Proposal: industry requirements and a data standard for ADDIS

Hans van Leeuwen Jos Aerts

1 Introduction

TI Pharma's project Escher, work package 3.2, has concentrated on developing benefit-risk assessment tools for regulators, pharmaceutical industry and reimbursement authorities, and implementing the tools in usable software. This resulted in the development of the ADDIS tool for drug comparison, in cooperation with regulators. The next step is to evaluate the use of the tool by the different stakeholders. A crucial requirement for the use of the ADDIS software is the availability of aggregated clinical data. As there exists no data standard for aggregated clinical data, compiling data sets that can be used in the ADDIS software is a challenge. Developing (a proposal for) a standard for aggregated clinical data (and their exchange) based on the current ADDIS data model is another important step.

2 Proposal

The project should result in two deliverables:

1. A requirements analysis will result in a report on the response in industry to formal benefit-risk analysis combined with a list of industry requirements and priorities for these requirements for further development of the software.

2. An initial proposal for a standard on aggregated clinical data, based on the current functionality and data model of the ADDIS software, with the aim of greater interoperability with other standards and existing data storage practices.

2.1 Requirements

Requirements for the usage of the ADDIS software in industry will need to be investigated. Whereas the benefit-risk analysis is of immediate benefit in evaluating a new drug application, the benefits for industry are not immediately clear. Traditionally industry too has been focused on developing safe and effective drugs but formal benefit-risk evaluations may not have been part of the development process of a new drug. The ADDIS tool and the embedded techniques of network meta-analysis, MCDA and BRAT will be brought to the attention of pharmaceutical companies and will be evaluated on the usage of the benefit-risk concepts in the drug development process. The intent is to provide

requirements analysis for industry, dependent on the responses received. To this end, approximately 10 European pharmaceutical companies will be sent a questionnaire. Dependent on the response rate, it is the intention to interview all 10 via web sessions and to have an in-depth interview with 3 of the respondents. The questionnaire would focus on at least the following items:

- The relevance of formal benefit-risk analysis in (clinical) development plans in pharmaceutical industry.
- The preparedness for formal benefit-risk analysis responses if such items would be addressed by regulators in response to submissions.

An interim report will include proposed changes to the ADDIS user requirements based on the first round interview results as well as a description of the formal benefit-risk position that the companies have laid out in the interviews. The final report will be available by the end of June.

2.2 Data model

The data model will be developed as an XML-based exchange standard via state-of-the-art standard development techniques and processes. The goal of this subproject is to develop a draft standard specification document and XML Schema and possibly a Schematron for exchange of data of aggregated clinical between partners in the pharmaceutical industry, reimbursement authorities and regulatory authorities such as EMA. Elements from other reporting, semantic, and syntactic standards will be used such as the eCTD (clinical summary), CDISC BRIDG, CDISC SDTM and Controlled Terminology, SNOMED, IDC-10, LOINC (for laboratory outcomes) and when necessary UCUM (standard for units of measurement).

The specification will however be based on the currently available ADDIS data model, but extended where necessary (e.g. for referencing coding systems) and refined for ease of exchange between partners in the process and integration with clinical research. The final result of this subproject will be a specification document, an XML Schema, and if necessary a Schematron.

Preferably, but dependent on the input received, the project will also result in a proposal for a standard that can be submitted for an accreditation process with the relevant standard bodies such as ISO, CEN, etc.