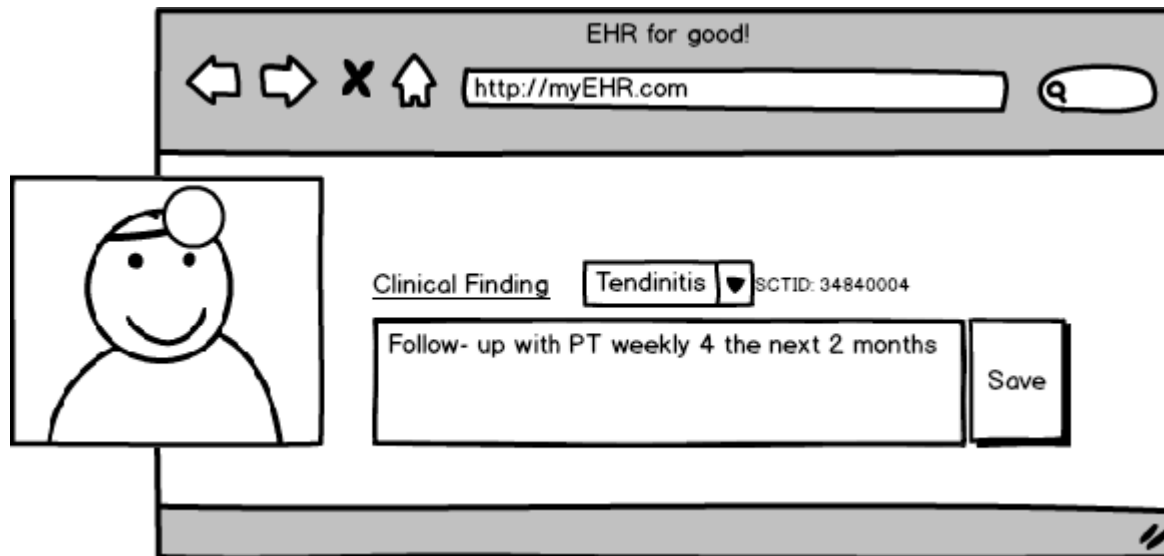# Experience in building an Snomed CT Content Extension with abbreviation support

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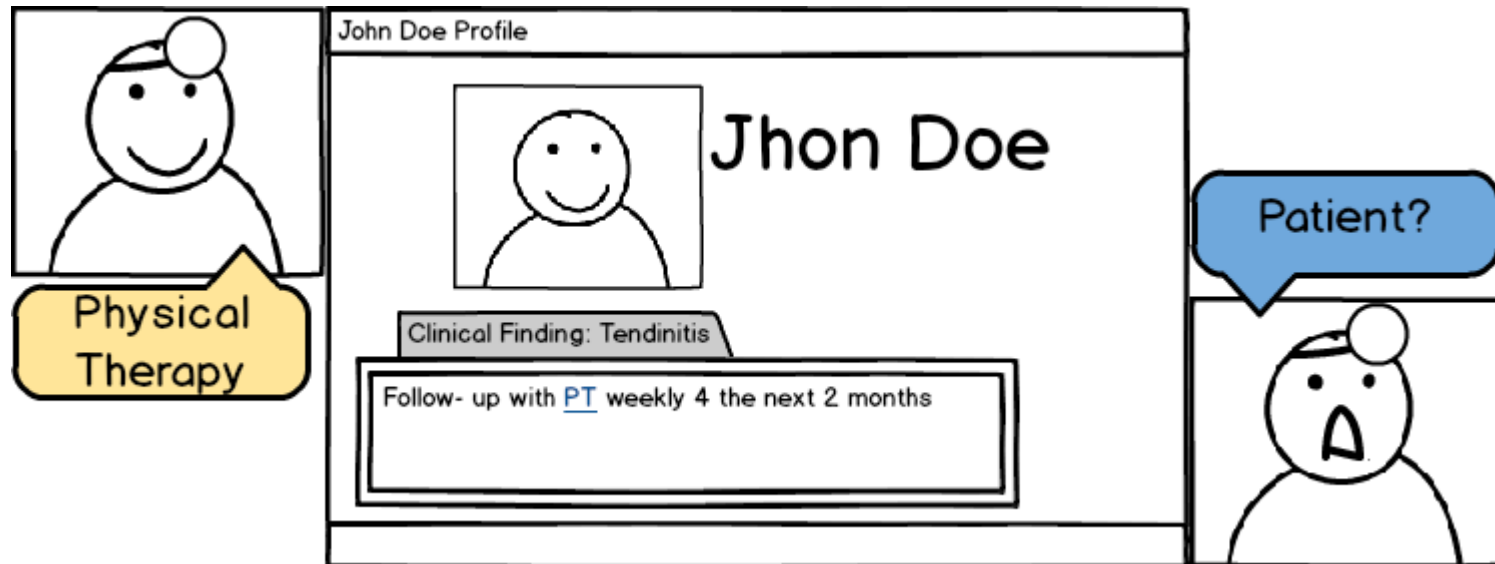**HOSPITAL ITALIANO**
de Buenos Aires

Context

- Problem oriented Electronic Health Record.
- Interface terminology, extends SNOMED CT.
- Structured fields + Free-text fields.
- Use of abbreviations in free-text fields is common.

