

Modelling the Clinical Processes of Prescribing

The MCPP Project
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Aims

- Describe and document an evidence-based clinical model for decision making in the prescribing process in General Practice
- Develop an information model of electronic decision support (EDS) within prescribing using the clinical model above
- Extend and validate a core data set for prescribing decision support
- Further develop EDS through work on EDS modelling for prescribing and relevant knowledge bases

Precursor Projects

- Falls Prevention: Developing and implementing a data model and term set
- Data Modelling of Therapeutic Guidelines
- Towards computerised clinical Decision Support Systems

Sponsors

- The General Practice Computing Group.
- The National Prescribing Service Ltd.

Constraints

- Based on GPDMCDS
- Interfaces to HL7 and openEHR/CEN13606
 - Reference Information Models
 - Summaries/Extracts in Reporting [Transactions]
- Review and Linkages Workshop 16/12
 - GPDMCDS Review
 - Integration (HL7, CEN,)
 - Ongoing Modelling

Activities [1]

- Develop a clinical model for decision making in prescribing
 - Use Falls Prevention methodology
 - NPS Prescribing Intervention Working Group to select exemplars
 - Complete literature review
 - Develop vignettes
 - Construct and refine clinical model iteratively
 - Conduct independent review
 - Test vignettes on 3 focus groups (comprising medical practitioners, nurses and pharmacists)

Activities [2]

- Develop an information model of decision support within prescribing in the GP context
 - Concurrent with clinical model
 - Identify appropriate inputs, outputs and logic
 - Consistent with GPDM (as evolving)
- Validate and Test information model following verification of clinical model

Activities [3]

- Develop a core data set relevant to prescribing support
 - Identify an agreed set of 'core' data items that represent the elements of the information model appropriate to meet the needs of the clinical model
 - Map to GPDMCDS
 - Describe the vocabulary, structure(rules) and content that need to be in the part of the EHR that relates to prescribing decision support
 - Explore relationships with openEHR and HL7 v3
 - Contribute to development of an Australian GP term set through identification of gaps in ICD10AM and ICPC2

Activities [4]

- Identify initial EDS strategies suitable for the application domain
 - Review GPCG, HL7 work in this area
 - Define a meta-model for decision support in the prescribing context
 - Define an architectural framework for DSS that would allow flexible adaptation of DS strategy contingent on EHR and Knowledge Base/Reports capabilities

Objectives/Deliverables

- An evidence-based clinical model for decision making in prescribing
 - Document and UML Diagramming
- An information model of decision support within the domain of prescribing
 - Match to GPDMCDS in areas of prescribing and decision support
 - Contribute to identification of gaps in core data sets and term sets
- An EDS Model for prescribing consistent with clinical workflows

Tools/Techniques

- Largely Evolutionary Approach
- Use Falls Prevention Methodology with iterative review and focus groups
- Develop from GPDMCDS + Guidance from HL7 and CEN13606 developments
- Informed by leading current EDS Projects
- Use public domain or readily available technologies/tools as required
 - UML, XMI, Eclipse, Oscar, Protégé,...

Scope and Scale

- A small project threaded through major agendas
- Focus on understanding the clinical processes in General Practice and how these relate to the CIS and associated Information Models and Guideline/DSS systems
- Develop a better understanding, in practice, of activities, sequences, interfaces and constraints
- Aiming to build on and inform other work

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