# Environmental Assessment

The environmental assessment looks at the coverage of DDI 4 in relation to past versions of DDI and known related standards. This is the first step in a gap analysis. It identifies those areas we intend to cover and general status, those areas we need to review in terms of coverage, and areas we have determined are outside the realm of DDI. Three design principles related to the environment are noted along with how well these have been addressed to date, what is required to achieve these design principles/goals, assessment of current coverage status, and future steps.

## Design Principles

Environment:

* Interoperability and Standards – The model is optimized to facilitate interoperability with other relevant standards.
  + work has been on conceptual rather than functional level
* Lifecycle Orientation – The model supports the full research data lifecycle and the statistical production process, facilitating replication and the scientific method.
  + development work supports this but 4 currently does not cover all of 3
* Reuse and Exchange – The model supports the reuse, exchange, and sharing of data and metadata within and among institutions.
  + nothing going on to thwart this. little documentation on best practices and/or how this is supported

## To achieve goals:

* To capture metadata at the source, metadata driven data/statistical systems need to be supported
* Management structures within DDI need to be optional rather than required (individual objects are managed)
* DDI needs to transport content between bindings to support different activities and use by different users
* DDI requires clear points of interface and overlap with related discipline standards

## Intended Coverage:

* All of DDI 2.5 and DDI 3.x
  + Under review:
    - Core 1.x elements common to ICPSR, CESSDA, and IHSN
    - NCubes are covered in terms of physical representation
    - Control Constructs are covered
    - Agents (Organization Scheme)
    - Sampling Methodology
    - Conceptual content
    - Comparison
    - Variable Cascade (formalized)
  + Missing:
    - Geographic Structure and Location (testing to see if this is covered by Statistical Classification)
    - Summary Statistics
    - Management structures from 3.x for management of classes in XML
    - Full set of representations and response domains
    - NCubes in terms of logical representation
  + New or expanded areas:
    - Statistical Classification
    - Description down to the datum (set, file, record, variable, datum)
    - Non-questionnaire data capture
    - Creation of underlying patterns: Methodology, Collection, Process
* GSIM
  + Business Group http://www1.unece.org/stat/platform/display/GSIMclick/Business+Group
    - DDI focuses on the lower right section of this diagram starting from the Process Design
    - The upper left portion of the diagram could be structured in DDI but the question is whether this is useful to the community if there are other standards addressing this area. It would be interesting to see similarities between this community and other DDI communities. Linkage point would be Process Design
  + Concepts Group http://www1.unece.org/stat/platform/display/GSIMclick/Concepts+Group
    - The intention is to fully cover this section
  + Exchange Group http://www1.unece.org/stat/platform/display/GSIMclick/Exchange+Group
    - Exchange channel is the primary class and it is described by 4 subtypes
    - DDI intends to cover Questionnaire and Administrative Register
    - Web Scraper Channel and Product has not been discussed
  + Structures Group <http://www1.unece.org/stat/platform/display/GSIMclick/Structures+Group>
    - DDI focuses on the right side of the diagram from the Data Set over
    - There are some related structures uses to support archival dissemination packages that should be reviewed from the perspective of the left side of the diagram dealing with referential metadata
* SDMX
  + Currently covered by DDI 3.x so that inclusion of DDI 3.x should cover SDMX

## Steps to take:

* Create and review mapping of specific payload (documentary, structured document/CV, machine actionable)
* What other standards to we want significant overlap with
* What other standards do we want to have an interface with
* Complete the coverage of 2.5 and 3.x with transitional mappings