



Research School for Operations
Management and Logistics

Integrating tactical and operational decision-making in home health care services

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Home health care (HHC) may be defined as care workers visiting patients following predefined schedules in order to provide medical services at their home. Maintaining a sustainable and effective home health care system is a major challenge as a result of two trends: limited resources and a rise in demand. In response to these trends, HHC providers must discover ways to decrease costs and enhance productivity by optimizing the use of resources. A key opportunity for improvement is the integration of decisions at different decision-making levels to make better medium-term decisions. The goal of this project is to develop models that enable making better staff dimensioning decisions by taking the implications on rostering, clustering, scheduling and routing into account. First, this project contributes to the academic state-of-the-art by proposing innovative models, algorithms and solution techniques (academic contribution). In this way, the benefits of an integrated approach will be quantified and managerial insights will be provided that tackle the challenges the HHC industry is facing. This will enable HHC providers to organize operations more efficiently (economic contribution), which not only benefits HHC service providers, but care workers and patients as well (social contribution).