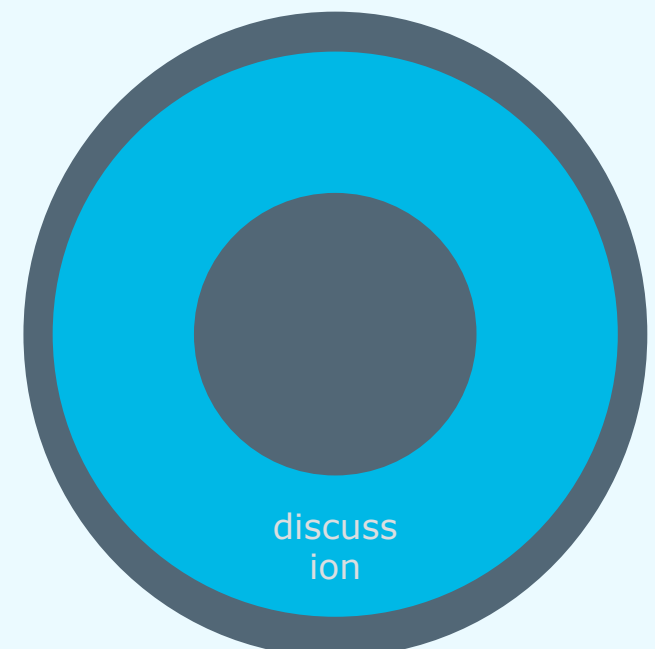
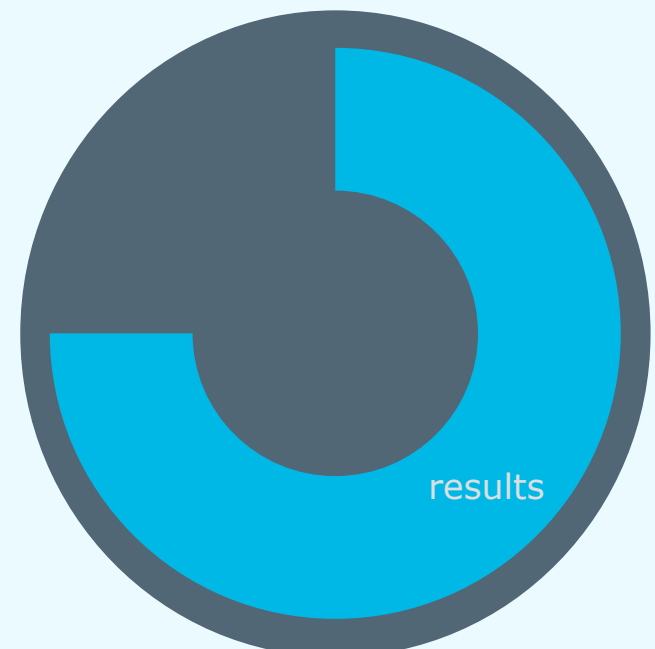
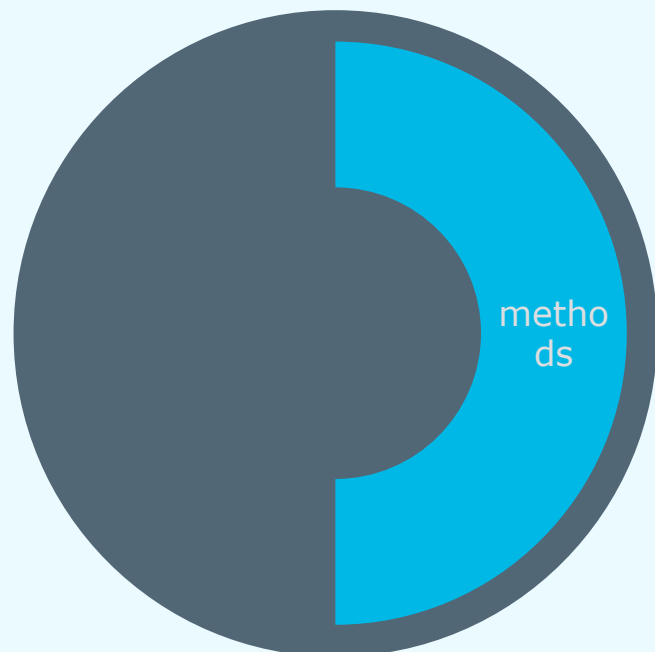
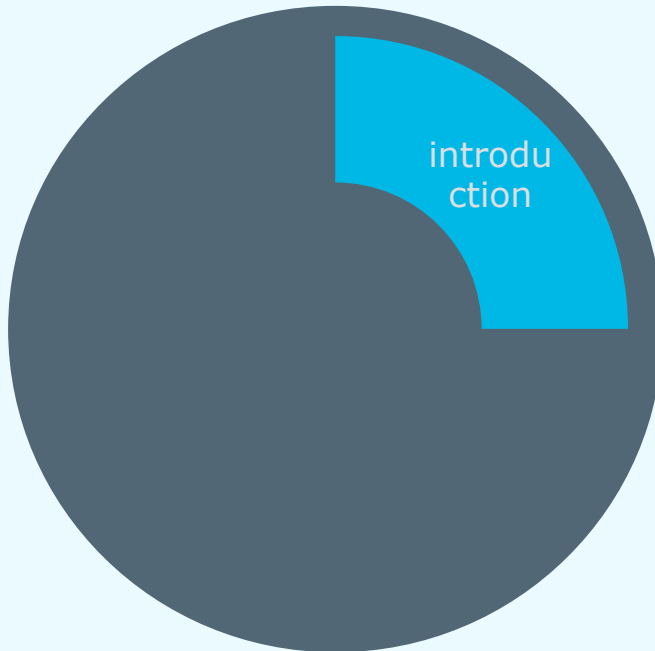


