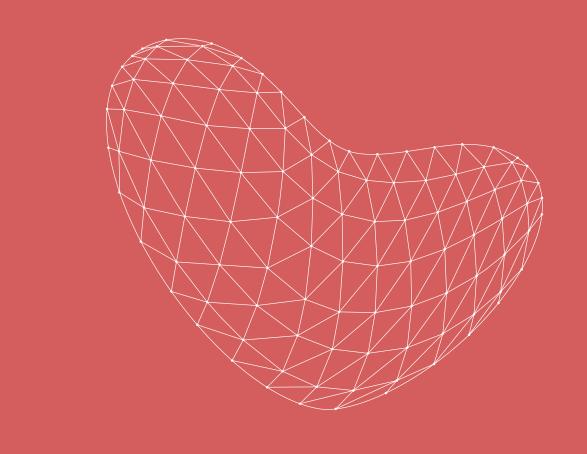
Avoidable admissions — a cross-sectorial research project following the patient trail



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The reduction of unplanned admissions and readmissions has attracted much attention in recent years as a means to improve health, enhance the experience and outcomes of the patients and reduce the cost of care.

A variety of tools have been developed across Europe to predict unplanned admissions and readmissions but so far they have not been applied neither at the national nor regional level in Denmark.

Due to differences in the organization of healthcare systems, differences in data structure and quality, and differences in national statutory provisions, risk prediction models cannot be directly transferred from one country to another, thus a Danish model is needed.

