

Response to BIS request for views on FY15/16 spending decisions

The British Pharmacological Society (BPS) welcomes the opportunity to comment on key priorities and challenges for the science and research budget for the financial year 15/16.

There is a real and pressing need to increase science funding for the financial year 15/16 and beyond. Maintenance of the science ringfence was a great step in the context of the 2010 Spending Review. However, we have seen a real terms cash decline due to inflation. There has also been a severe lack of capital investment. For 2015/16, in order that the UK science base remains world-leading, the UK government must unfreeze the science budget and provide greater funding for science and research.

BPS recently supported the *Science is Vital* petition to call for the UK government to have a long term aim of increase funding for research to at least 0.8% of GDP. This level of investment is in line with our competitor nations and would allow the UK to meet the challenges of the 21st century – both in terms of enabling research and creating a stable research environment attractive to both inward investment and high quality scientists.

Consideration of key criteria

Central to the stimulation of economic growth in the life sciences sector is sustained and substantial investment in drug discovery, including training in key pharmacological skills to enable future researchers to apply the principles of pharmacology to drug discovery initiatives. BPS considers providing an environment that allows increased collaboration between academia, industry and clinical research as critical.

Funding for drug discovery research would fulfil criteria highlighted by BIS as key considerations in allocation of funding, for instance:

Ensuring excellence with impact, sustaining our national capacity and international competitiveness

- While there have been significant investments in facets of drug discovery, there is still a lack of focus on certain critical aspects of drug discovery i.e. the steps by which key biological discoveries are translated into molecules that are forerunners to drugs of the future (i.e. target selection, patient selection). Investment in provision of these pharmacological skills will increase the likelihood of identification of a strong candidate molecule to go on to become a new medicine and therefore ensure impact.
- The retraction of the traditional pharmaceutical industry in the UK, including job losses, means that the reservoir of expertise in drug discovery skills is diminishing. It is therefore crucial to capture this talent pool and ensure these skills are not lost to the UK life sciences industry. This requires investment in bringing this existing drug discovery expertise to bear on centres of academic and clinical excellence; in order that the UK maintains current national capacity and excellence in drug discovery.
- By bringing current experts into contact with centres of biological and clinical excellence the capacity for training new researchers and ensuring a throughput of expertise would be increased by bringing relevant expertise to a range of scientists involved with discovering and developing drugs. BPS is currently working with Royal Society of Chemistry and Society of Biology on activities around the themes of skills

provision, industry-academia permeability and continuing professional development to provide support to our members at work in drug discovery. Opportunities for training are crucial to the UK's national capacity for drug discovery, particularly around shortage skills such as *in vivo* pharmacology.

- There is a strong need to see continued, and greater, investment in clinical research. To deliver the aims of the Life Sciences Strategy investment in clinical pharmacology training for physicians (i.e. creation of more training posts and consultancy roles within the NHS) will be crucial to enable experimental medicine and improve utilisation of the NHS as a research resource.

Maximising the contribution to UK economic growth

Clearly, new medicines have a huge commercialisation potential so would deliver return on substantial public investments as UK innovations enter world markets. In addition, by creating an environment which enables drug discovery the UK would attract a highly skilled workforce which is vital in transitioning to a knowledge based economy.

Continuing to improve the efficiency of the research base

Pre-competitive data sharing is key to improving research efficiencies. It is a well known fact there is a huge attrition rate of phase 1 clinical trials therefore by encouraging collaborative working, utilisation of key pharmacology research skills and sharing of pre-competitive data those involved with drug discovery initiatives will ensure early research is focussed on the most promising areas of science, avoids unnecessary duplication of research and prevents major investment in flawed drug targets.

Maximising the leverage from private, charitable and international funders:

Public investment builds confidence and encourages private investment – considering the UK's clear advantages in terms of current skills sets, our research base, the potential of the NHS, public investment in these early stages of drug discovery would make the UK a stronger investment candidate for global pharmaceutical companies.

Crucially there needs to be long term financial underpinning for drug discovery which allows for: research to be seen through, continuity of research staff and appreciation that drug discovery is not an overnight process. Such long termism breeds confidence for private funders.

Summary:

- We would consider that scientific research is vital to the future UK economy and there is a need to increase public investment in the life sciences sector to see long term benefits
- Investment in drug discovery research is central to stimulating economic growth in the life sciences sector.

About BPS

BPS is the primary UK learned society concerned with research into drugs and the way they work. Our members work in academia, industry, and the health services, and many are medically qualified. The Society covers the whole spectrum of pharmacology, including laboratory, clinical, toxicological and regulatory aspects.

Clinical pharmacology is the medical specialty dedicated to promoting safe and effective use of medicines for patient benefit. Clinical pharmacologists work as consultants in the NHS and many hold prominent positions in UK Universities.