



# PRESCRIPTION FOR INNOVATION

A roadmap for a healthy life sciences industry



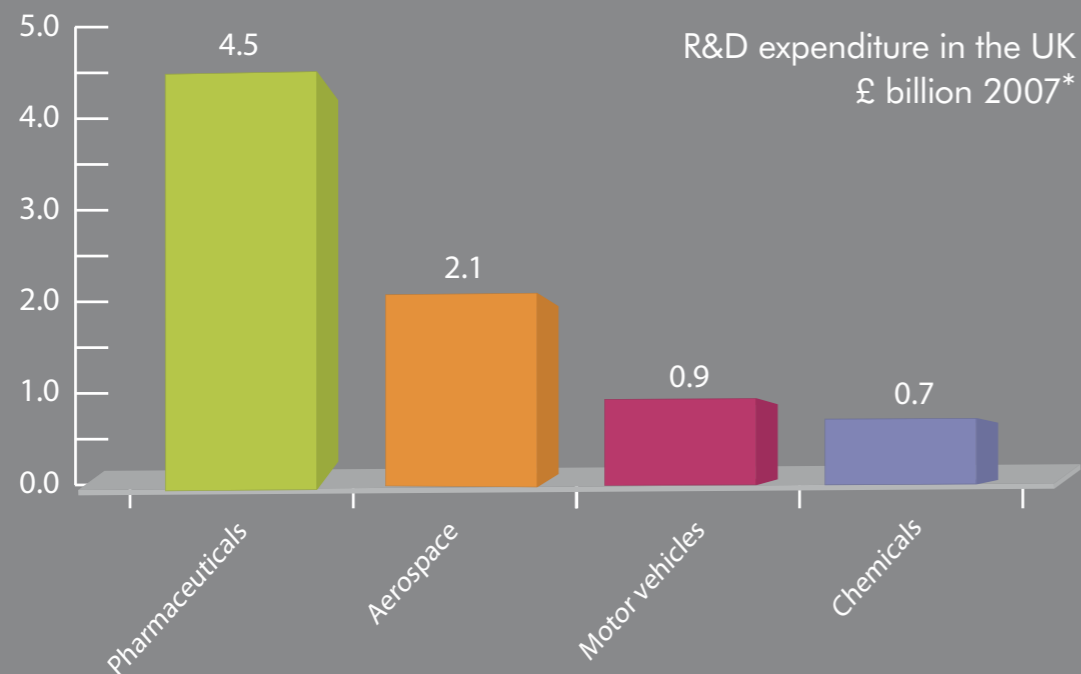
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“Life science is one of the key strategic sectors of the future. It will have a vital contribution to make as we come through this recession – therefore it is essential that we ensure the industry is in a position to flourish... The skills, expertise, and intellectual property these businesses possess are extremely valuable to the future of this country.”

Lord Drayson

“The Conservative Party is supportive of the pharmaceutical industry, the benefits brought to patients by its research and development (R&D), and the investment and jobs it brings to the UK.”

Conservative party paper  
‘Improving access to new drugs’



“I really wanted...to express my thanks for everything the pharmaceutical industry is doing to help in this current [swine flu] outbreak. Right around the world the pharmaceutical industry is working to build up stocks of anti-virals and to find a vaccine for this virus. The pharmaceutical industry in the UK in particular is really well placed to help us deal with this problem.”

Alan Johnson

“...we must work to maintain the competitiveness of sectors like the pharmaceutical industry in which we lead the world...”

George Osborne

\*Source: Research and Development in UK Businesses, ONS

## A PRESCRIPTION FOR INNOVATION

This manifesto for the life sciences industry describes a number of actions to:

- Deliver better patient health.
- Enhance cost-effectiveness in the NHS.
- Drive the industry’s contribution to the UK economy.

Britain has led the field globally in life sciences for many years. Scientists here discovered penicillin, unravelled the secret of DNA, developed beta-blockers and helped map the human genome. Today, one in five of all major medicines used around the world was discovered in the UK. As a nation, we should be proud of our record of scientific achievement and innovation.