## INTRODUCTION

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# Abstract

Using snomed-ct for the generation of suggestions of terms to use for the search of material hosted in the databases of reliable information sources on the Internet (eg PubMed), and the mapping of snomed-ct to other ontologies, decreases the Medical search times and allows the process of automation.

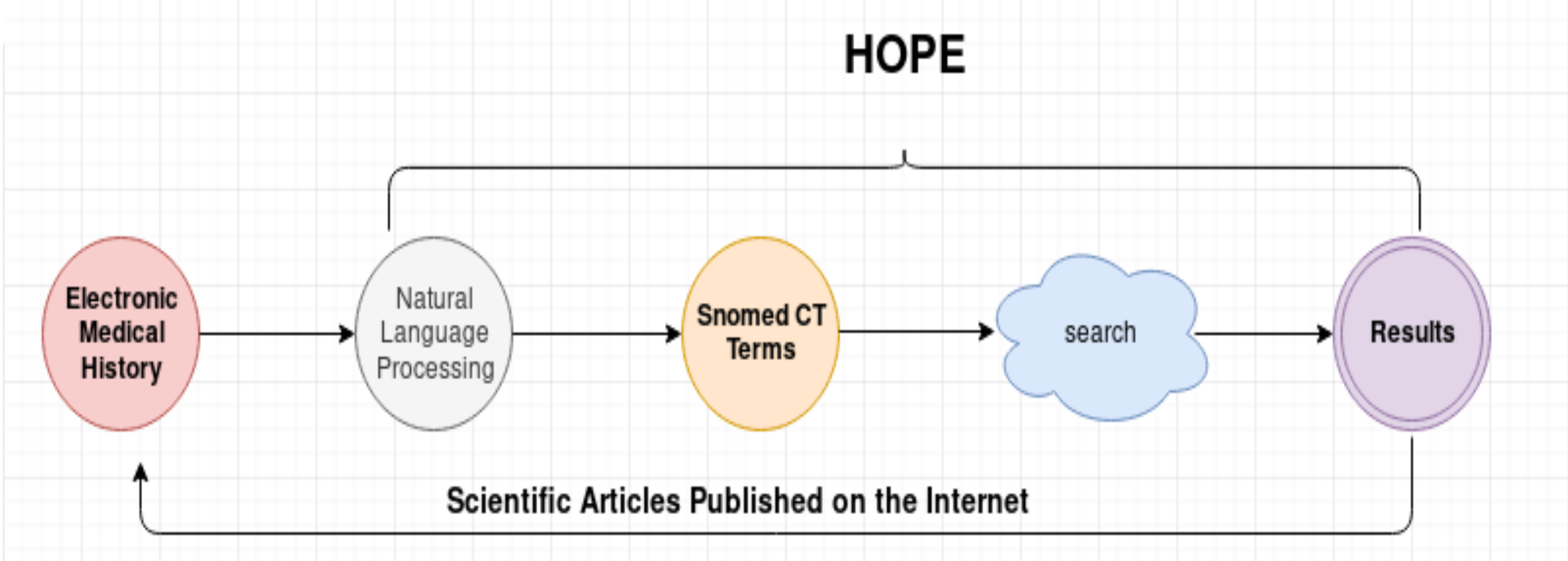
This search method that constitutes the hope project, provides the basis for evidence-based medicine in a personalized way.

# Background

**Take advantage of the power of expression of the concepts that make up SNOMED CT to link them with the terms expressed in an Electronic Medical Record and generate an automatic search for scientific literature published on the Internet**  
**Providing information for the application of evidence-based medicine individually based on each clinical case.**

# Topic

- Integration with electronic clinical record
- Natural Language Processing
- Terms mapping to Snomed CT
- Scientific Articles Published on the Internet
- Automated and transparent search for the doctor
- Results integrated in the Electronic Medical History
- Web Ontology Language



