Pharmacogenomic alerts: developing guidance for use by healthcare professionals

John-Paul Carter[1], James Critchlow[1], Sarah Jackson[2], Sonali Sanghvi[3], Helene Feger[4], Afzal Chaudhry[5], Lorraine Foley[2], and Reecha Sofat (CURRENTLY UNAVAILABLE)[6]

[1]UCL
[2]Professional Record Standards Body
[3]NHS England and NHS Improvement London
[4]Professional record standards body
[5]Cambridge University Hospitals NHS Foundation Trust
[6]University College London

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Abstract

Background: For diseases with a genetic cause genomics can deliver improved diagnostics and facilitate access to targeted treatments. Drug pharmacodynamics and pharmacokinetics are often dependent on genetic variation underlying these processes. As pharmacogenomics comes of age it may be the first way in which genomics is utilised at a population level. Still required is guidance and standards of how genomic information can be communicated within the health record, and how clinicians should be alerted to variation impacting the use of medicines. Methods: The Professional Record Standards Body commissioned by National Health Service England developed guidance on using pharmacogenomics information in clinical practice. We conducted research with those implementing pharmacogenomics in England and internationally to produce guidance and recommendations for a systems-based approach. Results: A consensus viewpoint is that systems need to be in place to ensure the safe provision of pharmacogenomics information that is curated, actionable and up-to-date. Standards should be established with respect to notification and information exchange, which could impact new or existing prescribing and these must be in keeping with routine practice. Alerting systems should contribute to safer practices. Conclusion: Ensuring pharmacogenetics information is available to make use of medicines safer will require major effort of which this guidance is a beginning. Standards are required to ensure useful genomic information within the health record can be communicated to clinicians in the right format and times to be actioned successfully. A multidisciplinary group of stakeholders must be engaged in developing pharmacogenomic standards to support the most appropriate prescribing.

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