Medical discoveries brought to the patient by the life sciences industry have transformed millions of lives. The prospects of patients with coronary heart disease, epilepsy and diabetes have been transformed, as these conditions are now eminently treatable. **Statins alone are estimated to save 10,000 lives a year among people with high cholesterol.**

As well as the clear benefits of improved lives and patient outcomes, such progress has saved money for the taxpayer by preventing or reducing complications and hospitalisations in conditions ranging from asthma and stomach ulcers to diabetes and cancer.

And many patients are able to remain in work, successfully managing long-term conditions, contributing to the economic well-being of the UK.

There are more than 500 pharmaceutical, biotechnology, and medical devices companies in the UK. **The sector supports over 250,000 people in high-value jobs**, of which over 72,000 are employed directly by pharmaceutical companies alone. Each year **the pharmaceutical industry invests £4.5bn in research and development in the UK, representing a quarter of all private sector R&D investment.** This is the largest contribution of any industrial sector—twice as much as defence and aerospace and four times as much as the car industry. Globally, the market opportunity is close to \$1 trillion and the UK must continue to earn a high share of this market.

Political leadership is critical to ensuring that the industry continues to deliver better health outcomes; value to the NHS; and a return to the taxpayer in terms of continued industry investment in the UK and revenue to the Exchequer. This document sets out our industry’s vision of how this is to be achieved.



# BEATING DISEASE: BETTER ACCESS TO INNOVATIVE MEDICINES

Ensuring the right patients receive the right medicine at the right time

*In the UK, new medicines tend not to get to the patient until several years after launch, with only 11% of medicines prescribed to patients being less than five years old. In Switzerland it is 17%, in Italy 18%, in France 21% and in Germany 22% (2008).*

**By giving NHS patients better access to innovative medicines, the UK can lead the world in extending patient survival and quality of life.** We want to see an NHS that welcomes cost-effective, innovative technology and adopts it promptly where it benefits the patient. As part of the drive to improve patient health we should aspire to take the UK out of the bottom and into the top quartile in Europe for the uptake of innovative medicines and technologies.

The pharmaceutical industry will contribute by:

- Working with the government of the day and the NHS to give patients faster and better access to new medicines.
- Contributing to better planning in the NHS for new medicines while they are in the last stages of development, by means of a horizon scanning mechanism.
- Continuing to contribute expertise and resources to local NHS projects targeted at improving patient outcomes and reducing health inequalities. Such projects are conducted in line with Department of Health guidelines and the pharmaceutical industry Code of Practice.

We call for the government to:

- Provide the new Strategic Health Authority Delivery Group with real power to deliver improved uptake of innovative medicines and technologies, and to be held accountable for progress.
- Work with industry and NICE to develop appropriate criteria for an "Innovation Pass". This proposal will allow patients earlier access to innovative medicines targeting rare diseases that affect small groups of patients.
- Include the uptake of cost-effective new medicines and technologies in the assessment, monitoring and inspection processes carried out by the Care Quality Commission.
- Give the NHS incentives to take up appropriate new medicines and technologies through the Payments by Results system, alongside regular performance reviews.
- Extend the National Technology Adoption Centre beyond 2010 and simplify the procurement process for medical technologies.

## Partnership case study

The Happy Hearts project in Nottingham has targeted deprived areas to identify people at most risk of developing coronary vascular disease (CVD). It then offered appropriate intervention, support and education to help them manage and reduce that risk. The project had two objectives: to reduce mortality and to reduce health inequalities in what is the UK's 13th most deprived local authority.

The project was co-funded by the pharmaceutical industry (the companies involved were Sanofi-Aventis, Novartis, Schering-Plough, MSD, Merck Serono and Solvay) and NHS Nottingham City, with a joint steering committee allowing each party to bring its particular skills and expertise to the table. In just over 12 months, over 2,000 patients were identified and seen by the project and around half were referred for further investigations either for CVD, hypertension or diabetes.





