

Software deliverables GetReal WP4

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Aggregate Data Drug Information System (ADDIS)

- Decision support for health-care policy decisions
- Explicitly evidence-based
 - Transparent, reproducible, efficient
- Key ingredients:
 - Structured database of clinical trials
 - On-the-fly statistics, evidence synthesis
 - Benefit-risk modeling & decision support
- More information: <http://drugis.org>

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

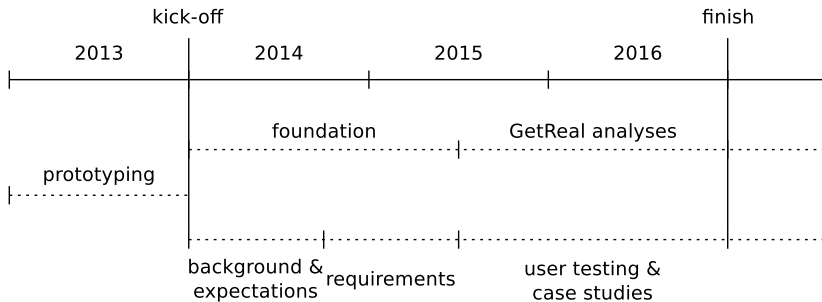
Goals within GetReal

- Transition to web-based multi-user system
 - Address ADDIS 1.x limitations, sustainable architecture
 - Enable re-use of existing statistical code
- Better (collaborative) data management
 - Build larger, persistent datasets
 - Post-hoc harmonization
- GetReal relative effectiveness analyses
 - High-quality implementation of methods
 - User-friendly interfaces around methods
 - Interactive 'showcases' for case studies

Tasks and deliverables

- D4.12: conceptual framework (Sep 2014)
 - Review existing software
 - Data management technical design
 - Stakeholder communication
- D4.13: initial software development (Jun 2015)
- D4.14: user testing and final software development (Sep 2016)

ADDIS 2 timeline



ADDIS 2 status

Done 2013 (part time, 2 persons):

- Analysis code (NMA, MCDA)
- MCDA user interface
- Prototyping of other components

Done 2014Q1:

- Database where ADDIS 1.x files can be imported
- Proof-of-concept integration of components

Ongoing:

- Gather background & requirements
- Development NMA component

Software review: goals

We want to identify:

- Existing statistical code
 - For use in ADDIS (preferably R packages)
- Existing graphical user interfaces / 'competing' software
 - To inform our UI design and strategy

In these two areas:

- (complex) evidence synthesis
- disease progression models

But we will consider other relevant software as background too

Software review: status

- Initial list of software circulated
 - **We need your feedback**
 - We expect additional software from methods review
- Initial review template and examples circulated
 - **We need your feedback**
 - Who will participate in reviewing?

Data management design: goals

- Focussed on RCTs
- Enable collaborative database building
 - Trial-oriented (rather than analysis-oriented) format
 - Post-hoc harmonization of extracted data
 - Re-use of extracted data in future projects

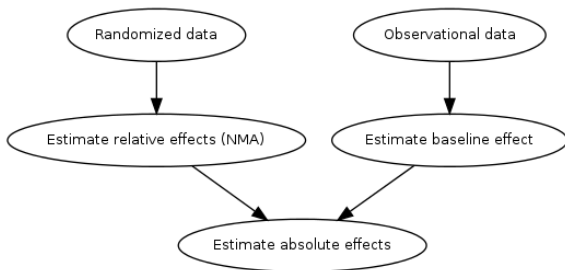
Data management design: status

- Design is in progress
 - Long-term vision presented ISPOR Dublin 2013
 - Problem statement paper submitted to MAIHA2014
 - 'Placeholder' read-only database in place (used in ADDIS 2)
- Collaborations
 - Not been successful with Haystack@MIT
 - looking for alternatives
 - semantic web & social computing (crowdsourcing)
 - Working with CEBM@Brown to integrate their systematic review tools
 - Abstrackr: abstract screening
 - SRDR: systematic review data repository

Stakeholder communication

- WP1/4: general requirements / decision making needs
 - Stakeholder survey?
- WP4: technical requirements / methods; data flows
 - Dedicated sub-team to be set up (who wants in?)
- All: feedback on R packages & ADDIS 2
 - <https://addis.drugis.org/>
 - We aim for quarterly releases
 - Currently still in 'POC' mode

Stakeholder communication: data flows



Stakeholder communication: ADDIS 2

The screenshot shows a web browser displaying the URL <https://addis.drugis.org/#/projects/8>. The page title is "Test / Hansen 2005". Below the title, there are three main sections: "Outcomes", "Interventions", and "Analyses". Each section has a "+ Add [category]" button. The "Outcomes" section contains two rows: "HAM-D" with "HAM-D Responders" and "Nausea" with "Nausea". The "Interventions" section contains two rows: "Fluoxetine" with "Fluoxetine" and "Paroxetine" with "Paroxetine". The "Analyses" section contains three rows: "Chouinard Bennie Invalid", "Single-study Benefit-Risk", and "Single-study Benefit-Risk".

addis.drugis.org

PROJECTS / TEST

Test / Hansen 2005

Outcomes [+ Add outcome](#)

HAM-D	HAM-D Responders
Nausea	Nausea

Interventions [+ Add intervention](#)

Fluoxetine	Fluoxetine
Paroxetine	Paroxetine

Analyses [+ Add Analysis](#)

Chouinard Bennie Invalid	Single-study Benefit-Risk Single-study Benefit-Risk Single-study Benefit-Risk	Chouinard et al, 1999 Bennie et al, 1995 Ballus et al, 2000
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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