UK Report Urges Widespread NHS Uptake of Pharmacogenomics

Mar 29, 2022 | staff reporter
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NEW YORK – The UK National Health Service should adopt pharmacogenomic testing "fully, fairly, and swiftly," according to a report published on Monday by the British Pharmacological Society and the Royal College of Physicians.

The 51-page report, entitled "Personalised prescribing: using pharmacogenomics to improve patient outcomes," laid out recommendations on how to best implement pharmacogenomic testing throughout the UK. It was accompanied by a commentary in the *British Journal of Pharmacology*.

"The UK is at the forefront of adoption of genomics in healthcare," said Mark Caulfield, vice principal for health at Queen Mary University of London, and a contributor to the new guidance. He said it "provides the blueprint and identifies the resources and actions needed to ensure pharmacogenomics becomes usual care in the NHS over the next three years."

As noted in the report, the NHS has been increasingly turning to genomics to alleviate burdens on the British healthcare system. People in the UK have been living longer, but with that extended longevity has come chronic health conditions. The report states that in England alone, the NHS dispensed more than 1 billion prescription drugs in 2015, 50 percent more than in 2005.

While pharmacogenomics is currently being used in specific cases within the NHS, such as for certain cancer therapies, it should be more widely adopted, the authors wrote.

They recommended making pharmacogenomic tests available in both primary care and secondary care settings, as well as via specialized centers, and stressed that testing should be made available throughout the UK's four nations — England, Northern Ireland, Scotland, and Wales — to avoid "a postcode lottery of care."

Such an introduction will require up-to-date additions to the NHS National Genomic Test Directory, as well as efforts to educate and train healthcare providers, while supporting and engaging patients. Funding for future pharmacogenomics research should also be made available.

"Patients must be at heart of this," said Emma Magavern, a clinician at Queen Mary University of London and a contributor. "The public need to feel confident that their genetic data will remain secure and confidential, and we need patient and public input

to make sure our pharmacogenomic testing service is fit for purpose and meets their needs," she said in a statement.

Magavern also contributed to the commentary in *BJP*, along with Munir Pirmohamed, NHS chair of pharmacogenetics at the University of Liverpool and chair of the report's working party, and Richard Turner, a clinical lecturer at Liverpool.

In it, they said that pharmacogenomics represents a "novel piece in the jigsaw of factors" that should be considered when prescribing therapies. They also noted that increased whole-genome sequencing of patients in the UK, whether as part of clinical treatment or longitudinal studies, such as Our Future Health, could yield information that could result in future pharmacogenomic tests and polygenic risk scores.

"There is, of course, a wealth of PGx information contained within whole human genomes, and it is important that this is extracted, interpreted, and made available clinically to guide medicines prescribing," the authors wrote.