

Background

- Establishment of a full medical electronic patient record
- Rise of clinical pharmacy services
- Need for regulatory compliance by hospital accreditation

• During the last decade, traditional drug-oriented services expanded towards patient-oriented services by imbedding computerized Clinical Decision Support Systems (CDSSs) in the prescribing process and implementing bedside clinical pharmacy services, both leading to improved efficacy and safety of medication use.

Why was it done

- CDSS provides support on a hospital-wide basis but only at the level of prescribing
- Bedside clinical pharmacy services provide support at any time of the treatment but only runs for a limited high-risk patient populations due to limited resources

What was done

- To guarantee patient safety throughout the hospital, specifically targeting patients at risk, a back-office clinical service, Check of Medication Appropriateness (CMA), was developed and implemented in a Belgian 2000-bed tertiary care hospital

How was it done

- A worklist with high risk prescriptions, generated by automated queries, is checked by a hospital pharmacist using standardized algorithms
- Interventions are performed via electronic warnings in the patient's file or a phone call to the treating physician in case of a severe adverse drug event

What has been achieved

- 79 specific algorithms, covering 5 pharmacotherapeutic areas of interest, were developed
- 14 hospital pharmacists involved in CMA, covering 0.5 FTE, were educated
- During an 18-month period, 92,050 prescriptions were checked

Future

- Evaluation of the acceptance rate of the current CMA process
- Fine-tuning the screening queries with emphasis on improving specificity
- Determining interrater validity
- Development of new algorithms, also expanding to other areas of interest
- Development of an easy access training tool for hospital pharmacists to perform CMA

