

MEETING ABSTRACT

Open Access

TRANSFoRm eCRF

Wolfgang Kuchinke¹, Theodoros N. Arvanitis^{2*}

From 1st Clinical Research Informatics (CRI) Solutions Day
Duesseldorf, Germany. 26-27 May 2014

Characterisation

Tool, data collection for clinical trials, open source, data management.

Description

Data derived from electronic health records (EHRs) can be used by providing protocol developers with information about the feasibility of inclusion and exclusion criteria, by simplifying patient recruitment and improving the clinical trial data collection process through pre-filling electronic Case Report Forms (eCRF), thus avoiding double data collection for clinical care and research. This process is called secondary use of clinical data, and it can play a central role in a system that learns from data collected at the point of care and applies the lessons learned to the improvement of patient care.

As part of the TRANSFoRm platform, an eCRF [1] was built that interacts with the EHR at the physician's practice to support data collection in clinical trials. It is employed in a clinical trial involving the identification of prevalent and incident cases of Gastro-Oesophageal

Reflux Disease (GORD), a disease that occurs when stomach acid leaks up into the oesophagus. Patients are randomized to on-demand or continuous consumption of proton pump inhibitors (PPI). Data collection is done by using mobile health applications filled out by patients, and the eCRF completed by medically qualified personnel during practice visits. The distinctive feature of the TRANSFoRm eCRF is its integration with the EHR at the physician/investigator site and allows for the collection of semantically controlled data from within the EHR system. In addition, it provides CDISC ODM as representation format and supports semantic interoperability with clinical data sources.

During the initiation visit for the GORD trial and at month 3, 6, 9 and 12, information about PPI consumption is collected (Figure 1). In addition, event driven data collection from EHR/eCRF is triggered, for example, in the event of an adverse effect (AE). During the first visit of the patient, the eCRF is pre-populated with relevant data available in the EHR at that time. After confirmation by the GP/investigator that all eligibility criteria are met, a suitable

The screenshot shows a web-based eCRF interface. At the top, there are tabs for 'General', 'Subject Demography', 'PPI', 'Diagnoses', 'Gastroscopy', and 'Status'. The 'PPI' tab is currently selected. Below the tabs, there is a 'Logout' button. The main content area is titled 'PPI' and contains the following sections:

- Proton Pump Inhibitor consumption**
Has the patient been using PPI previously? PPI user (dropdown menu)
- For PPI user, how much PPI has the patient consumed during the last week?**
PPI mg per day: 126 (input field)
PPI mg per week total: (input field)

At the bottom of the form, there are three buttons: 'Close', 'Previous', and 'Next'.

Figure 1 eCRF user interface for the collection of PPI consumption data.

* Correspondence: T.Arvanitis@warwick.ac.uk

²University of Warwick, Coventry, CV4 7AL, UK

Full list of author information is available at the end of the article

ble eCRF form is automatically generated to record the enrollment of the patient into the trial and the results of randomization.

Status of development

Is employed in the TRANSFoRm GORD study, and being validated for Good Clinical Practice (GCP). It will be provided as open source.

Users

Physicians/investigators interested in using primary care data to improve clinical research.

Link

<http://www.transformproject.eu/>

Authors' details

¹Heinrich-Heine University Düsseldorf, University Hospital, 40225 Düsseldorf, Germany. ²University of Warwick, Coventry, CV4 7AL, UK.

Published: 22 May 2015

Reference

1. Curcin V, Arvanitis TN, Brodka P, Corrigan D, Delaney B: **TRANSFoRm digital infrastructure: The architecture for The Learning Healthcare System in Europe.** *Panel presentation at AMIA 2014 Clinical Research Informatics Summit* San Francisco; 2014.

doi:10.1186/2043-9113-5-S1-S17

Cite this article as: Kuchinke and Arvanitis: TRANSFoRm eCRF. *Journal of Clinical Bioinformatics* 2015 **5**(Suppl 1):S17.

**Submit your next manuscript to BioMed Central
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit

