analysis highlighted methodological drivers. RESULTS: CMS ini-
tially proposed four methods of computing practice expense in
2007. Three potential data sources were identified: the Socio-
economic Monitoring System (SMS); the Medicare Economic
Index (MEI); and the Clinical Practice Expert Panel (CPEP). The
four proposed methods utilized various combinations of these
sources. Each proposed formula was based upon a series of allo-
cation that resulted in different percentages assigned to differ-
et subcomponents of the relevant methodology. Comparative
analysis revealed significant differentials. Payments for drug
administration in the physician’s office would be reduced by all
four proposed methods. Two primary methodological drivers
were identified: allocation between direct expense and indirect
expense within each formula and the volume-based allocation
method, whereby specialty impacts are recognized but are then
weighted by specialty-specific volume. Conclusions: Many
physician fee schedule payment rates in 2007, including drug
administration procedures, may be significantly impacted by pro-
posed changes to the practice expense computation methods. It
is vital for service provider decision-makers to monitor and
understand relevant CMS proposals. Otherwise, if significant
underpayment occurs in 2007, patient access may be negatively
affected.

PMC17
MONITORING OF PHARMACEUTICAL COST OF REIMBURSED
MEDICINES BY COMBINING OFFICIAL PHARMACY INVOICE
DATA WITH COMMERCIAL IMS SALES DATA
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OBJECTIVES: In Belgium reimbursement submissions must
contain scientific and financial elements. The financial part relies
on budget impact (BI) estimates from the payer’s perspective for
the next 3 years. Real cost monitoring is difficult because official
cost data become available with a substantial delay while com-
mercial IMS data measure total sales. Our aim was to develop a
method to monitor pharmaceutical expenses in Belgium and
calculate the outcome with the expected costs of the BI estima-
tion: a method combining both data sources allowed to monitor
in a timely manner only the reimbursed pharmaceutical cost.
METHODS: The method was applied on the class of cholesterol
lowering drugs representing 9% of ambulatory expenses. BI-estima-
tions were provided in the applicant’s dossier. Monthly IMS-
sales data (=S, IMS-Health) and official cost data (=C, Riziv) were
extracted from the respective databases. RESULTS: All correla-
tions between historical monthly product data from both sources
yielded an R² > 0.75 which was considered as a cut-off to apply the
method (minimal R² = 0.8164). Expected reimbursement pharmaceutical cost was calculated as: Expected Cost = Sk where
k is the average monthly ratio of S to C during a common 12
month period. The expected C calculation extends real C data by
6 months. Quality control of the method was assessed by com-
paring the expected C and real C yielding a mean monthly error
lower than 5% with a 3 month cumulated error of less than 2%.
BI-estimates were inferior to expected and real C. CONCLU-
SIONS: A method was developed to predict 3rd payer’s pharma-
ceutical cost combining recent commercial sales data and official
but less recent cost data ensuring reliable application of this
method for control of estimates of BI.

PMC18
USING DISTANCE LEARNING TO UNDERSTAND DISCRETE
EVENT SIMULATION
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OBJECTIVES: The many benefits of pharmacoeconomic model-
ing using Discrete Event Simulation (DES) have increased inter-
est in this methodology. A paucity of courses applied to medical
problems however, combined with busy schedules prohibit many
professionals from familiarizing themselves with the technique.
Meeting these needs requires training that can be conducted over
the internet. METHODS: A distance learning course was devel-
oped to provide a basic understanding of DES. Using Flash tech-
nology, an internationally accepted web standard, learning
materials were organized into discrete Lessons of online infor-
mation. Each Lesson is a collection of video, narration, and text
explaining a particular aspect of DES such as its theoretical
underpinnings, examples of implemented DES solutions, and in-
depth explanations of model logic. While Lessons are grouped
together in Modules which address a specific range of concepts,
each Lesson can also stand on its own. This allows the student
to approach the course at their own pace and navigate the cur-
riculum according to personal interest and experience level. This
granular organizational method also enables individual lessons
to serve as reference materials. RESULTS: The interactive course
allows students to manipulate flowchart exercises, self-certify
their knowledge through instantly processed quizzes, and contact
course administrators with questions. Accessing the course
requires only a broadband internet connection, a standard web
browser and the Flash player plug-in. CONCLUSIONS: When
considering the time and expense of attending geographically dis-
persed educational seminars, as well as the difficulties associated
with participating in large group lectures, the advantages of a
tailored, interactive online course become clear. Combining an
interactive multimedia presentation approach with a deep cur-
riculum and an at-your-own-pace learning process, the online
DES course provides students with an effective and convenient
solution for learning about DES in the pharmacoeconomic field.

