

1028 POSTER
Budgetary impact of lipegfilgrastim to the Mexican healthcare system

A. Szende¹, B. Bussey², E. Szabo³, J. Klasterky⁴, O. Tomey⁵, U. Mueller⁶, S. Gabriel³, B. Tang³. ¹Covance, Global Health Economic and Outcomes Research, Leeds, United Kingdom; ²Covance, Global Health Economic and Outcomes Research, Sydney- NSW, Australia; ³Teva Pharmaceuticals, Global Health Economics and Outcomes Research, Frazer- Pennsylvania, USA; ⁴Institut Jules Bordet- Centre des Tumeurs de l'Université Libre de Bruxelles, Department of Medicine, Brussels, Belgium; ⁵Teva Pharmaceuticals, Medical Affairs, Naucalpan de Juárez, Mexico; ⁶Teva Pharmaceuticals, Global Medical Affairs, Ulm, Germany

Background: Recombinant granulocyte-colony stimulating factors (G-CSFs) reduce the risk of chemotherapy-induced neutropenia. Lipegfilgrastim is a long-acting, once-per-cycle G-CSF not currently reimbursed in Mexico, while the short-acting G-CSF filgrastim is the reimbursed standard of care. A budget impact model was developed from the perspective of the Mexican healthcare system to estimate the 5-year net cost associated with the introduction of lipegfilgrastim versus filgrastim and pegfilgrastim.

Material and Methods: A decision analytic model used inputs based on national data, clinical trial evidence including meta-analysis, and expert opinion to estimate the changes in drug and medical costs resulting from the introduction of lipegfilgrastim relative to filgrastim and pegfilgrastim. Health outcomes and costs for the pre- and post-lipegfilgrastim scenarios were combined with population and market share information to calculate the expenditure and budget impact associated with the introduction of lipegfilgrastim and changing treatment patterns over 5 years. Costs and outcomes were discounted annually at a rate of 5%; all costs expressed are in 2015 Mexican pesos (P\$). One-way and multi-way probabilistic sensitivity analyses were conducted.

Results: The base-case market uptake of lipegfilgrastim led to savings of P\$5,259,536 in overall medical costs over 5 years. G-CSF treatment was the greatest contributor to overall costs, making up 91%, 89%, and 17% of costs for lipegfilgrastim, pegfilgrastim, and filgrastim, respectively. Administration costs resulted in the greatest budget impact savings associated with the introduction of lipegfilgrastim. The total annual expenditure increased in years 1 and 2 (by P\$1,058,072 and P\$377,434, respectively) mainly due to assumptions on the increase in pegfilgrastim relative market share, and then decreased each remaining year due to savings related to lipegfilgrastim uptake, leading to budget impact savings of P\$303,205, P\$2,004,801, and P\$4,387,036 in years 3 through 5, respectively. Overall health outcomes were estimated to improve following the introduction of lipegfilgrastim such as a decrease in projected number of deaths linked to febrile neutropenia from 152 in the first year to 17 deaths in year 5. With respect to the sensitivity analysis, relative risk ratio of febrile neutropenia, incidence of neutropenia, the filgrastim drug cost, and the lipegfilgrastim drug cost had the greatest impact on the results.

Conclusions: The base-case budget impact model estimated a reduction in overall medical costs along with improved health outcomes over 5 years following the introduction of lipegfilgrastim in the Mexican healthcare system.

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1029 POSTER
Cost benefit of prophylactic filgrastim in breast cancer patients treated with adjuvant docetaxel

A. Schaih¹. ¹Menoufia University, Clinical Oncology, Shebin El Kom, Egypt

Background: Febrile neutropenia is a serious, potentially life threatening complication of chemotherapy. Filgrastim is used both for prophylaxis against and during febrile neutropenia episodes. This study included breast cancer patients treated with docetaxel to assess cost benefit of filgrastim.

Material and Methods: The study included patients with ECOG performance of 0 and breast cancer who were receiving docetaxel as a part of their adjuvant treatment. 50 cases received filgrastim from day 3 to day 5 of chemotherapy while 50 cases didn't receive it. Cost per cycle was calculated for both arms as well as need for admission and antibiotics.