The problem with abbreviations

- Uncontrolled and ambiguous abbreviations.
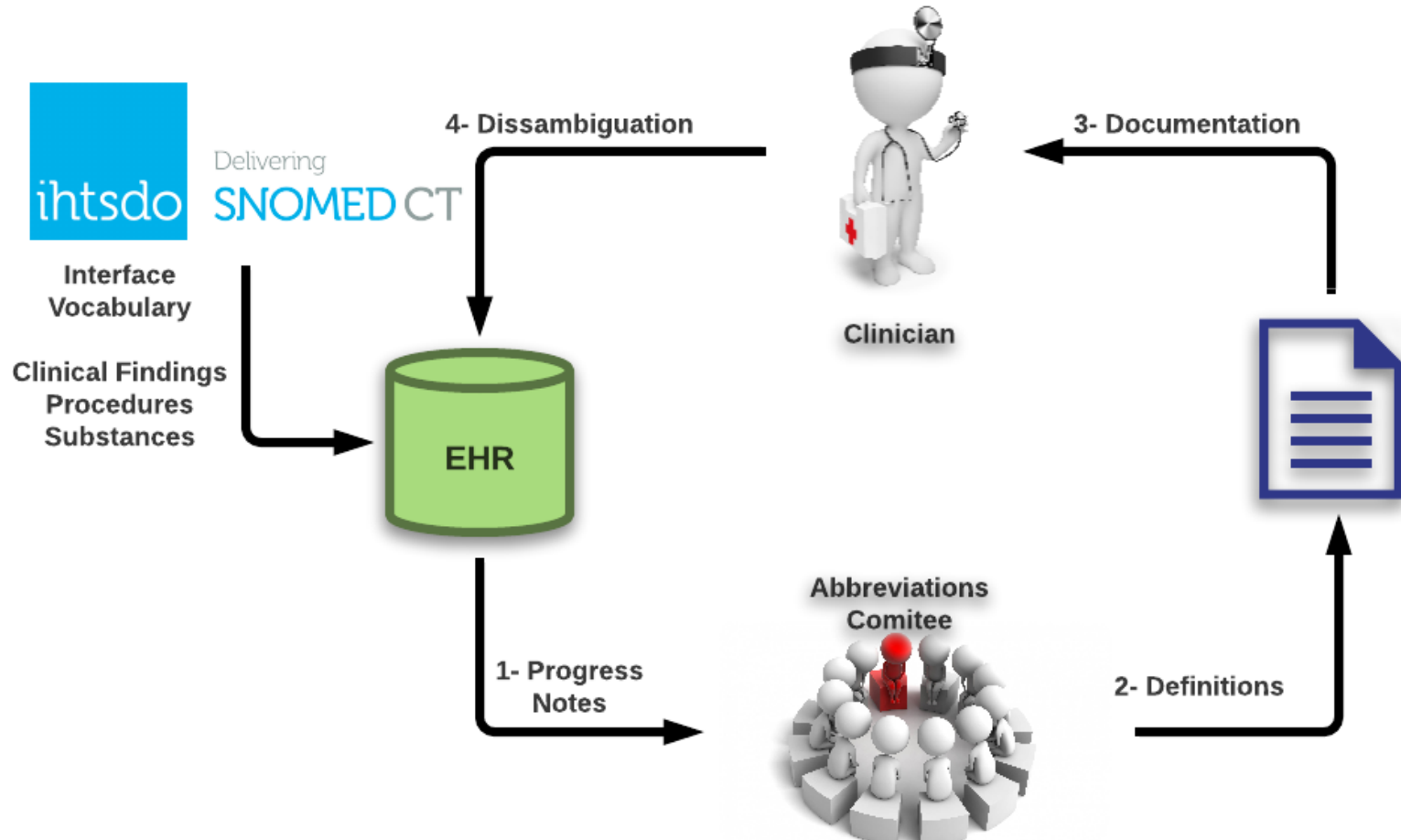- Abbreviations avoid terminology control.
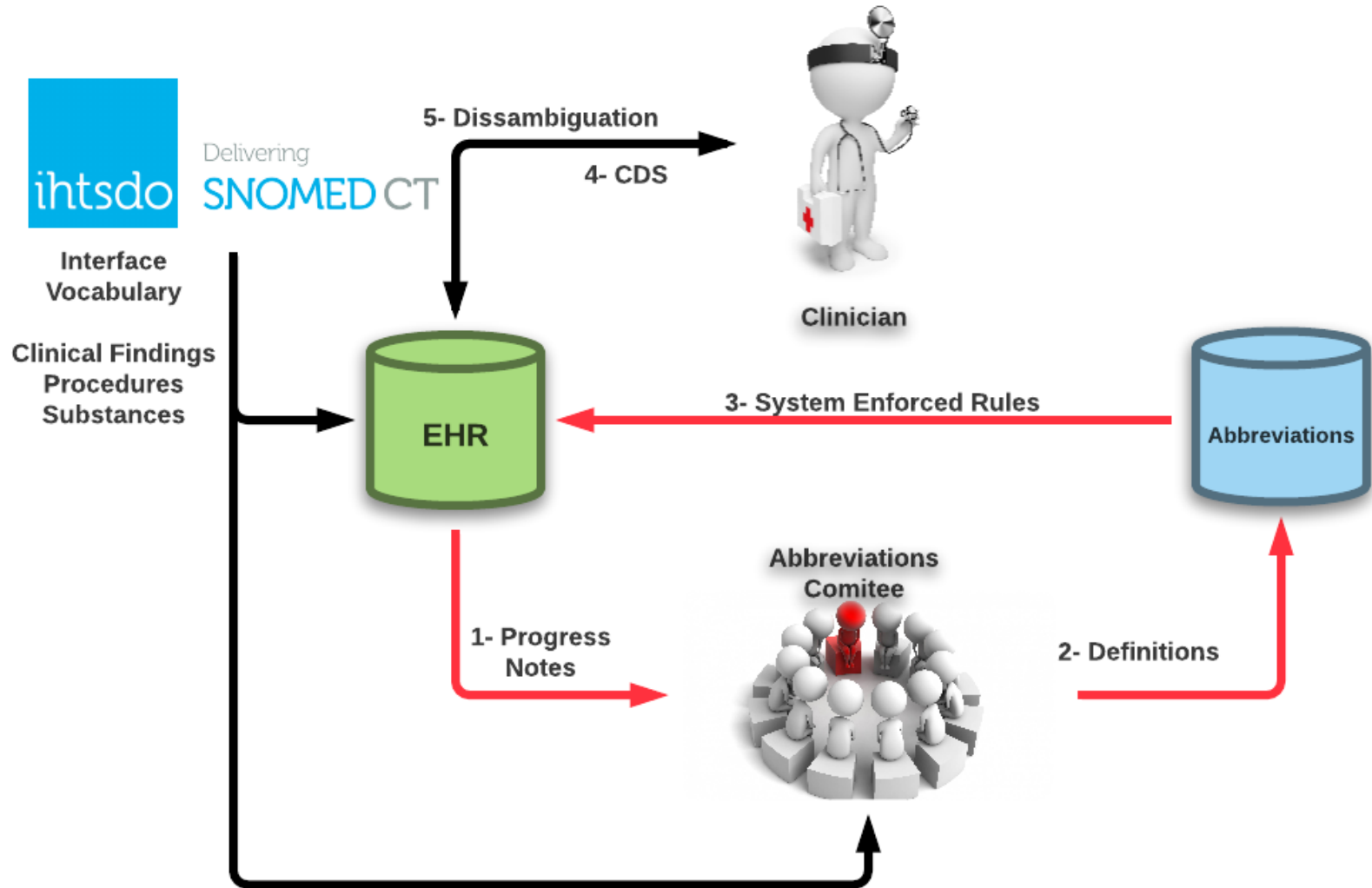- Errors in patient health care.

