experienced high-quality source for post-approval studies. Elaborated manage-
ment processes in multi-country panels guarantee a constant quality of the pane-
over geographies.

PRM19

TIME DEPENDENT RESOURCE USE AND COSTS ASSOCIATED WITH DIFFERENT STATES OF DISEASE IN PATIENTS DIAGNOSED WITH HER-2 POSITIVE METASTATIC BREAST CANCER

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OBJECTIVES: Adequate reflection of disease progression and costs over time is essential in cost-effectiveness analyses (CEAs) based on health state transition mod-
els. However, evidence is normally limited to patients with metastatic breast cancer (MBC) without explicitly examining impact of specific disease states on health care costs over time. The objective of this study was to assess time-dependent costs of care in different states of human epidermal receptor 2 (HER-2) positive MBC and the factors contributing to these costs. METHODS: In The Netherlands, HER-2 positive MBC patients were identified in three different hospitals. Resource use was assessed over 14 months, what was linked to unit costs using the Markov model. RESULTS: Costs of stable disease were constant over time with a mean of €3,236. In contrast, monthly costs for progressive disease demonstrated a change over time with the largest costs in the first two months after diagnosis (p<0.005). The developed mixed effect model adequately described cumulative cost time course and associated variability. During the last months of life, costs varied over time, with the last month of life as the most expensive one with a mean of €4,522 per patient per month. Conclusions: To reflect costs of HER-2 positive MBC accurately in Markov models, costs stable disease can be defined time-independent, however, costs of progressive disease should be defined time-dependent, and costs related to the final months of life should be modeled as such. The mixed effect model we have developed could now be considered for adequate description of the time-dependent cost of progressive disease.

PRM20

ASSESSING THE FUTURE BURDEN OF RENAL REPLACEMENT THERAPY IN THE UNITED KINGDOM

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OBJECTIVES: The UK has an ageing and growing population and the prevalence of renal failure (RF) has grown by 5.0% annually since 2000. RF accounts for over 2% of the current NHS expenditure. Transplantation increases survival, improves quality of life and maintenance costs are less than dialysis. Despite increasing rates of transplantation, an estimated 7,000 patients remain on the waiting list. The objective of this study is to quantify the relationship between graft survival time, total estimated cost and the number of projected patients on the transplant waiting list. METHODS: We utilized a population based simulation model with published disease progression, incidence and prevalence parameters specific to the UK. We evaluated the number of years of functioning graft required for transplantation to remain cost saving compared to dialysis, the increase in future transplants and the number of patients to avoid the transplant waiting list increasing. The study utilises UK costs and future costs and benefits were discounted at 3.5% RESULTS: Over a 10-year projected time horizon the total per-patient cost saving associated with remaining on dialysis compared to transplant was £276,330; however, a cost saving was conditional upon achieving at least 3-years of functioning graft. In order to maintain the transplant waiting list at approximately 7,000, the number of annual transplants conducted would need to increase from 1,645 in 2016 to 3,640 by 2022 (37.6% increase). At current activity levels the transplant waiting list is projected to increase by approximately 1,983, improvement in graft survival could potentially reduce this by 941. Conclusions: For kidney transplantation to be cost saving recipients must maintain at least 3-years of functioning graft. As early graft failure also impacts on future transplant waiting time, management strategies that maximize graft survival will reduce costs and improve service delivery targets.

PRM21

COMPARISON OF ALTERNATIVE METHODS OF RESOURCE-USE DATA COLLECTION FOR THE ECONOMIC EVALUATION OF HEALTH CARE TECHNOLOGIES: A CASE STUDY ON PERTUSSIS VACCINATION

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OBJECTIVES: Economic evaluations require patient-level resource-use to estimate patient costs. The National Programme for IT (2002) prompted UK health and social care to record patient-level resource-use using Electronic Administration Records (EARS). Retrieving EARS is labour intensive, but may provide better infor-
mation than contemporaneous data. The objective is to examine agreement, and associated cost estimates, between resource-use obtained from EARS and contemporaneous data. METHODS: Cost per care for data for 247 patients (193 cognitively impaired) were sought retrospectively six months post-index hospital admission. Resource-use data were collected using a self/proxy-reported modified CSRI and EAR systems for primary (PC), second-
ary (SC), and social (SoC) care. Lin’s coefficient (ρ) assessed agreement between methods, where <0.4 = poor agreement RESULTS: Agreement between EAR and CSRI per contact resource-use was: good, primary care (ρ = 0.60, fair, outpa-
tients (ρ = 0.53). Agreement was comparable for social care due to different resource-use recording formats; CSRI’s patient care question was removed due to the preferred detailed information available in EAR’s data. EAR data provided detailed patient care information, such as diagnosis and procedure type, allowing improved allocation of unit costs. Difference in mean cost per patient between methods varied by service (CSRI/EAR) (IC: €1 = 61,433; SC = 7281/7833; SoC = 252/886); CSRI patient costs were simulated assuming perfect agreement with EAR, but using level of information outlined within the CSRI. Conclusions: EAR’s provided more complete patient costs. Using EAR’s reduces burden upon participants, which is important for frail and cognitively impaired people. Although the CSRI can be modified and used to administer, poor recall and inadequate detail about patient care contacts prevented accurate patient-level cost estimation. Gaining access to EAR’s is labour intensive, but recommended in cognitively impaired participants.

PRM22

CARBON COST-EFFECTIVENESS OF COCCOONING IMMUNIZATION AGAINST PERTUSSIS IN ENGLAND AND WALES: AN ECONOMIC PERSPECTIVE

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OBJECTIVES: The cost-effectiveness of pertussis vaccination has been demonstrated for various vaccination strategies. However, beyond financial cost expressed in mon-
ey terms vaccines also influence environmental cost expressed in CO2 equivalent (CO2e) emission. By preventing disease, this cost might be offset by avoided events such as doctors’ visits, hospital bed stays, medication, amongst other items. In this exercise we examine the CO2e savings of a pertussis (dTPa) booster dose for cocooning in England and Wales. We propose a complementary measure to the classical Incremental Cost-Effectiveness Ratio that includes environmental cost instead of monetary cost. METHODS: The cradle to gate carbon footprint (from raw material extraction, to manufacturing, to disposal) for a typical dTPa vaccine dose was assessed to estimate the total amount of CO2e emitted ("carbon cost"). A previously published static epidemiological model was used to account for the reduction in incidence of pertussis. Two scenarios were compared: the current per-
tussis vaccination schedule and the same schedule with additionally a cocooning strategy. RESULTS: For each dose of a dTPa vaccine manufactured, results show approximately 1kg of CO2e was emitted. The model shows cocooning immu-
ization against pertussis is projected to reduce the reported incidence of pertussis in young infants. Results also show that due to the reduction in emitted CO2e after the introduction of a cocooning strategy, vaccination is an acceptable alternative to the current strategy to control pertussis infection. Conclusions: The model presented in this study demonstrates how environmental resource-use economic metrics can be utilized to model environmental features. Assessment of the cradle to gate carbon footprint of a vaccine provides a preliminary view of both the impact on the environmental in general and the environment profile of health care in the UK.

PRM23

MODELLING THE COST-EFFECTIVENESS OF FIRST-LINE BIOLOGICS FOR RHEUMATOID ARTHRITIS IN ENGLAND AND WALES

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OBJECTIVES: In 2012, NICE initiated a multiple treatment assessment reviewing all licensed biologics for the treatment of rheumatoid arthritis (RA) previously treated