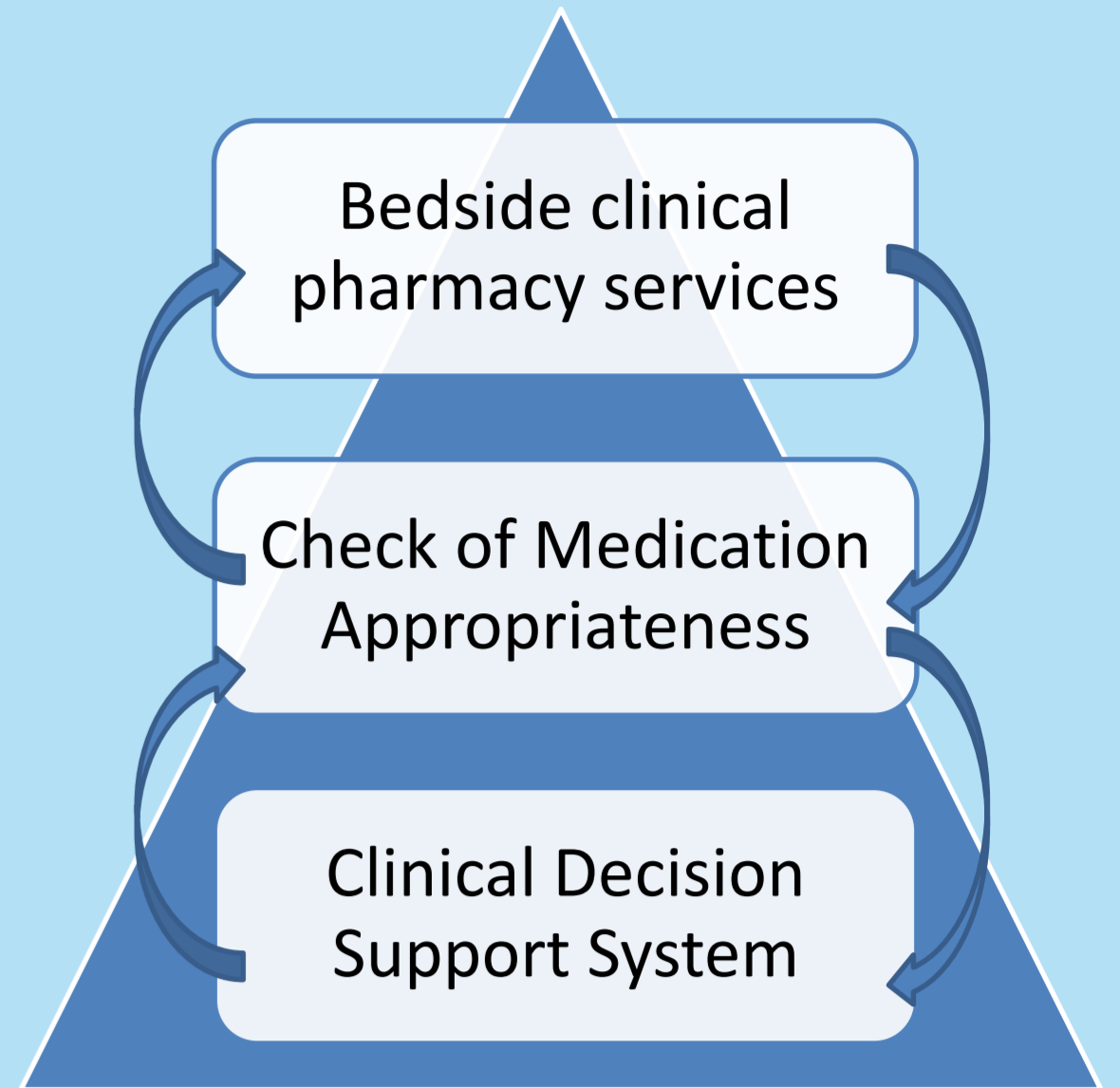


Fig 1. Concept - CMA is a liaison between CDSS and bedside clinical pharmacy. It is a dynamic concept with interaction towards the different levels to further improve patient safety.