# Taking advantage of ontologies to carry out searches of scientific bibliography in reliable information sources

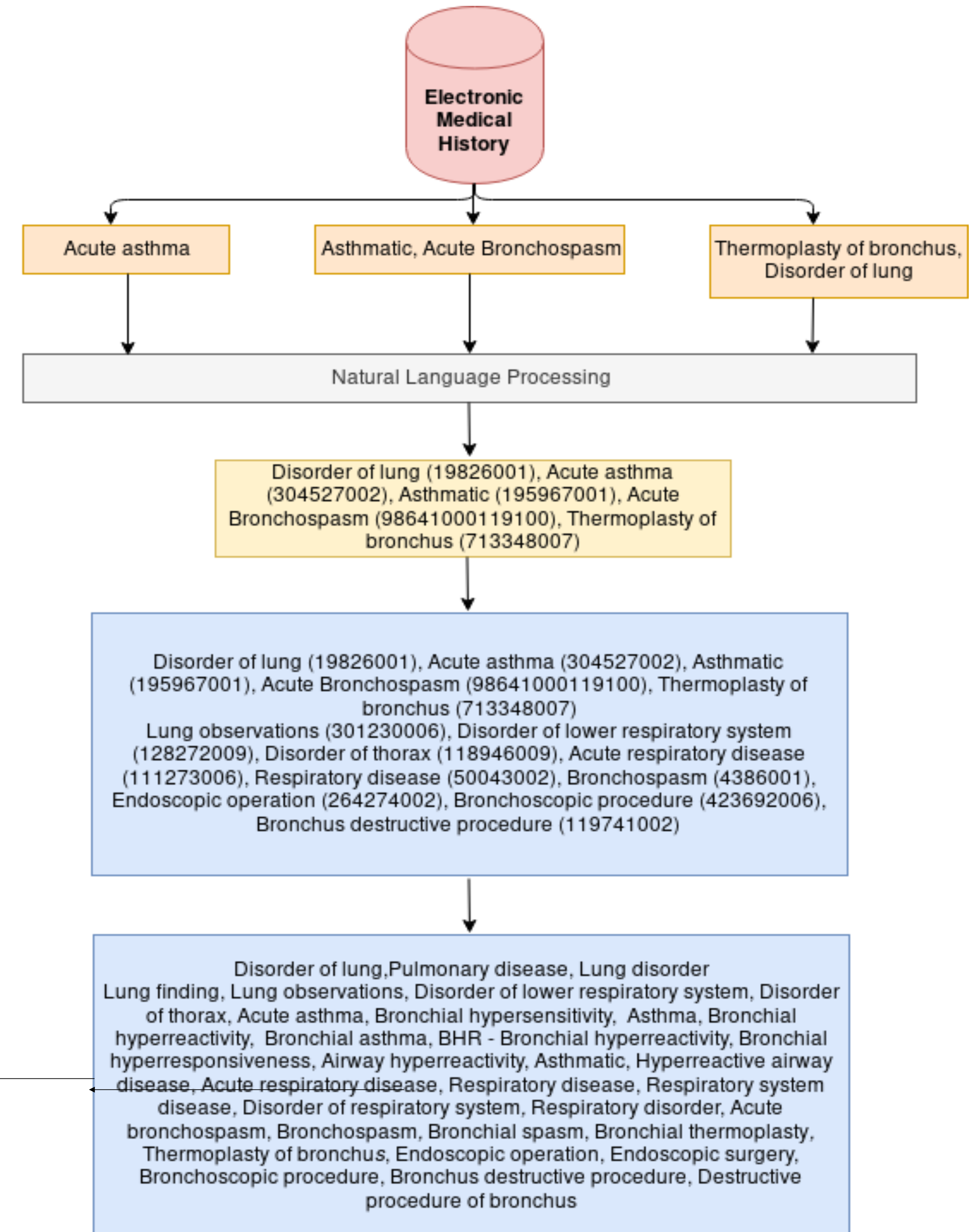
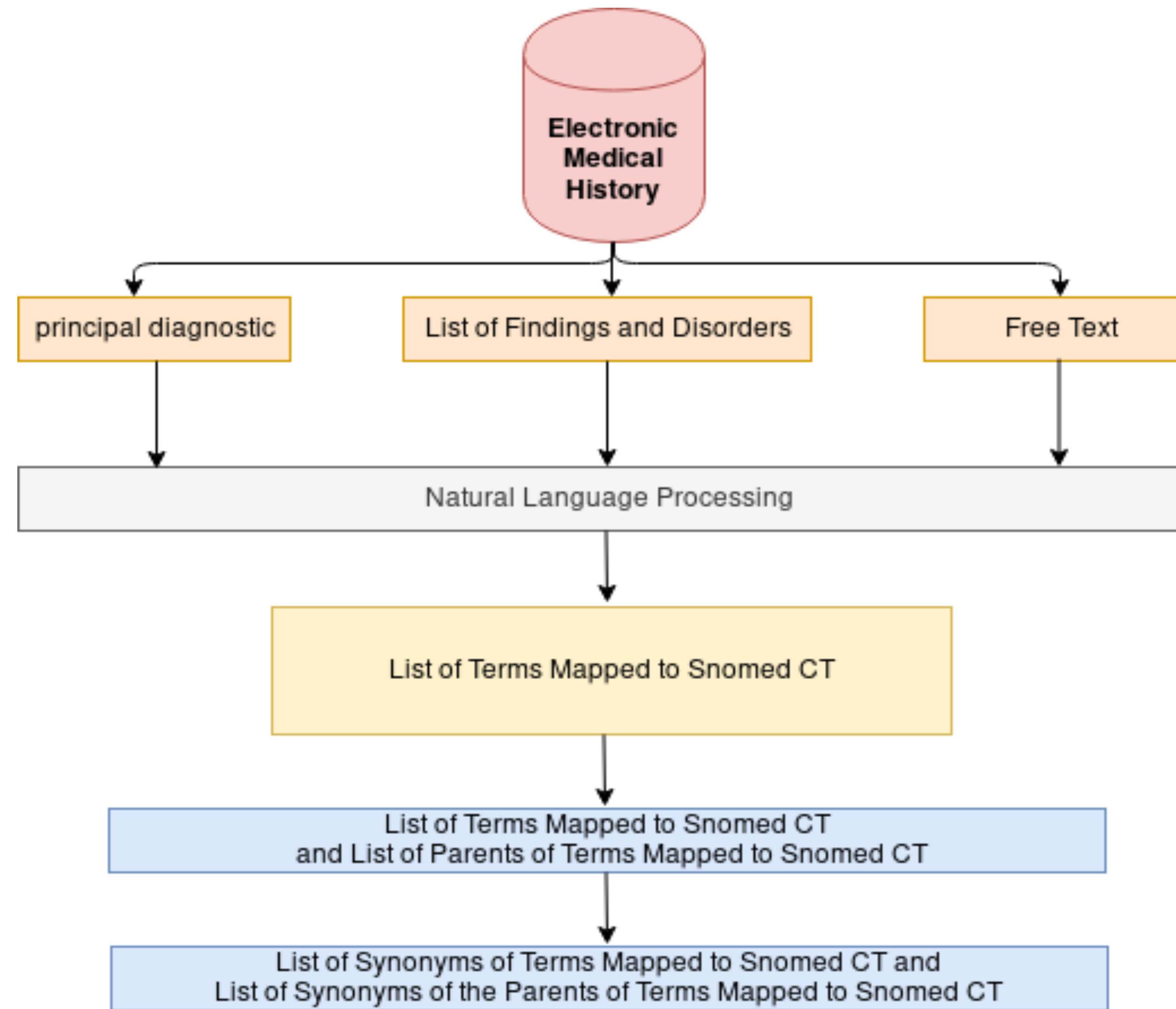
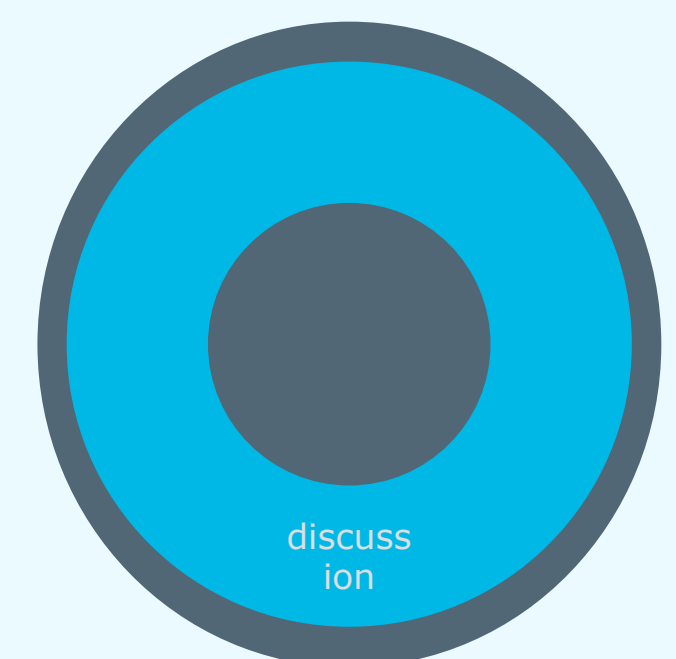
