

The Health Technology Report Series has been developed by the Institute of Family Medicine and Public Health of the University of Tartu

## **Acute care at patient's home i.e. hospital at home: effectiveness, costs and organization**

### **Summary**

**Background:** Hospital at home (HaH) is a potentially health-benefiting and cost-saving service that enables to improve the sustainability of healthcare systems and increase patient's perceived quality of life. HaH has been piloted in Estonia, but is not yet provided at the national level.

**Objective:** To estimate the effectiveness, cost-effectiveness and budget impact of HaH compared to hospital-based acute care in Estonia.

**Methods:** A systematic literature search was performed in PubMed to identify randomised controlled trials on the effectiveness and safety of HaH. A meta-analysis comparing the effectiveness of HaH to hospital-based acute care was performed and a systematic review of safety and cost-effectiveness of the interventions was conducted. A cost-minimization and a budget impact analysis were performed to estimate the cost-effectiveness and budgetary impact of HaH compared to hospital-based acute care in Estonia.

**Results:** HaH is defined as providing acute care to patients at their homes for conditions that would otherwise require hospitalization in an inpatient unit. The HaH team includes a physician and a nurse, but also other healthcare specialists, if necessary. The team also includes a patient coordinator or a service manager. The prerequisite for providing HaH is a clear definition of the roles of team members. The patient population for HaH is heterogeneous. Various tests and procedures may be performed at the HaH location. Telecommunications solutions have a significant role in communication between the patient and the service provider. Remote monitoring and visits may be implemented. In Estonia, HaH should be a hospital-led service. The referral criteria and requirements for the service provider should be defined. Clear guidelines and role descriptions are an important prerequisite for the provision of HaH.

Results of the meta-analysis showed that HaH does not increase the risk of mortality, rehospitalization or institutional care compared to hospital-based acute care. According to the literature review, HaH does not worsen patients' functional status and quality of life nor reduce safety. In some cases, HaH can shorten the duration of hospitalization.

Data from the Estonia pilot project showed that the duration of hospitalization is longer with HaH due to provision of treatment free days. The cost-minimization analysis showed that if considering the actual frequency of treatment procedures, the total cost of a three-month period in the HaH arm was lower than in the hospital-based acute care arm. The total cost of HaH was higher when the costs were considered to occur on all days.

Considering the actual frequency of treatment procedures and treatment-free days in HaH, the annual cost savings of HaH compared to hospital-based acute care would be 156,827–627,309 euros. If the costs would occur on all active treatment days, the additional cost associated with HaH would be 283,512–1,134,047 euros per year.

**Conclusions:** HaH is as effective and safe as hospital-based acute care. The first step in the implementation of HaH should be describing the service so it could be added to the list of health services of Tervisekassa.

*Citation:* Põld M, Lutsar K, Oras K, Hinno S, Kull M, Lasn A, Jürisson M. Aktiivravi patsiendi kodus ehk koduhaigla: efektiivsus, kulud ja korraldus, TTH64. Tartu: Tartu Ülikooli peremeditsiini ja rahvatervishoiu instituut; 2023.