What is the impact of STRIP on secondary outcomes?

III. Research questions

I. Challenges
- Growing aging population
- Health care systems
- > 60% of elderly: multiple chronic conditions (multimorbidity)
- General practitioners (GPs) have limited time
- Inclusion criteria (for patients):
  - Unit of randomisation (cluster): GP
  - Multimorbidity
  - Elderly ≥ 65 years of age
  - 3 coexistent chronic conditions, duration: minimum 6 months
  - 5 different regular drugs
- Most guidelines address diseases in isolation, RCTs: elderly often excluded
- Inappropriate drug prescription
  - contribute to up to 30% of hospital admissions
  - and 20% of unjustified overt health care costs

II. Goals
- Support health care system with a cost-effective medication review tool
- Generate patient-centered solutions for adjusting complex medication
- Provide a user-friendly, time-saving aid for polypharmacy adjustment
- Evidence-based medication optimization in accordance with guidelines and disease limitations
- Reduce adverse events and hospitalisations, thereby lower costs

Research questions
I. How effective is our user-friendly, software-assisted method for optimizing medication among multimorbid, elderly with polypharmacy in GP offices?
II. What is the impact of STRIP on secondary outcomes?
   - drug utilization
   - health care utilization (incl. in- and outpatient care)
   - costs
   - quality of life (EQ-5D)
   - changes in medication
III. What hurdles are to overcome for a broad implementation in GP offices?

Methodology
Design:
- 12-month, cluster randomised, controlled trial
- Unit of randomisation (cluster): GP

Inclusion criteria (for patients):
- Elderly ≥ 65 years of age
- Multimorbidity ≥ 3 coexistent chronic conditions, duration: minimum 6 months
- Polypharmacy ≥ 5 different regular drugs

Statistical considerations:
- Co-primary outcomes: improvement of MAI- and AOU-score at 12 months
  - potential overuse: medication appropriateness index (MAI)
  - potential underuse: assessment of underutilization index (AOU)
- Intention-to-treat & per-protocol analysis, followed by sensitivity analysis
- Analysis tools include mixed-effect models

Approach
Intervention:
- 1st step ‘STRIP’: Sytematic Tool to Reduce Inappropriate Prescribing
- A web-based version of STRIP

References:
1.) Barnett K et al, Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. Lancet 2012
2.) Lau DT et al, Hospitalization and death associated with potentially inappropriate medication prescriptions among elderly nursing home residents. Arch Intern Med 2005