The average cost per prescription item is £9.73 – compared with £522 average cost per day for inpatient care.

## GETTING FULL VALUE FROM OUR MEDICINES

Ensuring the full clinical and economic benefits of medicines to patients and public services are realised.

### **Appropriate use of medicines provides excellent value for money to the NHS, saving lives and often dealing with a condition earlier and more effectively.**

As well as the clear benefits of improved lives, such progress has saved money for the taxpayer by preventing or reducing complications and hospitalisations in conditions ranging from asthma and diabetes to cancer and stomach ulcers. And many patients are able to remain in work, successfully managing long-term conditions, contributing to the economic well-being of the UK. In this way, medicines also save money for the taxpayer.

Such wider benefits of medicines need to be fully taken into account in government and NICE decisions if patients and taxpayers are to reap the full value of medicines. The ability of the life sciences industry to enable innovation across the NHS makes it a vital part of the solution in a very challenging economic environment. Dame Carol Black's 2008 review, 'Working for a healthier tomorrow', estimated the total cost of ill-health to the taxpayer (in benefits payments, additional health costs, forgone taxes and working days lost) to be £100bn – the annual cost of the entire NHS.

The pharmaceutical industry's commitment:

- Continue to strive to ensure that our medicines provide value for money.
- Work with government, the public, patients and healthcare professionals to enhance understanding of the value of medicines, ensuring it is fully taken into account in decisions by government, the NHS and NICE.
- Contribute our expertise on the management of patients with certain conditions to help improve patient care and health outcomes, as well as efficient use of NHS resources.

We call on the government to:

- The Department of Health and NICE to review the official definition of the 'value' of medicines to align with the views of the public, patients and healthcare professionals.
- A broader definition of value should be developed to take into account: the incremental nature of innovation; unmet medical need; the nature of the disease or condition; savings made to health and social care budgets and; the indirect economic benefits of effective medicines.

### Partnership case study

Novartis Pharmaceuticals UK and NHS Alliance have created a joint initiative called APEX (the Alliance for PBC Excellence), a practical, collaborative network driving best practice and catalysing positive change for patients through practice-based commissioning (PBC). APEX aims to demonstrate and pioneer models of collaboration between industry and the NHS.

In July 2009 APEX launched the first three in a series of guides to help PBC leaders tackle the competencies of the world class commissioning (WCC) framework: Clinical Engagement, Governance and Prioritising Investment.

Further guides are being produced on Patient and Public Engagement and Procurement.

"The APEX partnership has truly helped us to foster innovation and collaboration in practice-based commissioning within a world class commissioned NHS. We have been able to harness the expertise of the pharma industry in relation to a number of the world class PBC guides we have produced... we are also being supported to bring front-line clinicians and managers together to work through the practical application of the guides at a local level."

David Jenner, PBC Lead, NHS Alliance,  
Chair of the APEX Advisory Board



The pharmaceutical industry contributes a quarter of all private sector R&D investment in the UK.

# BOOSTING UK INNOVATION AND ITS ECONOMIC CONTRIBUTION

## Transform the productivity of UK-based biomedical research and innovation

Innovation is key to creating effective new medicines to tackle the burden of disease.

**The UK needs a better environment to foster and reward innovation if it is to continue to be a world-leader in life sciences** and fully benefit from the industry's R&D. For example, clinical trials provide patients with access to the very latest medicines, UK scientists with research opportunities and the NHS with additional revenue. The pharmaceutical industry is working with the NHS to combat a sharp fall in the number of trials located in the UK. However, evidence suggests further efforts by government and the NHS are needed.

The UK needs world-class R&D skills, a competitive framework for undertaking clinical trials and an attractive business environment to maintain jobs and investment in the UK. Industry will work with the government of the day, the NHS and others to:

- Address gaps in science education in schools and develop a STEM (Science, Technology, Engineering & Maths) strategy for higher education.
- Encourage universities to provide rigorous bioscience degrees to nurture domestic talent and attract talent from other countries.
- Encourage an 'open innovation' approach that removes barriers to partnerships between companies and public sector researchers, allowing the country's foremost talent to collaborate, co-create and flourish.

