

**Modeling Cost-Effectiveness of a Novel Hepatitis C Medication-
Potentialities and Challenges for OR in Health Care Management
as Essential Part of General Humanitarian Logistics Activities –
Budget Effects of the Introduction of a Novel Hepatitis-C
Medication for the Austrian Healthcare System
Based on a Micro Simulation Approach**

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The novel medication Sovaldi is the first medicine that allows for healing hepatitis C with very high possibility. Depending on the patients' genotype and the infection status, the probability for healing the disease lies between 30 and 100%. Although the medical treatment is very promising for most of the patients (success rate above 90% for most genotypes), an overall treatment of Hepatitis C patients seems to be impossible due to the high treatment costs. Austria currently faces about 30.000 hepatitis C patients.

Decision makers therefore need a forecasting model to test several scenarios of medical treatment for Hepatitis C patients in relation to the overall costs for the healthcare system. We therefore created a micro-simulation model that considers every patient in the system with trends in the spread of the disease and individual probabilities for a successful treatment. Preliminary results imply that the treatment with the novel medication seems to make more sense on a broader range, as this decreases the epidemic spread and reduces stationary costs in hospitals.

This talk reflects also the general potentialities and challenges for OR in Health Care Management which might be part of general Humanitarian Logistics activities.