Background

• The Department of Health Informatics of Hospital Italiano de Buenos Aires, in an effort to achieve international standards of patient health care, is in an accreditation process by the Joint Commision International.

• The Joint Commision requires that the use of abbreviations must be controlled and documented. Since November of 2014, the hospital established an Abbreviations Regulation Committee in charge of the management and classification of abbreviations used in historical health records

" According to the SNOMED CT Editorial Guide, abbreviations are prohibited in FSNs and synonyms, with specified exceptions. Where there are exceptions, the specific policy allowing the exceptions must be spelled out in detail in the Guide, and otherwise terms containing abbreviations are not to be accepted into the International Release. "

First Stage: Hand-crafted List

Second Stage: Decision Support System

Writing a progress note

Real-Time Dissambiguation Feedback

Decision Support

Future work

- Disambiguate abbreviations using context knowledge
    - Clinician specialty
    - Snomed CT hierarchy
    - Patient demographic data.
    - Patient's problem list.

- Improve the algorithm for detection of new abbreviations candidates.

- Detection in other languages.

Impact in other projects

- Concepts detections in free text
  - Reuse algorithms of free-text analysis from this project to detect other concepts (aside abbreviations).
  - For example, detected abbreviations of clinical findings can complete the patient's problem list.

- Interface terminology cardinality extension.
  - Avoid the creation of synonyms or FSNs with abbreviations.
  - Problems that contain abbreviations can be expanded to find the real concept without them.

Thank you.