Learning a Health Knowledge Graph from Electronic Medical Records

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Table of Contents

1 Motivation and earlier work

- Demand for decision support systems in clinical settings
- Existing knowledge bases created manually or *"using simple pairwise statistics"* [1, p. 1]
- E. g. 15 person-years needed for *Internist-1/QMR* knowledge base
- Manually developed systems very brittle and difficult to extend
- Automatic compilation speeds up development of KBs
- *WatsonPath* by IBM and *Isabel* use NLP to find relations betweens diseases and symptoms in textbooks and journals

2 Goal and methods

- Utilize electronic medical record (EMR) to construct a knowledge graph
- Validation against Google health knowledge graph (GHKG)
- Three steps for knowledge graph generation:
  1. Data collection and preparation
  2. Learning of statistical models
  3. Transformation of models into knowledge graphs