

data in oncology – the majority of appraisals did not consider utility data in line with the NICE reference case. Even where the reference case was adhered to, often data did not come from trials of the intervention being appraised. This will introduce obvious uncertainty when evaluating the impact of the intervention on QALYs.

## PCN144

## ACCESS TO CANCER INTERVENTIONS ACROSS THE UK: TO WHAT EXTENT DOES SMC ADVICE AGREE WITH NICE'S END-OF-LIFE THERAPIES?

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**OBJECTIVES:** In January 2009, the National Institute for Health and Clinical Excellence (NICE) introduced the end-of-life criteria, which give more weight to QALYs for life-extending, end-of-life interventions. Since then, a number of therapies have been recommended by NICE under these criteria that may not have been approved otherwise. However, it has not been ascertained whether this increase in access to important cancer treatments has been mirrored in Scotland. The aim of this study was to review the advice of the Scottish Medicines Consortium (SMC) on the end-of-life interventions approved by NICE. **METHODS:** All NICE single technology appraisals on cancer treatments issued between December 2008 and June 2012 were reviewed. All interventions that were approved under the end-of-life regulations were identified, and NICE's acceptance was compared with the advice given by the SMC. **RESULTS:** In total, 9 cancer interventions were approved under the end-of-life criteria, all of which had also been submitted for similar indications to the SMC. Only 2 of these therapies were accepted for full use by the SMC, both after resubmissions including patient access schemes (PAS). Of the remaining 7 interventions, 3 were not recommended by the SMC, and in 2 of these cases this was stated to be due to a lack of sufficiently robust economic evidence. The other 4 treatments were accepted for restricted use; 2 of these after resubmissions and 1 with a PAS. **CONCLUSIONS:** Of the 9 cancer interventions approved by NICE under the end-of-life criteria, 3 were not recommended by the SMC, and 4 out of the remaining 6 were only accepted after resubmissions. The introduction of the end-of-life criteria by NICE may therefore have contributed to differences in access to cancer interventions within the UK, a trend potentially further exacerbated by the introduction of the Cancer Drugs Fund in England.

## PCN145

## OBSERVATIONAL MACRO ANALYSIS ON THE AGGREGATED CIGARETTE PRICE ELASTICITY IN DENMARK 1978-2010

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**OBJECTIVES:** Tobacco smoking is the leading cause of early death and morbidity in the Western World. The causal association between smoking and a range of cancers, heart disease and chronic obstructive lung disease is well-established. Numerous publications show that increased tobacco prices leads to lower tobacco consumption. The aim of this study is to show the aggregated price elasticity between sale of cigarettes and price on cigarettes in Denmark from 1978 to 2010. **METHODS:** Data on the price of cigarettes is from Statistics Denmark table PRIS1 (1978-2000) and PRIS6 (2000-2010). The price index of cigarettes was deflated with the consumer price index. Data on sale of cigarettes in Denmark is from Statistics Denmark table ALKO4. Price elasticity was estimated with OLS regression. Data were analyzed in SAS version 9.2. **RESULTS:** The real price of cigarettes has decreased in Denmark between 1978 and 2010. The estimated crude aggregated price elasticity for cigarettes in Denmark from 1978-2010 -0.4 (p 0.015) which is in line with results for other countries. **CONCLUSIONS:** The price on cigarettes is a tool to regulate the consumption of cigarettes. A tool that have not yet been used in Denmark where there have been a decrease in the real price of cigarettes. Studies have shown that especially youth and lower income groups have high price elasticity on tobacco goods. These groups can be hard to reach with other prevention measures. An increase in tobacco taxation especially if done across Europe and with increased police effort to stop smuggling and contraband cigarettes could be a way to lower the population's tobacco consumption.

## PCN146

## TRENDS IN COMPUTED TOMOGRAPHY USE IN CANADA: LOW-DOSE IONIZING RADIATION AND THE POTENTIAL RELATED CANCER RISK

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**OBJECTIVES:** To estimate trends in medical Computed Tomography (CT) use and associated radiation exposure in Canada, we assessed the annual effective dose from CT scans, and estimated the potential related cancer risk. **METHODS:** CT examinations in Canada have increased over 400% since 1994 to approximately 4.4M scans annually in 2010. Despite the medical benefits, there is concern regarding radiation-related cancer risk. We developed a mathematical model to estimate the annual effective dose, and potential cancer risk in Canada from CT, by year, age, sex, and type of CT exams. **RESULTS:** From 1994 to 2010, CT examinations increased from 38 to 127 per 1,000 population (7.8% annual increase). Abdominal/pelvic CT had the largest annual increase at 10.3%, a five-fold increase in scans, whereas brain and spine scans grew two-fold. The average effective dose per CT scan went up from 6.1 mSv to 7.1 mSv. The mean per capita effective dose increased four-fold, at 8.5% annually, from 0.23 mSv to 0.90 mSv. In 2010, males and females ages 65+, had annual doses of 3.2 mSv and 2.5 mSv per capita, respectively. In the base-case scenario, the potential incidence of radiation induced cancer was estimated at 2.9 cases per 10,000 population. Extensive sensitivity analyses have been performed. The risk of cancer in males 65+ was 2.9 times greater than for males 40-64. The risk in females 65+ was 2.2 times greater than for females 40-64.