- Incentivise NHS Trusts to participate and become competitive in clinical trials by making research part of doctors' professional development and reward and being transparent about their research units' costs and performance.
- Eliminate excessive regulation by urgently implementing a single central approval process for clinical trials.

The life science industry is a critical part of the knowledge economy and key to the UK's global economic competitiveness. The following will help maintain jobs and investment in the UK:

- Reduce burdens on employers such as the planned increase in National Insurance that will add costs for each person that a business employs.
- Review the tax system to improve the UK's international competitiveness and introduce new tax regimes, such as the "patent box", to support the generation, retention and exploitation of intellectual property in the UK.
- Support small and medium-sized enterprises (SMEs) through the Technology Strategy Board and Research Councils, and through simplifying R&D tax credits and making them more widely applicable.
- Accelerate the formation of globally competitive life science clusters by providing incentives for companies to locate in the UK and enabling closer working with public sector researchers.

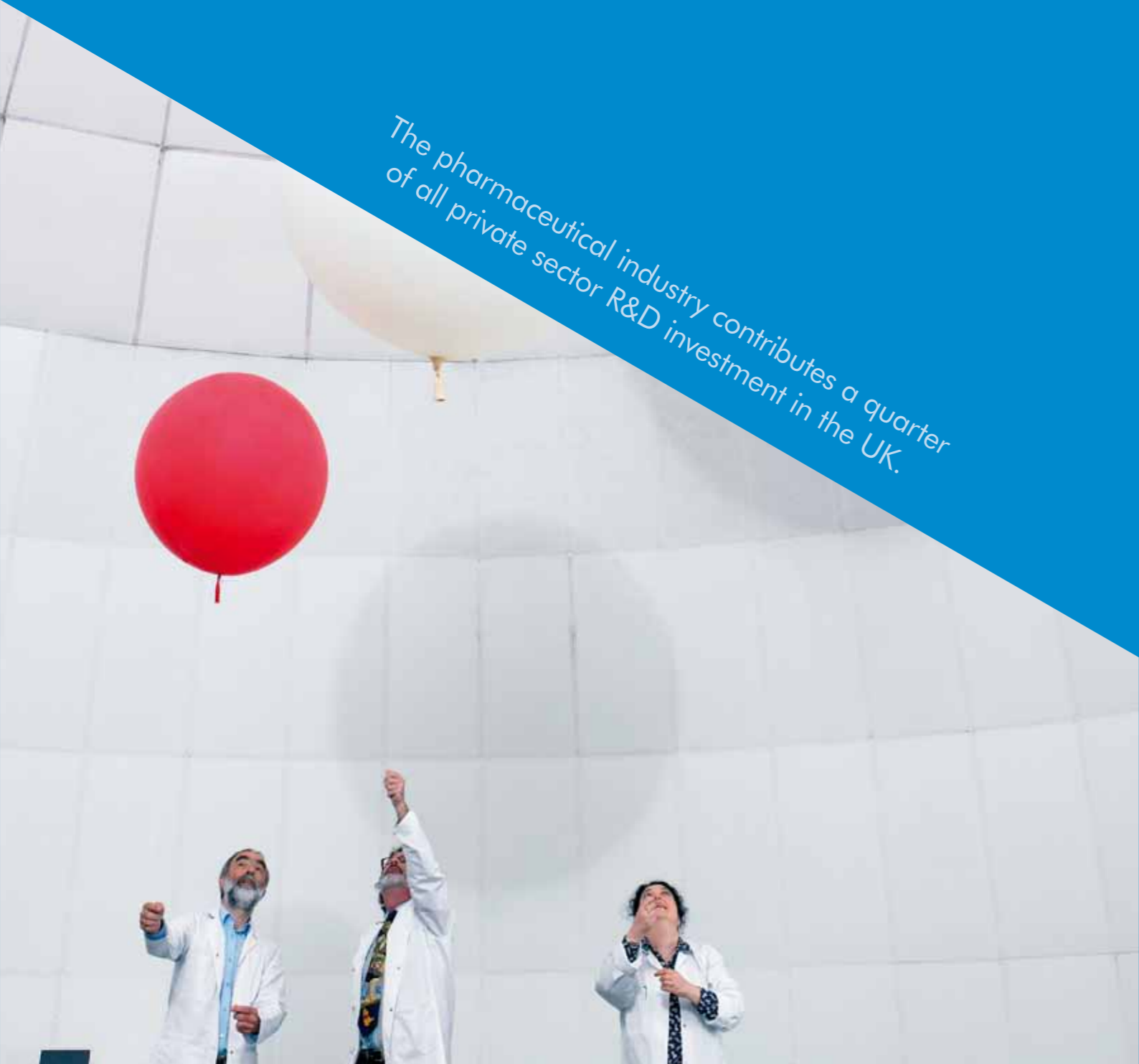
### Partnership case study

AstraZeneca and The Christie cancer centre in Manchester have formed a partnership to improve their clinical research and speed up access to new medicines with potential benefits for patients with cancer.

AstraZeneca has given The Christie access to review its large portfolio of oncology drug candidates and choose any to design and run clinical trials with. The work complements AstraZeneca's existing oncology clinical trials programme and The Christie plans to initiate at least one trial each year through to 2014.

"This new partnership with AstraZeneca means our patients will have faster access to the latest drugs as they become available, giving them the best possible treatment and chance of survival. This partnership will ultimately help improve the quality of care, which at the end of the day is what all cancer research work is about."

Caroline Shaw, Chief Executive of The Christie:





1 in 5 of all major medicines used around the world were discovered in the UK.

