

A CHECK-UP ON HEALTHCARE INNOVATION

Since the 2009 launch of *Chemistry for Tomorrow's World: a roadmap for the chemical sciences*, the RSC has been working with members, the scientific community and policy-makers to progress the key areas of human health, sustainable energy and resource efficiency.

In the first of our new roadmap features, David Fox reports on the impact of the Healthcare Innovation Action Plan.



WORDS
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Chemistry needs to be widely recognised as integral to improving and maintaining accessible health, including disease prevention: this is what lies at the heart of the RSC's human health strategy.

To achieve this goal, the RSC has developed two strands of major activity: healthcare innovation and embedding chemistry within healthcare research. In this article we explore healthcare innovation: our campaign to establish a new, sustainable model for medicines research and development, with chemistry at its core.

Putting chemistry at the heart of health research

Last summer, the RSC launched the Healthcare Innovation Action Plan (*RSC News*, September 2011), an initiative championed by Simon Campbell CBE, past president of



the RSC and former senior vice president of Worldwide Discovery at Pfizer. Since then, much of our work has been around building advocacy for the critical role of chemistry in drug discovery.

In our original position paper, we proposed a set of recommendations to help the UK adapt to the changing model for medicines research,

following the downsizing of large pharmaceuticals, in order to maintain global competitiveness.

Over the last six months this has been the subject of a wide-ranging consultation exercise to shape it into a plan that will support a medicines research framework to inform government policy. In particular, we've had face-to-face discussions with government

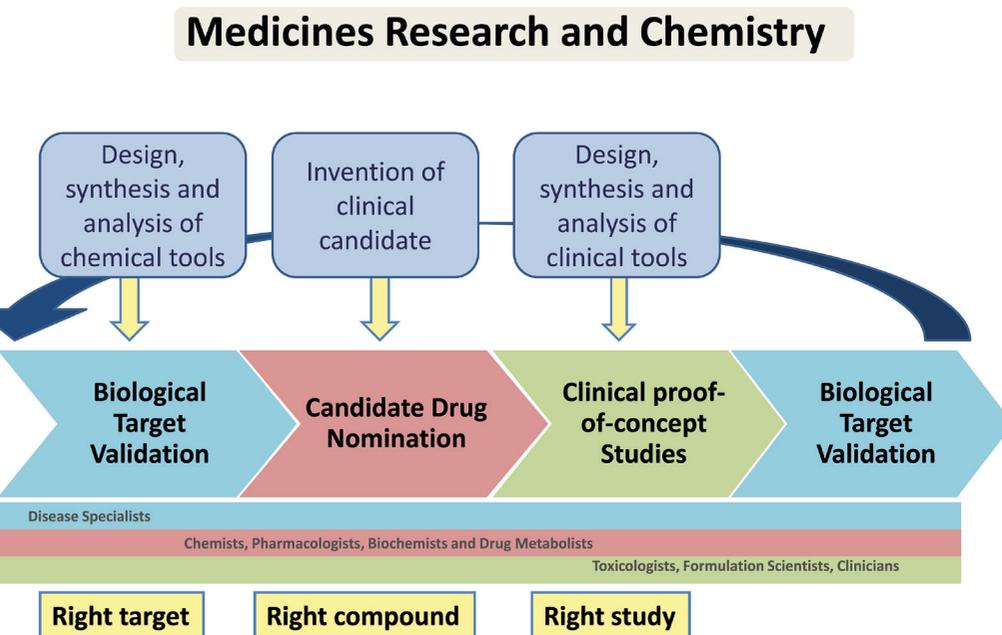
ministers and advisers, MPs, and the Technology Strategy Board. The main purpose of these has been to stress the key role played by chemistry throughout medicines research in translating fundamental biomedical research into medicines.

Our message to policy-makers has been that unless we act positively to safeguard the excellent chemists working in the UK pharmaceutical sector, we will rapidly lose our future competitive advantage. These themes were emphasised in the RSC's written submission to the Office for Life Sciences evidence-gathering exercise and the more recent Science and Technology Committee's inquiry into *Bridging the "valley of death"*.

Therapeutic Centres of Excellence

Among the proposals is the creation of a national network of Therapeutic Centres of Excellence. These would be aligned with an emerging national strategy for medicines, where experienced medicinal chemists work alongside academic groups in collaboration with biological/clinical researchers to deliver validated targets and clinical candidates with reduced attrition risk. And they would deliver training for future generations of drug discovery researchers.

Working with our sister organisations, we have held discussions with government representatives, including Life Sciences Advisor George Freeman MP, to explore these ideas. We are also talking with leaders in the field across pharma, the UK's National Health Service (NHS) and academia to establish how strong the demand is from the wider community to create Therapeutic Centres of Excellence at academic institutions actively engaged in biomedical research. And we're exploring what can be learned from other industries (e.g. automotive industry) that have successfully come through a downturn by investing in skills through the creation of Centres of Excellence.



Building national capabilities

We also need to build national capabilities that will support drug discovery and facilitate pre-competitive collaborations across the spectrum of target selection and validation, predictive toxicology and biomarkers/diagnostics to enable clinical research.

In our Healthcare Innovation Action Plan, we are calling for the creation of a centralised compound bank of chemical matter from across the UK (see 'Rising interest in compound bank', *Chemistry World*, January 2012).

Last year, an RSC-led consortium developed recommendations on a UK-wide resource for the storage and curation of a high quality compound collection to support early drug discovery in the UK. The group included representatives from pharmaceutical companies, academic chemistry and drug discovery groups, charities, other not-for-profit organisations and funders. Their recommendations are now being used to inform submissions for the Innovative Medicines Initiative (IMI) European Lead Factory scheme. A proposal is currently under discussion for a new Knowledge

Exchange Portal, which will facilitate an open innovation approach to target validation through collaboration, information-sharing and network meetings. As part of this, a workshop specifically focused on target validation co-organised by RSC and the British Pharmacological Society (BPS) will be held in November.

The RSC, BPS, Society of Biology and other learned societies associated with medicines research are also developing a framework for future training in the UK to ensure the skills and capabilities of our future scientists remain world-leading. This initiative will address key areas such as practical skills, mathematics, industrial placements, CPD for industrial researchers and cross-disciplinary initiatives.

Get involved

To read more about our healthcare innovation activities visit www.rsc.org/health or contribute to the discussion by joining the Medicinal Chemistry Centre Group on MyRSC.

Schematic illustrating key enabling roles and partners for chemistry in translating fundamental biomedical research into the 'right' outcomes for medicines research

In next month's issue of RSC News: read about our current and future plans for embedding chemistry within healthcare research.