each country's department of health. Countries were reviewed under a range of headings including: current delivery models in place, institutions responsible for delivery and organisation of reimbursement system, incentive structures in place, basic bundle of health care covered, additional options for coverage, disease-specific resource use and health outcomes, government contribution to cost of health care and public health burden of patients with rare diseases. 

**RESULTS:** A total of 42 national strategies for rare diseases were identified, published by 12 countries dependent upon the Universal delivery model in place. 

**CONCLUSIONS:** This review presents characteristics of Universal health care delivery systems across Europe. Basic bundles of health care provision and organisation of reimbursement across countries have been outlined. This provides further clarity on the characteristics of and variation across Universal health care models.

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**PHP81**

**NATIONAL RARE DISEASE STRATEGIES: THE CURRENT STATE FOR ORPHAN DRUG MARKET ACCESS IN EUROPEAN UNION (EU) MEMBER STATES**

Scholten J., Lie X, Kalbasko A., Maervoet J.

**OBJECTIVES:** By 2013 all European Union (EU) member states were recommended to elaborate and adopt a national strategy for rare diseases. This study provides insights into the national rare disease strategies, in particular concerning the status of the programmes, recent developments, and the congruences and differences between the programmes regarding market access. 

**METHODS:** A literature and Internet search was performed to identify national strategies for rare diseases published by member states, and recent orphan drug introductions have been analysed to compare the rare disease strategies. 

**RESULTS:** All member states had a variety of approaches already in place before developing a national strategy. France is the main country implementing rare disease policies as well as the member state with the highest number of marketed orphan drugs. Over the past five years, most member states finalised their national plans with a peak in publications late 2013-2017. The methods on implementation of orphan drugs are of high interest, with a lot of focus on orphan drug use, compassionate drug use and utilising cross-border health care. 

**Conclusions:** The implementation phase has only recently been initiated for most plans and actual policies are yet to be developed. As member states such as France are introducing policies for orphan drug assessments, tailored criteria need to be developed for orphan drug assessments.

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**PHP82**

**MEASURING THE EFFICIENCY OF HUNGARIAN HOSPITALS BY DATA ENVOLPMENT ANALYSIS**

Csákvari T., Várady K., Vajda P., Danku N., Agoston I., Bence I.

**OBJECTIVES:** Hospitals are important cost elements of the Hungarian health care system. In the past decade, several health care reform strategies have been carried out to decrease the number of hospital beds in Hungary. The aim of our research is to analyse the efficiency of the Hungarian acute inpatient-care system. 

**METHODS:** Data derived from the Hungarian nationwide health insurance databases analysed the technical and scale efficiency (TE and SE) of the Hungarian acute inpatient-care system (2003, 2006, 2010). The number of hospitals included into the study was 133 in 2003,125 in 2006 and 93 in 2010. We chose four inputs and two outputs: the number of beds are more efficient than the smaller units. 

**Results:** In 2003 both the technical and scale efficiency were high (TE: 96.9%; SE: 92.9%). To 2006 the situation deteriorated by some degree (TE: 96.6%; SE: 90.1%) and erythropoietin products changed before (01.07.2011.-30.06.2012.) and after (01.07.2012.-30.06.2013.) the first biosimilar bid performed in March 2012 in Hungary. 

**Conclusions:** The objective is to test the hypothesis whether NICE recommendations on the use of a new drug affect recommendations from other bodies in countries outside England and Wales. To our knowledge, this is the “first attempt to approach” this topic quantitatively. Therefore, a sub-objective is to determine the feasibility of gathering a high quality database with sufficient number of observations to test our hypothesis. 

**METHODS:** A basket of 29 drug/indication pairs and a group of 35 countries were included (Australia, Canada, Denmark, France, Italy, Korea, The Netherlands, New Zealand, Poland, Portugal, Spain, Bosnia, Ecuador, Egypt and Ghana). Information regarding NICE HTA recommendations was extracted from NICE’s horizon scanning database. However, an online-survey of key opinion leaders was carried out to collect information regarding the HTA decision in 10 countries. For the remaining five countries, we used the information from their official websites. Fourteen studies were identified on the use of a NICE appraisal there is a higher probability that NICE is undertaken for the same drug in other countries. Furthermore, when NICE has published a negative decision, the tendency of not recommending the drug by another HTA body is much larger after than before NICE’s decision. 

**CONCLUSIONS:** Issues encountered in the collection of information made it difficult to quantify the effect of NICE recommendations on HTA decisions in other countries. The results suggest that the selected agencies are considering NICE decisions as a factor for rejecting or restricting the use of drugs in which other case would be recommended or reimbursed.

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**HEALTH CARE USE & POLICY STUDIES – Formulary Development**

**PHP83**

**EXPERIENCES WITH PRICE COMPETITION OF BIOSIMILAR DRUGS IN HUNGARY**

Horrák 1, Nagy Z1, Tálos Z2, Agoston I.1,2,3, Endrei D.3, Csákvari T., Bence I.1,2

1Cukorlány Ferenc Hospital, Veszprém, Hungary, 2University of Pécs, Pecs, Hungary, 3Faculty of Health Sciences, University of Pécs, Pecs, Hungary

**OBJECTIVES:** The aim of our study is to analyse the biosimilar bids of the Hungarian National Health Insurance Fund Administration in case of colony-stimulating factor and erythropoietin products. 

