

A methodology for achieving consensus and disambiguation

Augmentation

Add missing details from other sources

Guideline text: "In patients with hypertension and stable angina pectoris, the first drug of choice is usually a beta blocker..."

Added knowledge: specific preferred drug

Qualification

Make assumptions explicit

Text: "In patients with hypertension and stable angina pectoris, the first drug of choice is usually a beta blocker..."

Implicit knowledge: absence of major Adverse Drug Event (ADE)

Explicit: **In the absence of major ADE**, in patients with hypertension and

Formalization of concepts

Add vocabulary codes, refine scope of terminology, add temporal constraints

Text: "diabetes"

Vocabulary codes: Diagnostic codes (ICD 9) / Medication codes

Refine scope of terminology: "... except gestational diabetes"

Standard vocabularies:

- Diseases- ICD9 codes
- Laboratory- LOINC codes
- Drugs- National Formulary

De-abstraction

De-abstract terms that are too abstract for computation

Text: "high cardiovascular risk"

De-abstraction: Framingham 10 yr risk score ≥ 15

Text: "recent myocardial infarction"

De-abstraction: myocardial infarction within 4 weeks

Disambiguation of concepts

Create concepts with mutually-exclusive values that can be measured

Text: Duration could be frequent or ≥ 2 times per week

Disambiguation: Duration could be 0-1 times per week or ≥ 2 times per week

Building formal statements

Translate narrative text into statements closer to computable formats

Text: "In patients with post myocardial infarction, ACEIs, ...most beneficial."

"ACEIs favorably affect the progression of diabetic nephropathy..."

Formal: e.g., IF (presence of (post myocardial infarction OR diabetic nephropathy))
THEN (recommend) ACEI