OBJECTIVES: To investigate the prevalence of potentially inappropriate medication prescribing (PIP) among elderly residents in Regione Emilia Romagna (RER), Italy and to examine factors associated with having PIP. METHODS: We conducted a retrospective cohort study using the 2001 outpatient prescription claims RER database. We linked individuals in this database with information (age, gender, and other variables) available from a demographic file of approximately 1 million elderly RER residents. The cohort comprised 849,425 subjects 65 years or older, who had at least one drug prescription during the study period. PIP was defined as having a prescription claim for a medication not recommended by the 2001 Beers list, and patients with all allergies (OR, 1.35; 95% CI, 1.01–1.79), asthma (OR, 1.71; 95% CI, 1.09–4.33), or anxiety (OR, 1.60; 95% CI, 1.23–2.57), were more likely to make switching requests. CONCLUSIONS: Patients' switching requests were associated with health beliefs, race, health status, and attentiveness to DTC advertising.

HP4

POTENTIALLY INAPPROPRIATE MEDICATION PRESCRIBING FOR ELDERLY AMBULATORY PATIENTS IN REGIONE EMILIA ROMAGNA, ITALY

Maslo Y1, Yuen Ej, Novielli KD, Rabinowitz C, Louis DZ
Jefferson Medical College, Philadelphia, PA, USA

OBJECTIVES: To investigate the prevalence of potentially inappropriate medication prescribing (PIP) among elderly residents in Regione Emilia Romagna (RER), Italy and to examine factors associated with having PIP. METHODS: We conducted a retrospective cohort study using the 2001 outpatient prescription claims RER database. We linked individuals in this database with information (age, gender, and other variables) available from a demographic file of approximately 1 million elderly RER residents. The cohort comprised 849,425 subjects 65 years or older, who had at least one drug prescription during the study period. PIP was defined as having a prescription claim for a medication not recommended by the 2001 Beers list, and patients with all allergies (OR, 1.35; 95% CI, 1.01–1.79), asthma (OR, 1.71; 95% CI, 1.09–4.33), or anxiety (OR, 1.60; 95% CI, 1.23–2.57), were more likely to make switching requests. CONCLUSIONS: Patients’ switching requests were associated with health beliefs, race, health status, and attentiveness to DTC advertising.

CITATION

VALUE-FOR-MONEY OF PEMETREXED PLUS CISPLATIN VERSUS CISPLATIN ALONE IN THE TREATMENT OF MALIGNANT PLEURAL MESOTHELIOMA

Daviey P1, Cordony A1, Rajan N2, Arora B2, Pavlakis N3
1Medical Technology Assessment Group Pty Ltd, Sydney, NSW, Australia; 2Eli Lilly Australia Pty Ltd, Sydney, NSW, Australia; 3Royal North Shore Hospital, Sydney, NSW, Australia

OBJECTIVES: To determine the value-for-money offered by pemetrexed (Alimta) plus cisplatin therapy for patients with malignant pleural mesothelioma (MPM), relative to cisplatin monotherapy, in Australia. MPM is an uncommon, locally invasive and rapidly fatal malignancy. There is currently no other drug reimbursed by the Australian National Formulary specifically for the treatment of mesothelioma. METHODS: A comprehensive literature search revealed one randomised head-to-head trial of pemetrexed plus cisplatin therapy versus cisplatin monotherapy (N = 448), by Vogelzang et al. (2003). Median survival for the intention-to-treat (ITT) population was 12.1 months for the pemetrexed plus cisplatin arm versus 9.3 months for the cisplatin arm (hazard ratio = 0.77, p = 0.020). Although there was greater toxicity with the combination regimen, quality of life was not negatively impacted. Mean survival time for each treatment arm was estimated from Kaplan-Meier survival curves. Resource use was applied as per the trial and costed accordingly. Study drug utilisation, concomitant medications, supplementary medication (dexamethasone, folinic acid, and vitamin B12), post-study chemotherapy, and care for serious and treatment-emergent adverse events were costed. RESULTS: Patients received a mean of 4.7 treatment cycles in the pemetrexed plus cisplatin arm, and 4.0 cycles in the cisplatin monotherapy arm. The combination therapy required more supportive care for toxicities.