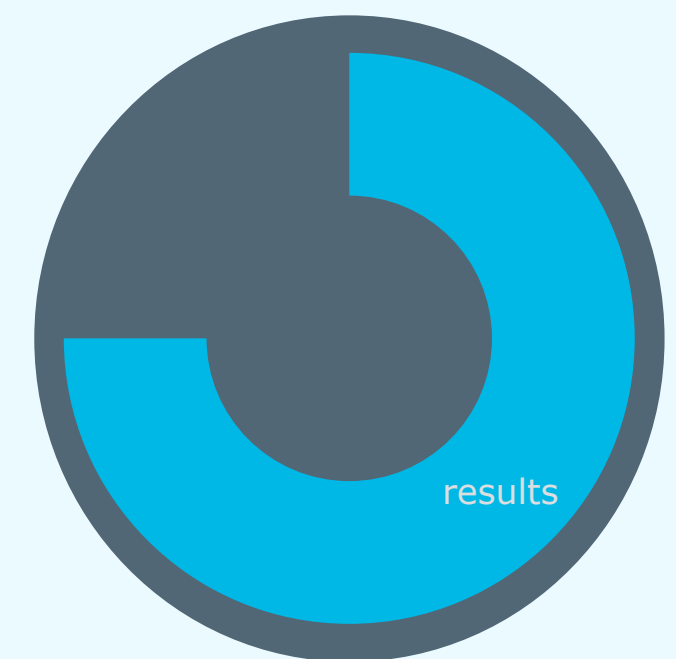
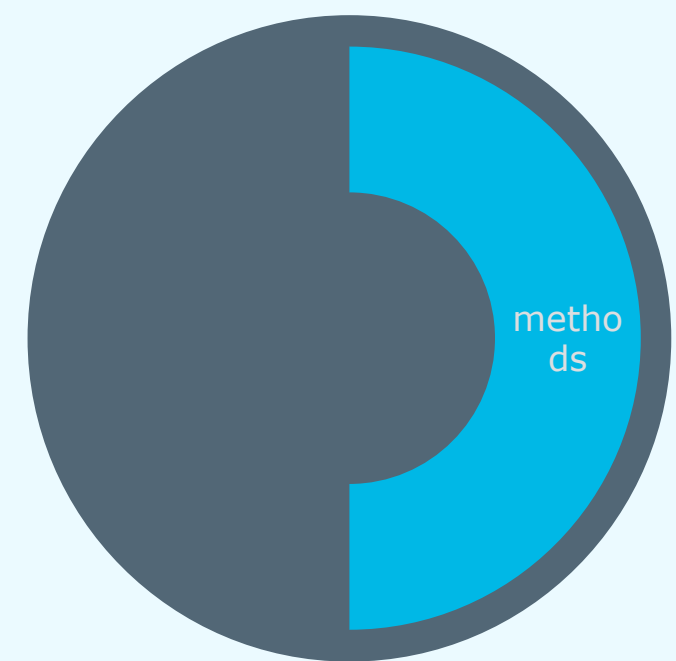
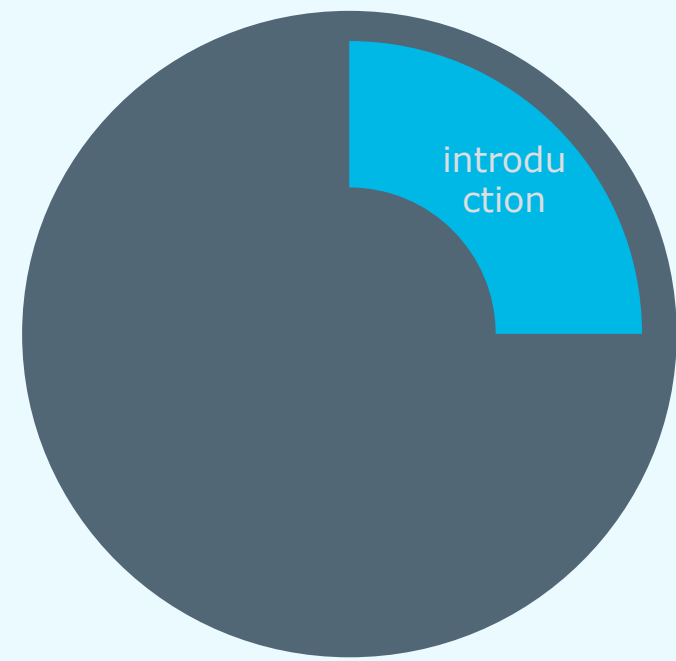
Nicolás Passadore | HOPE

