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Published in:

Basic & Clinical Pharmacology & Toxicology

DOI (link to publication from Publisher):

[10.1111/bcpt.13020](https://doi.org/10.1111/bcpt.13020)

Publication date:

2018

[Link to publication from Aalborg University](#)

Citation for published version (APA):

Laursen, H. V. B., Vesteghem, C., Sommer, M., Nielsen, M. M., Dybkær, K., El-Galaly, T., Johnsen, H. E., Ehlers, L. H., & Bøgsted, M. (2018). Methodological challenges for the valuation of drug related treatment costs for relapsing haematologic cancer patients. *Basic & Clinical Pharmacology & Toxicology*, 123(Suppl. 1), 9. Article NorPM-P22. <https://doi.org/10.1111/bcpt.13020>

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Abstract Submission

NorPM-148

Methodological challenges for the valuation of drug related treatment costs for relapsing haematologic cancer patients

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What is your preferred presentation method?: Oral (if accepted) or Poster presentation

Aim(s): For up to 3/4 of cancer patients, initial treatments are not effective, which leads into a trial and error treatment strategy resulting in unnecessary side effects and a waste of health care resources. However, little is documented about the costs associated with these secondary treatments while a large part of the limited hospital resources is used for them. Our goal is to develop health economics methods to calculate the cost in order to evaluate the potential savings of implementing precision medicine (PM).

Method(s): Since January 1, 2016, relapsing haematologic cancer patients at Aalborg University Hospital have been offered to participate in the ProSeq protocol, where RNA- and DNA-sequencing are performed on the cancer cells to identify drug targets. Injectable (IJ) drugs dosages and prices were obtained from the hospital pharmacy combined with clinical data and dosages for non-IJ drugs from electronic health records. Data recordings end at death or lost to follow-up. The drugs were grouped by ATC codes and the price was estimated by a mg price based on the total number and price of packages and doses sold to the department. The total drug related treatment cost (DRTC) over the inclusion period was divided by the total days at risk to get an estimate of cost per day per patient.

Result(s): After 25 mos., 208 patients have been included. Of these, 111 (myeloid leukemias = 11, lymphoid leukemias = 25, multiple myeloma = 16, lymphoma = 59) have received drug related treatment. The included patients have a median follow-up time (95% CI) of 11 mos. (9.6 mos., 13 mos.) and one-yr survival rate of 76% (68%, 85%). Assuming 1 yr stays in ProSeq the DRTC of relapsing patients was estimated to be 29 million DKK/yr, which is 1/2 of the DRTC of all haematologic patients.

Conclusion: We have formulated a methodology to estimate DRTC. This will e.g. be used to 1) identify costly patients, 2) evaluate the benefit of implementing of PM and 3) aid in health care planning.

Keywords: precision medicine, treatment costs valuation, cancer