The risk in males 65+ was 29% higher than in females 65+. **CONCLUSIONS:** For many patients, the potential benefits of CT scans outweigh foreseeable carcinogenic risk. Substantial increases in CT technology utilization and recent studies linking low-dose ionizing radiation to cancer suggest it would be sound policy to lower patient exposure to ionizing radiation and informing patients about the potential risk.

## PCN147

## A CROSS EUROPEAN COMPARISON OF ERIBULIN REIMBURSEMENT DECISIONS

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**OBJECTIVES:** Eribulin mesylate (Eisai, Japan) was approved by the European Commission in March 2011 for the treatment of locally advanced or metastatic breast cancer in patients who had progressed after at least two chemotherapeutic regimens. The approval, which was granted through the centralised process, was based on results of the Phase III EMBRACE Trial which demonstrated a statistically significant increase in overall survival (OS) for the eribulin study arm versus the "treatment of physician's choice" (TPC) arm. This study aims to discern how reimbursement bodies in key European countries have assessed the drug, with its high price, since its approval. **METHODS:** We reviewed the reimbursement guidance on eribulin in key European markets and determined whether the decisions were positive or negative, and how those decisions reflect different weightings of clinical versus economic (or other) evidence in the assessments. **RESULTS:** German authorities concluded that eribulin had additional benefits over existing therapies, despite an initial negative decision by IQWiG, allowing Eisai to enter pricing negotiations. The Italian Medicines Agency and France's Transparency Commission both positively recommended the drug for approval in January 2012 and October 2011 respectively. The UK's NICE as well as the Scottish Medicines Consortium (SMC) rejected eribulin in April 2012 and October 2011 respectively. **CONCLUSIONS:** Despite eribulin's centralised approval process, reimbursement decisions on the drug have varied widely among European countries. Although there has been movement towards greater alignment between European reimbursement agencies regarding funding decisions, this still has not come to pass as the Eurozone's financial crises threaten to further stymie reimbursement decision harmonisation. The positive assessments highlight the clinical efficacy of the drug and strength of the clinical evidence, though questions remain over the economic case.

## PCN148

## REVIEW OF NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE (NICE) RECOMMENDATIONS FOR ANTI-CANCER AGENTS ACROSS MULTIPLE DRUG-INDICATION COMBINATIONS

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**OBJECTIVES:** To characterize final NICE recommendations for anti-cancer agents indicated for 15 selected cancers, over time. **METHODS:** The analysis was based on a review of 58 drug-indication assessments, representing solid tumor and hematological cancers, published on NICE's website (January 2001–March 2012). From each assessment, we extracted the manufacturer's initial submission base case incremental cost-effectiveness ratio (ICER), inclusion of a patient access scheme (PAS), application of end-of-life (EOL) consideration, and final NICE decision. **RESULTS:** Average manufacturer base case ICER increased over time, and the percentage of drugs not recommended increased from 0% in 2001 to 54% in 2011. Across all years, NICE recommended 62% (36/58) drug-indication combinations. Among these, 14% (5/36) included a PAS only, 11% (4/36) satisfied EOL criteria only, and 22% (8/36) included both a PAS and satisfied EOL criteria. Seventy-two percent (26/36) had a manufacturer base case ICER ≤ £30,000, of which 27% (7/26) included a PAS with the initial submission, resulting in a base case ICER ≤ £30,000. Of the 10 recommended drug-indication combinations with a manufacturer base case ICER > £30,000, 5 included a PAS with the initial manufacturer submission and another 3 satisfied EOL criteria only. Additionally, 11 drug-indication combinations included a PAS with initial manufacturer submission, of which 4 satisfied EOL criteria, but none were recommended. **CONCLUSIONS:** Over time, manufacturer base case ICERs > £30,000 have become more common, although NICE is more likely to recommend cancer drugs if the base case ICER is < £30,000. Drugs with a base case ICER > £30,000 are recommended, typically, when the manufacturer and NICE reach an agreement to reduce cost of treatment through a PAS or when the cancer drug satisfies EOL criteria. Nevertheless, inclusion of a PAS with the initial manufacturer submission does not guarantee a positive recommendation.

## PCN149

## UNCERTAINTY REGARDING NICE'S END-OF-LIFE SMALL PATIENT POPULATION CRITERIA

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**OBJECTIVES:** Evaluate how NICE applies the small patient population criterion (EOL-SPP) of its End-of-Life (EOL) supplemental advice and confirm whether or not it applies this criterion to currently licensed indications only. **METHODS:** NICE's website was searched for cancer drug single technology assessments (STA) from January 2009 to May 2012. Only those assessments where EOL considerations applied were selected for further evaluation. Each STA was evaluated on how NICE used the EOL-SPP criterion. **RESULTS:** We identified 25 STAs for which EOL advice was given for 29 anti-cancer agents, including guidance on one final appraisal