

Training evolution in pathology needed to deliver precision medicine

November 8 2017, by Ali Howard

The future delivery of precision medicine is at risk unless pathology training programmes evolve to embrace genomics, warn UK researchers.

In two papers published in the *British Journal of Cancer* and the *Journal of Clinical Pathology*, the National Cancer Research Institute's (NCRI) CM-Path initiative calls for changes in [training](#) to enable pathologists to integrate the tissue and molecular approaches that underpin medicine's genomic revolution, and to fulfil their role in molecular multidisciplinary teams.

Although molecular diagnostic tests are already used to determine treatment options, molecular [pathology](#) forms only a relatively small component of most pathology postgraduate training programmes. Morphological pathology – the study of structural changes in cells or tissues – remains essential, but for many cancer diagnoses, is often not sufficient.

Inclusion of more molecular pathology in the curriculum will support pathologists to continue to deliver high quality diagnoses for the future and enable the delivery of precision medicine.

The NCRI's CM-Path initiative is working to reinvigorate academic cellular and molecular pathology in the UK and make these benefits available to a wider community.

The University of Glasgow's Dr Karin Oien, who is the Chair of NCRI's

CM-Path initiative and the Director of the Glasgow Molecular Pathology Node, said: "In Glasgow our MRC/EPSRC-funded Molecular Pathology Node award has enabled us to develop our new Masters training programme in molecular pathology: this has been a real highlight, made possible by close working between the University and NHS.

"We're delighted now to be working as part of the National Cancer Research Institute's CM-Path initiative and with the Royal College of Pathologists to consider the potential for further [molecular pathology](#) in the post-graduate pathology curriculum: this could provide a training structure for capacity-building UK-wide and support multi-disciplinary development and delivery of precision medicine approaches for patient benefit."

Dr Karen Kennedy, director of the NCRI, said: "The experts in our CM-Path initiative would like to see an evolution of the pathology training programme that will benefit patients. They want to support the development of superior precision medicine approaches that will be delivered by multidisciplinary teams with the required skillset to fully exploit molecular diagnostic approaches. The challenges aren't small – for example, there's a need for sub-specialisation earlier in pathology training and delivery of that training by specialist centres."

Genomic medicine is being adopted across the NHS. This requires new approaches to handling patient samples and performing tissue analysis that incorporates molecular information to guide patient management. Pathologists will need to have the skills to work in this new 'morpho-molecular' framework, which poses the most important test for the community in the last 60 years.

If pathologists and training bodies can seize the moment and adapt successfully in this new genomics era, then the field can lead the way into revolutionary ways of diagnosing and treating a range of diseases.

To achieve this, a broad review of pathology training provision in the UK is needed, one that continues the traditional morphology route but also opens up a route to allow trainees to pursue a 'morpho-molecular' career.

This will entail a shift in the training environment, including almost one-to-one training plans and evaluation, which is necessary to prepare pathologists for the increased diagnostic complexity of modern medicine.

Professor Manuel Salto-Tellez, based at Queen's University of Belfast, said: "Merely preserving the status quo for pathology training will be detrimental for molecular diagnostics and precision [medicine](#). Our generation needs to embrace this radical change to prove that pathology can adapt once again and to future proof the UK's ability to support [precision medicine](#) advances for the benefit of patients."

More information: David A Moore et al. Time for change: a new training programme for morpho-molecular pathologists?, *Journal of Clinical Pathology* (2017). [DOI: 10.1136/jclinpath-2017-204821](https://doi.org/10.1136/jclinpath-2017-204821)

Provided by University of Glasgow

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