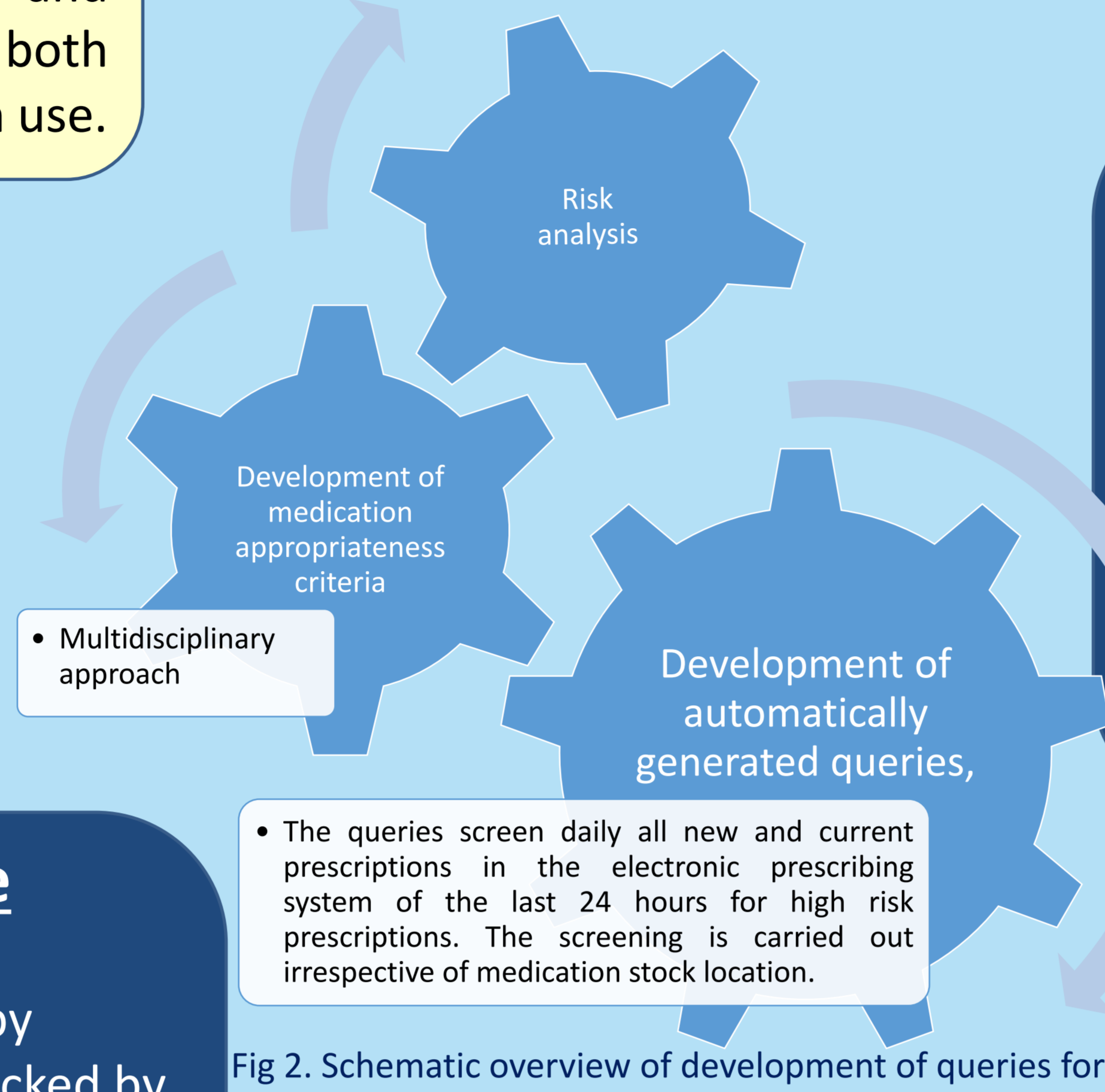


Fig 2. Schematic overview of development of queries for high risk medications

University Hospitals Leuven

- 2000 beds
- 5000 new prescriptions per day
- 18-month period (March 2016 - August 2017): 97,500 hospitalizations

