Improving guidelines in pharmacogenomics

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Pharmacogenetics, the field of DNA analysis to improve drug therapy, has seen an exponential increase in the amount of publications in the last 20 years and an increase in clinical implementation in several countries. More markers are identified as potential factors for predicting drug response, starting from classics such as TPMT analysis for 6-mercaptopurine and azathioprine therapy, to reports on genetic polymorphisms in the Cytochrome P450 system, influencing 80% of commonly prescribed drugs. In total, the Dutch Pharmacogenetics Working group now has dosing advices for 60 drugs and 18 genes. With the increase in laboratories offering pharmacogenetic testing, the importance of quality standards and harmonization between laboratories (both on testing as in reporting) becomes important to maintain and enforce the power of pharmacogenetics in the clinical setting. Examples of the AMP, CPIC, DPWG and PharmVar guidelines to enforce this will be discussed.