Letter to the Editor

A role for genetic counsellors and clinical geneticists in pharmacogenetics?

To the Editor:

We were interested to read Haga et al.’s report of a survey of genetic counsellors and clinical geneticists’ use and attitudes towards pharmacogenetic testing (1). Recently, we have taken a different approach by conducting in-depth semi-structured interviews with genetic counsellors (2) and clinical geneticists in the UK to explore their attitudes to pharmacogenetics and whether they perceive a role for them in the delivery of these services.

Haga et al. noted that respondents who had graduated before 1991 were more likely to order pharmacogenetic tests than those who had graduated after 2000 (1). This contrasts somewhat with our findings where, the more experienced genetic counsellors saw less of a role for their profession in a pharmacogenetic testing service, whereas those who had worked for fewer years could see more potential for involvement (2).

Where pharmacogenetic testing has been adopted into clinical practice already, this has been delivered by the clinicians with primary responsibility for prescribing. Primarily the information has been used to allow selection of alternative treatments where an individual is identified at risk of a serious adverse drug reaction, for example HLA-B*1502 testing in Asian patients at risk of Stevens–Johnson syndrome when treated with carbamazepine or HLA-B*5701 testing in HIV patients at risk of hypersensitivity reactions to abacavir (3). We believe that this is appropriate and is consistent with previous studies of patient preferences (4, 5). The rapid adoption of these tests attests to the success of this approach. In their survey, Haga et al. did not differentiate between different types of pharmacogenetic tests (1). However, using clinical vignettes we were able to identify some scenarios where the input of a clinical geneticist or genetic counsellor would be appropriate. In the second scenario, advice to avoid aminoglycosides and audiological assessment of siblings and the individual’s mother would be appropriate because of the increased risk of hearing loss not associated with gentamicin exposure. It is clear that different pharmacogenetic tests have different implications for the individual and other family members, and in situations involving other family members, clinical geneticists and genetic counsellors are more likely to have a role.

The advent of whole-genome sequencing also provides a potential challenge for clinical geneticists and genetic counsellors, as illustrated in a recent paper where a healthy individual underwent screening (7, 8). A number of genetic variants associated with drug response were identified and the individual provided with information about the relevance of these. Such information may be generated as surrogate data in individuals undergoing whole-genome sequencing for other reasons or as part of a health screen, in either situation there are significant implications in terms of training and resource. However, in the context of the sequencing revolution, now more than ever, clinical geneticists and genetic counsellors will have a key role in delivering pharmacogenetic information and advice.

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