# DATA REPOSITORY (CRC) CELL MESSAGING DETAIL

The Data Repository Cell is one of the core cells in the i2b2 hive. Since much of the data in the repository is clinical in nature, it has also come to be known as the Clinical Research Chart (CRC) and the terms "**data repository**" and "**CRC**" are used interchangeably. The data repository is a warehouse of patient phenotypic and genotypic data that interacts with other cells to provide information for users.

Communication with the CRC Cell, like all cells in the i2b2 hive, is handled via standardized XML web services. These XML messages conform to the i2b2 messaging standard described above, which allows cell-specific XML within the *<message_body>* tag. The remainder of this document describes **CRC-specific web services and the XML formats** that encode them and illustrates how these XML messages are used to accomplish a set of interactions that correspond to typical CRC use cases.

A typical CRC client may want to define a patient set and then request patient data on that set. Both of these tasks require the user to first interact with another cell called the Ontology Management (ONT) Cell in order to choose concept codes to define in the CRC request. Although the specific interactions with the ONT Cell are not described in this document, the following diagram shows the basic flow of information.

*Scenario:*

The diagram describes how a user may get the age and gender for all patients who have either diabetes or asthma.

- The user starts by selecting the diagnoses "Diabetes" and "Asthma" from the ONT cell; these define the Patient Set Query, which creates a patient set in the data repository.
- Then the user selects the demographic concepts "Age" and "Sex" from the ONT cell to define the Patient Data Query.
- The patient data query returns the age and gender for all patients in the data set, those with diabetes or asthma.