THE PREDICTOR

PREDICTION-ADR   **Newsletter 1**   **September 2014**

Utrecht hosts 2014 Plenary

The PREDICTION-ADR team

The first annual plenary meeting of the PREDICTION-ADR consortium was held at the historic Academiegebouw (University halls) in Utrecht on September 9th and 10th, 2014.

On the first day the progress and planning of recruiting cases and controls for the angioedema and myopathy was discussed.

Day two saw Colin Palmer of the University of Dundee update the team about the progress with sequencing harmonisation discussions and the reported and agreed protocol for the uniform

targeting of exome sequencing to be used for the main study.

All centres will use Illumina HiSEQ technology for the sequencing and third party providers for the exome capture reagents were agreed.

The use of control individuals who could be characterised as tolerant of both ACE inhibitors and statins was described to increase the power of the discovery phase of the study.

Welcome to the Newsletter of PREDICTION-ADR

Personalisation of treatment in cardiovascular disease through next generation sequencing in Adverse Drug Reactions (PREDICTION-ADR)

Prediction-ADR aims to discover the genetic factors predisposing patients to adverse drug reactions (ADRs) from cardiovascular disease (CVD) drugs. This will be achieved by assembling a consented blood bank and DNA for a population of ~500 cases of ACEi induced angioedema and statin induced myopathy defined using a standardised phenotypic criteria.

PREDICTION-ADR has six partners in four countries:
• University of Dundee, UK
• Universiteit Utrecht, the Netherlands
• University of Liverpool, UK
• Uppsala Universitet, Sweden
• Pharmacogenomic Innovative Solutions Limited, UK
• Asper Biotech AS, Estonia

http://www.prediction-adr.eu
Start date: 01 September 2013
End date: 31 August 2016

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More from Utrecht …

Alun McCarthy of Pharmacogenomic Innovative Solutions Ltd (PGXIS) described the latest implementations of Taxonomy 3 software including the use of PREDICTION-ADR funding to optimise the software for parallel processing resulting in a substantial acceleration of the analytical pipeline that would benefit the exome sequencing project in PREDICTION-ADR.

The use of Taxonomy 3 to detect and remove ancestry outliers highlighted the need to carefully match the recruitment of both cases and controls at all the study centres. The novel use of Taxonomy 3 for drug target discovery in Rheumatoid arthritis funded by the Technology Strategy Board was described.

Anu Aaspõllu discussed the experience of SME partner ASPER Biotech in implementing genetic tests in the market-place and presented the regulatory accreditation that had been performed by this SME.

The CLIA accreditation was highlighted. Market research regarding the acceptability and desirability of genetic tests to predict adverse drug events was presented and discussed by the consortium.

Dom Tower of Utrecht

PGXIS to aid drug discovery in Rheumatoid Arthritis

PGXIS has been awarded a Feasibility grant in the latest BioMedical Catalyst funding round from the UK Technology Strategy Board.

This grant will fund PGXIS to apply its Taxonomy3 methodology to a rheumatoid arthritis genetic dataset, and to analyse the output to generate a short-list of novel drug targets. This will in turn support the PGXIS objective to obtain external investment to establish drug discovery programmes in-house.

PGXIS plan to use our Taxonomy3 technology to identify novel drug targets, and to generate molecules acting via these targets. As these drug targets are based on human DNA data, the molecules acting through these drug targets will have a higher probability of success in clinical development.

International experts agree on phenotype definitions

A joint workshop on phenotype definitions for statin associated myopathy and ACE inhibitor induced angioedema was held in Liverpool on the 10th December 2013. As well as the PREDICTION-ADR team, international experts in statin toxicity and angioedema from around Europe were in attendance for lively discussions on clinical and biochemical parameters to be considered in researching the genetics of adverse drug events.

Conclusions from this workshop were used to guide the publication of phenotype definition guidelines. Both of which have been published in *Clinical Pharmacology and Therapeutics*.

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ADR-research goes national in UK

Researchers in Liverpool, led by PREDICTION-ADR investigator Ana Alfirevic have announced that the MOLGEN network is now poised to be able to recruit myopathy and angioedema cases in 64 sites throughout the UK.

This uses a protocol common to all adverse drug reactions and is designed to capture all phenotypic information agreed at the Liverpool workshops. This highlights the efficiency of coordinating research across the entire UK National Health Service.