

Accelerating the Growth of Human Relevant Life Sciences in the United Kingdom



Summary of a White Paper by the Alliance for Human Relevant Science

The UK is a world leader in life science research. Significant advances in science and technology made here and internationally have delivered new methods based on human tissues and cells which provide valuable insights into human biology and disease.

However, many of the major diseases of our time, such as stroke, cancer, heart disease and Alzheimer's remain poorly understood and lack adequate treatments. Although several thousand diseases affect humans, only about 500 are estimated to have any approved treatments.

Even those medicines which are approved can often cause troubling side effects. It's estimated that adverse drug reactions (ADRs) kill more than 10,000 people in the UK each year, account for 6.5% of hospital admissions and, in England alone, cost the NHS up to £1.6 billion each year.

The current system

Prior to clinical trials in humans, detailed studies are undertaken to explore drug safety and effectiveness, typically using animals. Of the drugs that have proved promising in animal studies, 86-90% go on to fail in human trials.

The use of animals to investigate disease and new therapies is time consuming, costly and demonstrates limited relevance to many human diseases, including an inability to detect numerous human ADRs.

As a result, the pharmaceutical industry is in crisis. Drugs entering clinical trials have only a one in ten chance of getting to market. Those that do can take up to 10 years to secure approval, with each drug costing around £2 billion to develop.

Human relevant methods

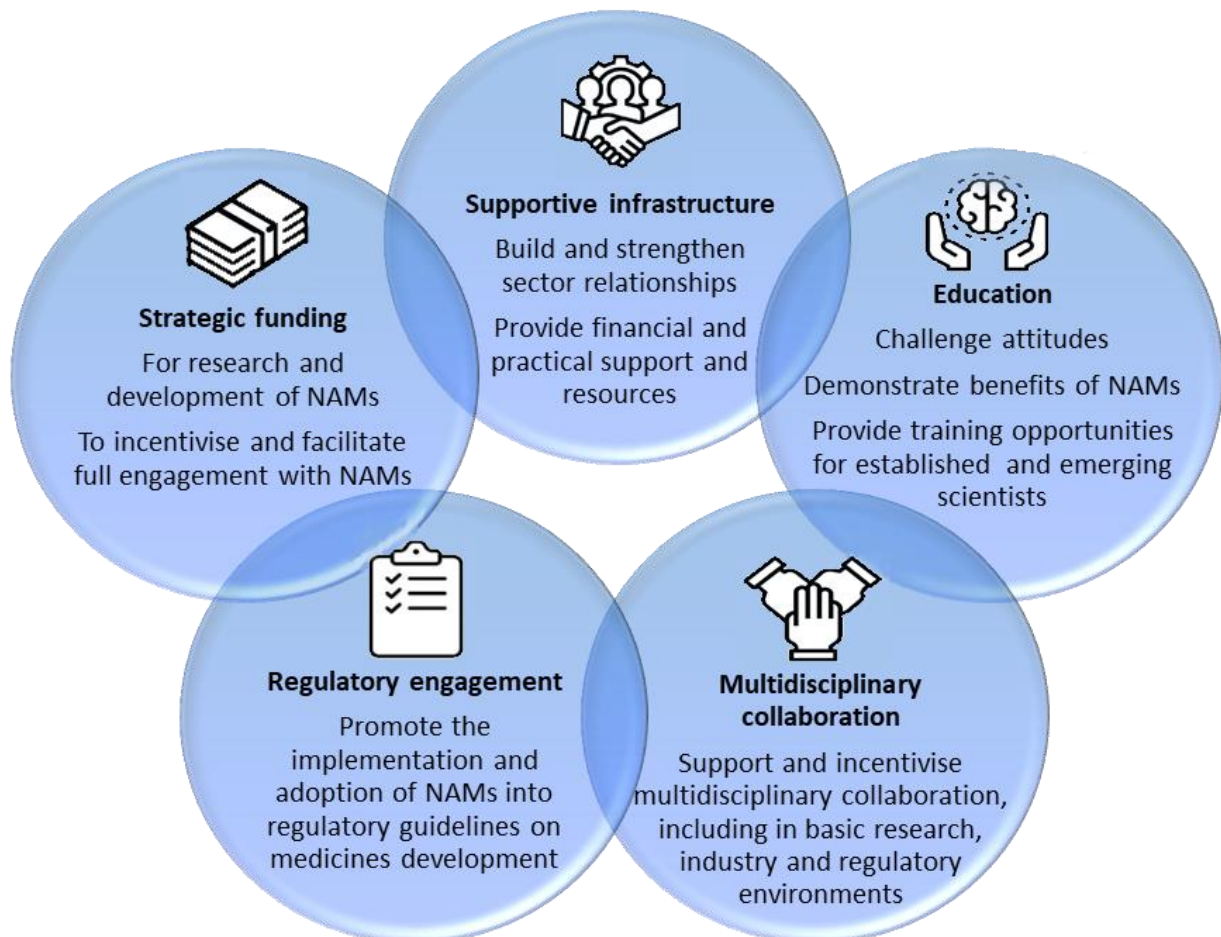
Substantial international efforts have produced many different human relevant research methods, known as new approach methodologies (NAMs). These do not use animals and so avoid the problem of animal-human species differences that can result in misleading data.

NAMs have provided invaluable new insights into human biology and disease processes, and have the potential to improve prediction of human toxicities caused by medicines and other chemicals. Globally it is increasingly recognised that NAMs could make drug development more cost effective for the pharmaceutical industry and deliver safer, cheaper and more effective medicines to patients. Consequently, a number of countries have produced roadmaps to progress the transition to NAMs.

The UK has an opportunity to become a global powerhouse in NAMs development. We have world-leading universities, are home to two of the largest international pharmaceutical companies and are currently regarded as one of the world's best locations for developing new, targeted, high value medicines.

The way forward for the UK

Government and regulatory support are necessary to drive progress in exploiting the business and public health potential of NAMs. A government-backed body in the UK is needed to support and coordinate the excellent work being undertaken by a number of institutions to accelerate the growth of NAMs. To achieve this, the Alliance for Human Relevant Science calls for supportive infrastructure, strategic funding, education, collaboration between industries, and regulatory engagement.



A fresh approach to biomedical research and drug discovery is needed. Investment in human relevant methods offers a golden opportunity to revitalise translational research, save money, create wealth and, crucially, to improve public health.

Alliance for Human Relevant Science

The Alliance for Human Relevant Science is a collaboration of like-minded companies, charities, organisations and individuals who work together to accelerate awareness and use of human relevant approaches within industry and the scientific research community.

For more information, read the [full White Paper](#)

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