A COMPARISON OF HIGH-COST HEALTH CARE PROGRAMS AVAILABLE IN THE BRAZILIAN PUBLIC HEALTH CARE SYSTEM

Saggio MG
Roche Brazil, Sao Paulo, SP Brazil

OBJECTIVES: To compare the yearly expenditure per capita of the following high-cost health care programs available in the Brazilian public health care system: severe Rheumatoid Arthritis, renal replacement therapy, Hepatitis, Aids and Oncology.

METHODS: A survey in the official health care database (http://www.datasus.gov.br) was conducted to gather: 1) the amount of resources spent (annual budget), and 2) the number of patients treated in each program in 2007. Those data were then cross-checked with some public information found in the Ministry of Health website (www.saude.gov.br) and from medical societies. For the Aids program an article published by Grangeiro et al. in 2006 was used since it resulted from an extensive research and both data on drugs expenditure and the number of patients in 2007 were not available in the official health care database. Based on that article the annual budget and number of patients for the Aids program were updated by the official inflation rate and the official incidence rate, respectively. Then the yearly expenditure per capita for each program was calculated. A limitation of this study is the expenditure per capita calculated for the Oncology program. Since there is no official data regarding the prevalence of oncological diseases in Brazil only new cases (incidence) were considered for the calculation, so the final expenditure per capita is likely to be lower than the one calculated in this study. RESULTS: Severe Rheumatoid Arthritis: R$82,060,720 for 2,098 patients = R$39,120 per patient per year (the highest expenditure per capita); renal replacement therapy: R$1,397,958.956 for 73,605 patients = R$18,993 per patient per year; Hepatitis: R$295,428,000 for 44,598 patients = 6,624 per patient per year; Aids program: R$1,062,316,834 for 168,417 patients = R$6,308 per patient per year; Oncology: R$1,026,017,544 for 472,000 patients = R$2,174 per patient per year (the lowest expenditure per capita). CONCLUSIONS: Findings indicate significant differences in the yearly expenditure per capita for each program. Further studies are recommended to extend this analysis and to explore the reasons for those differences.

MICROCOSTING STUDY OF THE DAILY ICU COSTS IN THREE COUNTRIES

Tan S1, Martin J2, Pezzl A1, Bakker J1, Neurohr C1, Pirelli A1, Hakkart-van Roijen L1, Welte R2
1Erasmus MC. University Medical Center, Rotterdam, The Netherlands, 2Kliniken des Landkreises Göppingen gGmbH, Göppingen, Germany

OBJECTIVES: To estimate the daily costs of intensive care unit (ICU)-stay with a focus on mechanical ventilation (MV) in three European countries.

METHODS: This retrospective cost study was conducted in one German, one Italian and three Dutch adult medical-surgery ICUs, from a hospital perspective. A microcosting approach was applied, implying that all relevant cost components were identified and valued at a detailed level. Direct cost included medical imaging services, laboratory procedures, drugs, fluids, disposables, inpatient stay, and labour. Indirect costs consist of overheads and capital. Resource use was primarily derived from hospital administrative databases. Unit costs were acquired from financial hospital databases and hospital pharmacy databases. Overheads and capital costs were appointed to patients using a marginal mark-up percentage. The reference year was 2006. RESULTS: Total daily costs amounted to €1225 in Germany, €1472 in Italy and €1911 in The Netherlands, with labour and overheads as the most important cost drivers. Direct daily costs were €1040 in Germany, €1333 in Italy and €1243 in The Netherlands. Hence, the cost differences between the countries were mainly driven by diverging indirect costs. Mechanical ventilation in critically ill patients was associated with a 21% to 29% cost increase. CONCLUSIONS: The direct but not the indirect costs of intensive care are in the same range in Germany, Italy and The Netherlands. Mechanical ventilation leads to substantial higher ICU costs.

IS PATENT PROTECTION CREATING OPPORTUNITY FOR INNOVATION—THE ALENDRONATE CASE IN BELGIUM

Arexik P, Pierlet M, Soete E, VanHaeren E, Verplancken P, VanWilder P
RIZIV National Health Insurance Agency, Brussels, Belgium

OBJECTIVES: To estimate the budget impact of the reimbursement of a follow-up on patent medicine prior to the patent...
expiry of the original brand, from a third payer’s perspective, based on the alendronate case. METHODS: The Belgian trade name for alendronate is Fosamax® (patent expiry: April 2008). The basis for reimbursement (reference price) for generics is set by law at minus 30%. The originator company introduced Fosavance® (fixed combination with vitamin D—patent expiry: 2018) in July 2006. Using registered consumption data from RIZIV, the evolution of the monthly expenses for alendronates was considered and expected annual expenses were estimated with or without the reimbursement of Fosavance®.

RESULTS: The monthly expenses for Fosamax® decreased from €2.7 Mio prior to the reimbursement of Fosavance® to €1.4 M by July 2007. Simultaneously the expenses for Fosavance® increased to €1.4 M. Only 52% of the market (in value) is left for generic competition. The monthly opportunity savings are estimated to be 30% of €1.4M (€0.52 M) instead of 30% of €2.7 M (€0.81 M). The opportunity loss is therefore €3.5 M per year assuming constant market value (137,500 patients treated with alendronates in 2006). CONCLUSIONS: The alendronate patent expiry and generic competition would theoretically have generated an economy of 30% on the entire alendronate market. The switch to the patent-protected fixed combination however shelters a substantial part of this market from generic competition and from the effects of the off-patent reimbursement policy. Therefore, this ‘life cycle management’ technique jeopardizes the release of financial resources and the creation of budget headroom, essential for financing the access to new and/or innovative medicines. It should be considered as an opportunity ‘lost’.