## METHOD

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Suggestion List

# Taking advantage of ontologies to carry out searches of scientific bibliography in reliable information sources

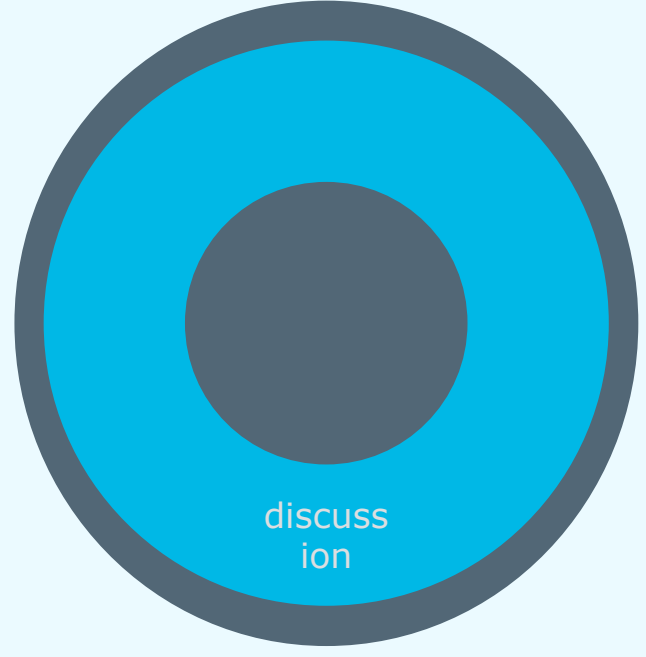
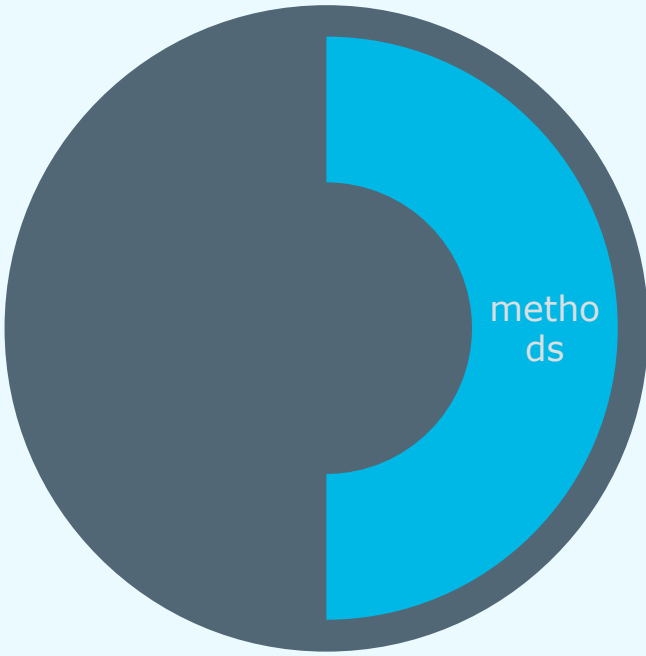
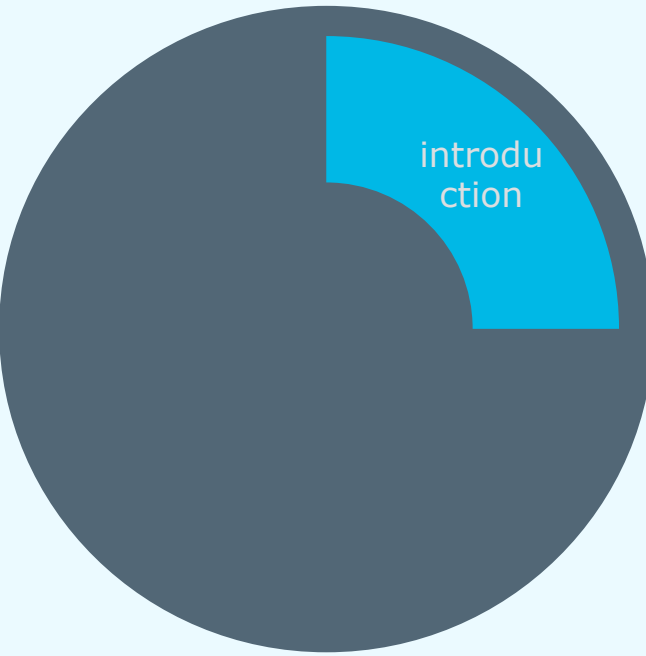
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## RESULTS

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### First instance

Doctor interprets and describes the clinical case of the patient in the electronic clinical record. Then request recommendations of scientific articles from reliable bibliographic information sources, (eg PubMed, clinicaltrials)

### Second instance



Natural language processing on the notes made by the doctor

### Third instance

Parents

> Disorder of respiratory system (disorder)

---

Asthma (disorder) ☆

SCTID: 195967001

195967001 | Asthma (disorder)

- en Asthma (disorder)
- en Bronchial hypersensitivity
- en Asthma
- en Airway hyperreactivity
- en Asthmatic
- en Hyperreactive airway disease
- en Bronchial hyperreactivity
- en Bronchial asthma
- en BHR - Bronchial hyperreactivity
- en Bronchial hyperresponsiveness