CANCER

PCN1
THE EPIDEMIOLOGIC, HEALTH-RELATED QUALITY OF LIFE,
AND ECONOMIC BURDEN OF GASTROINTESTINAL
STROMAL TUMORS
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OBJECTIVES: Gastrointestinal stromal tumors (GIST) is the rel-
atively new term for gastric and intestinal smooth muscle tumors
arising from mesenchymal or connective tissue. Knowledge of
the epidemiologic, health-related quality of life (HRQL), and
economic burden of GIST is important from payer, provider,
and patient perspectives and may help guide coverage and treat-
ment decisions for treatments recently available. METHODS:
PubMed and six scientific meeting databases were searched for
studies of GIST and epidemiology, HRQL, or economics. Rele-
vant publications were assessed as to whether they provided orig-
inal empirical research. RESULTS: Eleven publications met the
review criteria: eight provided data on GIST incidence, and one
each on prevalence, HRQL, and cost. Incident cases were iden-
tified by medical record review or through extant databases with
prospective confirmation by immunohistochemical staining in
six studies. The annualized incidence of GIST (cases per million)
was: United States (U.S.) (6.8), Iceland (11.0), The Netherlands
(12.7), Italy (13), Taiwan (13.7) Sweden (14.5), Finland (10–20),
and France (20.4). Prevalence was estimated at 129 cases per
million in Sweden. On the Functional Illness of Chronic
Therapy-fatigue instrument, GIST patients scored 40.0 com-
pared to 23.9, 37.6, and 43.6 in anemic cancer, non-anemic

Abstracts
cancer, and the general population, respectively (0 = worst; 50 = least fatigue). Ten-year total per patient costs (drug, monitoring, physician visits, adverse events) for managing GIST patients with molecularly targeted treatment were estimated at £47,086–£70,811 compared to £3674–£4230 with best supportive care.

CONCLUSIONS: Data suggest the incidence of GIST is similar across countries; lower incidence in one study is likely explained by differences in method of case ascertainment. Although patients with GIST present with fatigue comparable to other cancers, additional research is needed to comprehensively understand its HRQoL burden. The increased cost associated with new therapies must be balanced against their expected benefits.

PCN2

INCIDENCE AND SURVIVAL STUDY BY STAGE AND ESTIMATED PREVALENCE OF RENAL PARENCHYMA CANCER IN FRANCE

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OBJECTIVES: To determine incidence and five years survival rate of renal parenchyma tumours by TNM stage using cases recorded in seven French departments cancer registries. To estimate overall and with metastasis cancer prevalence, at the end of 2004, when diagnosed over the period 2000–2004. METHODS: Identification of patients using the databases of seven cancer registries. Data collected trough medical records and administrative data (vital states). Assessment of raw global survival rate using Kaplan Meier curves. Determination of global prevalence by summing 2000–2004 annual incident cases for which corresponding global survival data have been applied. Same method for the estimation of prevalence without metastases. Prevalence with metastases is global prevalence minus prevalence without metastases. RESULTS: A total of 597 cases were identified and analyzed. 84% of cases consisted of clear cell adenocarcinoma. Thus, the standardised levels of incidence (worldwide reference population) are estimated to be 9.91 per 100,000 men and 3.75 per 100,000 women. Stages I, II, III and IV had specific incidences respectively of 4.7, 1.1, 1.9 and 2.7 per 100,000 subjects. The 5 years survival rate in men and women was respectively 55% (C195: 50–60) and 65% (C195: 58–71). Survival decreased with age and with extension. The national number of cases is estimated to be 6,482 cases. Accordingly, the estimated partial global prevalence is 29,300 cases, including 4,860 with metastasis (16.6%), this rate increases with age: from 11% for patients aged less than 60 years to 29% for patients aged 80 years and over. CONCLUSIONS: This study is the first one to give an estimation of specific parenchyma cancer by stage incidence, on a population base. On this base, this study also provides prevalence estimations for evolutive cancers.