## CONCLUSION: A PRESCRIPTION FOR INNOVATION

In this manifesto we have described a vision in which NHS patients have better access to innovative medicines and technologies and the UK leads the world in extending patient survival and quality of life. In our vision, medicines are used appropriately to maximise the benefits of innovation to the patient, the NHS and the taxpayer. They contribute to cost-effectiveness in the NHS and a healthy workforce. In so doing, the UK continues to be a world-leader in biomedical innovation, competing successfully in the global knowledge economy and sustaining some of the highest value jobs and R&D facilities in the country.

We have called for actions that will:

- Deliver better patient health.
- Enhance cost-effectiveness in the NHS.
- Drive the industry's contribution to the UK economy.

The pharmaceutical industry in the UK will play its full part in making this vision a reality by working with the government, the NHS and other stakeholders through existing partnerships and new models of collaboration. We are committed to open dialogue with our stakeholders.

Political leadership is critical in this, so that the industry continues to deliver better health outcomes; value to the NHS; and a return to the taxpayer in terms of continued industry investment in the UK and revenue to the Exchequer. The opportunities for the UK are vast, but global competition is intensifying.

We call on politicians, leaders throughout the NHS and our partners in healthcare and research to work with us to bring better patient care to the UK and sustain a thriving life sciences industry in the UK.

### Partnership Case Study

GlaxoSmithKline (GSK) has established an Academic Drug Performance Unit (DPU) to identify promising academic groups that can help take some of GSK's research and innovation forward. This fresh approach will allow GSK compounds that don't fit into the traditional R&D structure to be passed on to suitable academic partners to explore their future potential. In giving academics a project leadership role, GSK is trying to improve upon the traditional way in which industry accesses academic expertise.

The Academic DPU aims to combine GSK's expertise in, for example, toxicology, pharmaceutical development and regulatory know-how, with the very best of UK academic expertise. By stripping a drug down to its bare essentials they can ask fundamental questions about it, allowing scientists and clinicians to find potential uses that pharmaceutical companies might sometimes overlook.

The DPU has announced two deals so far: one with Cambridge University in metabolic disease and neuroscience and another with Cancer Research UK's world-class scientists.





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