COST BENEFIT ANALYSIS OF PUBLIC HOSPITAL DEVELOPMENT
Kalo Z1, Lukovics M2, Donkane Verebes E1, Sampar P3
1Eotvos Lorand University, Budapest, Hungary, 2Szeged University, Szeged, Hungary, 3Integra Zrt, Budapest, Hungary

OBJECTIVES: The Hungarian government allocates significant investment budget for hospital development between 2008–2013. A cost-benefit model was developed to assess the social benefit of public health care investments. We present the results for a planned investment in a large district hospital with 1386 beds. METHODS: We considered the following long-term social and financial benefits: 1) QALY gain and incremental costs from new services; 2) cost savings and QALY gain from simplified patient routes and reduced postoperative complication; 3) improved technical efficiency of operation (e.g. matrix organization); and 4) reduction of fixed costs. Incremental costs and benefits are calculated over a 15 year period. We employed 8% discount rate for costs and 5% for QALYs. Health benefits were translated to monetary terms by assuming 40,000€/QALY gain conversion rate. 250 HUF/€ exchange rate was used in the model. RESULTS: Our model estimated €8.1 million financial and €43.7 million social benefit over 15 years from the €49.5 million investment. The Net Present Value of the hospital development project is €7.5 million (including the remaining value of assets after 15 years). The investment potentially improves the sustainability of the hospital operation, as the annual net financial balance exceeds the annual cost of depreciation by €800,000. CONCLUSIONS: Cost-benefit analysis of public investment projects improves the allocative efficiency of scarce resources. Our model can assess the return on investment by capturing long-term social and financial benefits and also the sustainability of hospital operation. Prospective validation of the model is necessary.

INFLUENCE OF MORBIDITY ON THE USE OF RESOURCES IN PRIMARY CARE: RETROSPECTIVE APPLICATION OF ACG AT A SPANISH INTERREGIONAL LEVEL
Sicras-Plañar A1, Navarro-Artieda R2, Velasco-Velasco S1, Prados S3, Esteñrich J1
1Badalona Servicios Asistenciales, Barcelona, Spain, 2Hospital Germans Trias i Pujol, Barcelona, Spain, 3Instituto aragonés de ciencias de la Salud, Barcelona, Spain

OBJECTIVES: To describe the effect of patient’s morbidity load in relation to resource utilization in Primary Care (measured by pharmacy cost and visits) through the retrospective application of ACG in 23 Primary Care Health Centres from three Spanish regions. METHODS: Multicentre, retrospective study based on data from electronic records of patients seeking care during 2003 in the autonomous regions of Aragon, Balearias and Catalonia. Principal measurements: universal variables (age, sex, health service-family practice/paediatrics), variables of morbidity (resource utilization bands [RUB]) and dependent variables (visits, episodes and pharmacy cost). The ACG case-mix System software (version 7.0; n = 106) classified subjects into a single category for a given annual resource consumption. A log transformation of dependent variables was carried out to reduce skewness of the distribution and make it close to normal. Statistical software: SPSSWIN, p < 0.05. RESULTS: Study population: 286,450 (Aragon: 49.3%; Balears: 23.2%; Catalonia: 27.5%); annual coverage: 75.5% of the population, patient’s mean age: 42.9 ± 23.6 years, percentage of female patients: 54.1%, mean number of consultations: 7.3 ± 7.1; 6.6 ± 7.0 and 8.0 ± 8.1 correspondingly, p < 0.001. Patient’s case-mix: 55.0% of the study population was grouped into 10 ACG. A high variability was observed among regions with differences in the average values of RUB (2.9 ± 0.8; 2.3 ± 0.8; 2.4 ± 0.8) and pharmacy cost (€361.67; €242.01; 290.89), p < 0.001. The explanatory power of the ACG classification system was 30.7% (Ln: 41.2%) for visits, 87.6% (Ln: 87.1%) for episodes and 21.3% (Ln: 39.9%) for pharmacy cost, p < 0.001. CONCLUSIONS: The fact that patient’s morbidity load is adequately correlated with attended consultations and pharmacy cost reinforces the appropriateness of the ACG system when associating clinical and economic information from health care centers in Primary Care. In consequence, case-mix adjustment must be considered for clinical decision-making and financial management in Primary Care.

COSTS ASSOCIATED TO ADDITIONAL TEMPORAL SICK LEAVE DAYS IN THE IMSS
Contreras-Hernandez J, Olivera-Gomez JJ, Garduño-Espinosa J
Social Security Mexican Institute, Mexico City, Mexico

OBJECTIVES: Financial protection of the affiliated workers to the Social Security Mexican Institute (IMSS) is one of its core functions; however it also generates outlays to the health system. This study estimates the associated cost to additional sick leave days due to medical causes and/or due to inefficiencies on the system. METHODS: A cost study was made from the perspective of the institution through a prospective cohort of male and female patients to whom it was prescribed temporal sick leave days due to diseases not related to the work environment (general disease), a follow-up was scheduled until their return to their work place and the cost of medical attention was calculated; this included ambulatory consult, drugs, lab exams, urgency service assistance, surgery, hospital time and payment under the concept of sick leave. All patients must have an estimation of the probable number of recovery days, those who required additional days were identified and the causes that triggered a longer lapse.