (Q=44. 95%CI: -0.33 to -0.01). The overall weighted ES for improvement was 0.08 (95% CI: -0.02 to 0.18), and -0.52 (95%CI: -0.64 to -0.41) for deterioration. There was considerable heterogeneity in the reported effect size of the EQ-5D. Responsiveness of the EQ-5D in oncology trials as measured by effect sizes is modest at best. The instrument appears to be more sensitive to deterioration in health status than to improvements. Further work will explore the ES of the EQ-5D in comparison with responsiveness which appears to be more sensitive to deterioration in health status than to improvements.

CA2

THE BURDEN OF CAREGIVING IN CANCER: THE STATUS OF CLINICAL RESEARCH

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OBJECTIVES: The responsibility of caring for cancer patients, often suffering from a magnitude of health problems, can result in a considerable burden for their caregivers, both physically and psychologically. The objective of this study was to assess the status and evolution of clinical research into the burden of caregiving for cancer patients.

METHODS: Clinical Trials.gov was searched for all cancer trials that considered caregiver burden, using a matrix of search terms such as ‘caregiver’, ‘burden of care’, ‘caregiver’, ‘caregiver burden’. Out of trials assessing caregiver burden, the outcome measures used and the proportion of trials including caregiver burden as an outcome over time were investigated.

RESULTS: From a total of 36,184 cancer-focused trials documented worldwide (1999-2012), 57% (21,067) included caregiver burden. Amongst these trials 14% (3,037) reported caregiver burden at baseline and 5% (1,057) at follow-up.

CONCLUSIONS: While the growing importance of caregiver burden is being recognised, there is considerable heterogeneity in the reported effect size of the EQ-5D. Responsiveness of the EQ-5D in oncology trials as measured by effect sizes is modest at best. The instrument appears to be more sensitive to deterioration in health status than to improvements.

C01

INCREMEI NTAL COST PER QUALITY-ADJUSTED LIFE YEAR GAINED? THE NEED FOR ALTERNATIVE METHODS TO EVALUATE MEDICAL INTERVENTIONS FOR ULTRA-RARE DISORDERS

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OBJECTIVES: To assess the economic burden of cancer by estimating years of potential life lost (YPLL) due to premature cancer-related mortality across Europe. METHODS: We derived the number of cancer deaths by sex for 23 of the most common cancer sites in 30 European countries from GLOBOCAN. YPPLL were calculated by multiplying the number of cancer-specific deaths in 2008 (104-16) by standardised expected YPPLL at the mid-point for each age group. Using the human capital approach, we multiplied standardised YPPLL for each individual by country- and gender-specific annual wage rates age of death, and cost of lost productivity per working life year.

RESULTS: All cancer sites combined generated a total of €150.9 billion in premature mortality costs in Europe in 2008. Western European countries accounted for almost half of the total; followed by Northern (21%), Southern (21%) and Central & Eastern Europe (9%). Findings contrasted with YPLL where Central & Eastern Europe had the highest burden: Male costs exceeded female costs by 88% in Europe as a whole (male: €98.4 billion, 52.5 billion; female: €71.5 billion, 47.6 billion). The most expensive site (€34.7 billion, 23% of total costs), followed by breast cancer (€13.6 billion, 9%), colorectal cancer (€12.1 billion, 8%), brain & CNS (€9.1 billion, 6%) and pancreatic cancer (€7.5 billion, 5%). According to premature mortality cost per death, allowed by brain & CNS cancer (€481,512) and Hodgkin lymphoma (€474,559).

CONCLUSIONS: Lost productivity costs due to cancer-related premature mortality are significant in Europe. Productivity costs provide an alternative perspective on the cancer burden on society and may inform cancer control policy decisions.

C03

THE MULTIMODEL ENSEMBLE APPROACH TO REDUCING STRUCTURAL UNCERTAINTY IN DECISION ANALYTICAL MODELLING

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Decision analytical modelling represents an essential tool for undertaking health economic evaluation. Markov models provide a mathematical framework for such analyses, particularly in the context of assessing the cost-effectiveness of treatments for chronic diseases where economic outcomes are typically extrapolated beyond the duration of clinical trials. However, structural uncertainty is a key challenge, to methodologists and decision makers alike, that has hitherto attracted minimal attention. This study describes the development and testing of the performance of alternative modelling approaches or conducting scenario analyses. It should be recognised, however, that structural differences in model representation are strongly dependent on the underlying assumptions of the testing process and in future such as climate modelling, multi-model comparisons and ensemble predictions have been used extensively as the basis for more robust policy decisions. Methods for combining models represents an emerging field in climate modelling, but an unknown approach is to extend all models equally and the expected performance of model predictions has been shown to improve on the 'best' model predictions in numerous studies. A weighted multi-model approach may also be developed, but this remains an issue of ongoing debate, yet, economic analysts have not fully embraced the potential of the multi-model paradigm to improve structural uncertainty. In this work,