Revolutionising health research

Phase 1 of the Li Ka Shing Centre for Health Information and Discovery

Transcription of an interview with Professor Peter Donnelly, Director, Wellcome Trust Centre for Human Genetics

PETER DONNELLY

It is a very exciting time for 'big data' in biomedicine. It's particularly exciting in Oxford. This year we've announced a new initiative, funded with a very generous donation from the Li Ka Shing Foundation.

DAVID CAMERON, UK PRIME MINISTER

What's happening today really matters. It is an enormous investment that Mr Li is making into this centre. The government is backing it, too, and I think it's going to lead to huge breakthroughs and great success in terms of medical science, and for Britain as well in the future.

PETER DONNELLY

The Li Ka Shing Centre for Health Information and Discovery brings together two different themes. One of them is research in 'big data' – the ability for the first time to really mine and combine the very large data sets that we're studying and developing in biomedicine.

The other part of the Li Ka Shing Centre is the Target Discovery Institute, where we are trying to fill a gap between what is currently done in the pharmaceutical industry in terms of drug development – which isn't working as well now as anyone would want – and academic research. So the idea of the Target Discovery Institute is, on the academic side, to push things a little bit further than we typically would in research, to do the early stages of identifying targets which could then be taken forward for drug discovery and drug development.

CHAS BOUNTRA, PROFESSOR OF TRANSLATIONAL MEDICINE

I believe with what's already happening in Oxford, and now with the Target Discovery Institute, and the Big Data Institute, Oxford is going to be *the* academic drug discovery centre in Europe. I do not believe there is any university in the UK or Europe that can rival Oxford in this.

PETER DONNELLY

Our colleagues here lead some of the largest epidemiological studies in the world, some of the largest drug trials in the academic sector, so that strength is already there. I think it is fair to say we are one of the leading centres in the world in the development of new methods to understand and analyse genomic data.

The Centre allows us to bring these strengths together, to have groups working with each other – not just to understand genetic data, not just to understand genetic data, population data, imaging data and patient records, but for the first time to put the data sources together, to be able to interrogate them, tie them up and see the connections between them.

Although much of the work is done through computers and through analysing data sets, it makes a huge difference to have the key researchers in the same place, chatting to each other, bumping into each other, bouncing ideas off each other – that's part of the opportunity, part of what is special about what is planned here.

When completed, the Li Ka Shing Centre will house more than 600 scientists researching new targets for drug discovery (at the Target Discovery Institute, left), and using 'big data' to develop a greater understanding of human disease and its treatment

It is hard to predict exactly which aspects of the big data opportunities will be the telling ones. I'm confident, and I think many of us in the field are confident, that a better understanding of that will change the way we do medicine and will change the way we do healthcare in a very positive way, over the next ten or fifteen or twenty years.

To view the video, visit: **www.ox.ac.uk/annual-review**