Finding site --

Airway structure

Terms mapping to snomed ct and search for synonyms

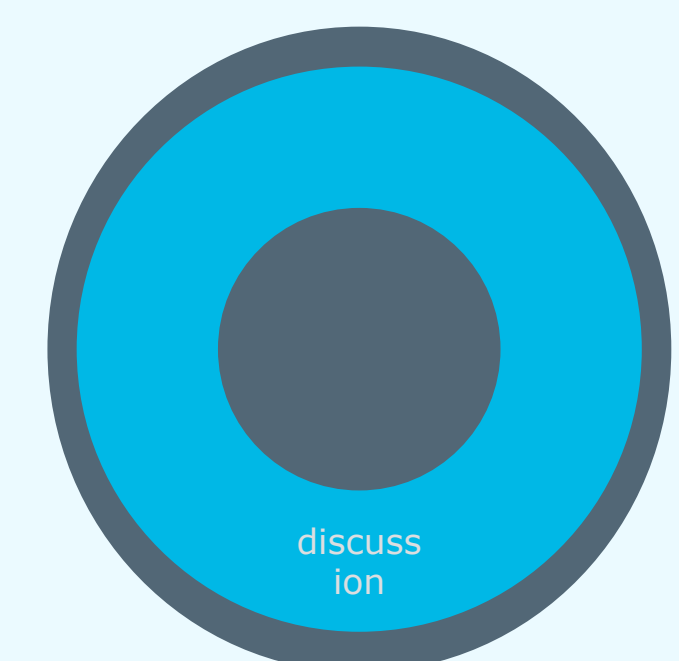
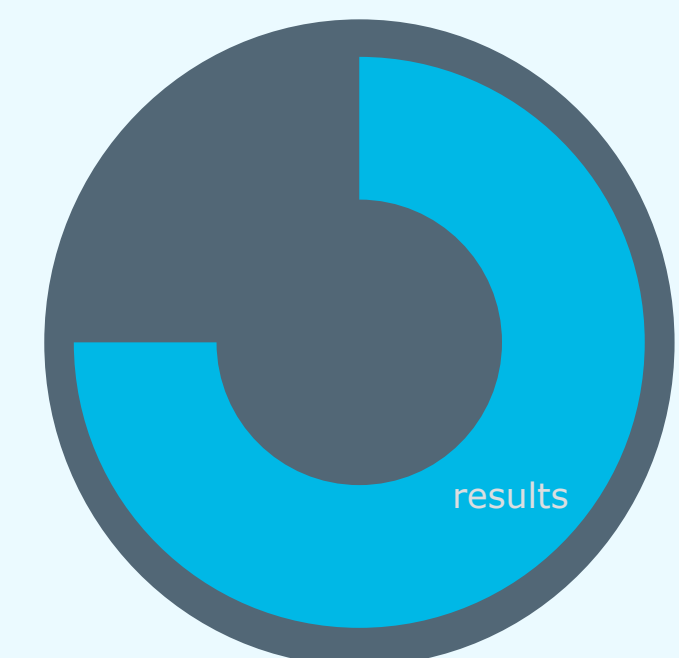
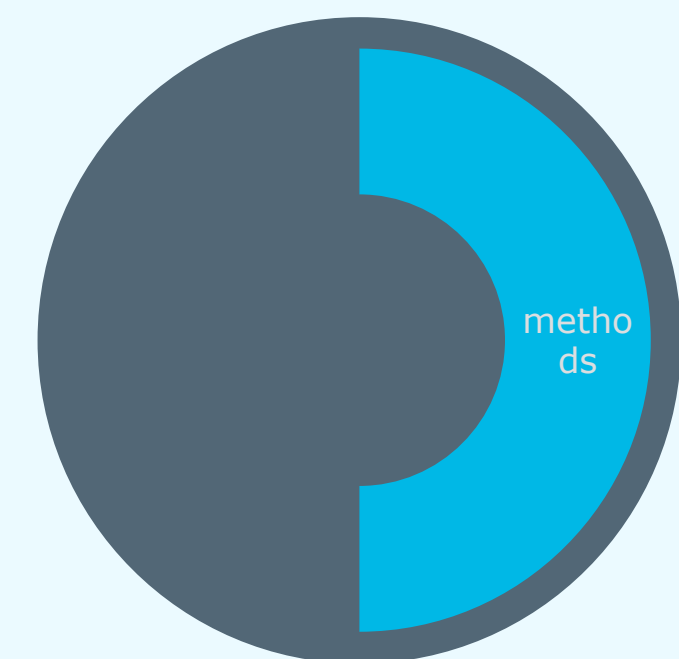
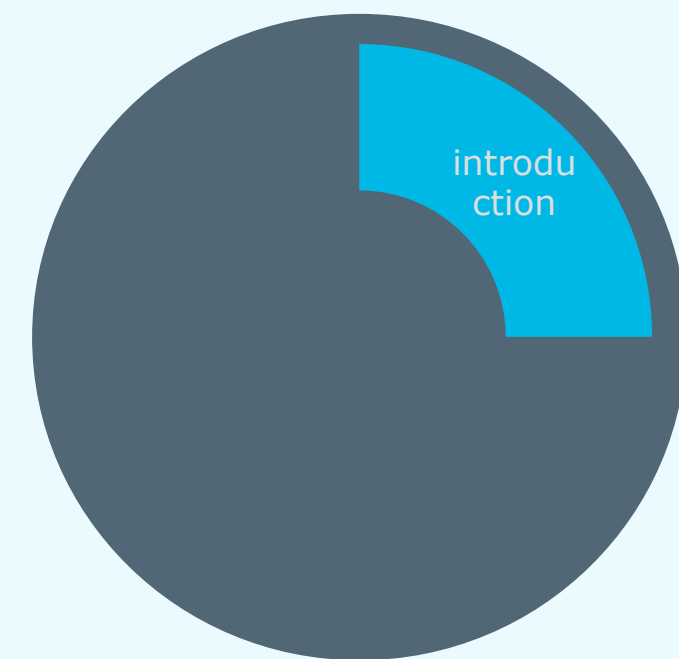
### Fourth instance

