

The ADDIS software for evidence based health care policy

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Aggregate Data Drug Information System (ADDIS)

- Decision support for health-care policy decisions
- Explicitly evidence-based
 - Transparent, reproducible, efficient
- More information: <http://drugis.org>

Presentation outline

- ADDIS 1.x (brief introduction & demo)
- ADDIS long-term goals
- ADDIS in GetReal
 - Our role & goals
 - Way of working & timeline
 - ADDIS 2.x demo
- Discussion
 - Embedding in consortium

ADDIS 1.x

- Developed in TI Pharma project Escher (2009-2012)
- Prototype to explore new ways of working in regulatory benefit-risk assessment

ADDIS 1.x goals

Develop a drug information system:

- Effective knowledge access and management
- Answer drug efficacy and safety questions
 - in an efficient, transparent and accountable way
 - within and across compounds
 - for a broad audience (including regulators)
- Improve consistency in regulatory decision making
- Based on systematic review and meta-analysis

ADDIS 1.x demo

- And now for a quick demonstration...

ADDIS 1.x limitations

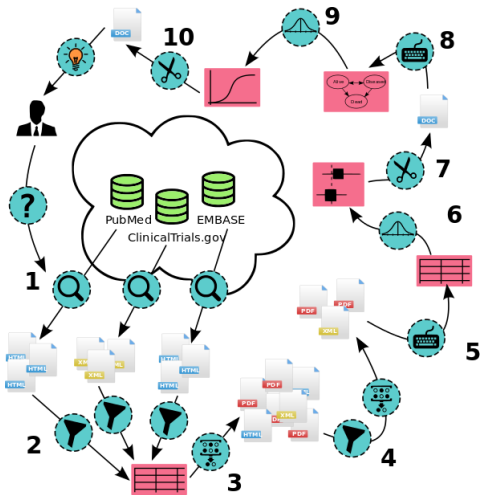
- Database is assumed available (or delivered by company)
- Gathering the data is still a major hurdle!
- The system is suitable for only one user at a time
- (and a long wish-list of features & improvements)

Evidence-based health care policy

Basing policy on evidence is challenging:

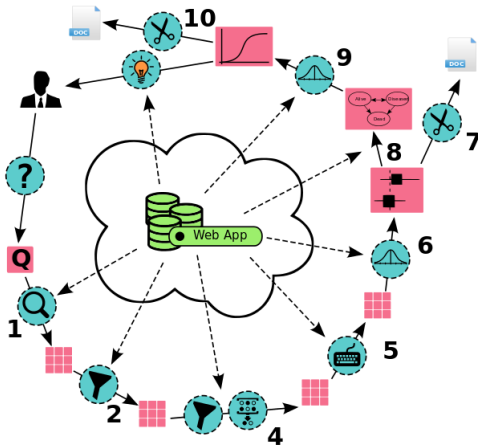
- Data acquisition
 - e.g. systematic review
- Evidence synthesis
 - e.g. meta-analysis, disease state models
- Decision aiding / making
 - e.g. benefit-risk or cost-effectiveness analysis

Current process



- Ad-hoc
- Disconnected
- Data loss
- Not constructive
- Effort duplicated

Future process



- Structured
- Linked data
- Persistent
- Constructive
- Effort shared

ADDIS ambitions

- Eliminate duplication of effort in systematic reviews
- Make available trial data in structured / meaningful way
- Link decisions *directly* to underlying models / data
- Make (subjective) value judgments and assumptions explicit

GetReal WP4

Objectives:

- Joint modeling of randomized and observational data
- Predicting relative effectiveness from randomized data
- Predicting differences in effectiveness between countries

Role of ADDIS:

- Data management for case studies
 - Support case studies directly and/or reproduce
- Make methods usable by a wider audience

ADDIS in GetReal

IMI GetReal case studies will

- be more complex
- involve more data
- integrate data provided by multiple stakeholders

Current ADDIS 1.x architecture ill suited:

- sharing datasets is difficult
- simultaneously editing datasets impossible

ADDIS 2.x plans

- Web-based multi-user system
- Collaborative database building
- Flexible (ad hoc) data integration / harmonization
- Predictive modeling / relative effectiveness

Way of working: agile / iterative development

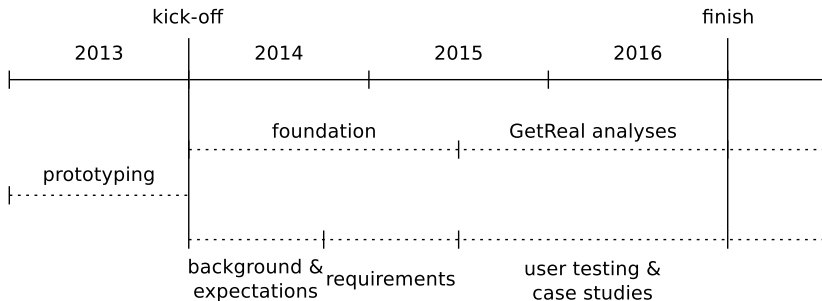
Process:

- 2-week development schedule; quarterly release schedule
- Short release cycle = rapid feedback
- We will gather requirements & feedback throughout project

Status:

- Development is already underway
- First web-based component has been delivered

ADDIS 2 timeline



ADDIS 2.x status

Past year or so (part time, 2 persons):

- Implementation of R packages for analysis functionality
- Implementation of web-service wrapper around R
- Implementation of web-based MCDA user interface
- Prototyping of other components

Coming 6 months (full time, 2 developers, 1 researcher):

- Analysis feature parity with ADDIS 1.x
- Gather background & requirements

ADDIS 2.x demo

- And now for a quick demonstration...
 - of the first functional ADDIS 2.x component

What do we need from you?

- Methods guidance & initial implementations (R)
- Requirements & prioritization
- Be kept in the loop about case studies

What do you get in return?

- Evidence based health care policy DSS
- High quality implementation of methods
 - Generalized, tested, packaged (R)
 - User friendly web-based interface
 - Should help drive adoption
- Support and/or reproduction of (some) case studies
 - Build up an interactive show case
 - Depends on requirements / status at time of case study