

# Multi-Actor Analysis for Identifying the Economic Viability of eCare Solutions

Jan Van Ooteghem, Ann Ackaert, Sofie Verbrugge, Piet Demeester

Ghent University – IBBT, Dept. of Information Technology (INTEC),  
G. Crommenlaan 8 bus 201, 9050 Gent, Belgium  
tel: +32 9 33 14900, fax: +32 9 33 14899  
{jan.vanooteghem, et al.}@intec.ugent.be

## Abstract

**Background:** The increasing elderly population in most OECD countries will lead to many challenges in the upcoming years. Providing good quality care, to more elderly people, with a lower availability of professional care providers and within a stringent health care budget calls for innovative solutions. We focus on eCare solutions and services in view of the care provision to elderly people, which supports a multitude of needs: assistance in activities for daily life, health care acts at the residence of the elderly person, contact moments in view of coaching and specific care related questions. For several years many initiatives have been taken to explore the technical and social implications of a wide variety of such eCare solutions but large-scale rollouts have been lacking due to the absence of convincing business models.

**Objective:** Identifying the economic viability of eCare solutions by making use of multi-actor analysis, indicating a positive business case for all actors involved in the value network.

**Method:** Within the IBBT TranseCare project, a research project aimed at developing ICT support tools and services for an eCare platform, a generic value network evaluation model for eCare solutions has been elaborated. First we indicate the different roles (eCare platform, health care and finance providers) and their interactions. Next we describe the potential actors able to participate within this eCare solution. When matching the actors upon the roles, different potential business scenarios are presented based on the dominance of the actor stimulating the rollout. A detailed techno-economic model has been worked out, taking into account the adoption rate of potential customers (based on demographics, health care figures, services implemented, etc), the bill of material for equipment and operational processes required to install, distribute, operate and maintain the system, and direct and (socio-)economic revenues. When combining the techno-economic and value network models, a multi-actor analysis, indicating the economic viability for all actors involved in the eCare solution, can be executed. This model will help formulating a business case towards governmental agencies, insurance companies, health care providers or private investors as to how much and how soon to invest in eCare.

**Results:** This model is validated by presenting five business scenarios (third party developer, connectivity provider, government, insurance company or home care provider) that could be introduced in Belgium. The results show for the health care actors (general practitioners, home care providers and retirement homes) a social benefit, either in terms of new customers, time savings and/or serving more customers needs. When analyzing the eCare system costs, the platform (platform ideally subsidized by the government to enhance the speed-up of rollout of eCare services), call center (personnel costs) and network connectivity costs (high in Belgium), are dominant. Initiatives taken by the government, home care and insurance providers show the lowest cost per patient, as well as the highest potential for a large scale rollout.

**Conclusion:** When the appropriate business scenario is applied, all actors participating in the offering of the eCare platform and services can benefit from the implementation of an eCare solution.

## Acknowledgements

This research was carried out as part of the IBBT TranseCare project, co-funded by the IBBT and IWT and by Televic, Androme, Custodix, SOL, WGK, In-HAM and UZGent. This work was carried out in the framework of the COST ISO605 Econ@Tel project.