Results: Cases who received filgrastim as prophylaxis needed less admission for febrile neutropenia than those who didn't receive it (4% and 14% respectively). The median cost per cycle for the patients who received filgrastim as prophylaxis was 765 USD while for the other arm it

was 810 USD. This is because of the high cost of antibiotics in those who were admitted for febrile neutropenia. Neutropenia caused delay for the chemotherapy schedule in 10% of those who received filgrastim and 26% of those who didn't.

Conclusions: Filgrastim has a good cost benefit for febrile neutropenia in breast cancer cases receiving docetaxel. Despite its price, the cost of antibiotics used in febrile neutropenia is higher. Filgrastim decreased the need of admission and the delay in chemotherapy schedule in the patients who received it.

No conflict of interest.

1030 POSTER SPOTLIGHT
A general model for cancer centers to conduct health technology assessments; a practical case of next generation sequencing in oncology

V. Retel¹, J. Mewes¹, A. Wind¹, F. Rocha-Goncalves², W. Van Harten³. ¹The Netherlands Cancer Institute, Psychosocial Research and Epidemiology, Amsterdam, Netherlands; ²Instituto Português de Oncologia do IPO Porto, Executive board member, Porto, Portugal; ³University of Twente, Health Technology Services Research, Enschede, Netherlands

Background: The Health Economics working-group of the Organisation of European Cancer Institutes (OECI) aims at closer cooperation and stronger implementation of Health Technology Assessment (HTA) within oncology practice in hospitals. Therefore, a pilot study was conducted on the budget impact (BI) of DNA sequencing for Lung Cancer (NSCLC) patients. The objective was to identify which circumstances of introducing newer sequencing techniques lead to a higher or lower BI

Methods: First, a questionnaire was developed and distributed via email. Additionally the OECI contact persons in the hospitals were approached by phone. Data on the yearly number of (NSCLC) patients, test strategy, test costs, treatment costs and future plans were collected. For every hospital, the current situation of DNA sequencing was compared to a future situation when new sequencing technologies have been introduced. Moreover, scenario analyses were conducted. A BIA model was built in Excel.

Results: Ten of the 50 cancer institutes of the OECI filled in the questionnaire. The centres were located in the Netherlands, Portugal, Italy, Hungary, France, and Lithuania. All centres already made use of DNA sequencing for all or the largest part of their NSCLC patients. Most/many are in the process of implementing new techniques, especially NGS, in the coming years. The use of DNA tests (ranging from sanger sequencing of €60 to €295) to Whole genome sequencing (€4000), as well as costs for targeted treatments (€88–665 for docetaxel to €46,078–63,968 for Nivolumab), varied widely among the participating centres. Introducing more advanced sequencing techniques, such as NGS or whole genome sequencing (WGS), in all cases resulted in considerable increases in the BI of the test costs (ranging from €1.6M in case of purchase of advanced sequencer, to saving €22M in the scenario that a DNA test can be introduced that is able to detect which patients are responders for nivolumab).

Conclusion: Conducting straightforward (hospital-based) HTA in the form of budget impact analysis in cancer centres was feasible and found useful. In our case study, introducing NGS for most cancer centres resulted in a considerable increase of test costs. However, if a test for selecting patients for nivolumab would be available, this would lead to large cost-savings due to enormous reductions in the drug expenses.

No conflict of interest.

1031 POSTER
The financial burden of cancer treatment in a state university hospital in Turkey

E. Unal¹, T. Canbak¹, A. Acar¹, K.H. Tolan¹, S. Yuksekdogan¹, M. Yucel¹, A. Kiliç¹, F. Ezberci¹. ¹Health Sciences University Umraniye Training and Research Hospital, Department of General Surgery, Istanbul, Turkey

Background: Covering the costs of cancer treatment is an important issue. When the patients are told that they have cancer, how to pay for the treatment costs is not usually the first thing that comes to mind. But having health insurance coverage for their cancer treatment and all of the needed follow-up care is critical for most people.

Material and Methods: Private health insurance options used in private hospitals in Turkey are excluded. A computer-based analysis was done retrospectively to search the covering health insurance programmes of our patients treated in our clinic between January 2014 and August 2016. The rates of government issued general health insurance, private health insurance options and the payments done by the patients' own resources were documented, and compared by student's t-test.