* myPatient representative data concepts relevant to risk of post-op colorectal bleed
* Data extraction methodologies must be cognizant of existing data representation, location and the effect of a temporal dimension. These aspects will influence how relevant data is accessed and retrieved.
* Date of Birth
* Gender
* Demographics
* Colorectal Surgery
* Blood Transfusion
* Blood Pressure
* Hematocrit
* Hemoglobin
* White Blood Cell (WBC) Count
* Temperature
* Medications: Blood Thinners
* Date of observations/events/lab values or change in values (date test administered)
* Knowledge Engineer Input Template
* Relevant representative data concepts (above) available for:
  + Selection/ exclusion
  + Adjustable similarity range relative to myPatient’s values or change in values
* Set of available functions; Used to increase expressivity of criteria for query
  + Specified during relative time interval
  + First, last, mean, greater than, less than, equal to
  + (Similarity) distance functions
* Template Parameter Requirements
  + Relative representation of initial values from myPatient and similar patients
    - [Parameter queries](http://docs.oracle.com/javase/tutorial/jdbc/basics/prepared.html)
    - Pre-designed query framework
    - Input template supplies query parameters at runtime
* Use template to execute query
* Patient data concepts mapped to ontologies (vs. being represented as keywords or “Strings”)
  + Formalizes requisite data concepts into atomic set
  + Permits controlled, precise, reproducible access to data
  + Requires a template to map patient data to biomedical ontological concept codes
* Use database structure to define data location;
  + RIM/ FHIR: Hibernate converts object-oriented schema into relational schema
* Criteria API to generate query using: data structure, template defined search criteria and patient information
* Possible 2-Step refinement method: initial relevant data concept elements may be used to filter and retrieve cohort patient information
  + Then, selection criteria (parameters relative to myPatient) can be applied to the filtered subset of patient data

BMI 591 Deliverables to Submit for proof of concept:

* Background, overview, clinical relevance: **Lead-MW, TS**
* High level flow chart overview of sequence of events: Refine and add detail to flowchart from 506: (identify our scope) **MH, TS**
* Proof of Concept Implementation, using RIM + Hibernate Criteria.
* Discussion on current / future works **ALL**

