DDI4 Goals:

[Based on description of the goals of DDI on the Alliance website and the document “Why a new version of DDI”]

**Goals**

To produce a specification that can be more easily managed, extended, and be expressed in different representations

To be more responsive to changing requirements from the user communities

To more easily align the specification to other current and emerging standards

● Model based to support the following:

○ Easier and more transparent way of involving more people in the development, maintenance and testing of new functionality

○ Alignment with other model based standards

○ Enables more straight-forward generation of other expressions of the standard

● New Requirements

○ other implementations of the standard - not just XML but also RDF, potentially program libraries (like JSON, C#, Java), database schemes, etc

○ automation of production process (from model to multiple bindings and documentation/support content)

○ better documentation of other forms of data collection e.g. clinical, biomedical

○ documenting other forms of data - genetic, big data

○ a better mechanism for sub-setting the standard than instance profiles

Specifics of the DDI model based approach

* The work will be based on an **information model** of the metadata content captured in a constrained set of UML functionality and relationships
  + Moving DDI to a model-based orientation is a way of protecting the standard against technological change, and a way of guaranteeing alignment across different technology implementations.
* The development and management of the model itself is done in a way that enables the programmatic generation of derived products such as the specification representations in XML Schema and OWL/RDF, the documentation, and program libraries.
  + This information model will be available for implementation in equivalent bindings, at minimum:
    - XML schema
    - OWL/RDF
* The UML information model will represent DDI-Lifecycle in a standard structure for metadata related to the lifecycle of data in all stages, and thus will encompass much of what is available in those XML structures today
  + A UML information model often facilitates study object reuse, specialization, and a more systematic approach to study object development and organization.
* This model will enable us to represent new types of data lifecycles including those that facilitate the building and maintenance of registries.
  + DDI-4 supports other types of data collection besides surveys, such as the collection of health information (including Electronic Health Record data), machine data (logs), and other forms of event and administrative data.
  + DDI data processing objects and the development of a freestanding process model that is not embedded in survey data collection.
* The purpose of Functional Views is to provide a clear entry point into the whole model by providing a slice of the whole, documented for the specific use case and target audience.