


Volume 11, 27 June 2011

Publisher: Igitur publishing

URL: <http://www.ijic.org>

URN:NBN:NL:UI:10-1-101465 / ijic2011-28

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Conference abstract

A user-friendly decision-modelling tool to inform policy makers about the cost-effectiveness of telehealth: the case of COPD in Germany

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Abstract

Introduction: An ever-increasing number of telehealth projects are being tested worldwide. But despite the potential of these innovations to fundamentally change medical care, one also encounters voices of concern. In particular, health insurers fear that the process of adopting telehealth might repeat the past mistakes made on other medical innovations. A large body of evidence suggests that past technological innovation in medical care often failed to target relevant patient groups and/or deliver value for money. Consequently, there appears to be a need for decision-tools which allow payors to assess the quality and economic impact of proposed telehealth projects.

Aims and objectives: By using German COPD patients, this paper develops a decision-support model based on health economics. This allows payors to quickly identify relevant target groups for telehealth use in a given patient-population as well as assess the project's economic impact.

Methods: We developed a probabilistic Markov model for the telehealth-supported care of COPD patients in Germany. Data input for the model are based on results from international clinical trials as well as regional epidemiological studies and registries. It allows us to assess both the quality and the economic impact and can also be used for comparisons between telehealth and other extant treatment regimes.

Results: For the deterministic analysis, our principal finding is a 5,606.84 €/QALY incremental cost-effectiveness ratio for telehealth versus disease management. This suggests that the analysed telehealth project is quite efficient. In the model's stochastic variant, we develop cost-effectiveness acceptability curves and conduct probabilistic sensitivity-analyses.

Conclusion: We have concluded that our model constitutes a user-friendly approach to help payors quickly assess the quality and economic impact of proposed telehealth projects. Consequently, if such models are used prior to the large-scale introduction of telehealth, there is a potential that past mistakes of technology adoption in health care may be mitigated.

Keywords

decision-modelling, cost-effectiveness, COPD, telehealth, Markov model
