

Use case: real-world data for anticipatory elderly services

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Health and elderly care costs by age group in Finnish cities

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Anticipatory elderly services – MAITE project

- A machine learning model for early identification of individuals with risk of excessive use of health and social services
- Providing early preventive services improving the quality of life and reducing the costs of service provision in the longer term

MAITE project 9/2021-11/2023: collaborative project developing a machine learning model for predicting service needs of the elderly

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health and welfare

LAPIN YLIOPISTO UNIVERSITY OF LAPLAND

Pilot region: Päijät-Häme Wellbeing Services County



Predictive model for decision support and knowledge-based management



Model development under legislation on secondary use of health and social data



Data

Target group: elderly individuals (70-90 of age) Cohort size: 33 374

Data contents for years 2018-2021:

- Health and social services encounter data (diagnoses, operations, selected laboratory tests and medications)
- Social services decisions (rehabilitation, elderly housing service, caregiver support, homecare, transportation services)
- · Service need and physical function assessments (RAI)

Machine learning models

<u>Methods:</u> Logistic regression and XGBoost <u>Approach:</u> use data from 3 past years to predict the risk for excessive/multi-sectoral service use next year



MAITE proof of concept

- View data statistics on map
- Observe risk distributions
- Extract groups for interventions
- Inspect effects of variables on risk (explainable AI)

Valitse datasetti:						Valitse tutkit	tava muuttuia:				
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Conclusions

- More emphasis on preventive services
- Better use of social and health data
- Involvement of health and social care professionals in all stages of innovation development





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