COST-EFFECTIVENESS OF ONCE WEEKLY EPOETIN ALFA AND DARBEPOETIN ALFA IN TREATING CHEMOTHERAPY-INDUCED ANEMIA

Ben-Hamadi R1, Duh MS2, Aggarwal J1, Henckler A1, McKenzie S1, Fastenau J1, Piché CT1
1Analysis Group Inc, Boston, MA, USA; 2Ortho Biotech Clinical Affairs LLC, Dallas, TX, USA; 3Ortho Biotech Clinical Affairs LLC, Bridgewater, NJ, USA

OBJECTIVES: To analyze the comparative cost effectiveness of epoetin alfa (EPO) and darbeopoeitin alfa (DARB) based on the FDA-approved doses for EPO (40,000 Units/week) and DARB (2.25 mcg/kg/week) for the treatment of chemotherapy-induced anemia (CIA). METHODS: Clinical results were drawn from two randomized, double blind, placebo-controlled phase III registration trials (EPO, N = 344 patients, JCO Sep 27, 2004 [Epub ahead of print]; DARB N = 320 patients, JNCI 2002 94:1211–20; abstract 981 Eur J Cancer 2001 37, Suppl 6: 264). Effectiveness was based on the red blood cell transfusion rate between Week 5 and the end of Week 12 and was standardized as the difference in transfusion rates between the active drug and the respective placebo, divided by the transfusion rate for the placebo. Estimated costs were presented in 2004 USD and included drug, physician services, transfusions, laboratory, and patient opportunity costs. Cost-effectiveness was calculated as average cost divided by transfusion effectiveness. Threshold analysis was conducted by finding the break even point at which EPO and DARB have the same total cost and cost-effectiveness ratio, respectively. RESULTS: Estimated total cost over 12 weeks was $7,618 for EPO and $10,857 for DARB, with drug cost representing 85% and 89% for EPO and DARB, respectively. Relative to placebo, the standardized transfusion effectiveness was 65% for EPO and 48% for DARB, resulting in an average cost effectiveness ratio of $117 for EPO and $226 for DARB. A 33% (or 54%) reduction in DARB dose or price would be needed to equalize the total cost (or cost-effectiveness ratio) with that of EPO. CONCLUSIONS: Drug cost was determined to be the key driver of total cost. In addition, this analysis found EPO to be more effective in reducing blood transfusion requirements and less costly, and hence the dominant alternative compared to DARB for the treatment of CIA.
The additional mean cost of pemetrexed plus cisplatin therapy, over cisplatin monotherapy, was $14,032.78 per patient. The mean and median survival gain with pemetrexed plus cisplatin therapy was found to be 0.191 and 0.233 years, respectively, relative to cisplatin monotherapy, over the 27-month period of observation. The cost per life-year saved was $73,470.04 for mean and $60,226.52 for median incremental survival. CONCLUSION: This survival benefit is a highly patient-relevant outcome. This economic evaluation found that pemetrexed plus cisplatin therapy offers an acceptable cost-effectiveness ratio for a small population of MPM patients in Australia.

ONCOLOGISTS’ COST-EFFECTIVENESS THRESHOLDS FOR NEW CANCER THERAPIES

Nadler E, Eckert B, Neumann P

1Dana-Farber Cancer Institute, Boston, MA, USA; 2Harvard University, Boston, MA, USA

OBJECTIVES: The FDA’s approval of Avastin, Erbitux and other novel agents has generated debate about the high cost and relative value of new cancer treatments. We sought to understand whether oncologists consider the therapies they employ to be cost-effective and to ascertain oncologists’ cost-effectiveness thresholds for such therapies. METHODS: We surveyed 139 oncologists at two large academic hospitals in Boston. We asked respondents to provide estimates for the cost and effectiveness of Avastin (without appealing to published data) and whether they thought the treatment offered “good value.” We also asked respondents to judge how large a gain in life-expectancy would justify a hypothetical new cancer therapeutic that cost $70,000 per year more than standard care. We used this information to calculate implied cost-effectiveness thresholds (in QALYs) for each respondent. Finally, we asked respondents about the role of cost in their treatment recommendations. RESULTS: Ninety oncologists (65%) completed the survey. Cost-effectiveness thresholds, derived from the hypothetical scenario, averaged over $300,000/QALY. Oncologists’ estimates of the cost and survival benefit of Avastin implied a cost-effectiveness ratio in the same range, yet only 25% of oncologists believed Avastin offered good value. Oncologists who indicated a greater sensitivity to costs in their prescribing behavior had significantly lower cost-effectiveness thresholds. CONCLUSIONS: Oncologists in an academic medical setting had implied cost-effectiveness thresholds that were roughly 6 times higher than a commonly cited standard in the U.S. of $50,000/QALY. When asked about specific scenarios, however, oncologists implied that very small gains in life expectancy were not worth the additional costs. Further, most oncologists were dubious about whether a recently approved therapy offered “good value.” As expensive new cancer therapies enter clinical practice, oncologists’ views about their role as practitioners may increasingly conflict with their beliefs about the value offered by these therapies.