PCN3

EPIDEMIOLOGIC, HUMANISTIC AND ECONOMIC BURDEN OF PATIENTS WITH METASTATIC RENAL CELL CARCINOMA (mRCC)

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OBJECTIVE: Renal cell carcinoma has an asymptomatic course and 25–30% of patients present with metastatic disease at time of diagnosis. Molecularly targeted therapies (MTTs) represent a breakthrough in treatment of mRCC, prolonging life, reducing toxicity and the negative impact of treatment on health-related quality of life (HRQoL), and offering viable therapeutic options to a broader patient population relative to immunotherapy. The objective of this study was to explore the burden of mRCC and the potential clinical, economic and humanistic value of MTTs. METHODS: PubMed, scientific meeting and online databases were searched for articles relating to the epidemiologic, humanistic and economic burden of mRCC. Thirty-five articles were selected. Epidemiology and economic statistics for mRCC were estimated from international registries and published data sources. RESULTS: Approximately 1500–8600 new mRCC cases occur annually in major European and North American countries, and Japan. Standard immunotherapy is largely ineffective (less than 10% response rates; no benefit in most patients, especially the elderly) despite a high annual cost of treatment (e.g., $15,500–$82,000 across countries). In the absence of effective treatment, mRCC is rapidly fatal with 13% or fewer patients surviving a median survival of less than 1 year. Two-year costs of care for mRCC have been estimated at $35,735/year (US$). HRQoL of mRCC patients is comparable to congestive heart failure, diabetes and other cancer patients and may be further diminished by systemic immunotherapy. Recent studies show that MTTs produce marked improvements in response rates/survival, and tolerability without negative impact on HRQoL. CONCLUSIONS: The need for MTTs for mRCC is characterized by the lack of effective treatment for the vast majority of patients, high mortality, and considerable humanistic and economic burden. Meaningful improvements in effectiveness and tolerability in this patient population suggest that MTTs offer economic and humanistic value in the treatment of mRCC.

PCN4

A COMPARATIVE BUDGET IMPACT (BI) ANALYSIS OF ARANESP® (DARBEPOETIN ALFA) 500μG Q2W VERSUS OTHER ERYTHROPOIETESIS STIMULATING PROTEINS (ESP) IN CHEMOTHERAPY-INDUCED ANEMIA (CIA) IN SPAIN

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ESP is standard treatment options for CIA. In this setting, both Epoetin (EPO) alfa and EPObeta are administered three times/week (TIW) or once/week (QW), while darbepoetin alfa (DA) is the only ESP approved to be administered as once every three weeks (Q3W). For ESP administered TIW or QW the SPCs states to double the dose if hemoglobin increases <1 g/dL after 4 weeks. Doubling the dose is not needed with starting dose DA 500μg Q3W. These administration differences might result in different treatment costs for each agent. OBJECTIVE: Estimate BI (mean cost/patient) of administering the different ESP in the treatment of CIA in Spain. METHODS: The following variables were considered in the economic model: ESP ex-manufacturer price in Spain, administration pattern, weeks of treatment (12 weeks), weeks of evaluation before increments of dose (4 weeks), dose increases, and overall cost of one administration ($59.72). In addition, a two-way sensitivity analysis was performed to test the robustness of the results, considering the following variables: 1) administration cost from a minimum of 0 to +25%, and 2) the lowest and highest percentage of patients needing to increase dose for EPOalfa and EPObeta from six studies found in the literature where this data was reported. RESULTS: In the base case scenario, assuming an incidence of doubling the dose with both EPOalfa and EPObeta of 29.60%, which was the mean value