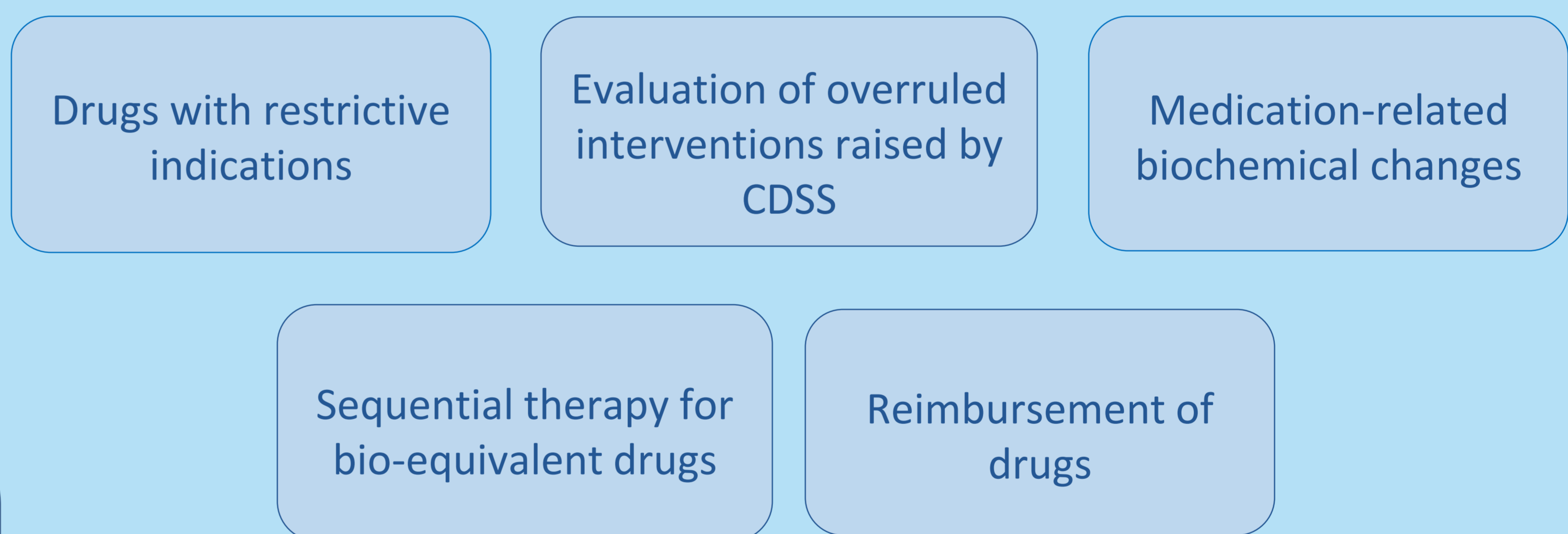
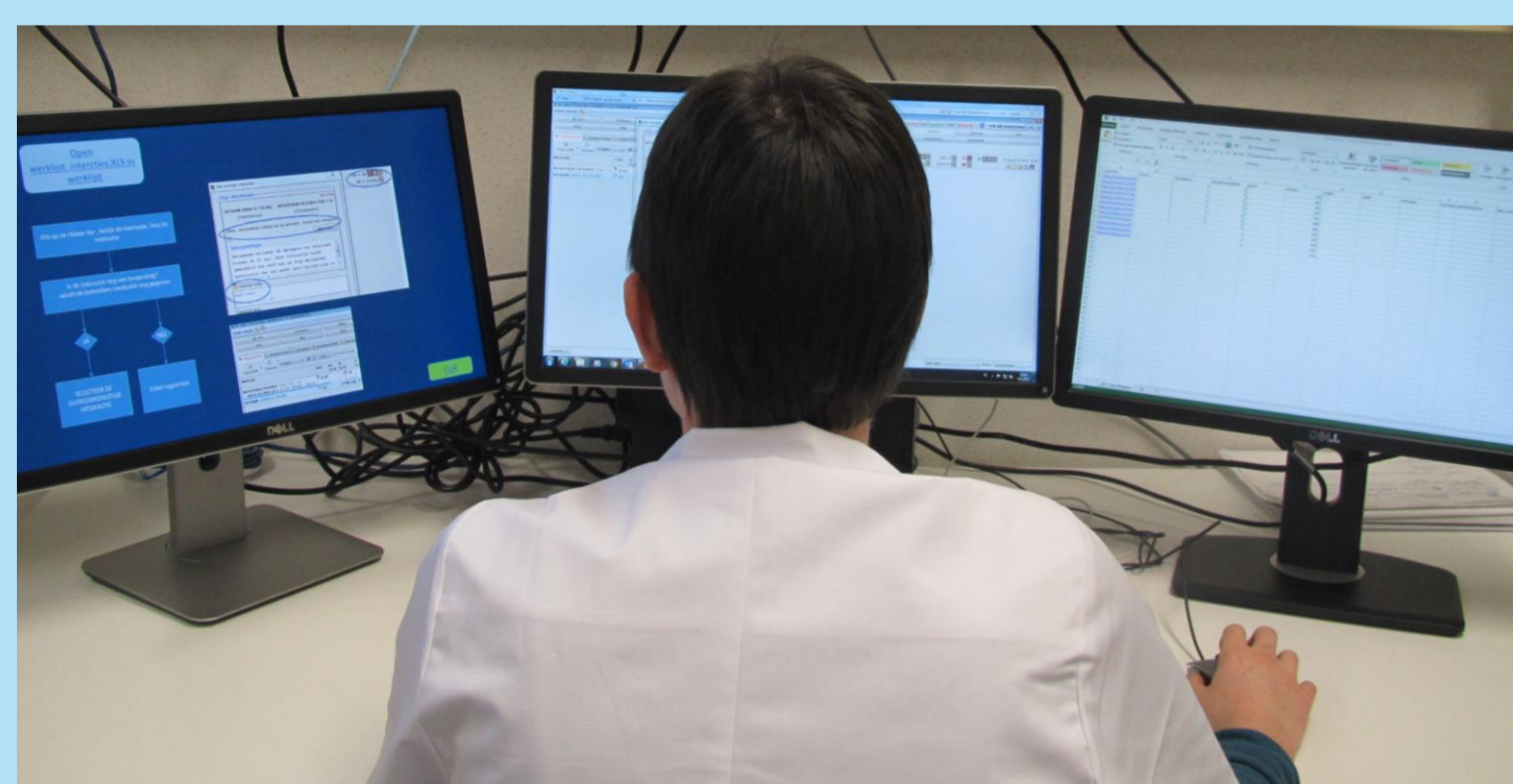


Fig 3. Schematic overview of 5 pharmacotherapeutic areas covered by CMA