**METHODS:** Data derived from the nationwide pharmacovigilance database of Hungarian National Health Insurance Fund Administration. We analysed how the number of patients treated by colony-stimulating factor and erythropoietin products changed before (01.07.2011.-30.06.2012.) and after (01.07.2012.-30.06.2013.) the first biosimilar bid performed in March 2012 in Hungary. 

**RESULTS:** In the 12 months before biosimilar bid 4167 patients received erythropoietin treatment, while in the first 12 months after the bid 3647 patients, which is a decrease in a 12.5% decline. In the 12 months before biosimilar bid 1397 patients received colony-stimulating factor treatment, while in the first 12 months after the bid 1335 patients, resulting in a 4.5% decline. 

**CONCLUSIONS:** The analyses of the Hungarian price competition bid of biosimilar products showed a minimal decline in the number of patients treated by both colony-stimulator and erythropoietin products while the health insurance reimbursement of these drugs significantly decreased. 

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**PHP84**

**IMPACT OF PRIOR AUTHORIZATION RESTRICTIONS ON RESOURCE UTILIZATION AND COSTS IN US HEALTH PLANS: A REVIEW OF LITERATURE**

Shah D., Tongrum V., Faly V.

**OBJECTIVES:** Prior authorization (PA) restrictions have been implemented by US health plans in an effort to ensure appropriate and cost-effective use of expensive medications. The objective of this scoping review is to summarise the current understanding of the PA impact on resource utilisation and costs. A review of published peer-reviewed literature was conducted to evaluate the impact of such PA restrictions on resource utilization and costs. 

**METHODS:** A targeted review of literature was conducted in Medline from 2009 onwards using the following keywords: “prior authorization”, “impact”, “economic”. Review articles, non-English language studies, non-US studies, case studies, and studies evaluating the effectiveness of formulary policies were excluded. 

**RESULTS:** Fourteen studies were identified which met our inclusion criteria. Majority (57%) of the studies were conducted on Medicaid plans (Medicaid: 3%, commercial: 4, Medicare: 1, not clear: 3). Majority (57%) of studies evaluated the impact of mental health medications (anti-psychotics, anti-depressants, antidepressants, anti-convulsants), some studies were conducted on anti-diabetics, one on a multiple sclerosis drug, one for a lipid-lowering drug, one on an anti-platelet drug, and one on a vaccine. Few studies were industry-sponsored. 12 studies were retrospective database analyses and only 2 studies were decision-analytic models. Overall, the trend showed that PA restrictions were effective in reducing healthcare costs and were not associated with an increase in patient safety and quality of care outcomes due to PA policies. 

**CONCLUSIONS:** Although PA restrictions may result in cost-savings, patient safety and quality of life concerns must also be evaluated while imposing these restrictions. Rigorously designed studies including assessment of PA administration costs as well as indirect costs due to lost productivity should be conducted to better assess the overall economic impact of such restrictions.

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**PHP85**

**DO NICE DECISIONS AFFECT DECISIONS IN OTHER COUNTRIES?**

Hernández-Villafuerte K., Garau M., Devin N.

**OBJECTIVES:** The objective is to test the hypothesis whether NICE recommendations on the use of a new drug affect recommendations from other bodies in countries outside England and Wales. To our knowledge, this is the “first attempt to approach” this topic quantitatively. Therefore, a sub-objective is to determine the feasibility of gathering a high quality database with sufficient number of observations to test our hypothesis. 

**METHODS:** A basket of 29 drug/indication pairs and a group of 35 countries were included (Australia, Canada, Denmark, France, Italy, Korea, The Netherlands, New Zealand, Poland, Portugal, Spain, Bosnia, Ecuador, Egypt and Ghana). Information regarding NICE HTA recommendations was extracted from NICE’s horizon scanning database. However, an online-survey of key opinion leaders was carried out to collect information regarding the HTA decision in 10 countries. For the remaining five countries, we used the information from their official websites. Fourteen studies were identified on the use of a NICE appraisal there is a higher probability that NICE is undertaken for the same drug in other countries. Furthermore, when NICE has published a negative decision, the tendency of not recommending the drug by another HTA body is much larger after than before NICE’s decision. 

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**HEALTH CARE USE & POLICY STUDIES – Health Care Costs & Management**

**PHP87**

**COMPLICATIONS, COSTS AND RESOURCE UTILIZATION IN REAL-WORLD COMPLEX ABDOMINAL WALL RECONSTRUCTION PATIENTS**

Mencer M., Reaven N., Funk S., Franz MG., Macarios D., DeNoto IIII J.

**OBJECTIVES:** Little information is available on complication-related resource utilization costs and overall costs in patients undergoing complex abdominal wall reconstructions. Under pay-for-performance requirements financial decision-makers need better information to allocate health care resources and budget dollars. This analysis reports complication-related resource utilization and costs over time in a real-world population of patients undergoing complex abdominal wall reconstructions. 

**METHODS:** A cohort of patients with complex abdominal wall reconstructions during inpatient stays between 1/1/08 and 6/30/11 (index event) followed for 12 months. Related complications, related costs for facility-based care and related costs were evaluated for 30-60-90-365 days after discharge. Insurance claims from the Truven Health