Comprehensive Process Model of Clinical Information Interaction in Primary Care: Results of a "Best-Fit" Framework Synthesis

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Background & Objective

- Clinical Decision Support Systems (CDSS) are part of Meaningful Use incentives because of their potential to improve quality [2]
- CDSS have improved clinical processes [3-6], but their use has not resulted in improvements in primary care [7-12]
- CDSS have not improved primary care appreciably due to:
  - Design [14], poor integration to primary care workflow, specifically variability and time constraints [15 - 18]
  - Lack required functionality in [19], focus on specialty care [20-23]
  - CDSS for primary care focused on physicians [4,7,11,25,26]
- **Objective**: Develop theoretical framework to address primary care information interaction to better support CDSS design and development for primary care.

Research Questions

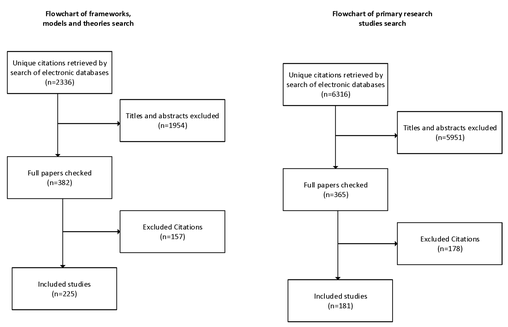
1. How do primary care clinicians interact with information as they make decisions at the point-of-care?
2. What factors influence primary care clinicians' point-of-care information interactions?

Methods

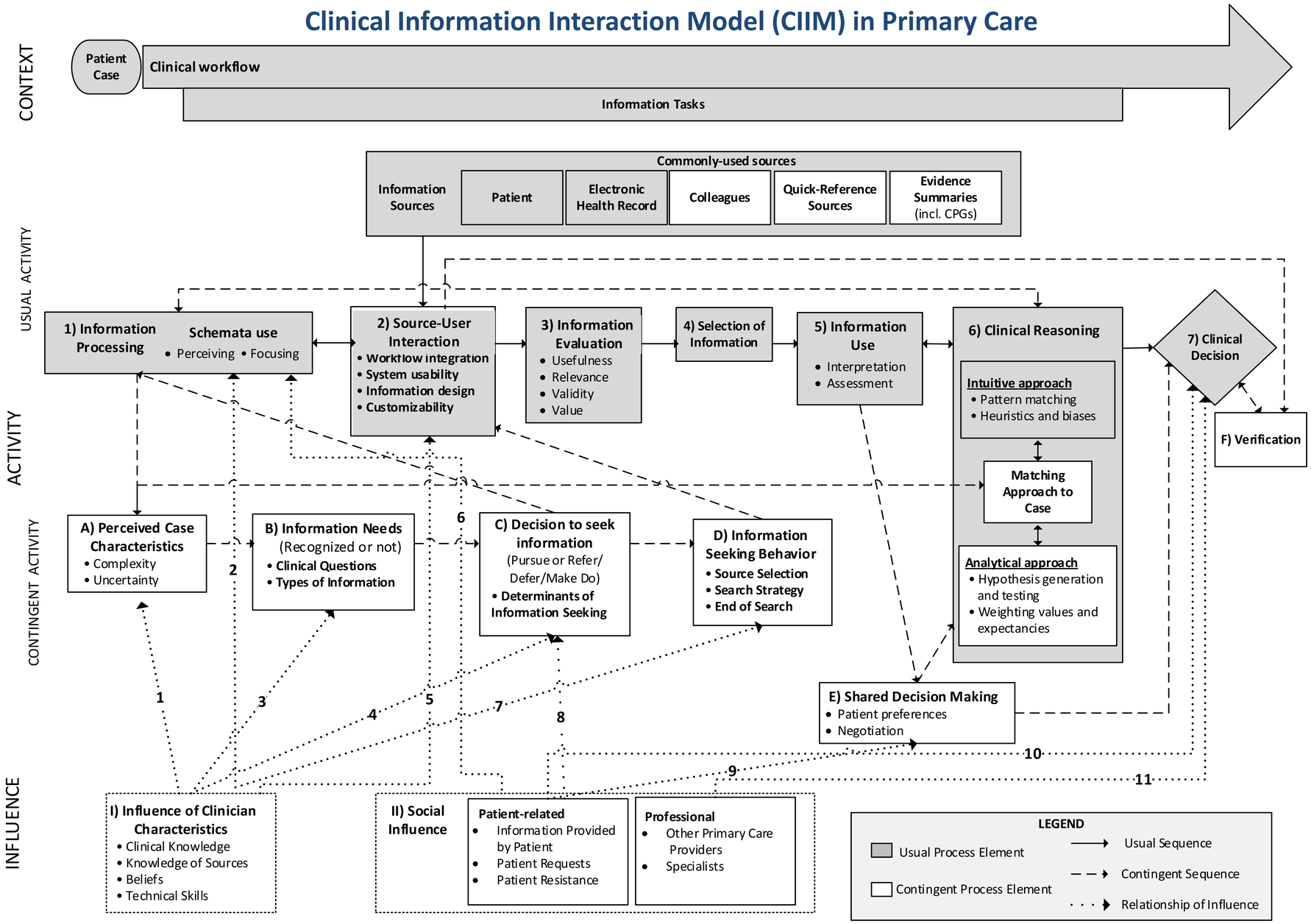
- Use "best fit" framework synthesis method [36,37] to construct model based on empirical findings [38-40]
- Theoretical Literature: "BeHEMoTh" (**Be**havior of Interest, **H**ealth Context, **E**xclusions and **Mo**dels or **Th**eories) [38]
- Empirical Literature: "SPIDER" (**S**ample, **P**henomenon of **I**nterest, **D**esign, **E**valuation, and **R**esearch) [38]
- Searched following: PubMed, EMBASE, CINAHL, PsycInfo, Library & Information Science Abstracts, Library, Information Science & Technology Abstracts and Engineering Village.

Analysis

1. Terms concerning: 1) information interaction and 2) primary care providers (e.g., PCPs, NPs, and PAs) or settings
2. Two authors (TV, CS) reviewed articles according to inclusion and exclusion criteria.
3. Data abstraction and content analysis of published papers was used to create a model in which every element was supported by empirical research



Clinical Information Interaction Model (CIIM) in Primary Care



Results: Comprehensive Model – CIIM

- Complete process of information interaction in Primary Care

Three Parts

1. **Context**
2. **Activity** (usual and contingent)
   - For parts 1&2 shaded boxes are **usual** parts, non-shaded boxes are **contingent** components (i.e. circumstantial)
   - Boxes numbered sequentially
3. **Influence -** Line #s link relationships to sources of influence

Implications

1. CIIM depicts information interactions previously **difficult** to discern
2. CIIM suggests helpful **functionality** for CDSS to support primary care – enabling **enhanced focus** on information processing and use.
3. The CIIM also documents the **role of influence** in clinical information interaction, which may affect the **success of CDSS** implementations

References in Paper:
Veinot, T. C., Senteio, C. R., Hanauer, D., & Lowery, J. C. (2017). Comprehensive Process Model of Clinical Information Interaction in Primary Care: Results of a "Best-Fit" Framework Synthesis. *Journal of the American Medical Informatics Association, ocx085*. doi:10.1093/jamia/ocx085