Resultados de Hope

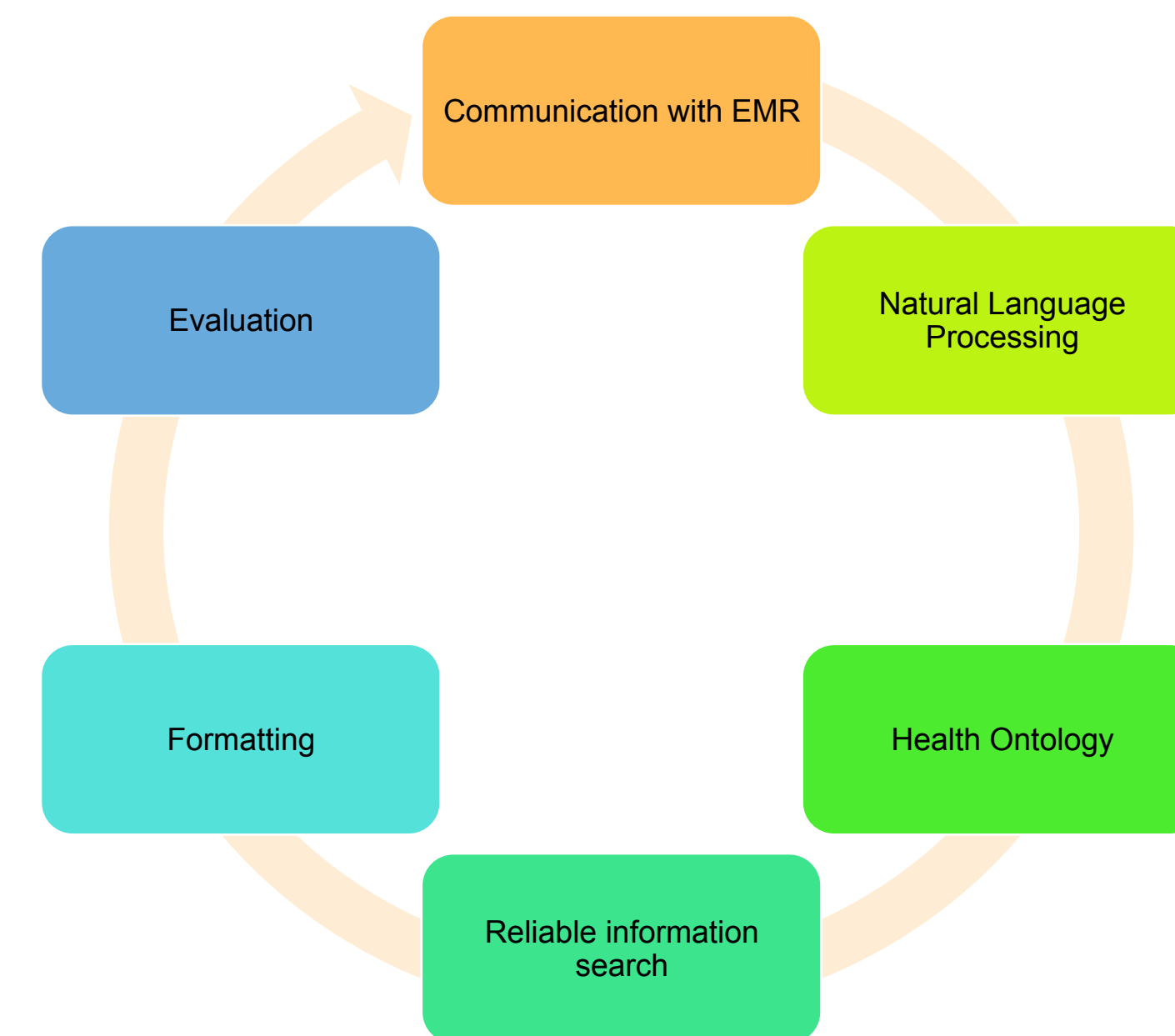
- [Subjective symptoms of outpatients with hypertension in Japan: Analysis of the Comprehensive Survey of Living Conditions (2010)].
- New-onset headaches secondary to spontaneous intracranial hypotension.
- Relief of epilepsy and headache and quality of life after microsurgical treatment of unruptured brain AVM-audit of a single-center series and comprehensive review of the literature.
- Impact of an emergency medicine decision support and risk education system on computed tomography and magnetic resonance imaging use.
- Incomplete cavernous sinus syndrome as the initial manifestation of a previously undetected metastatic prostate adenocarcinoma.

Recommendations of scientific articles

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## Analysis of results



## Successful Practices

1. Natural Language Processing.
2. Greater mapping of terms to Snomed CT.
3. More terms that are then used as "suggestions" to form automatic searches.
4. Representation of the context in the search through the logical model of Snomed CT.

## Future Directions

1. Method comparison with other tools.
2. Quality analysis of the results generated.
3. Tests in multiple medical specialties.

## Conclusions

Snomed CT allowed to contemplate a wider range of clinical terms. All of the terms recovered from natural language processing have a correspondence with some concept of Snomed. The mapping and synonyms that arise from Snomed provide information that allows you to generate an advanced search on the sources of information. In this way it was possible to improve the automated search on public bibliographic information sources, such as PubMed, Medlineplus, clinicalTrials, etc. Creating with this method a system for evidence-based medicine that leverages resources on the web, in a personalized way based on the patient's clinical data entered in the electronic clinical file.

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