**Pharmacogenomics: Relevance to Personalised Medicine**

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Personalised or precision medicine represents the overall concept of how drugs can be better targeted to individuals or groups of individuals to improve efficacy of the treatment, and minimize any safety issues, thereby improving the benefit-risk profile of the therapy. In order to achieve this goal, many different technologies will need to be utilised which includes all the omics technologies, drug pharmacokinetics and pharmacodynamics, and the use of wearable sensors, to name a few. Pharmacogenomics there represents one aspect of personalised medicine. Its importance in relation to different treatments and diseases will vary, sometimes representing the predominant influence, while in other cases, it may have little influence. To date, pharmacogenomics has proved to be of great importance in the cancer field, where mutations in the somatic genome can be specifically targeted by novel therapeutic entities. This is also beginning to have an influence in the non-cancer areas, for example cystic fibrosis. However, to date, optimisation of the efficacy of currently existing therapies has not shown much success, which is related to many different reasons, including inadequate genotyping and clinical strategies. By contrast, in drug safety, the role of HLA and predisposition to immune mediated adverse reactions has been particularly fertile. Indeed, since 2001, at least 24 new HLA-ADR associations have been reported. Two of these are in clinical practice (*HLA-B\*57:01* for abacavir hypersensitivity, and *HLA-B\*15:02* for carbamazepine-induced Stevens-Johnson Syndrome). There has also been success in the area of anticoagulation where warfarin dose requirements have been shown to be dependent on polymorphisms in *VKORC1* and *CYP2C9* account, which is being implemented in certain settings. These issues will be covered in the talk.