EXPLICIT VALUATION OF PASS-THROUGH TECHNOLOGIES UNDER MEDICARE: IS IT FEASIBLE OR DESIRABLE?

Mohr P, Paserchia L, Kornfield T

Centers for Medicare and Medicaid Services, Baltimore, MD, USA

OBJECTIVES: To encourage early adoption, Medicare pays a temporary premium for selected new technologies (which are called pass-through technologies) in the outpatient setting. Implicit decisions are being made that the additional money spent for these pass-through technologies is worthwhile to the Medicare program. The goal of this study was to examine how implicit decisions being made for pass-through technologies compare with explicit cost-effectiveness criteria. METHODS: We selected as case studies four technologies—two pass-through devices (embolic capture devices and silicone oil for retinal tamponade) and two pass-through drugs/biologicals (pegfilgrastim, triptorelin pamoate)—that Medicare estimates will account for the bulk of pass-through spending for 2004. We examined whether cost-effectiveness literature existed at the time of pass-through approval and critically examined its quality. We then used publicly-available data (e.g., Medicare claims and payment rates) to supplement available studies and examine cost-effectiveness thresholds from Medicare’s perspective. RESULTS: Cost-effectiveness studies were available for two of the four case study technologies at the time of their application review. The quality was variable. These studies, later publications, and our own analyses suggest some case study technologies could be cost-effective in at least a subset of the Medicare population in which they are used. CONCLUSIONS: Cost-effectiveness information is sometimes available early in the life cycle of a technology and may provide additional useful information about whether and for which subpopulation Medicare should pay a premium for a new technology. Policy analysts must evaluate cost-effectiveness information critically, however, and may need to conduct supplemental analyses as a result. Medicare payment decisions do not now reflect any judgment about the value of that technology in terms of clinical benefit for incremental cost. The challenge to Medicare is to be able to limit pass-through payments to only those populations for whom there is proven value.

WHY DO DIFFERENT MODELS COME TO DIFFERENT CONCLUSIONS?: A STUDY OF 8 COST-EFFECTIVENESS ANALYSES COMPARING COX-2 SPECIFIC INHIBITORS (COXIBS) AND NON STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDS)

Riseborough NA, Drummond M, Neumann P, Lising A, Mieussen N, Niculescu L

1Hope Research Centre, Toronto, ON, Canada; 2University of York, York, United Kingdom; 3Harvard University, Boston, MA, USA; 4Dymaxion Inc, Toronto, ON, Canada; 5Pfizer Inc, New York, NY, USA

OBJECTIVES: To critically evaluate published cost-effectiveness (CE) models and identify model elements contributing to the large variability in results. METHODS: A literature search of MEDLINE and EMBASE from 1985–2004 identified eight English-language CE models comparing coxibs to a nonsteroidal anti-inflammatory drug (NSAID)-alone regimen. Two studies were excluded due to unavailable model input data. Model time horizons ranged from six months to lifetime, and primary outcomes ranged from gastrointestinal (GI) events averted to life-years gained and quality-adjusted life-years gained. Common elements across models were minor GI discomfort/dyspepsia, moderate GI events/symptomatic ulcer, and severe GI events. Only two of the analyses included cardiovascular side effects. To compare model inputs we standardized all analyses to a six-month tree structure with the three GI side effects. Study probabilities were converted to six-month rates where necessary and costs were converted to $US using the purchasing power parity index. Cost offsets between coxibs and NSAIDs were calculated by multiplying the probability of the GI event by cost per event. RESULTS: The relative price used for coxibs compared with NSAIDs differed widely across studies (median over six months, $156; range, $14–$387). Differences in total GI event cost offsets were small (median, ~$41; range ~$53 to ~$18). Moderate GI events provided the greatest GI event cost offsets.