The Learning Health System in Europe

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The Learning Health System in Europe Conference
24-25 September 2015, Brussels
Aims of the meeting

- To share best practice in EU and US projects relevant to the LHS
- To consider next steps in developing a LHS at European level, including the role of the European Institute for Innovation through Health Data.
- To disseminate work and make contacts.
Programme

• Keynotes
• Sustainability and business development
• Knowledge management and data standards
• Data privacy and security
• Knowledge translation and decision support
• Facilitating clinical trials
• Big data and clinical – research data integration
• The European Institute for Innovation through Health Data
www.transformproject.eu

• €7.5M EU Framework 7 Project
• March 2010-Nov 2015
• Funded under the Patient Safety Work program of FP7
  – To support decision making
  – To support clinical trials
  – As part of a ‘Rapid Learning Healthcare System’
21 Partners from 10 Member States

University of London
University of Birmingham
Mediterranean Institute of Primary Care
University of Dundee
Imperial College London
University of Limerick
University of London
University of Crete
Trinity College Dublin
The University of Warwick
Inserm
Centrum Systemów Informacyjnych
Custodix
Wroclaw University of Technology
Karolinska Institutet
CPRD
Aims of TRANSFoRm

• To develop methods, models, services, validated architectures and demonstrations to support the learning health system, specifically:
  – Epidemiological research using primary care records, including genotype-phenotype studies and other record linkages
  – Research workflow embedded in the EHR
  – Decision support for diagnosis
Use case 1: Type 2 Diabetes

• **Research Question:** In type 2 diabetic patients, are selected single nucleotide polymorphisms (SNPs) associated with variations in drug response to oral antidiabetic drugs (Sulfonylurea)?

• **Design:** Case-control study

• **Data:** primary care databases (phenotype data) pre-linked to genomic databases (genetic risk factors) – data federation
Use case 2: Gastro-oesophageal reflux disease (GORD)

• **Research Question:** What gives the best symptom relief and improvement in QoL: continuous or on demand PPI use?

• **Design:** Randomised Controlled Trial (RCT)

• **Data:** Collection through eHR & web based questionnaire – eCRF AND mobile PROMS

• **Provenance and security**
Use case 3: Diagnostic Decision Support

- Alerting vs prompting (assisting vs correcting) in chest pain, abdominal pain and shortness of breath
  - Clinical Prediction rule web service (with underlying ontology)
  - Prototype DSS integrated with InPS EHR system