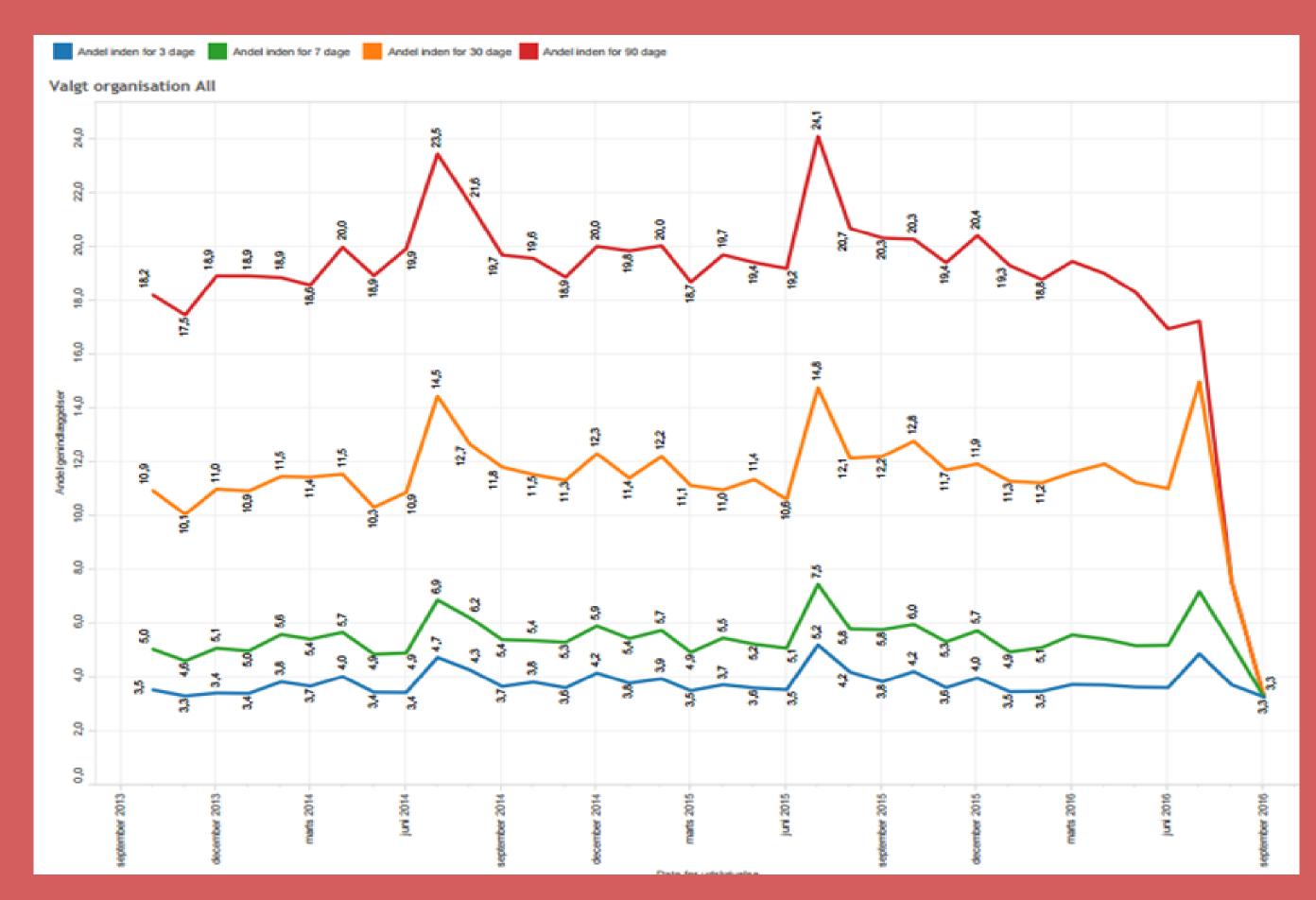


Figure 1. Despite many different preventive initiatives, no decrease has been found in the proportion of readmissions in the Horsens catchment area.

Objectives

The overall aim of this cross-sectorial research project is to reduce unplanned admissions and readmission through identification of citizens or patients at risk of such health care needs.

Methods

The research project consist of three phases: 1) a quantitative descriptive study, 2) a development of a clinical support system (CDSS), and 3) an effect evaluation. The first two phases are conducted based on data from the cohort "CROSS-TRACKS", which contains health related data from approx 185,000 citizens, 18+ years in the Horsens catchment area (inclusion period: 2012-2022).

Figure 2. The three phases of the research program

Descriptive studies

of patients with unplanned admissions and readmissions

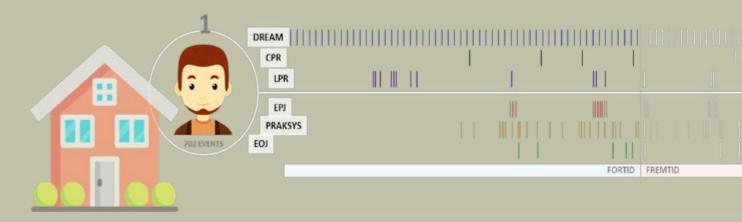
Developing a Clinical Decision Support System

(CDSS) based on artificial intelligens (AI)

Effect evaluation

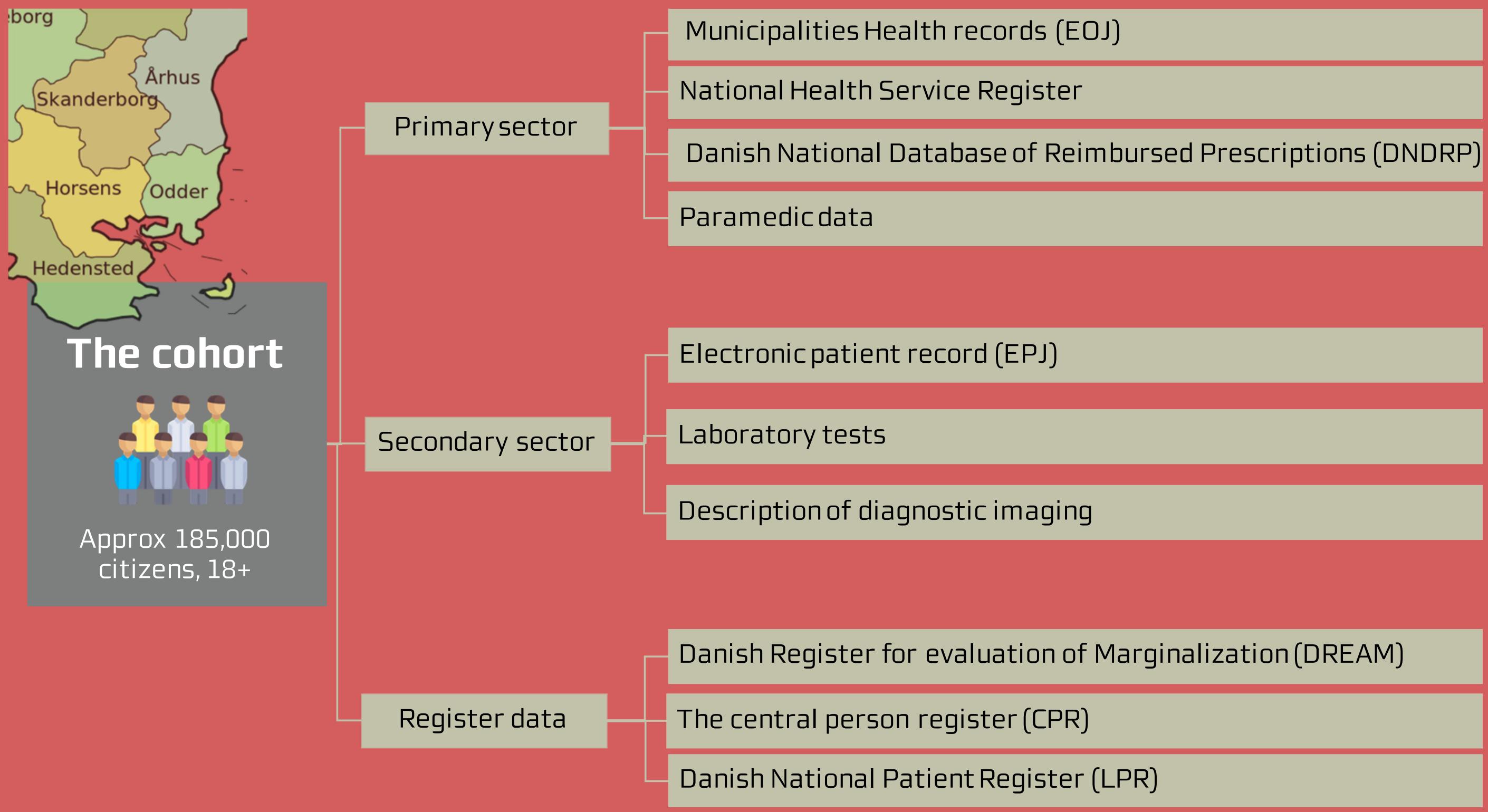
of CDSS and crosssectorialinterventions tailored to individual risk profiles

- Sociodemographic and health-related characteristics
- Organizational factors
- Al based predictive algorithms for risk of unplanned admissions and readmissions



- Explanatory models
- Diagnostic precision
- Framework for interventions according to risk profile
- RCT studies.
- The studies will be specified when the results of the developmentphase are available.

Figure 3. The content of the cross-sectorial cohort



Expected results

The findings will among other things include a description of risk factors across primary and secondary care for unplanned admissions and readmissions, estimates for the diagnostic precision of the developed algorithms and, ultimately, the effect of implementing the CDSS in clinical practice including the munici-palities, the general practices and the hospital.

Perspectives

The research project is expected to contribute to high-quality cross-sectorial care directed towards the need of the individual citizen and patient. Thereby, the project may have a positive impact on the patients' experience of care including quality and satisfaction, a reduction of unplanned admissions and readmis-sions and contribute to improved use of scarce healthcare resources.











