

# Distributed Scheduling for a Home Health Care Information System

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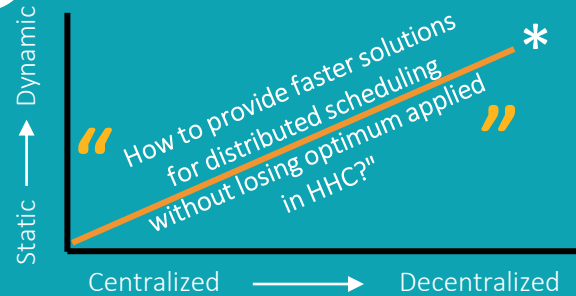


## BACKGROUND

- Constant aging population
- Increasing demand for Home Health Care
- Scheduling management are generally performed manually and centralized
- High level of complexity, requirements and emergences can occur
- Limitations in resource management with unbalanced routes/schedules



## RESEARCH QUESTION



Digital ecosystem for distributed HHC, considering the scheduling, routing, and resources allocation



## METHODS

- Multi-agent systems – intelligent and fast response to condition changes
- Deterministic/Stochastic algorithms – optimal solutions
- Information digitalization – monitoring and decision-making



## PRELIMINARY RESULTS

- Qualitative and quantitative improvement in resources optimization
- Reduction of costs and waiting times
- Better workload-balance, flexibility and task effort distribution
- Early detection of emergences and faster reaction in re-scheduling
- Data digitalization and smart solutions

Consider:

- Tactical, strategic and operational data planning
- Multiple objectives
- Mathematical formulations and evolutionary models
- ICT concepts
- Interoperability
- Knowledge-based system
- Trading and negotiation protocols
- Collaboration between optimization methods and Artificial Intelligence

