Mapping of DDI 4 to GSIM for Data and Data Structures

In the accompanying spreadsheet, the features of DDI 4 which relate to data description and the structuring of data sets are mapped to GSIM 1.1. It must be understood that while GSIM is strictly a conceptual model, DDI exists also at the implementation level. It is this difference which accounts for the fact that some constructs in DDI have no corresponding GSIM object, or have only a partial correspondence.

One example of this is the Data Structure class in GSIM, which describes the logical structure of a data set, but lacks information about the physical storage of the data. While this can be mapped to the DDI class Data Store, the equivalence is partial, as a DDI Data Store will also bring together many classes related to describing the physical format of the data. Further, the DDI Data Store maps against the Data Set in GSIM, as both function as logical collections of data. This mapping, too, is only partial due to the purpose of each of these models.

GSIM makes a logical distinction between Unit Record Data and Dimensional Data. This distinction also exists in DDI, but at the level of physical description.

All of the classes in the data description portion of GSIM can be expressed in DDI, even though in some cases the modelling differs. This is the case, for example, where GSIM offers Attribute Component, Identifier Component, and Measure Component, and DDI uses parallel constructs Attribute Role, Identifier Role, and Measure Role. In GSIM these constructs are associated directly with the Data Structure class, whereas in DDI they are associated with the Viewpoint, which is associated with the Logical Record. This has the effect that in GSIM any given Variable can only play one role, whereas in DDI this is more flexible. However, the same basic function is performed by this set of constructs in each standard. In this sense they are equivalent, even though modelled differently.